Process Evaluation of the 2006-2008 SCE Upstream Lighting Program and California CFL Market Characterization

Prepared for Southern California Edison

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1. Executive Summary

This Executive Summary presents a summary of the detailed findings presented later in the report. It also contains the evaluators' recommendations for improving the Southern California Edison (SCE) Upstream Lighting Program (ULP).[1]

1.1 Introduction

This introductory section describes how the findings in the Executive Summary are organized and briefly describes the various surveys and interviews that these findings are based upon.

1.1.1 Organization of the Findings

In this Executive Summary we group the findings from this process evaluation of the SCE Upstream Lighting Program and characterization of the California CFL market into the following thematic subsections

- ***The California CFL supply chain.*** Findings summarized in this subsection include:
    - *Where retailers get their CFL supplies from.* This concerns the frequency with which retailers get their supplies from their own distribution centers, from non-affiliated lighting distributors or directly from manufacturers;
    - *Full-cycle CFL delivery time:* This is the typical amount of time it takes from the time a new shipment of ULP-discounted CFLs is ordered from the factory and the time it arrives at the retailer's location;
    - *How shipment sizes of ULP-discounted CFLs are determined;*
    - *Problems with delivery of ULP-discounted CFLs;*
    - *How long it takes to sell through a shipment of ULP-discounted CFLs; and*
    - *What retailers do when they sell through their ULP-discounted lighting products.*
- ***The California CFL shopper:*** Findings summarized in this subsection include:

[1] SCE also identifies this program as the Residential Lighting Program, although some program-discounted lighting products are sold to customers for nonresidential applications.

- *CFL awareness:* This covers awareness levels of CFLs among lighting purchasers and the demographic differences between those who claimed awareness of CFLs and those who did not. It also covers sources of consumer awareness of CFLs;
- *CFL purchasing behavior:* This covers the prevalence of CFL purchasers among the general population, the typical quantities they are purchasing, and where they are purchasing their CFLs;
- *Reasons for purchasing CFLs; and*
- *Demand-side barriers to CFL purchase.*

- ***The California CFL retail environment:*** Findings summarized in this subsection include:
  - *The relative availability of ULP-discounted vs. non-ULP-discounted CFL products;*
  - *The relative frequency of Energy Star products;*
  - *CFL lumen and wattage varieties;*
  - *CFL lamp shapes;*
  - *CFL package sizes;*
  - *The availability and variety of specialty CFLs;*
  - *CFL quality;*
  - *CFL prices and retail pricing strategies; and*
  - *CFL point-of-purchase placement and promotional activities.*
- ***Preliminary indicators of program attribution and free ridership:*** Findings summarized in this subsection include:
  - *Whether CFL purchasers had prior intentions to purchase CFLs:* If a person entered a store without specific plans to purchase a CFL and ended up purchasing one, due to some combination of the ULP-discounted price and/or greater product prominence due to ULP-influenced signage or product placement, then such a purchase should be attributed to the ULP. This subsection discusses the evidence from the shopper intercept surveys in terms of the relationship between shopper intentions and purchase behavior.
  - *Shopper awareness of CFL point-of-purchase materials and their influence;*
  - *The effect of CFL multi-packs on purchase quantities;*

- *The effect of CFL price on purchase quantities;*
- *Shopper awareness of the ULP discounts and their influence; and*
- *Store manager estimates of free ridership.*

- ***CFL disposition after the sale:*** Findings summarized in this subsection include:
  - *CFL leakage:* "CFL leakage" is the phenomenon where ULP-discounted lighting products are improperly sold in stores outside of California or on the Internet to non-California buyers. This subsection covers retailer/manufacturer reports on the prevalence of leakage, their opinions on where in the supply chain this leakage is likely occurring, their opinions on the bulk purchase limits introduced in 2007 to help mitigate CFL leakage, how these bulk purchase limits are enforced, procedures to avoid delivering ULP-discounted CFLs to the wrong location, what happens to unsold ULP-discounted products, and the evidence for "internal CFL leakage" where customers of one California utility are purchasing CFLs that have been discounted by a different California utility;
  - *Residential vs. non-residential use of ULP-discounted CFLs:* This subsection discusses evidence from both store manager interviews and shopper intercept surveys as to what percentage of ULP-discounted CFLs are likely going into residential vs. nonresidential sockets;
  - *CFL installation:* This covers the average number of installed CFLs reported by respondents;
  - *CFL storage:* This covers the average number of stored CFLs reported by respondents;
  - *CFL removal:* This covers how frequently respondents removed CFLs and their reasons for doing so; and
  - *CFL disposal:* This subsection covers manufacturer and retailer practices and preferred policies concerning the disposal and recycling of CFLs.

- **Satisfaction with the ULP, CFLs:** Findings summarized in this subsection include:
  - *Satisfaction with the ULP processes*;
  - *Recommendations for improvements in the ULP*; and
  - *Consumer satisfaction with CFLs*.

- **Other sections of the report:** In addition to this Executive Summary, other sections of the report include:

    - *The ULP program theory;*
    - *Program energy savings;*
    - *Prior evaluation recommendations and disposition; and*
    - *The detailed evaluation findings.*

1.1.2 Information Sources

This executive summary brings together findings from multiple data collection efforts. These include:

- *Upstream Market Actor Interviews:*

    - *141 "store managers" representing retailers participating in the ULP:* For the sake of simplification we will call these market actors "store managers" even though some of them do not manage the whole store per se – e.g. they may be responsible for lighting and a few other products. We surveyed 70 store managers operating in the Pacific Gas and Electric (PG&E) service territory and 71 in the SCE service territory. These surveys were completed in May 2008;
    - *18 participating high-level retail lighting buyers:* With one exception, these buyers worked for large retail chains. We completed 16 of these interviews during the September – November 2008 time period. Two more were completed in the July – September 2009 time period. These interviews were originally being done for the California Public Utilities Commission's (CPUC's) impact evaluation of the Residential Retrofit Programs. However, because we knew from past experience that it was difficult to gain permission for interviews with many of these high-level buyers, we chose to add a number of process-related questions to the interview guide; and
    - *18 lighting manufacturers:* Seventeen of these are currently participating in the ULP and the eighteenth participated as recently as 2007. We completed 16 of these interviews during the July – November 2008 time period. Two more were completed in the June – September 2009 period. As with the case with the high-level buyers, these interviews were originally being done for the CPUC impact evaluation, but we chose to amend the interview guide with process-related questions.

- *The shopper intercept and shelf surveys:* These surveys were conducted all during the course of 2008 from January to December. The objectives of the in-store consumer intercept survey task were to conduct interviews with lighting purchasers (including CFLs and non-CFLs) at the time of purchase to provide feedback on the primary influences on CFL

purchase decisions, and to better understand how decisions vary under different product type availability, pricing and packaging scenarios. In addition, the surveys provided indicators of free ridership, CFL leakage, and residential vs. nonresidential purchases.

There were two different types of shopper intercept surveys:

- *The revealed preference survey:* This survey was administered to shoppers who had already placed a light bulb in their shopping cart. These shoppers were then asked about their decision-making criteria for choosing these light bulbs.
- *The stated preference survey:* This survey was administered to shoppers who had not purchased a light bulb but who had agreed to accompany the surveyor to the lighting section of the store to engage in a hypothetical purchase scenario. The researcher asked consumers to imagine that they were shopping to replace a light bulb installed in a typical fixture in their homes and to select a CFL or incandescent lamp for that purpose. Once they selected the light bulb (or multi-pack of bulbs), we administered a limited version of the revealed preference survey. Stated preference surveys were needed because, in some store types, the volume of shoppers is so low that researchers may encounter no light bulb purchasers or very few.

As part of the data collection process, we also conducted comprehensive shelf surveys to provide detailed information on the variety of product types, prices, packaging configurations, etc. that were available to consumers at the time of the survey. These shelf surveys represented more than 5,000 CFL packages observed in 321 stores. The shelf survey database contains detailed characteristics data for both CFLs and incandescent lamps, including specialty lamps. The shelf survey data provides additional context for understanding consumer purchase decisions.

- *The PG&E/SCE general population telephone survey:* In the August-October 2008 time period, KEMA conducted a general population telephone survey focused on consumer purchase, installation, and storage of CFLs. The survey included separate batteries of questions for individuals who were aware of CFLs and for those who were unaware, as well as for CFL purchasers and non-purchasers. A total of 1,267 surveys were completed including 1,205 with respondents who were aware of CFLs and 62 with respondents who were unaware. Overall we completed 627 surveys with residential customers in PG&E's service territory and 640 with residential customers in SCE's service territory.

- *Interview and discussions with SCE ULP staff:* In 2009 we conducted one telephone interview with SCE's ULP manager and engaged in in-person discussions with SCE ULP staff on two other occasions.

1.2 The CFL Supply Chain

In defining our scope of research, SCE staff expressed particular interest in better understanding the structure and timing of the CFL supply chain. In our surveys of lighting manufacturers, high-level retail lighting buyers, and store managers we asked them a number of questions to better understand this supply chain. A summary of these findings include:

- *Retailer sources of CFL supply:* Nearly two thirds of the PG&E/SCE store managers said that they got their CFL bulbs from their company's own distribution centers with only 16 percent saying they came from non-affiliated lighting distributors and 15 percent saying they came directly from the manufacturer;

- *Full-cycle CFL delivery times:* The manufacturers and high-level retail lighting buyers reported that the typical time it takes from the time a new shipment of ULP-discounted CFLs is ordered from the factory and the time it arrives at the retailer is 70-71 days. These market actors also provided estimates for manufacturing times, shipment times, and warehousing times. These estimates appear in the detailed findings;

- *How shipment sizes of ULP-discounted CFLs are determined:* PG&E/SCE store managers and high-level lighting buyers said that using historical sales information was the most common way for determining shipments levels for ULP-discounted CFLs, although there were many other approaches;

- *Problems with delivery of ULP*-discounted CFLs: In the evaluation of the 2004-2005 ULP there was anecdotal evidence that some retailers had received deliveries of ULP-discounted CFLs that were much larger than they had ordered or which arrived at an unexpected time. So for the evaluation of the 2006-2008 ULP we asked all the PG&E/SCE store managers whether they had encountered these problems. Only a small minority of the store managers said that they received larger-than-expected orders of ULP-discounted CFLs. Only seven percent of them said they received shipments that arrived at an unexpected time;

- *How long it takes to sell through a shipment of ULP*-discounted CFLs: The managers of Big Box/Mass Merchandise and Small Hardware stores claimed to sell through their ULP-discounted CFLs the quickest with slightly over half saying they sold through their shipments in five weeks or less. In contrast, 50 percent of the Large Grocery store managers, 78 percent of the Small Grocery store managers, and 54 percent of the Discount store managers said that it takes nine weeks to a year to sell through their shipments of ULP-

discounted CFLs. These slower sales were likely due to a combination of factors discussed in the detailed findings; and

- *What retailers do when they sell through their ULP-discounted lighting products:* The most common responses of the PG&E store managers were that they would reorder more ULP-discounted products or that they never sell out. The most common responses of the SCE store managers were that they stopped selling CFLs or they would reorder more of the ULP-discounted products. Stores which never ran out, or which could acquire more ULP product immediately, tended to be Big Box and Mass Merchandise stores with automatic replenishment systems and/or ULP suppliers with domestic warehousing. 99¢/$1 stores and the discount Grocery stores were most likely to stop selling CFLs when they ran out of their ULP-discounted products.

1.3 The California CFL Shopper

The SCE staff expressed interesting in learning more about CFL purchasing behavior and especially about the characteristics of consumers who had yet to purchase a CFL. This subsection discusses CFL awareness, CFL purchasing behavior, reasons for CFL purchase, and barriers to CFL purchase.

1.3.1 CFL awareness

Some key findings concerning CFL awareness include:

- *Awareness levels:* The general population telephone survey found that 95 percent of both the PG&E and SCE respondents said they were aware of CFLs. These awareness levels are the same as a similar survey fielded in the PG&E, SCE, and San Diego Gas and Electric (SDG&E) service territories in 2006;

- *Timing of awareness:* Four out of five of the general population telephone survey respondents reported that they became aware of CFLs within the past five years, and approximately one-fourth said that they first became aware of CFLs when they saw a television advertisement and/or when they saw CFLs in retail stores;

- *Aware vs. unaware consumers:* The general population telephone survey respondents who were aware of CFLs were much more likely to be homeowners than respondents who were unaware. Respondents who were aware of CFLs were more likely to have at a least college

degree (or higher education) than respondents who were unaware of CFLs. Unawareness of CFLs was higher among the lower-income respondents; and

- *Sources of awareness:* The three most common sources of CFL awareness among the 2008 general population survey respondents had not changed since 2006. These include becoming aware of CFLs in stores (due to a display, a sale, or point-of-purchase materials), through television, and through word of mouth. However, the 2008 survey did see an increase in the percentage of respondents claiming to have learned about CFLs from television. This is likely the result of increased promotion of CFLs via television commercials such as those sponsored by PG&E in 2007 and 2008 and the statewide Flex Your Power advertising campaign.

1.3.2 CFL purchasing behavior:

Some key findings concerning CFL purchasing behavior included:

- *CFL purchasers vs. non-purchasers:* A significantly larger proportion of respondents to the general population survey who purchased CFLs were homeowners than respondents who had not purchased CFLs. CFL purchasers were more likely to have at a least college degree (or higher education) than non-purchasers, and a greater proportion of purchasers had higher incomes than non-purchasers;

- *Purchase rate:* The CFL purchase rate in California has been increasing steadily for the past several years. Responding to the general population survey, 70 percent of PG&E and SCE residential customers said they have purchased at least one CFL. Two-thirds of these respondents reported that their primary reason for purchasing CFLs was to save energy;

- *Purchase locations:* Forty percent of the general population survey respondents said that they made their most recent CFL purchases at home improvement or hardware stores. Twenty percent reported that they made their most recent purchases at big box stores (such as Wal-Mart, Target, etc.), 15 percent at Costco, and 10 percent at supermarkets;

- *Purchase quantity:* The general population survey respondents said that they purchased an average of 7.1 CFLs during their most recent purchases. Consumers who shopped at Costco purchased more CFLs, on average, than purchasers at other store types. This is likely because of the relatively larger package sizes (multi-packs) at Costco compared to other retailers. Overall, 65 percent of respondents reported that their most recently-purchased CFLs came in multi-packs (packages with 2 or more lamps); and

- *Purchasing experience of the intercept survey respondents:* Overall, 89 percent of all respondents to the shopper intercept surveys said that they had purchased or been given CFLs in the past. CFL purchasers were more likely to have purchased or been given CFLs in the past, as compared to incandescent lamp purchasers. There was no difference between IOU-discounted CFL purchasers and other CFL purchasers.[2] Respondents within the mass merchandise channel were least likely to have purchased or been given CFLs; respondents in the large grocery and membership club channels were most likely to have purchased or been given CFLs.

1.3.3 Reasons for purchasing CFLs

Some key findings concerning consumer reasons for purchasing CFLs included:

- *General reasons for purchase from the general population telephone surveys:* When asked about their most recent CFL purchases, the majority of the general population survey respondents said that the most important factor in choosing a CFL over an incandescent was to save or conserve energy. Respondents mentioned energy conservation more than twice as often as any other reason. Roughly one in five purchasers mentioned electricity bill reductions and CFLs lasting longer as reasons for purchase.

- *General reasons for purchase from the shopper intercept surveys:* Consistent with prior research, the top reasons respondents purchased CFLs include saving money and/or saving energy (68% and 40%, respectively). In addition, general product performance issues (e.g., CFLs "work better/are higher quality" than incandescent lamps, CFLs have longer life, etc.) were mentioned fairly commonly as reasons for purchasing CFLs. About one in five mentioned environmental benefits as the reason they purchased CFLs and a similar percentage specifically mentioned the low/affordable price as they reason they purchased CFLs. Other reasons for purchasing CFLs include respondents' prior experience with the product, specific packaging/merchandising characteristics, and/or other product design features. Less than one percent of the respondents overall mentioned the IOU discount as a reason they purchased CFLs.

[2] Because the ULP-discounted CFLs have stickers and possibly signage that associate the discounts with a particular California IOU, we asked the shoppers in the intercept surveys about IOU discounts rather than ULP discounts since they were more likely to recognize the former.

- *How reasons differed by IOU:* In the shopper intercept survey the SCE respondents were more likely than other IOU respondents to cite saving money and/or energy as their reasons for selecting CFLs and somewhat more likely to cite the packaging/merchandising characteristics as the reasons they selected CFLs. SCE respondents were slightly less likely than PG&E respondents in particular to cite the low/affordable price and/or product performance characteristics as their reason for selecting CFLs.

- *How reasons differed by where people shopped:* In the shopper intercept surveys, respondents surveyed in Drug stores more commonly cited environmental benefits as the reason they selected CFLs, and less commonly cited saving money and/or low/affordable CFL prices. Respondents surveyed in Hardware stores were similar to respondents surveyed in Drug stores in that they more commonly cited environmental benefits and less commonly cited saving money as the reason for selecting CFLs. Saving energy, money and environmental benefits were all more commonly cited by respondents surveyed in Large Grocery stores. Low/affordable CFL prices were more often cited by respondents surveyed in Small Grocery stores and Mass Merchandise stores, and least often cited by respondents surveyed in Home Improvement stores.

1.3.4 Barriers to CFL purchase

Some key findings concerning barriers to consumer purchase included:

- *Barriers identified in the shopper intercept surveys:* The most common barriers to purchase cited by the respondents to the shopper intercept included awareness/information barriers, aesthetic/functionality barriers, product performance barriers, and price barriers. Other barriers such as mercury or product packaging were cited much less often. There were a few differences in the types of barriers identified depending on which IOU served the customer, in which retail type the intercept survey was conducted, and whether they had entered the store intending to purchase CFLs.

    - *Awareness/information barriers:* Overall, 39 percent of all respondents cited some type of awareness/information barrier to CFL purchase that could be potentially overcome with targeted educational and/or outreach strategies. For example, about a fifth said that they purchased/selected incandescent lamps out of “habit;” and a few others cited similar reasons (i.e., prior experience with incandescent lamps, wanted an exact replacement model). Others said that they needed more information or were unaware of CFLs. Still others reported that they did not purchase/select CFLs because of prior (bad) experience with CFLs, warnings from friends and family, and/or general perceptions that incandescent lamps were “better” than CFLs. A few

respondents (2%) said that because they "already have CFLs" they did not need to purchase any more.

- *Aesthetic or functionality barriers:* Just over one-third of all respondents cited some type of aesthetic or functionality limitation of the CFL as their reason for not purchasing/selecting CFLs. Most common were features such as the way CFLs look and/or fit in fixtures, as well as other aspects of the bulb shape or size. Others mentioned that they needed some specific type of bulb (e.g., three-way, dimmable, specific wattage) or some other specification (e.g., appliance replacement bulb, outdoor/safety fixture, etc.).

- *Product performance barriers:* Overall, 30 percent of all respondents mentioned some aspect of product performance as their reason for not purchasing/selecting CFLs, the most common of which related to light quality/color. A few others mentioned that CFLs took too long to start-up, burn out too fast, and/or flicker.

- *Price barriers:* About a quarter (26%) of all respondents mentioned price (i.e., too expensive) as their reason for not purchasing/selecting CFLs.

- *Other barriers:* A small (but most likely growing) percentage of respondents (7%) mentioned their concerns about the mercury content in CFLs as a barrier to purchase. Only about three percent mentioned barriers related to product packaging (i.e., multi-packs) and merchandising (i.e., location in the store) as reasons for not purchasing CFLs.

- *Barrier differentiation by IOU:* For the most part, these results from the shopper intercept surveys were fairly consistent across the IOUs. SCE respondents were somewhat more likely to cite barriers that related to a lack of awareness or information (e.g., "habit," prior experience, etc.), and SDG&E respondents were more likely to cite barriers related to product design features (e.g., lamp "look" or fit).

- *How barriers differed by where people shopped:* Overall, the results were also fairly consistent across channels, with a few noteworthy differences:

    - *Price:* Channels where price barriers were least common include Discount and Small Grocery, whereas price barriers were more commonly cited in the Drug and Mass Merchandise channels.

    - *Product Performance and Design:* These barriers were most commonly cited in the Small Grocery channel. Product design barriers were least common within the Drug store channel.

    - *Awareness/Information:* This barrier was cited most commonly within the Discount store channel.

- *How barriers differed depending on whether the shopper intended to purchase CFLs or had purchased light bulbs:* There were some differences in the barriers to CFL purchase between respondents who had considered purchasing CFLs (but did not) and respondents who had not even considered purchasing CFLs. These differences may highlight a need to develop different strategies for overcoming barriers that prevent consumers from even considering purchasing CFLs, versus those barriers that may prevent consumers from making purchases when they were actively considering it.

  For example, one barrier that could be affecting whether or not respondents would even consider purchasing CFLs relates to perceptions regarding product performance (i.e., light quality/color). Nearly one third of all respondents who said that they had not even considered purchasing CFLs (32%) cited product performance barriers, whereas only 23 percent of all respondents who had considered CFLs cited these reasons. While it is true that overcoming product performance barriers specifically related to light quality/color may require actual improvements in CFL design, it is also highly possible that educational campaigns designed to inform consumers of the availability of CFLs in various light quality/color categories would also be effective in overcoming (mis)perceptions in the market that all CFLs have poor light quality/color characteristics.

  Other barriers that may be affecting whether or not respondents would even consider purchasing CFLs also relate to perceptions, beliefs or "habits" that targeted educational/outreach campaigns could effectively overcome. Respondents who said that they had not even considered purchasing CFLs were more likely to cite barriers related to "habit," lack of awareness/information, prior (bad) experience with CFLs, and concerns about mercury/disposal.

  Finally, price and product design features (e.g., lamp shape, size, fit) were more commonly cited among respondents who had considered purchasing CFLs (but did not). This may indicate that, if a wider variety of CFL product styles and prices were available at the time of purchase, they may have selected CFLs instead of incandescent lamps.

  These findings are further supported when looking at the differences in barriers to CFL purchase as cited by revealed preference intercept survey respondents versus stated preference intercept survey respondents. Revealed preference respondents (who did not purchase CFLs) were more likely to cite specific barriers related product design (e.g., lamp shape, size, fit) and stated preference respondents (who did not select CFLs in their hypothetical choice experiment) were more likely to cite barriers features related to product performance (e.g., light quality/color). It is possible that these results indicate that consumers who are actively considering purchase decisions may be basing these decisions, at least in part, on the actual characteristics/features of products that they have available to them at the time of purchase. Consumers who are inactively or hypothetically considering purchase decisions may be basing these decisions on perceived or expected characteristics/features that may or may not be accurate or even known/understood.

- *The supplier perspective on consumer barriers to general CFL use:* High-level retail lighting buyers and lighting manufacturers most frequently pointed to price/cost barriers as factors that limit consumer demand for CFLs. As to other consumer barriers, high-level buyers were more likely than manufacturers to point to consumer concerns about CFL light quality and bulb fit. In contrast, manufacturers were more likely than the buyers to point to CFL disposal and the limited availability of specialty CFLs as lingering barriers.

- *The supplier perspective on consumer barriers to specialty CFL use:* When participating PG&E/SCE store managers who sold specialty CFLs were asked to characterize recent sales of these products, 40 percent of the respondents said that sales were either "fair" or "poor." Only 10 percent said that sales were "excellent." These store managers identified cost as the top barrier to greater specialty CFLs sales with lack of consumer awareness/knowledge and limited availability being other barriers.

1.4 The California CFL Retail Environment

This subsection summarizes findings concerning the California CFL retail environment. These cover the relative availability of ULP-discounted vs. non-ULP-discounted CFLs, the relative frequency of Energy Star CFLs, CFL lumen and wattage varieties, CFL shapes, CFL packages, the availability and variety of specialty CFLs, CFL fixtures, CFL quality, CFL pricing and pricing strategies, and CFL point-of-purchase placement and promotional activities.

1.4.1 The relative availability of ULP-discounted vs. non-ULP-discounted CFLs

Some key findings concerning the relative availability of ULP-discounted vs. non-ULP-discounted CFLs:

- *Retailer reports on the availability of the ULP and The availability of non-ULP-discounted CFLs:* Over half (56%) of the participating PG&E/SCE store managers reported selling non ULP-discounted spiral CFLs. All Large Home Improvement, Small Hardware, and Lighting/Other store managers reported selling non-program bulbs. Only in the Small Grocery and Discount channels did a minority of store managers' report selling non-program bulbs.

- *Whether retailers stock ULP-discounted CFLs year-round:* Across all retail channels over two thirds (69%) of the store managers who were surveyed in 2008 said that they stocked these year round. In contrast, only 35 percent of the high-level retail lighting buyers said that

they did. The detailed section of the report discusses possible explanations for this difference.

- *Whether the ULP-discounted CFLs and non-program CFLs are sold at the same time:* Across all retail channels, 64 percent of the store managers in the 2008 survey said that they did this always or often. Among the high-level buyers, the buyers that represented the Big Box/Mass Merchandise, Large Home Improvement, Small Hardware, and Drug retailers all reported that this happen always.

- *The frequency of ULP-discounted CFLs in the stores:* The 2008 shelf surveys identified 13 percent of the CFLs in the store as discounted by an IOU.[3] It also identified 10 percent of the CFLs as discounted by the retailer. IOU-discounted CFLs were most commonly found in retail stores located in SCE's service territory (16%), followed by PG&E (13%) and SDG&E (8%). Retailer discounts were more common in stores located in SDG&E's service territory (14%) as compared to SCE (9%) or PG&E (7%). IOU-discounts were most commonly found within the Small Grocery and Discount Channels (58% and 52%, respectively), whereas retailer discounts were most common within the Large Grocery channel (39%). Discounts of any common were infrequent in the Drug and Mass Merchandise channels.

1.4.2 The relative frequency of Energy Star products

In the 2008 shelf surveys we found the large majority of CFLs in the stores to have the Energy Star label on the packaging.[4] Energy Star-labeled CFLs were most common in the globe-style and twister/spiral-style shapes, and least common among torpedo/bullet-style and bug light CFLs. The Home Improvement and Hardware channels stood out, with only 76 percent and 84 percent of the CFLs carried having the Energy Star label. For all of the other channels, more than 90 percent of the CFLs had Energy Star labels.

[3] It is important to note that these percentages only represent the proportion of unique CFL package types that the surveyors found in the stores and are not sales weighted. We assume that because the ULP-discounted CFLs had much lower prices, their share of store CFL sales was likely much higher than 13 percent.

[4] As noted, these percentages from the shelf survey only represent the proportion of unique CFL package types that the surveyors found in the stores and are not sales weighted.

1.4.3 CFL lumen and wattage varieties

- *Lumen levels:* The 2008 shelf surveys found that about one third of all CFLs were less than 800 lumens, 27 percent were 800-1,099 lumens, 19 percent were 1,100-1,599 lumens,19 percent were 1,600 lumens or greater. There was quite a range of lumen levels available in the twister/spiral-style CFL models observed during the shelf survey. About two thirds of the A-lamp CFLs (65%) and three quarters of the globe-shaped CFLs (76%) had lumen levels less than 800. Just over half of the reflector/flood CFLs were less than 800 lumens and 30 percent were 1,100-1,599 lumens. Nearly all of the torpedo/bullet-style CFLs were less than 800 lumens. These results were not sales-weighted.

- *Wattage levels:* The 2008 shelf surveys found that 22 percent of the CFLs were less than or equal to 12 watts, 34 percent were 13-15 watts, 16 percent were 16-22 watts, 15 percent wee 23-25 watts, and 12 percent were 26 watts or greater. The average twister/spiral-style CFL was 18.2 watts, and the average reflector/flood CFL was 18.2 watts. A-lamp shaped CFLs were 11.4 watts on average, torpedo/bullet-style CFLs were 8.0 watts on average, and CFL bug lights were 13.4 watts on average. Lumen levels followed wattage categories in the expected pattern – i.e., lower wattage CFLs had lower lumen levels and higher wattage CFLs had higher lumen levels. These results were not sales-weighted.

1.4.4 The variety of CFL shapes

The 2008 shelf surveys found that 62 percent of the observed packages and 70 percent of the total lamps were twister/spiral CFLs. The average twister/spiral-style CFL package contained 2.2 lamps. The next most common CFL lamp shapes after the twisters/spirals included:

- *Reflector/flood CFLs*: This CFL lamp shape accounted for 16 percent of packages and 11 percent of lamps with an average package size of 1.3 lamps;

- *A-lamp shaped CFLs:* This CFL lamp shape accounted for nine percent of packages and nine percent of lamps, with an average of 1.8 lamps per package; and

- *Globe-shaped CFLs:* This CFL lamp shape accounted for six percent of packages and five percent of lamps, average with an average of 1.8 lamps per package.

Small Grocery stores almost exclusively carried twister/spiral-style CFLs, and more than 70 percent of CFLs sold at Discount and Drug stores were twister/spiral-style. Membership Club

stores had a wider variety of CFL shapes and styles, with only 31 percent of all CFLs being the twister/spiral-style shape. These results were not sales-weighted.

1.4.5 The variety of CFL package sizes

The 2008 shelf surveys found that over half of the CFLs in the stores were single-packs (57%), 18 percent were two-packs, 11 percent were three-packs, eight percent were four-packs and six percent were packages of five or more CFLs. The average number of CFLs in the packs with five or more CFLs was between 6 and 7. As expected, Membership Club stores had the highest average number of lamps/package (4.1), followed by Mass Merchandise (2.4). These results were not sales-weighted.

1.4.6 The availability and variety of specialty CFLs

The 2008 shelf surveys found that five percent of all the CFLs observed in the stores surveyed were dimmable, and just under three percent had three-way wattage capabilities. About half of the dimmable CFLs were twister/spiral-style, 45 percent were reflector/flood-style CFLs, and a small percentage (less than 4%) were torpedo/bullet-style CFLs. All of the three-way wattage CFLs were twister/spiral-style.

The shelf surveys also found that Membership Club stores and Drug stores accounted for the largest share of the dimmable CFLs (7% respectively). Membership Club stores accounted for the largest share of the three-way wattage CFLs (8%). These types of CFLs were not found in any of the Small Grocery stores surveyed through this effort, and only a very small fraction of the Discount stores. These results were not sales-weighted.

Exactly half of the PG&E/SCE store managers who were surveyed in 2008 said that they sold specialty CFLs such as dimmables, 3-way, or reflector CFLs. A large majority of the Big Box/Mass Merchandise, Large Home Improvement, Small Hardware, and Lighting/Other stores sold these specialty CFLs. PG&E store managers were much more likely (61%) to report selling specialty CFLs than SCE store managers (39%).

1.4.7 The availability of CFL fixtures

Almost half (45%) of the PG&E/SCE store managers who were surveyed in 2008 said that they sold CFL fixtures. Two thirds or more of the store managers in the Large Home Improvement, Lighting/Other, Big Box/Mass Merchandise, and Discount channels reported selling CFL fixtures.

1.4.8 CFL quality

- *Valuing CFL quality:* Seventy percent of the store managers and 78 percent of the store managers who gave responses other than "don't know" said quality was very important. Nineteen percent of the respondents and 22 percent of the respondents who gave responses other than "don't know" said that quality was "somewhat important" or "not at all important."

- *Detecting CFL quality:* When we asked store managers how they could tell whether their store were selling quality products, their most common responses included by the number of returned CFLs, by customer feedback, by whether their CFL products had a quality brand name, and by the retailer's personal examination of or experience with the CFL product.

- *Ensuring CFL quality:* We asked the store managers whether their companies do anything to assure the quality of the CFLs that they sell. Only about a quarter of the store managers said that their companies do something. When asked what actions their companies took to insure quality, these store managers said their companies either offered free product replacements/guarantees or discontinued CFL products that had high return rates. Finally we asked the store managers whether there were any CFLs that they stopped offering due to customer complaints related to quality. Only three of the 71 store managers (4%) said that they had.

1.4.9 CFL prices and pricing strategies

- *Price differences between ULP-discounted and non-program CFLs:*

    - *Evidence from the retailer interviews:* Forty-four store managers provided estimates with the ULP-discounted CFLs being on average $2.35 lower in price. There were significant differences in the average price differences among the various retail channels. For 16 store managers who provided estimated price differences in percentage discount terms rather than dollars, the most common discount levels were 50 percent and 75 percent off the non-program CFL prices.

    - *Evidence from the shelf surveys:* The shelf surveys found that twister/spiral-style CFLs discounted by the IOU were about $2 less expensive than similar shaped lamps that were not IOU-discounted. The greatest differential in average price/lamp – between IOU-discounted and non-IOU discounted CFLs – could be found in the Small Hardware and Drug channels.

- *CFL pricing strategies:* The 2008 survey of store managers found that those who claimed to know how the retail prices for ULP-discounted CFLs were determined, the most commonly-cited strategies included basing them on competitor prices, using a standard price or markup, keystone pricing, and selling them for 99 cents or a dollar – either because that was their store format or because that's what their competitors were doing. The high-level buyers' most-cited ways to determine retail prices for ULP-discounted CFLs were basing them on competitor pricing or using some kind of standard price or markup. Most of the store managers and most of the buyers identified retail prices for ULP-discounted CFLs that were significantly less than a dollar per CFL.

- *Determining the retail prices of free ULP-discounted CFLs:* When asked how they price these free CFLs, the most-cited responses of the store managers were that they based these prices on competitor pricing, used a standard price or markup, and gave them away. The high-level retail lighting buyers gave very similar responses. Almost all of the manufacturers said that they provided advice to retailers on how to price these free or nearly free CFL products. This advice usually took the form of a suggested retail price based on their understanding of the California CFL market.

1.4.10 CFL point-of-purchase placement and promotional activities

- *Product placement:* Nearly eighty percent of the store managers said that they always or very often give the ULP-discounted CFLs a more prominent display than their other lighting products.

- *More prominent signage:* Over 80 percent of the store managers said that they give the ULP-discounted CFLs more prominent signage with 72 percent saying that they do this always. Seventy-seven percent of the store managers said that their signage promoted the price reductions resulting from the ULP discounts.

- *Signage sources:* Over half the store managers said that they use hand-made signs with only 15 percent using utility signage. Only 21 percent said they knew that the utilities participating in the ULP provided free signage.

- *Signage satisfaction:* The store managers gave an average satisfaction rating of 4.4 -- on a five-point satisfaction scale – for the signage that they used for the ULP.

- *Use of illuminated CFL displays:* Only 14 percent of store managers said that they used the se. However, 80 percent of those who used them said that they helped sell CFLs.

1.5 Program Attribution, Preliminary Free Ridership Indicators

Although free-ridership levels for the ULP will be officially determined by the CPUC-sponsored impact evaluation of the Residential Retrofit Program, PG&E and SCE asked us to provide them with some preliminary indicators of ULP free ridership. To this purpose, we asked all the 2008 PG&E/SCE store managers to estimate how their sales of CFL products would be affected if the ULP buydown discounts had not been available. In the shopper intercept surveys we also asked the shoppers a number of questions which explore the role that the ULP may play in CFL purchase decisions. Finally the general population telephone survey also provided some information on the influence of in-store promotional displays and discounts on CFL purchasing decisions. The follow subsections summarize the responses to these questions.

1.5.1 Whether CFL purchasers had prior intentions to purchase CFLs

If a person entered a store without specific plans to purchase a CFL and ended up purchasing one, due to some combination of the ULP-discounted price and/or greater product prominence due to ULP-influenced signage or product placement, then such a purchase should be attributed to the ULP. This subsection discusses the evidence from the shopper intercept surveys in terms of the relationship between shopper intentions and purchase behavior.

- *Most respondents were planning to purchase some type of lighting product the day they were surveyed.* About half of those who had planned to purchase lighting products reported that they were specifically planning to purchase CFLs. Thirty-five percent of the respondents who actually made a lighting purchase had specific plans to purchase CFLs on the day the survey was conducted. The remaining respondents (65%) either did not plan on purchasing any lighting or planned on purchasing something other than a CFL. As compared to PG&E and SDG&E, SCE respondents were less likely to plan to purchase lighting in general. However, of those with plans, more were likely to purchase CFLs. Channels most likely to result in “impulse buys” (i.e., CFL purchases with no prior plans to purchase lighting) included Small Grocery, Membership Club, and Discount stores.

- *Actual purchase behavior:* Overall, just over half of all respondents (59%) purchased CFLs on the day the survey was conducted, and two-thirds of these respondents (63%) purchased IOU-discounted CFLs. This means that about a third of all respondents (37%, or 63% of 59%) purchased IOU-discounted CFLs on the day the survey was conducted, with the remainder purchasing non-program CFLs.

- *The relationship between intentionality and CFL purchasing:*

    - Overall, the majority of respondents who did not plan to purchase any lighting products actually purchased CFLs and most of those CFLs were IOU-discounted. Only eight percent of respondents overall were not planning to purchase any lighting products and actually purchased incandescent lighting products.

    - Nearly all of the respondents who planned to purchase CFLs in particular actually did (i.e., 233 out of 238), with about 55 percent of them purchasing IOU-discounted CFLs.

    - The majority of respondents who did not plan to purchase CFLs in particular (91%) actually purchased incandescent lighting products. Only about nine percent who were not planning to purchase CFLs actually did.

1.5.2 Shopper awareness of CFL point-of-purchase materials and their influence

The 2008 general population survey found that the most common way that respondents first became aware of CFLs was seeing them in stores (due to a display, a sale, or point-of-purchase materials). In addition, approximately one third of CFL purchasers reported that they saw signs, brochures, displays, or other materials regarding CFLs in the stores during their most recent purchases. Nearly two-thirds said that these materials were either very influential or somewhat influential on their decisions to purchase CFLs.

1.5.3 Shoppers awareness of the ULP discounts and their influence

This subsection summarizes findings concerning three different types of awareness: 1) the awareness that the CFL that one has just purchased is ULP-discounted, 2) the awareness that ULP-discounted CFLs are in the store that one is visiting, and 3) awareness that the IOUs offer discounted CFLs. It then discusses the survey evidence concerning the influence of these discounts on the lighting purchase decision.

- *Awareness that the CFL one has purchased is discounted:* Overall, only about a third of the shopper intercept survey respondents who purchased IOU-discounted CFLs (38%) were aware that the specific product they purchased was discounted by the IOU. Another 41 percent were aware that the product was discounted but not necessarily by the IOU and the remaining 21 percent were unaware that the product they purchased was discounted at all. PG&E respondents were most likely to be aware that the product they were purchasing was

discounted by PG&E, whereas SCE and SDG&E respondents were more likely to be aware that the product they were purchasing was discounted but not necessarily by the IOU.

Retailer channels in which awareness of IOU-discounted CFLs was the highest include Small Grocery (58%) and Discount (46%). Awareness of discounts -- but not necessarily IOU discounts -- was highest in the Home Improvement (65%) and Mass Merchandise (59%) channels. Overall, 43 percent of the respondents who were aware that the CFLs they purchased were discounted by the IOU reported that they had come into the store specifically to purchase IOU-discounted CFLs.

- *Awareness that one can find ULP-discounted CFLs in the store.* Overall, 43 percent of shopper intercept respondents were aware that they could find IOU-discounted CFLs at the specific store where the survey was conducted. In this case, revealed preference respondents were somewhat more likely (49%) to report that they were aware compared to stated preference respondents (41%). SCE respondents were less likely to be aware of IOU-discounted CFLs at the store where the survey was conducted (35%), whereas SDG&E respondents were more likely to be aware (62%). Awareness by channel was highest for the Mass Merchandise stores (58%) and lowest for Drug (22%), Home Improvement (38%) and Membership Club (36%) stores.

- *Awareness that the IOUs offer discounted CFLs:* Nineteen percent of revealed preference respondents in the shopper intercept surveys were aware that the IOU provided discounts for CFLs prior to taking part in the survey compared to 30 percent of stated preference respondents. This indicates that there could be a slight bias in the stated preference survey data toward shoppers with greater awareness of IOU discounts for CFLs. Within the Membership Club channel, stated preference respondents were much more likely to report that they were aware of IOU discounts on CFLs. Among revealed preference respondents, those within the Small Grocery channel were more likely to report they were aware of IOU discounts on CFLs.

- *The influence of the ULP discounts on purchase decisions:* Both the 2008 general population telephone survey and the shopper intercept surveys asked CFL purchasers questions that shed light on the influence of the CFL discounts on their purchase decisions.

    - *General population survey results:* In response to the 2008 general population survey, more than a third of recent CFL purchasers reported that their most recently-purchased CFLs were on sale or discounted. Of these, one quarter said that they were not at all likely to have purchased the CFLs if the discount was not available.

Three-quarters reported that the discount encouraged them to purchase a greater number of CFLs than they would have in absence of the discount.

- *Shopper intercept survey results:* When asked why they purchased the CFLs, about one in five of the purchasers mentioned environmental benefits as the reason they purchased CFLs, and a similar percentage specifically mentioned the low/affordable price as they reason they purchased CFLs. Less than one percent of the respondents overall mentioned the IOU discount as a reason they purchased CFLs.

1.5.4 The effect of CFL multi-packs on purchase quantities

The 2007 evaluation of the 2004-2005 indicated that the ULP might have been encouraging the use of CFL multi-packs and recommended that the ULP try to reduce the size of these multi-packs. While multi-packs may, in theory, increase program claimed savings by encouraging people to buy more CFLs than they had planned to, some of these savings are removed in the evaluation process if it is discovered that many of these purchased CFLs ended up in closets or pantries rather than installed in lighting sockets. Our communications with PG&E and SCE ULP staff indicated that in recent years they had tried to encourage retailers to use smaller pack sizes, although they were not always successful.

But do multi-packs actually encourage consumers to purchase more CFLs than they would if there had been single packs? About half (55%) of the respondents the shopper intercept surveys said that they would have purchased the same number of CFLs even if they could have purchased them individually at the multi-pack, per-bulb price. About 30 percent reported that they would have purchased fewer, indicating that the multi-packs may have encouraged larger quantities of CFLs to be purchased than perhaps were needed. For about 15 percent of the respondents, the multi-packs limited the total number of CFLs they wanted to purchase (i.e., they would have purchased more if they could have purchased them at the same per-bulb price individually).

There were some differences in the survey responses depending on the retail channel. Channels that would have resulted in fewer CFLs purchased overall if they were available individually at the multi-pack, per-bulb price included Hardware and Membership Club. Channels that would have resulted in more CFLs purchased overall include Discount, Large Grocery, and Small Grocery. The effect of multi-packs seems to have had the least effect in the Home Improvement channel, with 68 percent of respondents indicating they would have purchased the same quantity of CFLs regardless of the price/packaging.

1.5.5 The effect of CFL price on purchase quantities

In the shopper intercept surveys -- both the revealed preference and stated preference versions – we asked the shoppers to gauge the influence of price on their CFL purchase/selection decisions. Overall, the majority of stated preference respondents (68%) reported that they would have selected CFLs even if they cost twice as much, whereas only 34 percent of revealed preference respondents said that they would have purchased the same number of CFLs if they cost twice as much. While about one in four (26%) of the revealed preference respondents reported they would have purchased fewer CFLs had the price between twice as high, fully 40 percent said that they would not have purchased any CFLs had they cost twice as much. As a result, stated preference respondents appear to be overstating purchase intentions when compared to revealed preference respondents.

"Free ridership," as defined as a respondent's willingness to purchase at least some CFLs at a higher price, was highest among SDG&E's revealed preference respondents and lowest among PG&E's revealed preference respondents. Over half (52%) of PG&E revealed preference respondents reported that they would not have purchased any CFLs had they cost twice as much, which compares to about one third of SCE respondents (33%) and only 15 percent of SDG&E respondents. Further, half of SDG&E respondents (50%) said that they would have purchased the same number of CFLs even if they cost twice as much, which compares to 38 percent of SCE respondents and 22 percent of PG&E respondents.

There were few significant differences in these results by channel. In general the Discount, Mass Merchandise, Membership Club, and Small Grocery shoppers were less willing to purchase at least some CFLs at a higher price The Home Improvement and Hardware Channels shoppers were more likely to do so.

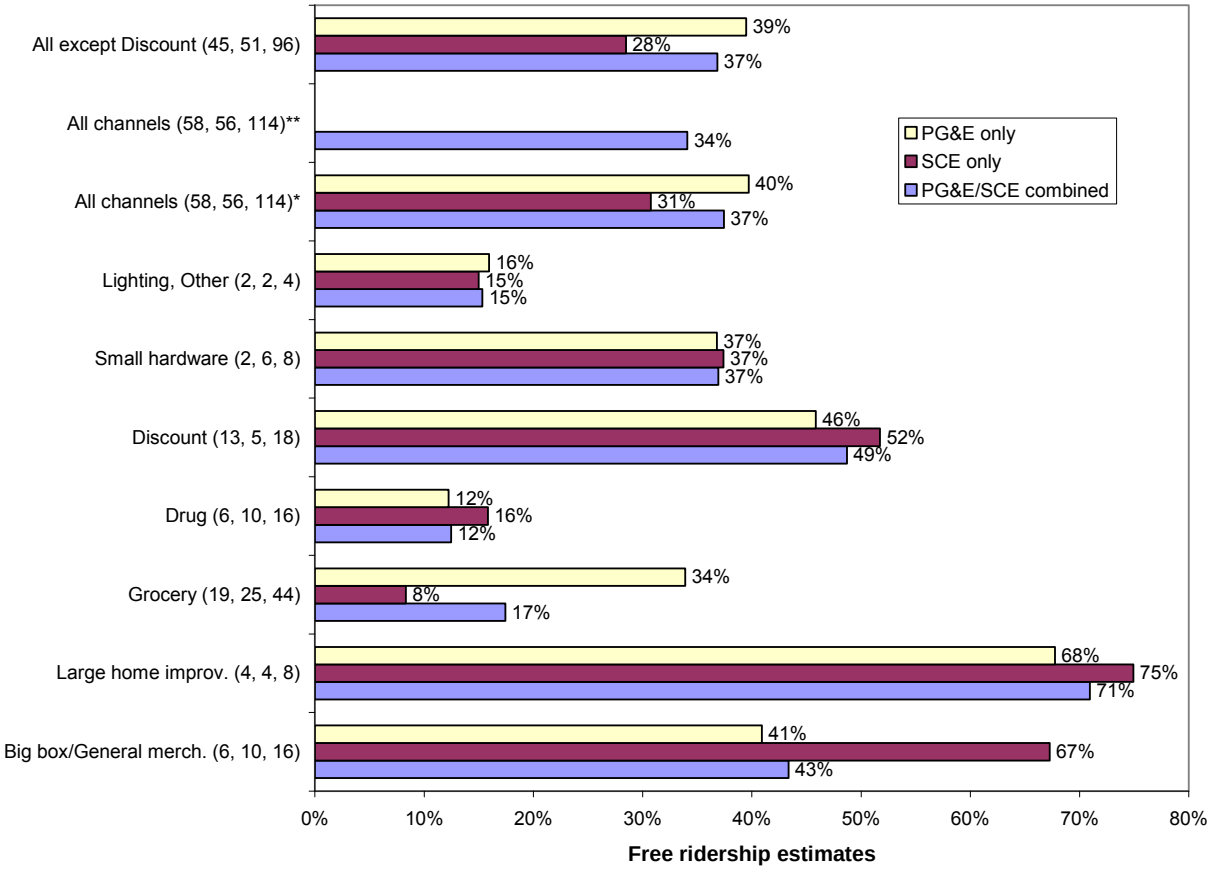
1.5.6 Store manager estimates of free ridership

In 2008 we asked the PG&E and SCE store managers about the effects on their CFL sales if the ULP discounts had not been available. The following summarize their responses:

- *Free ridership estimates for ULP-discounted non-specialty CFLs:* The sales-weighted free ridership estimates of the PG&E/SCE store managers across all retail channels ranged from 34 to 37 percent depending on the sales weighting methodology. This was close to the 38 percent that KEMA estimated in 2007 for the evaluation of the 2004-2005 SFEER program. As Figure 1-1 shows, these free-ridership estimates ranged widely depending on the retail channel. However, it also shows that, with the exception of the Big Box/General

Merchandise and Grocery channels, the average free-ridership estimates of the PG&E and SCE store managers were pretty similar. The detailed findings in this report discuss possible explanations for the differences between the PG&E and SCE store manager estimates. This detailed section also discusses possible explanations for differences between these 2008 channel-specific estimates and those that KEMA estimated for the evaluation of the 2004-2005 SFEER program.

Figure 1-1
Non-Specialty CFL Free-Ridership Estimates
from PG&E/SCE Store Managers
by Retail Channel



Note: *Retail channel weights are based on the distribution of non-specialty ULP CFL sales in the lighting retailer sample. **Retail channel weights are based on the combined 2006-2007 non-specialty ULP CFL sales in the PG&E/SCE service territory.

- *Free ridership estimates for ULP-discounted specialty CFLs:* Only 24 store managers provided free-ridership estimates for the specialty CFLs, with 17 of them coming from the PG&E service territory. Overall free-ridership estimates ranged from 29 percent to 49 percent depending on the weighting scheme.

- *Free ridership estimates for ULP-discounted CFL fixtures:* Thirty-four store managers provided free-ridership estimates for CFL fixtures, with almost two thirds of them coming from the PG&E service territory. Overall free-ridership estimates ranged from 35 percent to 51 percent depending on the weighting scheme.

- *Other sales effects of the ULP:* We asked the 2008 PG&E/SCE store managers whether the ULP does anything, besides the discounts, to help them sell CFLs. Across all utilities and all retailer types only about a third of the store managers said that the program was doing this. When they were asked what the ULP was doing besides the discounts to help them sell CFLs, the most common responses included increasing consumer awareness and unspecified types of advertising.

1.6 The Disposition of CFLs after the Sales

This subsection summarizes findings from the market actor and customer survey concerning what happens to the CFL after the retail sale. It addresses issues like "CFL leakage," the use of ULP-discounted CFLs in residential vs. nonresidential sockets, CFL installation and storage, CFL removal, and CFL disposal and recycling.

1.6.1 CFL Leakage

As noted, "CFL leakage" is the phenomenon where ULP-discounted lighting products are improperly sold in stores outside of California or on the Internet to non-California buyers. This subsection covers retailer/manufacturer reports on the prevalence of leakage, their opinions on where in the supply chain this leakage is likely occurring, their opinions on the bulk purchase limits introduced in 2007 to help mitigate CFL leakage, how these bulk purchase limits are enforced, procedures to avoid delivering ULP-discounted CFLs to the wrong location, what happens to unsold ULP-discounted products, and the evidence for "internal CFL leakage" where customers belonging to one non-IOU California utility are purchasing ULP-discounted CFLs.

- *Awareness of CFL leakage:* Table 1-1 shows the responses of participating manufacturers and retailers to a number of questions about the prevalence of CFL leakage. It shows that the manufacturers were much more likely to have seen evidence of CFL leakage than retailers. The fact that over half the manufacturers have seen evidence of leakage with their own ULP-discounted products, and a large majority has seen evidence of leakage with ULP-discounted products in general, suggests that leakage is a real phenomenon. However, it is important to note that many of the respondents thought that the volume of ULP-discounted CFLs that were being "leaked" was relatively small.

Table 1-1
Summary of Responses to Questions Related to CFL "Leakage"

Questions	Lighting manufacturers (n=15)	High-level lighting buyers (n=12-15)	Store managers (n=141,42)
Any of your ULP-discounted CFLs sold outside of California?	53%	7%	Not asked
Seen evidence of any ULP-discounted CFLs sold outside of California or on Internet?	87%	7%	Not asked
Would your unsold ULP-discounted CFLs ever be sold outside the IOU or state?	Not asked	8%	0%

- *Where in the supply chain leakage is likely occurring:* We asked the high-level retail lighting buyers and the lighting manufacturers: "There is evidence that some lighting products receiving discounts from the California Upstream Lighting Program are being sold out-of-state or through out-of-state buyers through the Internet. At what point in the supply and distribution chain do you think this might be happening?" The two most common responses were that the leakage was a result of customers reselling the products after buying them at retail or due to retailers trying to get rid of some overstock. In most cases the respondents based this on speculation, although in a few cases it was based on actual instances of leakage.

- *The bulk purchase limits:* In late 2007 the utilities participating in the ULP introduced bulk purchase limits that restricted the number of ULP-discounted lighting products that customers could buy in a single purchase. The main purpose of this bulk purchase limit was to make it more difficult for purchasers to resell bulbs on the Internet to non-California buyers. In addition to introducing these bulk purchase limits, the utilities also told the suppliers participating in the ULP to educate their retailers about the bulk purchase limits and even to monitor their sales figures for indications that certain retailers might not be abiding by the limits.

- *Retailer/manufacturer opinions of the bulk purchase limits:* Nearly all the lighting manufacturers, but only little more than half of the high-level retail lighting buyers, approved of the bulk purchase limits. Most respondents who approved of the limits said that they were necessary to discourage leakage and a couple of them claimed that the limits could reduce "pantry storage" of CFLs by customers. The manufacturers and high-level buyers who disapproved of the bulk purchase limits complained that the limits were too low; that they discriminated again legitimate volume purchasers such as builders and managers of apartment buildings, motels, or nursing homes; that they discriminated against membership

stores that operated on a bulk purchase basis; that they caused the ULP to lose legitimate energy-saving opportunities; and that the CFL leakage problem was overblown.

- *Enforcement of the bulk purchase limits:* Nearly half of the store managers who were aware of the limits said that they remind staff about the bulk purchase limits at regular meetings and about a third said that they program the limits into their cash registers. Most of the high-level buyers said that they are enforcing the limits by informing their stores through bulletins or through direct education of the cashiers. Nearly three quarters of the manufacturers said that they enforce these limits through educating store managers or cashiers. Other enforcement procedures -- cited by at least a quarter of the manufacturers -- included posting the limits on CFL packages/trays or point-of-purchase signage and monitoring retailer sales figures to try to identify evidence of bulk purchase sales.

- *Awareness of the bulk purchase limits and their enforcement:* Table 1-2 shows that while there was a high-level awareness of the bulk purchase limits among the lighting manufacturers and high-level buyers, less than a quarter of these store managers said they were aware of these limits. This indicates that the educational efforts of the suppliers and buyers need to improve dramatically. It also shows that only a little more than half of the high-level lighting buyers were aware that lighting manufacturers were helping to police the bulk purchase limits.

Table 1-2
Summary of Responses to Questions Related to Bulk Purchase Limits According to Lighting Manufacturers, High-Level Buyers, Store Managers

Questions	Lighting manufacturers (n=15)	High-level lighting buyers (n=12-15)	Store managers (n=141,42)
Aware of bulk purchase limits?	100%	93%	23%
Aware that lighting manufacturers are helping to police the bulk purchase limits?	Not asked	57%	Not asked

- *Avoiding misdirected ULP-discounted CFLs:* We asked the lighting manufacturers what safeguards they had in place to insure that CFLs which receive the program stickers and packaging were not sent to retailers that are not participating in the program. Measures that they mentioned to prevent this included using different Universal Product Codes (UPCs) or Stock-Keeping Units (SKUs) for the ULP-discounted products, shipping directly to the stores, keeping ULP-discounted product and non-ULP-discounted products in separate

inventories, giving retailers unique UPCs, and the utility labels on the product packages that can help avoid product misdirection.

- *What happens to unsold ULP-discounted products:* About three quarters of the participating PG&E/SCE store managers claimed that they do not face this situation because they sell through all their ULP-discounted CFLs. Only a small percentage said that they allowed unsold ULP-discounted CFLs to leave their stores. High-level buyers identified a wider range of actions for dealing with these unsold ULP-discounted CFLs. They were much more likely than the store managers to say that these unsold might be redistributed to one of their other stores.

- *Evidence of "internal CFL leakage":* "Internal CFL leakage" is the selling of IOU-discounted CFLs to California shoppers who are not customers of that IOU. In some cases these customers might belong to another IOU that is also participating in the ULP. In other cases they may belong to a California municipal or cooperative utility that is not participating in the ULP. ULP staff said that internal CFL leakage is less of a concern because leakage between participating IOUs is bidirectional and therefore likely offsetting. And such bidirectional leakage may also be occurring with non-ULP California utilities – such as SMUD – that have their own CFL rebate programs.

  The shopper intercept surveys found that the incidence of internal leakage was low. Overall, only about three percent of all respondents who purchased CFLs said that they were not an electric customer of the relevant IOU. Among respondents who purchased IOU-discounted CFLs, the "leakage" percentage increased to four percent. There were significant differences by IOU: about 16 percent of respondents who purchased CFLs in SDG&E stores reported that they were not electric customers of SDG&E. The comparable "leakage" percentage is two percent for SCE and one percent for PG&E.

1.6.2 Use of ULP-discounted CFLs in residential vs. nonresidential sockets

The IOUs participating in the ULP are interested in knowing how many ULP-discounted CFLs are installed in residential vs. nonresidential fixtures because it influences how much energy savings they can claim. It is assumed that nonresidential customers would use CFLs for longer hours and more often during periods of peak system load. This subsection summarizes findings from both the market actor and consumer surveys.

- *Evidence from the market actor surveys:* Based on estimates from PG&E/SCE store managers, we calculated that residential customers purchased 78 percent of the ULP-discounted CFLs, nonresidential customers purchased 14 percent, and the remaining eight percent were purchased by builders or contractors for use in construction or retrofit projects. High-level retail lighting buyers and lighting manufacturers estimated that 90-91 percent of the ULP-discounted CFLs were going into residential fixtures.

- *Evidence from the consumer surveys:* Overall, about three percent of revealed preference respondents planned to install the lighting products they purchased in their business and another four percent of the stated preference respondents said that they were shopping for their business. These results do not differ for respondents who purchased/selected CFLs versus incandescent lamps. PG&E respondents said a slightly higher percentage of nonresidential purchasers (4%), as compared to SCE (2%) and SDG&E (0%). As expected, there were some differences by channel – i.e., channels most likely to result in nonresidential CFL purchases include Membership Club, Hardware and Home Improvement. None of the CFLs purchased within the Mass Merchandise channel were intended for nonresidential use.

1.6.3 CFL installation and storage

In the 2008 general population telephone survey 90 percent of the PG&E/SCE CFL purchasers said that they have at least one CFL installed either in their homes or in exterior fixtures outside their homes. On average, purchasers reported 10.3 CFLs installed, up from 6.8 CFLs in 2006. The majority (89%) also said that they currently have CFLs installed, and over half (58%) reported that they have CFLs in storage.

CFL purchasers responding to the 2008 survey were more likely to have CFL installed and in storage, as compared to incandescent lamp purchasers. There was no difference between IOU-discounted CFL purchasers and other CFL purchasers. PG&E respondents were most likely to have CFLs installed and in storage. Respondents within the Membership Club channel were more likely to have CFLs installed and in storage; respondents within the Hardware channel were more likely to have CFLs in storage; and respondents within the Mass Merchandise and Large Home Improvement channels were less likely to have CFLs in storage.

In the 2008 general population telephone survey 60 percent of purchasers said that they were storing CFLs. On average, purchasers reported 3.4 lamps in storage, significantly higher than the average number reported just two years ago (2.5 lamps). Despite the increase in the average number of CFLs stored per household, the ratio of CFLs stored to CFLs purchased was

the same in 2008 as it was in 2006. Nearly two-thirds of 2008 respondents who said they were storing CFLs also said they were storing incandescent lamps.

1.6.4 CFL removal

In the 2008 general population telephone survey 20 percent of the CFL purchasers who said they had installed CFLs also said they had removed at least one of these CFLs. More than half of these purchasers said they removed the CFLs because they burned out. On average, CFL purchasers reported removing 0.7 CFLs over time.

1.6.5 CFL disposal and recycling

This subsection summarizes manufacturer and retailer practices concerning CFL disposal and recycling and the CFL disposal/recycling policies that they advocate.

- *Manufacturer practices/positions:* Lighting manufacturers practiced or advocated a wide variety of CFL disposal/recycling policies. CFL disposal/recycling practices named by at least three different manufacturers included educating or encouraging their retailers to recycle (e.g., providing them with in-store recycling bins), developing or actively working with CFL recyclers – whether private or governmental, and providing CFL recycling information on their packaging.

- *Retailer practices:* Only 26 percent of store managers reported offering standard CFL recycling recommendations and only 15 percent said that they offer CFL recycling on site. Of those store managers who said their stores do not currently offer CFL recycling, only 10 percent have ever considering doing so. The store managers who said that they had standard CFL recycling recommendations reported that these included telling customers to take their CFLs to an authorized recycling center, handing out recycling information, and advising their customers not to throw the CFLs into the garbage. Like the store managers, the high-lever buyers reported a low incidence of standardized CFL recycling recommendations for their customers and a low incidence of on-site recycling. Yet the high-level buyers were much more likely to report that their companies were considering on-site recycling (42% vs. 10% for the store managers). This was likely because the high-level buyers are more involved in this decision-making – or at least closer to the corporate decision-makers -- than the store managers are.

1.7 Satisfaction with the Program, CFLs

This subsection summarizes findings concerning satisfaction with the ULP processes and program as a whole, recommendation for program improvements made by the participating manufacturers and retailers, and consumer satisfactions with CFLs.

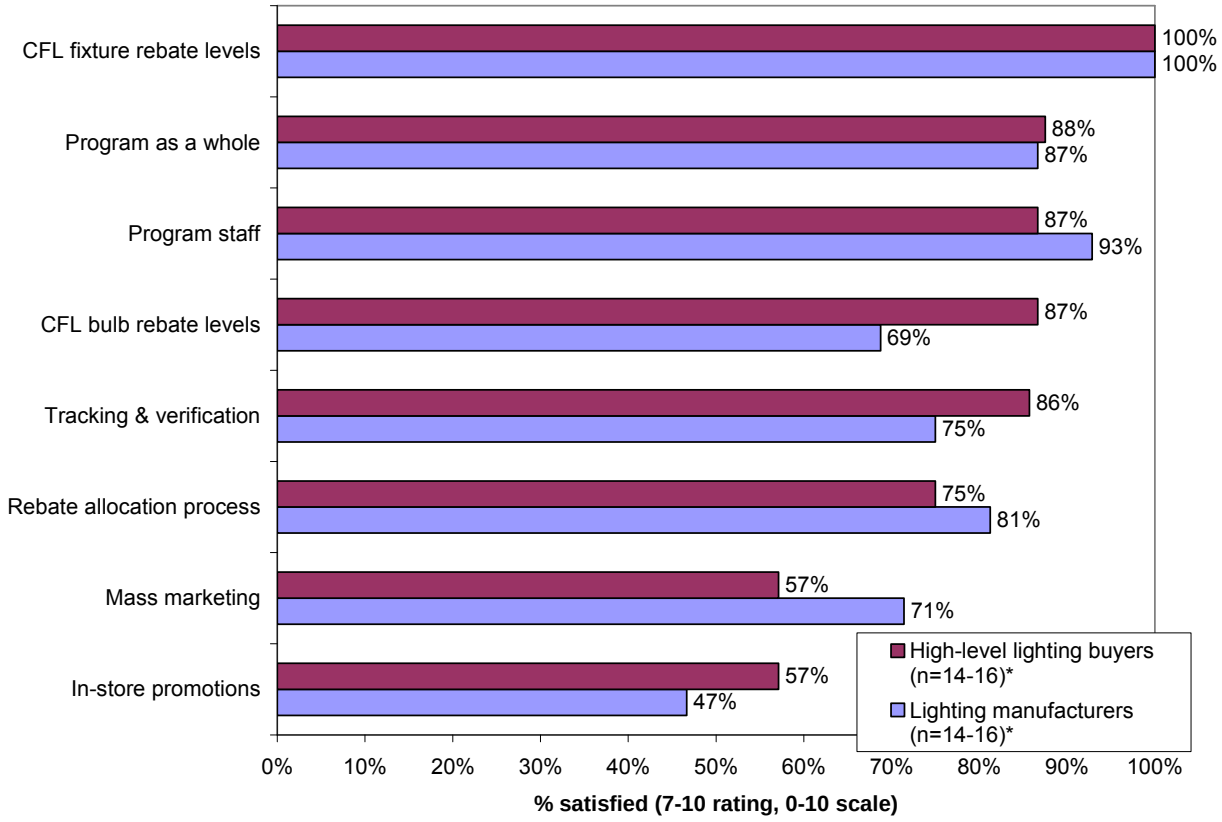
1.7.1 Satisfaction with program processes and the program as a whole

We asked the participating retailers and manufacturers how satisfied they were with the various ULP processes as well as with the program as a whole. This subsection shows the responses of these participating market actors and explains some of their reasons for dissatisfaction.[5]

- *Satisfaction from the high-level lighting buyer and lighting manufacturer perspective:* Figure 1-2 shows the percentage of high-level lighting buyers and lighting manufacturers who were satisfied with the ULP and its processes. In this case, we had them use a zero to ten satisfaction scale in which ten equaled "very satisfied" and zero equaled "very dissatisfied." We considered ratings of 7-10 to indicate satisfaction. The chart shows that all of the respondents were satisfied with the CFL fixture levels and that both the high-level buyers and the manufacturers gave their lowest ratings for the ULP's assistance with in-store promotions. It also shows that high-level buyers were much less satisfied than the manufacturers with the ULP's mass marketing efforts but were much more satisfied with the CFL rebate levels.

[5] The ULP, with a few exceptions, does not collect data on which consumers purchased its discounted CFLs. In addition few respondents to random telephone surveys can identify that they received an IOU-sponsored rebate with any certainty. This makes measuring program satisfaction from the consumer perspective very difficult. However, since the ULP program is an upstream program, it is questionable how relevant or useful measuring consumer satisfaction with the ULP would be. Unlike other rebate programs, consumers are not required to fill out any rebate application forms or provide any proofs of purchase. They do not receive any rebate checks. This evaluation, however, did conduct a random-digit survey of California residential consumers to assess lighting purchasing behavior in the general population. This survey asked consumers whether they were satisfied with various aspects of the CFLs. It also asked them whether they recalled any signage or IOU rebates when they made their lighting purchases. Their responses to these questions appear in the full report.

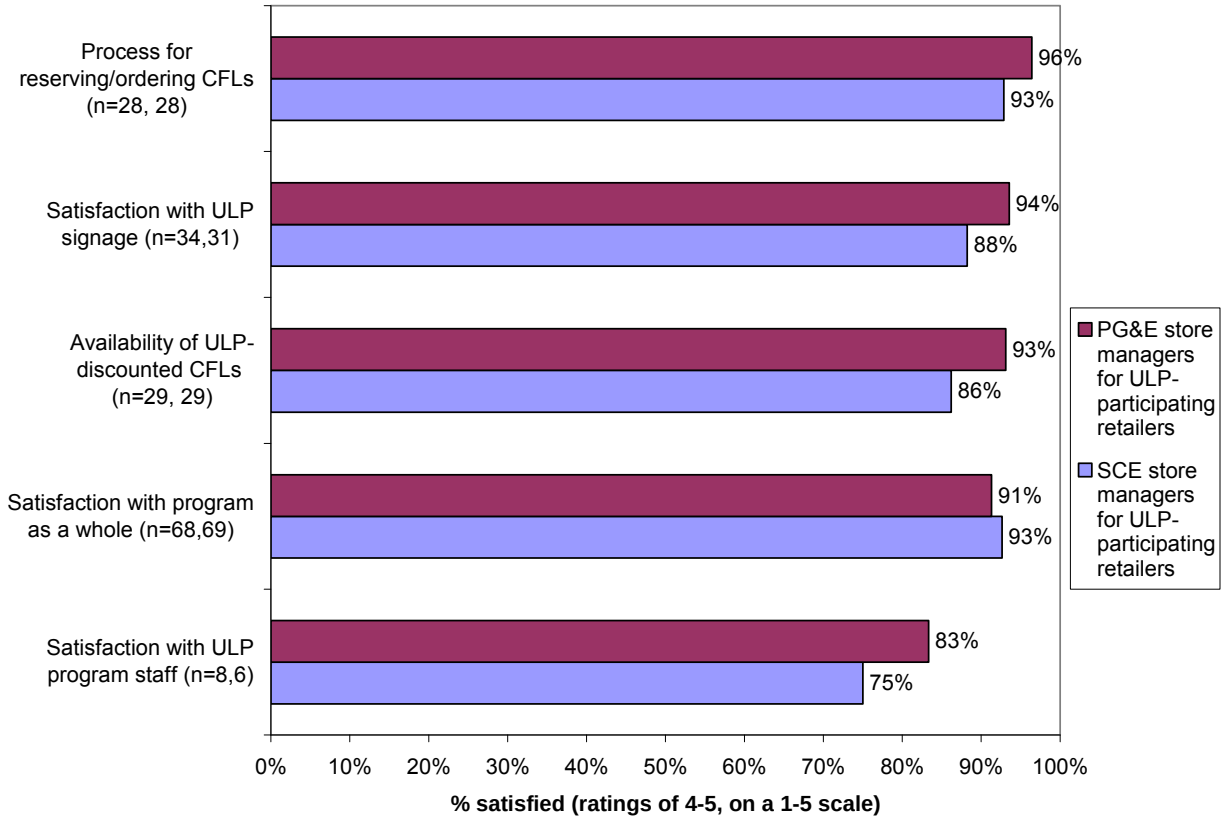
Figure 1-2
Satisfaction with ULP Processes
According to High-Level Lighting Buyers and Lighting Manufacturers



Note: *Sample sizes ranged between 14-16 for all satisfaction ratings except the ratings for CFL fixture rebate levels where the sample sizes were 4 respondents for high-level buyers and 5 respondents for lighting manufacturers.

- *Satisfaction from the store manager perspective:* Figure 1-3 shows the PG&E/SCE store manager average satisfaction ratings for ULP processes. In our experience any satisfaction level 90 percent or greater is very good and any satisfaction rating of 80 percent or greater is good. The chart shows that all the satisfaction ratings were in this good to very good range with the exception of the rating of the program staff. However, this last rating may be biased by a self selection effect. Store managers were only asked this question if they said that they had some communication with the ULP program staff. It is likely that store managers who were having some problems with the ULP would be more likely to call the ULP program staff than those who were satisfied with the program.

Figure 1-3
Satisfaction with ULP Processes
According to Participating PG&E/SCE Store Managers



- *Areas of concern:* While average satisfaction ratings for most program processes were in the good to very good range, some participating market actors raised issues of concern about some program processes.

  - *The rebate allocation process:* Some high-level buyers complained that they had no input on the ULP rebate allocation process. They thought that the process was too manufacturer-focused and manufactured-driven. Most of the manufacturer complaints revolved around delays in getting ULP allocations approved.

  - *The tracking and verification process:* High-level buyers and manufacturers variously described the ULP tracking and verification process as "cumbersome," "burdensome," "a very labor-intensive process," "a major hassle," and "no fun." Yet there were actually fewer complaints about this process than when we last interviewed these market actors in 2007. This may be due to some reductions in the participants' tracking and verification responsibilities. It also may be due to suppliers and retailers having developed systems or processes to better accommodate these tracking and verification requirements. The high-level buyers and manufacturers gave the utility staff mixed ratings for the enforcement of the bulk purchase rule and other ULP rules.

  - *Rebate levels:* In general, the manufacturers were less happy than the high-level buyers with the ULP rebate levels. This was likely due to the manufacturers' longer average experience participating in the ULP. This meant they knew more about how current incentive levels compare to past ones. A number of manufacturers urged that the incentive levels for specialty CFLs, in particular, be increased, not only to increase sales but also to avoid reductions in quality due to production cost cutting.

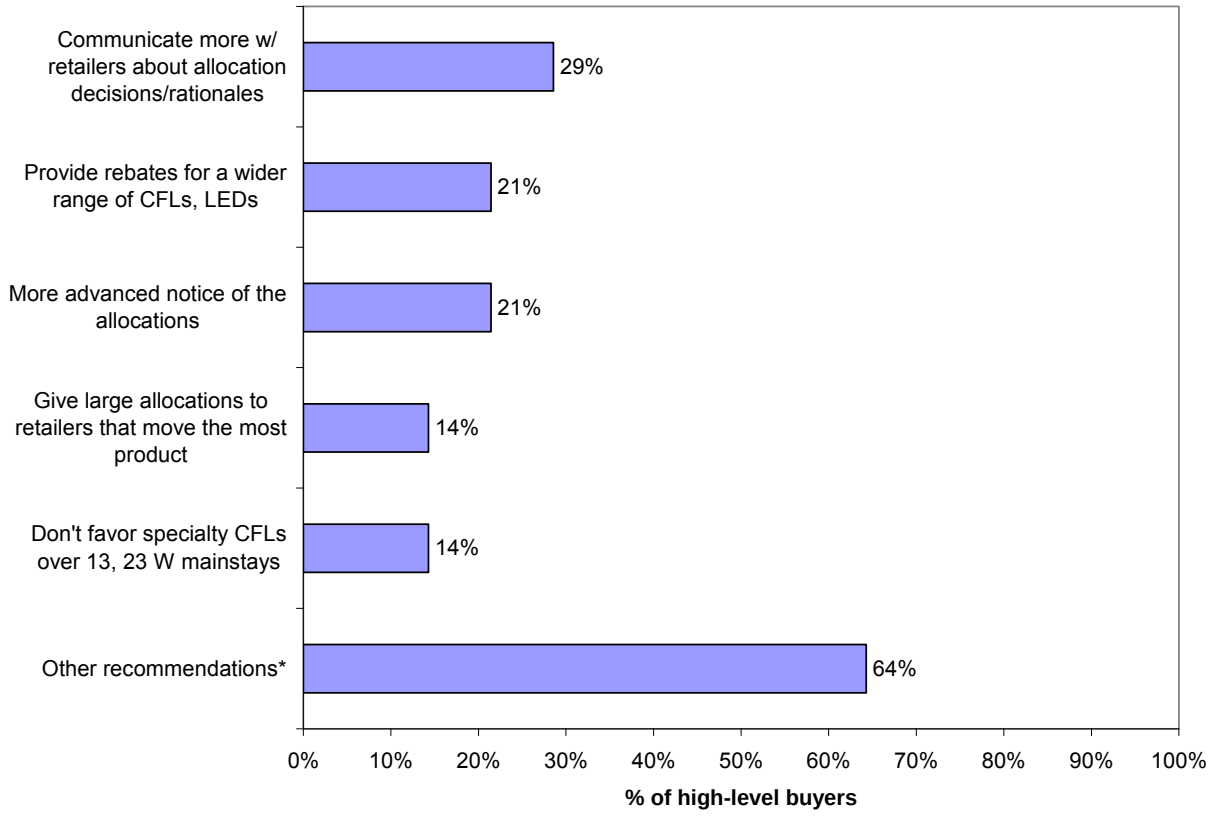
  - *Program mass marketing and in-store promotions:* Both high-level buyers and manufacturers gave their lowest satisfaction ratings for the ULP's mass marketing and in-store promotion efforts. The general nature of the comments was that there was little evidence of mass marketing by the utilities and that the in-store promotions were mostly being done by the manufacturers and retailers with only minimal assistance from the utilities. In fact, the average satisfaction scores would have been much lower if not for the fact that some retailers and manufacturers actually preferred to do their own marketing.

  - *The ULP staff and the program as a whole:* The manufacturers and high-level buyers who interacted with the ULP staff generally had very positive things to say. Yet a few of the high-level buyers complained that the ULP staff talked only to the manufacturers and not to them. In assessing the ULP as a whole, most of the respondents were very positive. They generally thought that the positive aspects of the program outweighed the deficiencies and the sometimes onerous participation requirements.

1.7.2 Recommendations for program improvements from the participating market actors

- *Recommendations from the high-level buyers:* The high-level lighting buyers had many recommendations for program improvements as shown in Figure 1-4. The most-cited recommendation was for the program to communicate more with the high-level buyers about allocation decisions and rationales. The high-level buyers claimed that they often hear about changes in program allocation strategies – such as moving away from multi-packs or moving towards specialty CFLs – long after the decision is made. They believed that if they were involved in these discussions much earlier, they would, at minimum, be better prepared and might be able to suggest more efficient implementation strategies.

Figure 1-4
Recommendations for Program Improvements
from High-Level Lighting Buyers

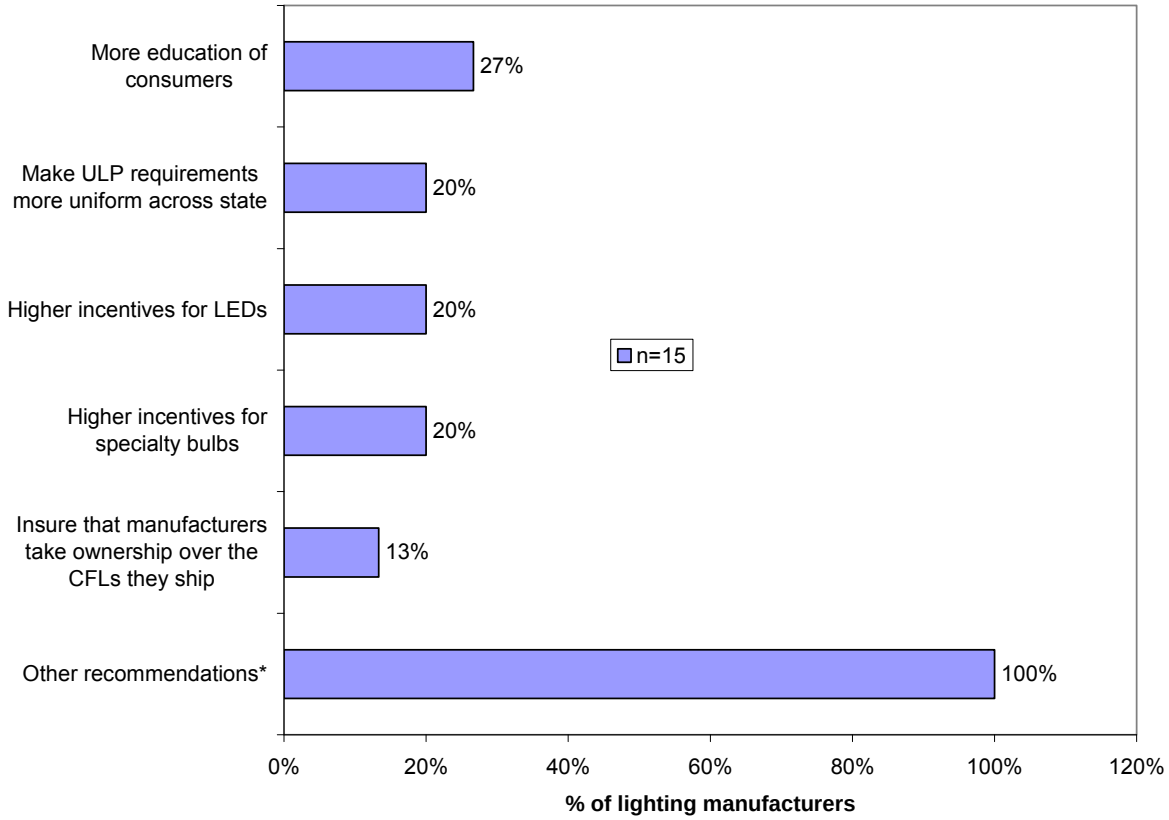


Note: Total exceeds 100% because some interviewees provided multiple responses. *Other recommendations include: do more coop advertising; have more realistic expectations on how quickly retailers can get ULP products into stores, customize bulk limits for different types of retailers; work with manufacturers to improve the fit, size,

brightness of CFL products; provide more customer education; pay rebates on everyday CFL sales not just special promotions; do more bilingual advertising, and have more utility representatives in the stores.

- *Recommendations from the lighting manufacturers:* The lighting manufacturers had even more recommendations for program improvements than the high-level buyers did. Figure 1-5 shows that the most-cited recommendations were more consumer education, more uniformity of ULP requirements across the state (e.g., uniform labels, consistency in LED rebate offerings), and higher incentives for LEDs and specialty CFLs. However, there were over a dozen other recommendations that were each suggested by a single manufacturer.

Figure 1-5
Recommendations for Program Improvements from Lighting Manufacturers

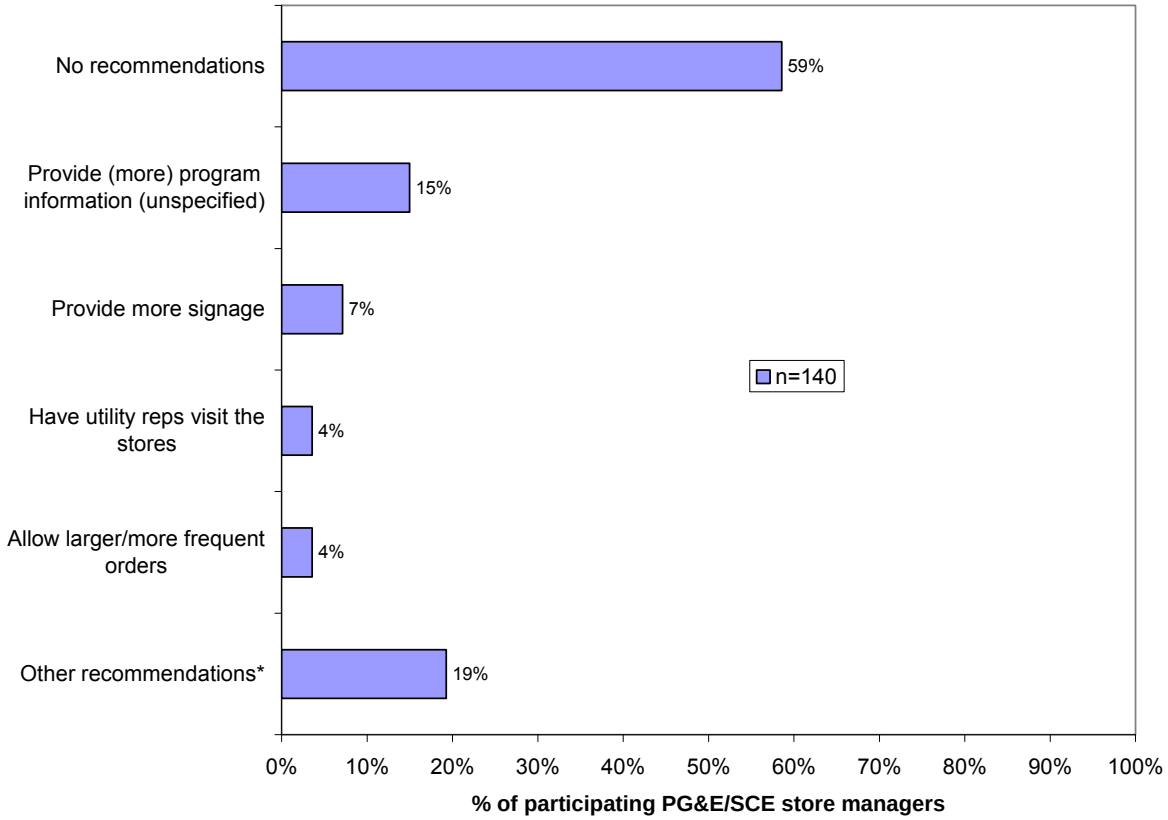


Note: Total exceeds 100% because some interviewees provided multiple responses. *Other recommendations include: offer higher incentives for bulbs with higher power factors; offer higher incentives for bulbs with better CRI; offer rebates for a wider range of CFLs; establish maximum sizes for CFLs with a given lumen output; do more in-store marketing; do more mass advertising; do more education of retailers; contract out the development of websites where consumers can purchase utility-approved CFLs; allow municipal utilities to participate in the ULP; don't just work with retailers, work with organizations also; have separate programs for smaller, larger retailers; give larger

allocations to small manufacturers; provide more advanced notice of expected allocation sizes; don't push specialty CFLs over non-specialty CFLs; and make the verification process less onerous.

- *Recommendations from the store managers:* Figure 1-6 shows that over half of the store managers did not have any recommendations for making program participation easier. The most common suggestions were to provide or provide more program information (the precise nature of the information was unspecified) and to provide more signage.

Figure 1-6
Ways that the ULP
Could Make it Easier for Retailers to Participate
According to Participating PG&E/SCE Store Managers



Note: Total exceeds 100% because some interviewees provided multiple responses. *Other recommendations include lowering CFL prices; explaining energy saving / money saving benefits of CFLs; provide lists of participating distributors/wholesalers; provide a better variety of products; provide more free products; standardize the ULP across California; explain the environmental benefits of CFLs; provide information on CFL recycling, provide emails with program updates; use recyclable packaging; provide demonstrations; streamline the ordering process; provide program brochures, make program stickers larger, provide information on other programs, deliver fewer CFLs, do fewer surveys, and make the tracking/verification process less onerous.

1.7.3 Satisfaction with CFLs

CFL satisfaction was moderately high among the 2008 respondents to the general population telephone survey, with an average satisfaction rating of 7.9 out of 10. Of all the CFL attributes, these respondents were most satisfied with the length of life of CFLs. In general, satisfaction with CFLs has improved over time.

1.8 Evaluator Recommendations for Improving the ULP

1.8.1 Marketing and Education Recommendations

- *Recommendation #1: Increase consumer education about the increased performance and capabilities of newer CFLs and how to shop for CFLs (e.g., proper matching of CFL types and features with lighting applications).* This will be especially important as the 2009-2011 Upstream Lighting Program puts a greater emphasis on specialty CFLs in its product portfolio. While a greater menu of CFL options is a good thing, it can also lead to consumer confusion.

    - SCE staff should work with Flex-Your-Power to insure that more ads about increased CFL performance and capabilities are broadcast in the SCE service territory.

    - The SCE staff should work with CFL suppliers and retailers to develop more creative and eye-catching in-store displays that can educate consumers about CFL benefits, especially the specialty CFLs. Possible ideas might include in-store lighting education videos (e.g., “how to shop for a CFL”), meters that compare energy consumption of CFLs with incandescents, and lighting displays that show improved lighting quality of new CFL models.

    - The SCE should consider publicizing any CFL education videos it helps develop to its broad customers base either through emailing the link to these videos to its customers (if it has this capability) or featuring the link on its bill inserts. Another possibility would be to add a link to its website for any good CFL educational videos that might have been produced by another reputable source.

- *Supporting evidence for this recommendation:*

    - SCE program staff acknowledge that they rely primarily on the Flex-Your-Power program for mass CFL education. While the 2006-2008 Flex-Your-Power program did put much emphasis on encouraging customers to purchase CFLs as part of the solution to global

warming, it did not focus on the specific messages mentioned in this recommendation. In addition, a process evaluation of the Flex-Your-Power Program indicated that the program may be conveying incomplete or misleading information about the use of dimmable CFLs.6

- SCE program staff reported the in-store signs for the Upstream Lighting Program – the Program's current means of providing customer education - are frequently removed by retailers.

- PG&E has conducted a multi-year television ad campaign with the theme: "It's not your father's CFL." A KEMA evaluation of this ad campaign found some evidence that these campaigns may be influencing consumer attitudes towards CFL capabilities.

- More consumer education was the most-cited recommendation for improving the Upstream Lighting Program by the lighting manufacturers.

- *The effectiveness of illuminated CFL displays.* The 2008 survey of 141 PG&E/SCE participating store managers found that only 14 percent of store managers said that they used illuminated CFL displays. However, 80 percent of those who used them said that they helped sell CFLs.

- *Awareness/information barriers were top barrier cited by intercept survey respondents.* Overall, 39 percent of the shopper-intercept survey respondents cited some type of awareness/information barrier to CFL purchase that could be potentially overcome with targeted educational and/or outreach strategies. SCE respondents were somewhat more likely than respondents from other California IOUs to cite barriers that related to a lack of awareness or information.

- *Dissatisfaction with specific CFL design features were second-most-cited barrier for intercept survey respondents.* Just over one-third of shopper-intercept survey respondents cited some type of specific product design feature as their reason for not purchasing/selecting CFLs. Most common were features such as the way CFLs look and/or fit in fixtures, as well as other aspects of the bulb shape or size. Others mentioned that they needed some a specific type of bulb (e.g., three-way, dimmable,

[6] In referring to one of the Flex-Your-Power rural print ads that promoted the use of lighting dimmers, the evaluation report read: "Note the second advertisement, featuring lighting, has the potential to cause a negative consumer experience. The ad promotes the use of dimmers yet does not direct the reader to purchase dimmable CFLs. Customers who purchase a CFL that does not allow dimming, may then have a CFL that burns out quickly, thereby causing a negative experience with CFLs that prevents the consumer from using them again. We did not explicitly investigate this finding, but believe that this issue is worth noting, and an issue that implementers should be aware of." 2006 - 2008 STATEWIDE MARKETING AND OUTREACH PROCESS EVALUATION, STUDY ID: SCE0256.01. FINAL REPORT, VOLUME 1 OF 1, Prepared for: CALIFORNIA PUBLIC UTILITIES COMMISSION, Prepared by: OPINION DYNAMICS CORPORATION, 1999 Harrison Street, Suite 650, Oakland, CA 94612, (510) 444-5050, www.opiniondynamics.com, October 2008, p. 130.

specific wattage) or some other specification (e.g., appliance replacement bulb, outdoor/safety fixture, etc.).

- *Dissatisfaction with product performance was third-most-cited barrier for intercept survey respondents.* Overall, 30 percent of all respondents mentioned some aspect of product performance as their reason for not purchasing/selecting CFLs, the most common of which related to light quality/color.

- A closer examination of the shopper intercept survey data points to more consumer education as a key need.

    - *Those not considering CFL purchases were more likely to cite product performance barriers.* For example, one barrier that could be affecting whether or not respondents would even consider purchasing CFLs relates to perceptions regarding product performance (i.e., light quality/color). Nearly one third of all survey intercept respondents who said that they had not even considered purchasing CFLs (32%) cited product performance barriers, whereas only 23 percent of all respondents who had considered CFLs cited these reasons. While it is true that overcoming product performance barriers specifically related to light quality/color may require actual improvements in CFL design, it is also highly possible that educational campaigns designed to inform consumers of the availability of CFLs in various light quality/color categories would also be effective in overcoming (mis)perceptions in the market that all CFLs have poor light quality/color characteristics.

    - *Those not considering CFL purchases were more likely to cite barriers related to "habit," lack of awareness/information, prior (bad) experience with CFLs, and concerns about mercury/disposal.* Intercept survey respondents who said that they had not even considered purchasing CFLs were more likely to cite these barriers than those who were considering CFL purchases.

    - *Those not considering CFL purchases were more likely to cite barriers related to product design features (e.g., lamp shape, size, fit).* Intercept survey respondents who said that they had not even considered purchasing CFLs were more likely to cite these barriers than those who were considering CFL purchases.

    - These findings are further supported when looking at the differences in barriers to CFL purchase as cited by revealed preference intercept survey respondents versus stated preference intercept survey respondents.

Revealed preference respondents (who did not purchase CFLs) were more likely to cite specific barriers related product design (e.g., lamp shape, size, fit) and stated preference respondents (who did not select CFLs in their hypothetical choice experiment) were more likely to cite barriers features related to product performance (e.g., light quality/color). It is possible that these results indicate that consumers who are actively considering purchase decisions may be basing these decisions, at least in part, on the actual characteristics/features of products that they have available to them at the time of purchase. Consumers who are inactively or hypothetically considering purchase decisions may be basing these decisions on perceived or expected characteristics/features that may or may not be accurate or even known/understood.

- *Recommendation #2: Work with Flex-your-Power and SCE's own marketing resources to develop a consumer education campaign to encourage early replacement of incandescent bulbs with CFLs.* While it may be challenging to succinctly explain the economic and environmental benefits of early incandescent replacement in a marketing campaign, we believe that Flex Your Power and the SCE marketing team have the expertise to accomplish this.

- *Supporting evidence for this recommendation:*

  - *Waiting for incandescent bulbs to burn out was most-cited reason for not purchasing CFLs.* In the PG&E/SCE general population telephone survey, which was conducted in late 2008, we asked respondents who said that they were aware of CFLs but had never purchased them, or had not purchased them recently (most recent purchase before 2006), why they had not purchased CFLs. Their most-cited reason (24% of respondents) was that they were waiting for their existing bulbs to burn out. In addition, SCE respondents were more likely to cite this reason (30% of respondents) than PG&E respondents (18%).

  - *Evidence of increased CFL storage levels:* The PG&E/SCE general population telephone found that 60 percent of CFL purchasers said that they were storing CFLs. On average, purchasers reported 3.4 lamps in storage, significantly higher than the average number reported just two years ago (2.5 lamps). The shopper intercept surveys also found that 58 percent of consumers said that they had CFLs in storage.

  - Early replacement of incandescents with CFLs would have significant energy and environmental benefits.

- *Recommendation #3: Consider implementing an incandescent bulb trade-in program.* Bulb trade-in programs are another strategy for encouraging early replacement of incandescent

bulbs. Puget Sound Energy (http://www.rockthebulb.com/) has developed a bulb trade-in program in which consumers can get free CFLs in exchange for incandescent bulbs. SDG&E also has a lighting Turn-In program (http://www.sdge.com/residential/lightingTurnIn.shtml). While KEMA has not been able to find any evaluations of these programs – likely because they are relatively new -- one major retailer participant in the California Upstream Lighting Report that KEMA interviewed was very enthusiastic about these programs. SCE staff should conduct telephone interviews with the managers of these Puget Sound Energy and SDG&E programs to get a better understanding of the benefits and challenges of these types of programs.

- *Supporting evidence for this recommendation:* See Recommendation #2

- *Recommendation #4: SCE should conduct telephone surveys with a random survey of retailers participating in the Upstream Lighting Program to learn why retailers are not retaining Program signage, to get ideas about best practices for in-store promotion of CFLs, and to make them aware of free SCE signage.* The SCE staff has introduced some program requirements to try to increase the changes that signage is retained. For example, it has required that signs be pasted on three sides of the CFL display trays and cartons. However, program staff persons acknowledge that it has been more difficult to insure that stand-alone signs and "header cards" are not removed.

- *Supporting evidence for this recommendation:*

  - *Interviews with SCE program staff revealed that it has been a serious challenge to get participating retailers to retain Program signage and the reasons for this remain unclear.* These interviews revealed that Program staff had some theories as to why this might be happening – e.g. signage gets removed when CFLs gets moved from displays to shelves. However, they acknowledged that they would like to know more. While one theory might be that the store managers did not like the signage they were receiving, this was not supported by the evidence. In 2008 KEMA surveyed PG&E/SCE store managers participating in the Upstream Lighting Program and these store managers gave an average satisfaction rating of 4.4 -- on a five-point satisfaction scale – for the signage that they used for the Program.

  - *Only one third of CFL purchasers recalled seeing point-of-purchase signs/displays, but nearly two thirds of those who recalled them said they were influential in the purchase decision.* In response to the PG&E/SCE general population telephone survey, which was conducted in late 2008, approximately one third of CFL purchasers reported that they saw signs, brochures, displays, or other materials regarding CFLs in the stores during their most recent purchases. However, nearly two-thirds (62%) of those who recalled seeing the point-of-purchase materials said that these materials were either very influential or somewhat influential on their decisions to purchase CFLs.

- *Only about one-third of those who purchased a SCE-discounted CFL were aware that SCE was offering the discount.* In the shopper intercept surveys, only 35% of the SCE customers who purchased an SCE-discounted CFL were aware that SCE was offering the discount. This low attribution rate may be partly due to the absence of point-of-purchase signage.

- *Only a fifth of participating store managers were aware that the utilities provide free Program signage.* The 2008 survey of 141 PG&E/SCE participating store managers found that only 21 percent said they knew that the utilities participating in the ULP provided free signage.

- Collecting information about best practices for in-store CFL promotions would benefit future program in-store marketing efforts.

- *Recommendation #5: Work with other California utilities to organize a workshop to discuss best practices for CFL promotion and education.* Ideally this workshop would involve a large range of CFL stakeholders including utilities, Local Government Partnerships (LGPs), third-party program managers, regulators, evaluators, manufacturers, retailers, etc. Topics would include best practices for CFL product merchandising, consumer education, in-store product promotions, etc. Special attention should be given to promotion and education for specialty CFLs.

1.8.2 Program Process/Design Recommendations:

- *Recommendation #6: Continue to be careful about introducing new technologies like dimmable CFLs or LED products, which may not yet provide the level of performance that consumers expect.* Work with other IOUs to try to fund "secret shopper" quality testing efforts similar to those conducted by the Program for the Evaluation and Analysis of Residential Lighting (PEARL) program in the past. SCE program staff said that they are concerned about the quality of the CFL or LED products that they introduce into the Upstream Lighting Program and they do some limited in-house testing to appraise new products. However, they also acknowledged that their internal quality control resources are inherently limited and substandard products have slipped through their screening procedures in the past.

  In the past SCE has been one of the sponsors of PEARL. This program did random testing of CFL products taken from the retail shelves. Although the new Energy Star standards (version 4.0) do have product testing requirements, the current system does have some potential for misuse. For example, although lighting manufacturers must send their bulbs for testing to unaffiliated and NVLAP-certified laboratories, they choose which bulbs are sent to these labs. Since most of the manufacturers own labs to do their own internal testing, they

can insure that they only submit products to the independent labs that have been successfully tested internally. This is in contrast to the PEARL program in which bulbs were randomly pulled off of retail shelves. Because lab testing is very expensive, any effort to reproduce the PEARL testing procedures would have to be a collaborative effort. Due to budget concerns, SCE's testing and verification process may include phased approach where initial testing may include the use of its internal lab facility as well as other qualifying lighting labs. However, for more rigorous lighting qualification testing prior to major program roll-out and/or introduction, a more systematic assessment using acceptable evaluation process would be recommended.

Finally, because some CFL "quality" problems may be due to consumers putting the wrong CFL products in the wrong sockets, some of the consumer education efforts recommended above should also help reduce the incidence of complaints about CFL performance.

- *Supporting evidence:*

  - Interviews with lighting manufacturers/retailers, who participated in the Upstream Lighting Program, indicated that some dimmable products that the Program has rebated in the past did not provide good performance.

  - Interviews with SCE program staff confirmed that there has been a problem with substandard dimmable bulbs being rebated by Upstream Lighting Program. They cited one instance where the production capacity for higher-quality dimmables that SCE had approved was insufficient for demand and the supplier chose to resort to a lower-quality dimmable product.

  - In a recent (July 2009) interview, one very large retailer participating in the Upstream Lighting Program reported that LED products accounted for a large percentage of the company's lighting product returns, even though they accounted for a small percentage of lighting product sales. The most common complaint was inadequate brightness.

- *Recommendation #7: Use price data from the shelf surveys to inform decisions about determining specialty CFL incentive levels.* Using this price data in this way should allow the Upstream Lighting Program to reduce incentive payments to specialty CFL products that require a lesser subsidy and redistribute these incentive dollars to specialty CFL products that require a greater subsidy. However, any analysis should be based on shelf survey data that had been properly weighted to reflect actual product sales.

- *Supporting evidence*

  - *KEMA's analysis of the shelf survey data found that the average discounted price for some types of specialty CFLs, such as globes and reflectors, were actually lower than their incandescent equivalents and in some cases were significantly lower.* For example, the average price of a non-discounted CFL globe was $4.93 (n-330), the average price of a ULP-discounted CFL was $1.06 (n=65), and the average price of an incandescent globe was $2.01 (n=1,692). We believe that because CFLs offer significant energy savings over incandescents, consumers will be willing to pay a small premium for them. Therefore SCE could reduce the incentive payments for these CFL globes and redistribute the incentives to other specialty CFL products – such as dimmables or A-lamps – where the discounted CFL products are more than twice as expensive as their incandescent equivalents. It should be cautioned, however, that these average prices are straight averages of the different prices found on the products on the shelves and have not yet been weighted based on sales estimates.

- *Recommendation #8: Continue to rebate bare spiral CFLs but only within selected retail channels.* We believe that there is still justification for the Upstream Lighting Program to provide discounts for bare spiral CFLs within selected retail channels. We have grouped these channels in to the following categories:

  - Discount, Small Grocery, and Small/Rural Hardware stores
  - Drug, Large Grocery Stores

  At the same time, we believe that free ridership concerns make it questionable whether the Upstream Lighting Program should continue to offer rebates for CFLs in channels such a Large Home Improvement, Mass Merchandise, and Membership Clubs. These concerns include high free ridership estimates for these channels from upstream market actors, evidence of large volumes of non-ULP sales, and well-publicized national sustainability initiatives by some of these retailers. It is important to note, however, that due to federal lighting efficacy regulations that will go into effect in 2012, any continued subsidization of CFLs will be a short-term strategy.

- *Supporting evidence:*

  - Discount, Small/Ethnic Grocery, and Small/Rural Hardware stores

    - These retail channels tend to have either no CFL sales or limited non-program CFLs sales when ULP discounts are not available. Therefore their reported free ridership levels tend to be lower –based both on supplier and end user self reports.

- These retail channels provide CFLs to hard-to-research sectors (low-income, ethnic, and rural) with minimal retailer cannibalization (taking CFL sales away from other retail stores).

- Participating lighting manufacturers and retailers indicated that these channels were the ones where the economic downturn was most likely to encourage customers to switch back from CFLs to incandescent bulbs due to the lower incandescent price points.

o *Drug, Large Grocery Stores*

- These channels tend to have lower free ridership levels. This is partly due to the fact that these stores have smaller lighting sections than large home improvement or big box stores. These smaller sections likely make it easier for customers to compare CFLs prices with incandescent products. However, because shoppers who shop in these stores also shop in large home improvement and membership club stores, providing ULP discounts in these drug and grocery stores will likely lead to some cannibalization of CFL sales from these other store types.

- *Recommendation #9: The SCE program should discontinue some practices introduced to discourage "CFL leakage" while continuing others that have alternative program benefits.* When reports first surfaced in 2007 that some of the CFL products being discounted by the ULP were being sold on the Internet or by retailers outside of California, SCE closed down the program for months in order to introduce some new practices designed to discourage leakage. These included:

  o New contract language,

  o The policing of Internet sites such as EBay or Amazon to look for illegal sales of ULP-discounted CFLs,

  o Limits on how many CFLs that consumers could get in a single purchase,

  o Requirements that these "bulk purchase limits" be explained to store managers and staff,

  o Requirements that these "bulk purchase limits" be posted on signs and stickers,

  o Increased store inspections,

- Requirements that product stickers have identification codes that allow them to be tracked back to a specific store, and

- The development of zip code lists which identified areas in the SCE service territory where there had been a significant volume of ULP-discounted shipments – and therefore concern about retailer overstocking and the temptation for retailers to sell their overstock outside the Program. SCE also developed zip code lists for areas where program shipments had been more limited, which represented untapped sales potential.

When KEMA presented the interim process evaluation findings to SCE staff in April 2009, we pointed out that some retailers objected to the "one size fits all" nature of the bulk purchase limit and urged that the California IOUs use more flexibility in the enforcement of these bulk purchase limits. For example, representatives of membership club stores argued that their customers paid annual fees specifically for the purpose of buying goods in bulk. Representatives of large home improvement stores also claimed that they have a lot of contractor or small business customers who need to purchase CFLs in bulk. In the April 2009 presentation we also showed that despite the claims of manufacturers and high-level retail buyers that they were educating their store managers about the bulk purchase limits, only 23 percent of the store managers reported being aware of the bulk purchase limits. This suggested that the bulk purchase limit might be difficult and costly to enforce.

In July 2009 the three California IOU program managers decide to introduce some flexibility in the enforcement of the bulk purchase limits. New language in the manufacturer agreements would leave requirement of the bulk purchase limits to the discretion of each IOU and allow the removal of the bulk purchase limits on a case-by-case basis.

We think that allowing greater flexibility in the enforcement of the bulk purchase limits is a reasonable policy. We also believe that some of the other requirements for discouraging CFL leakage – such as requiring the product labels be capable of being traced back to an individual store – are too onerous and are of questionable value. However, we applaud efforts by SCE to use analysis of shipment records to encourage CFL allocations in areas with low saturation and discourage them in areas with high saturation. While the primary objective of this initiative was to discourage overstock and the temptation for illegal CFL sales, this initiative should also introduce CFL sales in hard-to-reach areas and generally reduce free ridership levels.

- *Supporting evidence:*
  - *There was a general sentiment among participating lighting manufacturers and high-level retail buyers that the CFL leakage problems have dissipated due to better monitoring of Internet sales as well as the bulk purchase limits.* Although a majority

of these manufacturers and buyers did recall at least one incidence of CFL leakage, they generally indicated that the quantity of leaked bulbs was very small.

- The SCE program staff agreed that CFL leakage problem is a much smaller problem than it had been in 2007-2008.

- As noted, despite the claims of manufacturers and high-level retail buyers that they were educating their store managers about the bulk purchase limits, only 23 percent of the store managers reported being aware of the bulk purchase limits. This suggested that the bulk purchase limit might be difficult and costly to enforce.

- *Recommendation #10: Keep retailers more informed about planned changes in ULP allocation strategies and the rationale for these decisions. Give both manufacturers and more retailers more advanced notice of changes in program strategy.*

  - *Supporting evidence:* This was the most-cited recommendation for ULP program improvement from the high-level retail buyers. They claimed that they often hear about changes in program allocation strategies – such as moving away from multi-packs or moving towards specialty CFLs – long after the decision is made. They believed that if they were involved in these discussions much earlier, they would, at minimum, be better prepared and might be able to suggest more efficient implementation strategies. In recent (June/July 2009) interviews with lighting manufacturers, some manufacturers also expressed frustration with the decision of PG&E and SCE in early 2009 to use the bridge funding allocations primarily for non-specialty CFL bulbs. They said that this represented a mixed message compared to what the IOUs had been saying in late 2008 – that the ULP would shift towards a greater emphasis on specialty CFLs. This shift in program allocation strategy also caused logistic problems for some of the CFL suppliers.

- *Recommendation #11: Use program satisfaction and other program indicators identified in this report as benchmarks to track future program performance.* SCE staff said that they are in the process of identifying which of these indicators would be most suitable for monitoring program progress.

2. The Program Theory for the Upstream Lighting Program

Figure 2-1 below shows the process diagram for the SCE 2006-2008 Upstream Lighting Program. Figure 1-2 shows the Program Logic Diagram for the umbrella Residential Energy Efficient Incentive Program, including both its lighting (the Upstream Lighting Program) and its non-lighting components. Upstream Lighting program, is delivered upstream through manufacturer participants via the buy-down process. This buy-down process is transparent to the customer and is the most efficient way to deliver the most lighting product to the most customers.

The lighting component covers the following measures: (100% manufacture buy-down):

- Screw-in CFLs (standard);
- Specialty and high performance CFLs;
- Exterior and interior fixtures;
- Table lamps, desk lamps, floor lamps and torchieres;
- Night lights (including LED);
- Interior LEDs (non-night lights);
- Cold cathode;
- Lighting controls;
- Address signs;
- Exterior HID; and

- Alternative inducement lighting measures.

The program is designed to overcome three significant barriers to adoption: (1) first cost, (2) performance uncertainty, and (3) asymmetric information. One key program strategy is to change focus, incentives, and awareness from standard CFLs to specialty CFLs. Other key program strategies include:

- Supporting quality testing for specialty CFLs to assure positive experiences with CFLs for consumers;
- Conducting consumer education regarding recent improvements in CFL technology and the concept of lumen so they can purchase the appropriate CFL products; and
- Promoting year-round stocking of CFLs in grocery, drug and discount store channels through incentives.

Figure 2-1
The Process Diagram for
the SCE 2006-2008 Upstream Lighting Program

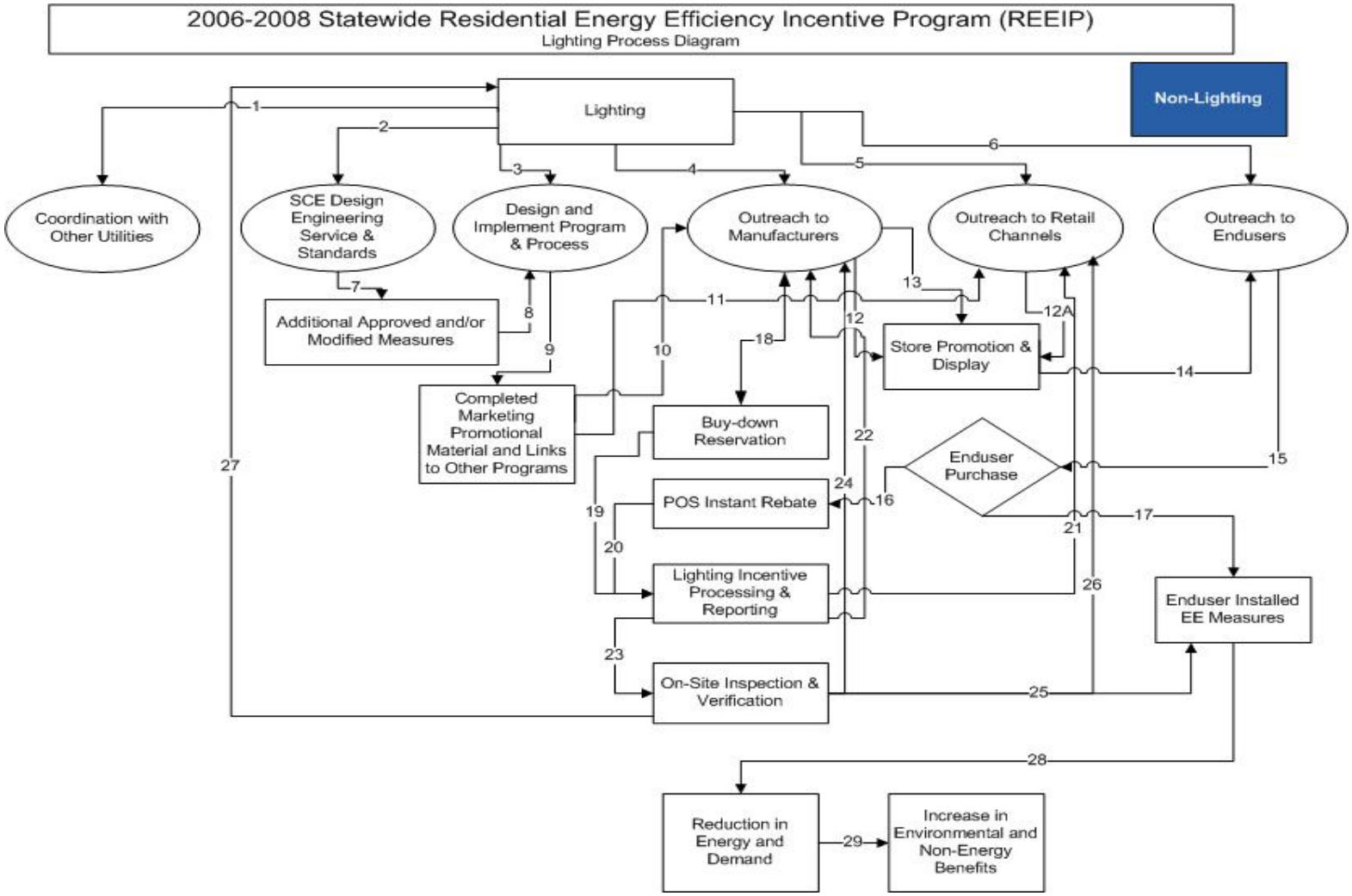
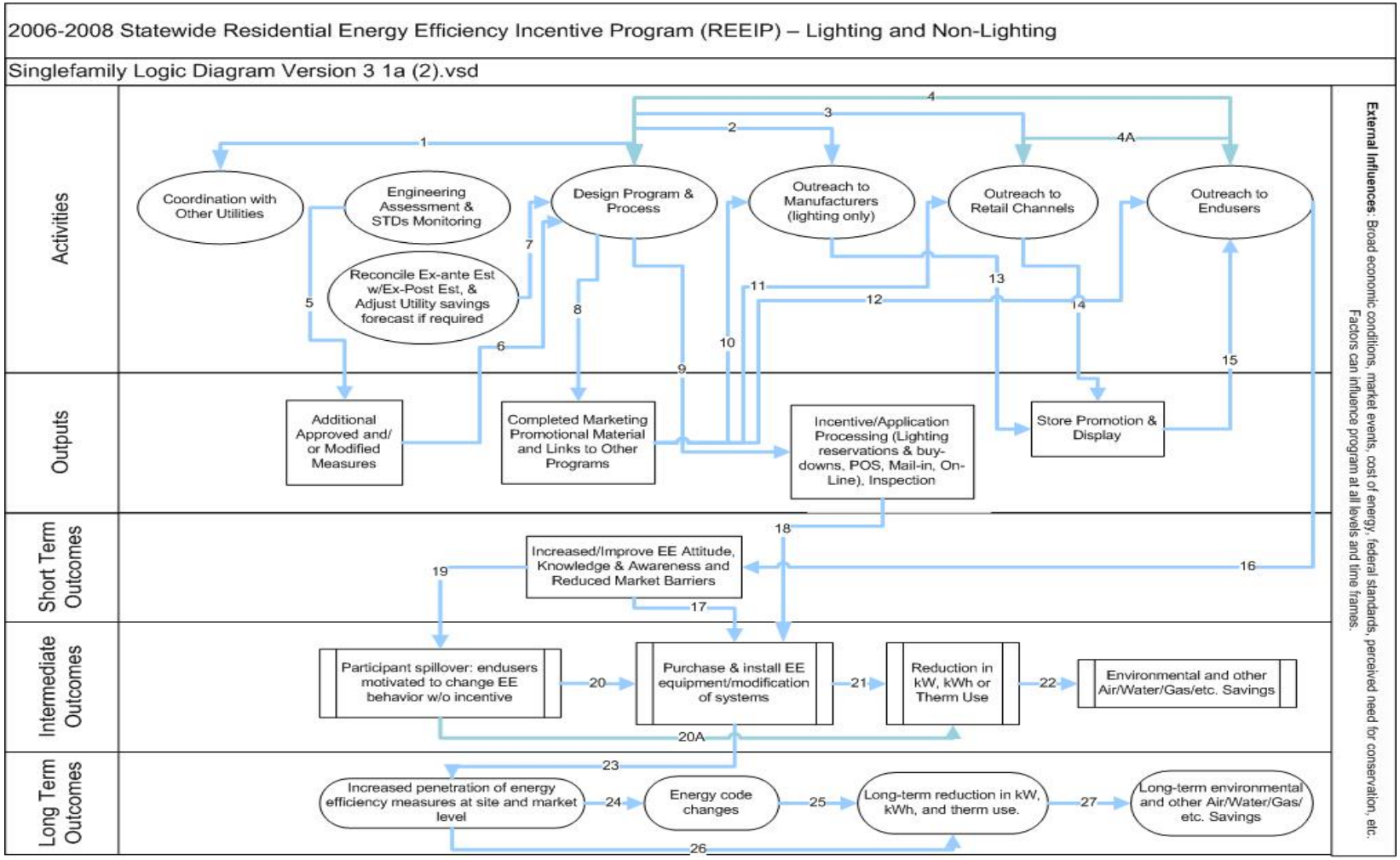


Figure 2-2
Program Logic Diagram
for Residential Energy Efficient Incentive Program
Including Lighting and Non-Lighting Components



3. 2006-2008 Program Activity

This section summarizes the reported (pre-evaluation) activities of the SCE 2006-2008 Upstream Lighting Program. Table 3-1 through Table 3-3 show the quantities of ULP-discounted lighting products reported in each program year broken out by retail channel and product type. Table 3-4 shows these quantities for the combined 2006-2008 period. Table 3-5 and Table 3-6 show the reported electricity energy savings (kWh) and the aggregated per unit kW savings or the 2006-2008 time period. These tables show that while the quantity of specialty CFLs has increased over the course of the ULP, the non-specialty (spiral) CFLs still are the program's predominant product, especially those in the 23-25 Watt range.

For 2006-2008 program marketing, the program team had designed and implemented the following:

- Fall Seasonal Campaign (2007),
- Solo Direct Mail and bill insert (2007),
- Collateral Material - CFL and Mercury Fact Sheet, Pledge Forms, "Quiz Cards", CFL disposal bags (2007-8),
- Outreach / Community Events with CFL give-away materials, and
- CFL Discount Stickers for Retail Sales, retailer direct mailing, retailer program update (2007-8).

In addition to program marketing activities, the CFL messaging is also covered by the Marketing Education Outreach Program (MEO) through Flex-Your-Power mass advertising.

KEMA

Table 3-1
Quantities of SCE ULP-Discounted Lighting Products
Reported for Program Year 2006

	Non-Specialty (Spiral) CFLs					Specialty CFLs				CFL Fixtures, Torchieres	LED/ Electro-Luminescent products
Channel	< 800 lumens (mostly 9 watts, a few 7, 10-15 watts)	800 - 1099 lumens (mostly 13-15 watts)	1100 - 1399 lumens (mostly 15-20 watts)	1400 - 1999 lumens (mostly 23-24 watts a few 28-30 watts)	2000 - 3599 lumens (30-45 watts)	A-lamp-shaped, globe-shaped CFLs	Dimmable CFLs	Reflector CFLs	Three-Way CFLs	Interior/ Exterior CFL fixtures, torchieres	LED/ Electro-luminescent nightlights, desk lamps
Discount - Chain	0	0	118,848	371,134	0	0	0	0	0	75,760	204,596
Discount - Independent	0	816	70,360	486,116	0	0	0	0	0	23,700	39,576
Drug - Chain	0	0	77,952	160,704	0	0	0	0	0	3,942	9,720
Drug - Independent	0	2,999	67,856	61,358	0	0	0	0	0	4,992	6,920
Grocery - Chain	0	231,360	204,864	457,716	0	0	0	0	0	4,710	12,120
Grocery - Independent	600	17,217	273,432	2,060,804	0	0	0	0	0	67,830	81,792
Hardware - Chain	1,760	2,184	19,204	30,632	0	0	0	0	0	4,200	3,076
Hardware - Independent	1,600	10,570	39,024	64,656	0	0	0	100	0	6,693	984
Home Improvement - Chain	9,755	163,073	62,943	197,254	41,751	57,600	0	101,350	0	15,222	62,844
Home Improvement - Independent	0	2,304	2,880	33,648	0	0	0	0	0	0	0
Ltg & Electronics - Chain	1,000	10,320	13,800	35,200	0	0	0	0	0	96	2,340
Ltg & Electronics - Independent	7,520	8,816	21,356	37,296	0	0	0	0	0	19,199	3,000
Mass Merchandise - Chain	0	56,640	76,320	25,440	0	46,080	0	0	0	0	0
Membership Club - Chain	79,488	49,464	0	49,464	0	36,864	0	192,664	0	0	0
Total	**101,723**	**555,763**	**1,048,839**	**4,071,422**	**41,751**	**140,544**	**0**	**294,114**	**0**	**226,344**	**426,968**

Table 3-2
Quantities of SCE ULP-Discounted Lighting Products
Reported for Program Year 2007

Channel	Non-Specialty (Spiral) CFLs					Specialty CFLs				CFL Fixtures, Torchieres	LED/ Electro-Luminescent products
	< 800 lumens (mostly 9 watts, a few 7, 10-15	800 - 1099 lumens (mostly 13-15 watts)	1100 - 1399 lumens (mostly 15-20 watts)	1400 - 1999 lumens (mostly 23-24 watts a few 28-30	2000 - 3599 lumens (30-45 watts)	A-lamp-shaped, globe-shaped CFLs	Dimmable CFLs	Reflector CFLs	Three-Way CFLs	Interior/ Exterior CFL fixtures, torchieres	LED/ Electro-luminescent nightlights, desk lamps
Discount - Chain	0	137,040	260,300	1,992,052	0	0	0	0	0	104,312	261,608
Discount - Independent	0	1,440	118,712	1,224,665	0	0	0	0	0	39,822	180,236
Drug - Chain	0	37,206	4,416	199,248	0	0	0	0	0	400	0
Drug - Independent	0	0	40,594	45,294	0	0	0	0	0	600	1,392
Grocery - Chain	0	354,036	374,628	1,650,732	0	0	35,280	0	0	1,272	8,196
Grocery - Independent	0	0	327,148	4,309,287	0	0	66,108	0	0	7,216	261,824
Hardware - Chain	2,000	2,876	91,778	95,282	0	0	0	0	0	12,114	26,574
Hardware - Independent	300	4,470	278,636	394,164	0	0	0	1,152	0	64,196	78,154
Home Improvement - Chain	9,120	732,989	52,509	257,662	40,896	0	0	96,176	0	26,266	90,564
Home Improvement - Independent	0	0	78,144	105,860	0	0	0	0	0	0	19,000
Ltg & Electronics - Chain	3,200	30,016	12,080	3,216	0	0	0	0	0	968	1,728
Ltg & Electronics - Independent	130	90	34,018	184,300	0	0	0	10	0	10,893	1,536
Mass Merchandise - Chain	0	340,992	21,120	323,376	2,016	92,640	0	0	0	0	0
Membership Club - Chain	32,236	430,792	37,068	235,288	0	21,888	0	205,555	0	68,670	0
Total	**46,986**	**2,071,947**	**1,731,151**	**11,020,426**	**42,912**	**114,528**	**101,388**	**302,893**	**0**	**336,729**	**930,812**

Table 3-3
Quantities of SCE ULP-Discounted Lighting Products
Reported for Program Year 2008

	Non-Specialty (Spiral) CFLs					Specialty CFLs				CFL Fixtures, Torchieres	LED/ Electro-Luminescent products
Channel	< 800 lumens (mostly 9 watts, a few 7, 10-15	800 - 1099 lumens (mostly 13-15 watts)	1100 - 1399 lumens (mostly 15-20 watts)	1400 - 1999 lumens (mostly 23-24 watts a few 28-30	2000 - 3599 lumens (30-45 watts)	A-lamp-shaped, globe-shaped CFLs	Dimmable CFLs	Reflector CFLs	Three-Way CFLs	Interior/ Exterior CFL fixtures, torchieres	LED/ Electro-luminescent nightlights, desk lamps
Discount - Chain	0	199,300	399,304	2,406,316	0	0	0	0	0	93,119	180,720
Discount - Independent	0	1,600	146,858	903,076	0	0	0	0	0	5,914	24,660
Drug - Chain	0	37,260	44,256	455,424	0	0	0	0	0	0	0
Drug - Independent	0	0	2,240	5,248	0	0	0	0	0	0	0
Grocery - Chain	0	270,048	469,314	2,204,326	0	0	21,000	0	0	14,416	11,200
Grocery - Independent	0	4,400	538,204	1,819,466	0	0	3,600	0	0	8,318	114,200
Hardware - Chain	0	13,052	72,388	52,710	0	0	0	40	0	3,134	10,196
Hardware - Independent	0	26,886	115,278	204,684	288	0	180	144	0	16,741	36,802
Home Improvement - Chain	26,532	369,626	44,492	82,478	1,379	18,494	78,972	41,842	0	3,386	0
Home Improvement - Independent	0	0	8,200	11,560	0	0	0	0	0	192	25,400
Ltg & Electronics - Chain	996	18,588	55,438	52,134	0	0	1,488	1,980	0	1,408	0
Ltg & Electronics - Independent	548	1,460	6,616	10,636	0	48	0	96	0	3,074	720
Mass Merchandise - Chain	42,696	198,408	59,712	260,952	50,688	225,696	0	0	0	0	46,656
Membership Club - Chain	126,425	427,493	126,984	235,302	0	188,571	0	371,187	3,087	43,884	4,018
Non-retail	48	5,880	7,152	10,064	42	2,224	48	4,968	60	265	0
Total	**197,245**	**1,574,001**	**2,096,436**	**8,714,376**	**52,397**	**435,033**	**105,288**	**420,257**	**3,147**	**193,851**	**454,572**

Table 3-4
Quantities of SCE ULP-Discounted Lighting Products
Reported for Program Years 2006-2008

	Non-Specialty (Spiral) CFLs					Specialty CFLs				CFL Fixtures, Torchieres	LED/ Electro-Luminescent products
Channel	< 800 lumens (mostly 9 watts, a few 7, 10-15 watts)	800 - 1099 lumens (mostly 13-15 watts)	1100 - 1399 lumens (mostly 15-20 watts)	1400 - 1999 lumens (mostly 23-24 watts a few 28-30 watts)	2000 - 3599 lumens (30-45 watts)	A-lamp-shaped, globe-shaped CFLs	Dimmable CFLs	Reflector CFLs	Three-Way CFLs	Interior/ Exterior CFL fixtures, torchieres	LED/ Electro-luminescent nightlights, desk lamps
Discount - Chain	0	336,340	778,452	4,769,502	0	0	0	0	0	273,191	646,924
Discount - Independent	0	3,856	335,930	2,613,857	0	0	0	0	0	69,436	244,472
Drug - Chain	0	74,466	126,624	815,376	0	0	0	0	0	4,342	9,720
Drug - Independent	0	2,999	110,690	111,900	0	0	0	0	0	5,592	8,312
Grocery - Chain	0	855,444	1,048,806	4,312,774	0	0	56,280	0	0	20,398	31,516
Grocery - Independent	600	21,617	1,138,784	8,189,557	0	0	69,708	0	0	83,364	457,816
Hardware - Chain	3,760	18,112	183,370	178,624	0	0	0	40	0	19,448	39,846
Hardware - Independent	1,900	41,926	432,938	663,504	288	0	180	1,396	0	87,630	115,940
Home Improvement - Chain	45,407	1,265,688	159,944	537,394	84,026	76,094	78,972	239,368	0	44,874	153,408
Home Improvement - Independent	0	2,304	89,224	151,068	0	0	0	0	0	192	44,400
Ltg & Electronics - Chain	5,196	58,924	81,318	90,550	0	0	1,488	1,980	0	2,472	4,068
Ltg & Electronics - Independent	8,198	10,366	61,990	232,232	0	48	0	106	0	33,166	5,256
Mass Merchandise - Chain	42,696	596,040	157,152	609,768	52,704	364,416	0	0	0	0	46,656
Membership Club - Chain	238,149	907,749	164,052	520,054	0	247,323	0	769,406	3,087	112,554	4,018
Non-retail	48	5,880	7,152	10,064	42	2,224	48	4,968	60	265	0
Total	**345,954**	**4,201,711**	**4,876,426**	**23,806,224**	**137,060**	**690,105**	**206,676**	**1,017,264**	**3,147**	**756,924**	**1,812,352**

Table 3-5
Claimed Gross Annual Electricity Savings (kWh)
for SCE ULP 2006-2008 Combined

Category	Non-Specialty (Spiral) CFLs					Specialty CFLs				CFL Fixtures, Torchieres	LED/ Electro-Luminescent products	Total
	< 800 lumens (mostly 9 watts, a few 7, 10-15 watts)	800 - 1099 lumens (mostly 13-15 watts)	1100 - 1399 lumens (mostly 15-20 watts)	1400 - 1999 lumens (mostly 23-24 watts a few 28-30 watts)	2000 - 3599 lumens (30-45 watts)	A-lamp-shaped, globe-shaped CFLs	Dimmable CFLs	Reflector CFLs	Three-Way CFLs	Interior/ Exterior CFL fixtures, torchieres	LED/ Electro-luminescent nightlights, desk lamps	
Claimed Gross Annual Electricity Savings	10,002,924	191,656,469	272,282,360	1,796,363,621	11,386,137	14,099,951	14,891,780	41,175,378	219,796	89,901,144	43,778,635	**2,485,758,196**
% of Program Total	**0%**	**8%**	**11%**	**72%**	**0%**	**1%**	**1%**	**2%**	**0%**	**4%**	**2%**	**100%**

Table 3-6
Aggregation of Claimed kW per Unit Savings
for SCE ULP 2006-2008 Combined

Category	Non-Specialty (Spiral) CFLs					Specialty CFLs				CFL Fixtures, Torchieres	LED/ Electro-Luminescent products	Total
	< 800 lumens (mostly 9 watts, a few 7, 10-15 watts)	800 - 1099 lumens (mostly 13-15 watts)	1100 - 1399 lumens (mostly 15-20 watts)	1400 - 1999 lumens (mostly 23-24 watts a few 28-30 watts)	2000 - 3599 lumens (30-45 watts)	A-lamp-shaped, globe-shaped CFLs	Dimmable CFLs	Reflector CFLs	Three-Way CFLs	Interior/ Exterior CFL fixtures, torchieres	LED/ Electro-luminescent nightlights, desk lamps	
Aggregated kW per unit savings	1,352	25,833	36,711	242,337	1,528	2,236	2,006	5,217	29	2,845	121	**320,216**
% of Program Total	**0%**	**8%**	**11%**	**76%**	**0%**	**1%**	**1%**	**2%**	**0%**	**1%**	**0%**	**100%**

4. Prior Evaluation Recommendations and Disposition

This section summarizes the recommendations for improving the Upstream Lighting Program (ULP) that appeared in the evaluation of the 2004-2005 ULP. It also describes what actions SCE has taken to address these recommendations. The tables in the section show that SCE implemented most of the recommendations from the 2004-2005 evaluation report. The few exceptions concerned recommendations for greater marketing of specialty CFLs and early replacement of incandescents.

Table 4-1
Strategies for Financial Incentives
Recommendations from Evaluation of 2004-2005 ULP
vs. SCE Response in 2006-2008 ULP

Recommendations from Evaluation of 2004-2005 ULP Program	SCE Response in 2006-2008 ULP Program
Significantly reduce or eliminate incentives for low-wattage CFLs in Big Box or Large Home Improvement stores.	The 2006-2008 SCE ULP was able to significantly reduce the percentage of incentives allocated to the Big Box or Large Home Improvement stores. In the 2004-2005 SCE ULP, 42 percent of rebated CFLs came from these channels. In the 2006-2008 SCE ULP only 20 percent came from these channels. In addition, SCE reduced the rebate level paid for CFLs sold in these channels.
Increase incentive levels on low-wattage CFLs to Grocery, Drug and Discount stores, where very low free-ridership exists and purchasers are very price-sensitive. Increase the allocation of incentive dollars for low-wattage CFLs sold in these channels so that they can be stocked year-round.	The 2006-2008 SCE ULP was able to significantly increase the percentage of incentives allocated to the Grocery, Drug and Discount stores. In the 2004-2005 SCE ULP, 56 percent of rebated CFLs came from these channels. In the 2006-2008 SCE ULP 74 percent came from these channels. However, ULP-discounted CFLs were not available all year round. In 2006 a lawsuit related to CFL technology delayed the start of the ULP until September. In 2008 the ULP ran out of incentive funds around October.
Continue to make incentives available for specialty CFLs, ENERGY STAR torchieres and hard-wired fixtures in Big Box and Large Home Improvement stores as well as other retail channels.	The 2006-2008 SCE ULP continued to provide these incentives.
Increase incentive levels for specialty CFLs.	Table 4-2 shows sales-weighted average incentive levels for reflector CFLs were higher in 2006-2008 than they were in 2004.

Table 4-2
Sales-Weighted Average SCE ULP Incentives for Specialty CFLs 2005 – 2008

Specialty CFL Type	Sales-weighted average per bulb rebate amount			
	2005 program year	2006 program year	2007 program year	2008 program year
A-bulb-shaped CFLs	*	*	*	$2.57
Dimmable CFLs	*	*	$3.50	$3.38
Globe-shaped CFLs	*	$1.00	$1.00	$1.96
Reflector CFLs	$1.00	$2.08	$1.67	$2.74
Three-way CFLs	*	*	*	$3.50

Note: *Indicates that no specialty CFLs of that type were rebated during the program year.

Table 4-3
Other Recommendations from Evaluation of 2004-2005 ULP vs. SCE Response in 2006-2008 ULP

Recommendations from Evaluation of 2004-2005 ULP Program	SCE Response in 2006-2008 ULP Program
Increase consumer education and awareness efforts that focus on specialty CFLs. The Program and the other marketing campaigns with which it coordinates should focus educational messages on CFL product technology improvements.	SCE has been working with Flex-Your-Power on marketing campaigns to promote general CFL use. However, these campaigns, as far as evaluators could determine, did not focus, in particular on specialty CFLs and other improvements in CFL products. Therefore increased promotion of specialty CFLs is also one of our recommendations from the evaluation of the 2006-2008 ULP, as outlined in the Executive Summary of this report.
Support quality testing for specialty CFLs.	SCE has been a co-sponsor of the Program for the Evaluation and Analysis of Residential Lighting (PEARL) for many years. This program has done random testing of CFL products taken from the retail shelves. In addition SCE's ULP staff indicated that they do some in-house testing of CFL products that are submitted by lighting manufacturers for inclusion in the ULP. However, as discussed in the Executive Summary of this report, PEARL is being replaced by product testing that is part of the new Energy Star version 4.0. The current system does have some potential for misuse. For example, although lighting manufacturers must send their bulbs for testing to unaffiliated and NVLAP-certified laboratories, they choose which bulbs are sent to these labs. Since most of the manufacturers own labs to do their own internal testing, they can insure that they only submit products to the independent labs that have been successfully tested internally. For these reasons, in the Executive Summary of this report

Recommendations from Evaluation of 2004-2005 ULP Program	SCE Response in 2006-2008 ULP Program
	we are recommending that SCE work with other IOUs to try to fund "secret shopper" quality testing efforts similar to those conducted by the PEARL program in the past.
Consider limiting the sale of promotional CFLs in multi-packs (since most households already have CFLs in storage) to keep the installation rate from declining and to capture energy savings impacts sooner.	SCE's ULP staff told evaluators in 2009 that while they do not have any written rules limiting the size of CFL multi-packs, they have influenced a general reduction in pack sizes in stores over the years. SCE staff said that this was done through the manufacturer / retailer relationship and allocation processes.
Consider encouraging consumers to replace working incandescent bulbs now rather than waiting for them to burn out.	As far as evaluators could determine, while the SCE-supported Flex-Your-Power ad campaign did promote the use of CFLs, there were no particular emphasis on early replacement of incandescent bulbs. For these reasons, in the Executive Summary of this report we are recommending that SCE work with the Flex-Your-Power campaign to promote this message. We are also recommending that SCE consider creating an incandescent bulb trade-in program, in which customers receive CFLs in return for discarded incandescents.
The manufacturer buydown option should be emphasized over the Point-of-Sale (POS) rebate option since both consumers and the Program is likely to get more value per dollar spent. The POS option should be offered for strategic reasons, e.g., to recruit any retailers who would not be likely to participate via the manufacturer buydown.	The vast majority of CFLs discounted through the 2006-2008 ULP (over 98% of program sales) were discounted through manufacturer buydowns rather than POS rebates (SCE refers to these as "markdown" discounts or "the retailer component"). In 2008 none of the SCE ULP CFL products were sold through the retailer component and SCE staff said that they were trying to deemphasize this aspect of the program.
Program staff should consider trying to collect end-user data via bounce-back cards included in Lighting packaging materials or POS mail-in cards (that would offer an incentive to fill out such as a Starbuck gift card).	SCE staff have been using bounce-back cards for CFLs and other rebated measures.

5. Detailed Findings from Upstream Market Actors

5.1 Purpose, Scope, and Methodology

This section describes the purpose, scope, and methodology for the findings from our process evaluation of the California's Upstream Lighting Program (ULP) that are derived from surveys and in-depth interviews with lighting manufacturers, high-level retail lighting buyers, and retail store managers.

5.1.1 Purpose and Scope

Key topics covered in this report include:

- What types of CFL products that lighting retailers sell including whether they sell CFL products not discounted by the ULP;
- Participant market actor estimates of what proportion of the ULP-discounted CFL products they sold were being installed in residential vs. nonresidential fixtures;
- What factors are limiting consumer demand for CFLs;
- Where retailers get their CFL products from and their processes for ordering ULP-discounted CFL products;
- How long it takes for manufacture, shipment, warehousing and retail delivery of ULP-discounted CFLs;
- Problems with the delivery of ULP CFLs;
- Processes for stocking CFLs;
- How long it takes to sell through a shipment of ULP-discounted CFLs and what retailers do when they sell through their ULP-discounted lighting products;
- What happens to unsold ULP-discounted products;
- Strategies for pricing CFLs including free CFLs received from the ULP;
- Average price differences between ULP-discounted and non-program CFLs;

- In-Store CFL promotional practices;
- Free-Ridership estimates for non-specialty CFLs, specialty CFLs, and CFL fixtures;
- Other sales effects of the ULP;
- Satisfaction with program processes;
- Recommendations for program improvements; and
- Leakage of CFL products outside the ULP service territories.

5.1.2 Methodology

This subsection describes our sampling strategies for the three surveys/interviews.

5.1.2.1 The store managers

Our sampling strategy for the participating PG&E/SCE store managers survey began with the compilation of lists of unique retail stores participating in the PG&E and SCE versions of the ULP. We compiled these lists from the tracking databases of these programs. We then grouped the retailer stores under the retail channel strata (Big Box/General Merchandise, Large Home Improvement, Grocery, Drug, Discount, Small Hardware, Lighting/Other) that we had developed for the evaluation of the 2004-2005 Single-Family Energy-Efficiency Rebate (SFEER) Program. For retail strata such as Grocery, Drug, and Discount – where there were numerous stores – we also developed substrata based on the sizes of the retail chains within these strata. If these chain-size-based substrata contained a sufficient number of retail stores we kept them as distinct substrata. If they did not contain a sufficient number of retail stores, we merged them into a larger stratum or substratum. We also separated the Small Hardware stores into affiliated (e.g., ACE/ True Value) and independent strata.

To determine the number of surveys to complete for each retail stratum or substratum, the evaluators considered a number of possible measures of program activity including:

- Number of participating stores/store managers;
- Number of CFL product packages sold; and
- Number of CFL bulbs/fixtures sold.

- Table 5-1 and Table 5-2 show how the different retail strata and substrata were represented for each one of these measures of program activity in both the PG&E and SCE service territories.

Table 5-1
PG&E Lighting Retailers Participating in the Upstream Lighting Program (2006-2007) by Retail Channel with Various Program Activity Measures

Stratum	Retail Type	% of Stores	% of Bulbs/ Fixtures	% of Packages
1	Big Box - Costco	2%	29%	10%
2	General Merch. - Wal-Mart	3%	5%	9%
3	Discount	10%	12%	18%
4	Drug	32%	11%	6%
5	Large Chain Grocery	21%	11%	14%
6	Small Grocery	14%	13%	23%
7	Large Home Improvement	8%	8%	7%
8	Lighting, Other Retail	2%	2%	4%
9	Independent Small Hardware	4%	4%	6%
10	Small Hardware - Affiliated	5%	3%	4%
		100%	100%	100%

Table 5-2
SCE Lighting Retailers Participating in the Upstream Lighting Program (2006-2007) by Retail Channel with Various Program Activity Measures

Stratum	Retail Type	% of Stores	% of Bulbs/ Fixtures	% of Packages
11	Big Box - Costco	2%	7%	3%
12	General Merch. - Wal-Mart	3%	6%	7%
13	Large Discount	12%	14%	14%
14	Small Discount	5%	9%	13%
15	Drug	26%	4%	3%
16	Large Chain Grocery	30%	17%	13%
17	Small Grocery	11%	26%	31%
18	Large Home Improvement	8%	12%	9%
19	Lighting, Other Retail	2%	3%	4%
20	Independent Small Hardware	0%	1%	1%
21	Small Hardware - Affiliated	2%	2%	2%
		100%	100%	100%

There are good arguments for using each one of these measures of program activity. The store managers were the ones being interviewed, so it could be argued that the number of participating stores/store managers should be used to determine the target number of surveys for each retail stratum or substratum. Yet since the survey addresses free ridership, it is important that any free-ridership estimates be based on a significant volume of CFL sales. Table 5-1 shows that while the Big Box stratum only accounts for two percent of PG&E's participating stores during the 2006-2007 periods, it accounted for 29 percent of the CFL bulbs/fixtures discounted by the Upstream Lighting Programs during this period. Therefore using only the number of participating stores/store managers as the weighting criterion would result in the Big Box stratum being significantly underrepresented. And should CFL sales be based on the number of packages sold or the number of bulbs/fixtures? Once again it's not clear. Consumer purchase decisions are made at the package level and yet the energy savings for the Upstream Lighting Programs are based on the number of bulbs or fixtures.

Because there are good arguments for using each one of these measures of program activity as the unit of analysis and because using only one might lead to the overrepresentation or under-representation of a given retail stratum (see Table 5-3 and Table 5-4), we decided to use all three. The number of target completed surveys for each stratum was based on the straight average of the percentage shares that each stratum had for each one of the three measures of program activity.

Table 5-3
Sample Frame for
Participating PG&E Lighting Retailers

		# of Stores		# Completes	
Stratum	Retail Type	Number	Percent	Target	Obtained
1	Big Box - Costco	38	2%	9	10
2	Big Box - Wal-Mart	49	3%	5	5
3	Discount	188	10%	9	8
4	Drug	581	32%	11	11
5	Large Chain Grocery	378	21%	11	11
6	Small Grocery	256	14%	12	12
7	Large Home Improvement	138	8%	5	5
8	Lighting, Other Retail	44	2%	2	2
9	Independent Small Hardware	73	4%	3	3
10	Small Hardware - Affiliated	90	5%	3	3
		1,835	100%	70	70

Table 5-4
Sample Frame for
Participating SCE Lighting Retailers

Stratum	Retail Type	# of Stores		# of Stores Released in First Wave	# Completes	
		Number	Percent	Number	Target	Obtained
11	Big Box - Costco	32	2%	32	3	3
12	Big Box - Wal-Mart	53	3%	40	4	4
13	Large Discount	222	12%	90	9	9
14	Small Discount	93	5%	70	7	7
15	Drug	490	26%	70	7	7
16	Large Chain Grocery	562	30%	140	14	14
17	Small Grocery	209	11%	160	16	18
18	Large Home Improvement	144	8%	60	6	5
19	Lighting, Other Retail	36	2%	20	2	2
20	Independent Small Hardware	8	0%	8	1	1
21	Small Hardware - Affiliated	33	2%	10	1	1
		1,882	100%	700	70	71

5.1.2.2 The high-level retail lighting buyers

For the interviews of the high-level retail lighting buyers we attempted to interview every retailer who represented a significant volume of CFL sales through the ULP (at least 100,000 units). We compiled our target contact list from the ULP tracking data with PG&E and SCE providing some of the contact names. We went after these high-volume participants for a number of reasons including:

- For the free ridership calculations we wanted to insure that the ULP sales represented by our completed interviews accounted for a large percentage of the total program sales;

- Because many of the questions in the interview guide addressed “big picture” issues -- such as California CFL market trends, market effects, and product trends -- we wanted to make sure that the respondents had the broad market experience to intelligently address these issues; and

- We believed that the store manager survey adequately addressed the perspective of the smaller ULP participants.

Based on 2006-2007 ULP tracking data, we calculated that the 16 participating high-level buyers that we completed interviews with accounted for over 70 percent of ULP sales.

5.1.2.3 The lighting manufacturers

For the interviews of lighting manufacturers we went after the whole universe of participating manufacturers. We compiled our target contact list from the ULP tracking data with PG&E and SCE providing some of the contact names. Based on 2006-2007 ULP tracking data, we calculated that the 16 participating high-level buyers that we completed interviews with accounted for over 90 percent of ULP sales.

5.2 Characteristics of the Lighting Products and Lighting Customers

This section describes the types of lighting products that the store managers said that they sold. It also summarizes their opinions on what proportion of the ULP-discounted CFL products they sold were being installed in residential vs. nonresidential fixtures.

5.2.1 Selling Specialty CFLs

We asked the store managers whether they sold specialty CFLs such as dimmables, 3-way, or reflector CFLs. Table 5-5 shows that half the PG&E/SCE store managers said that they did. Across all channels PG&E store managers were much more likely (61%) to report selling specialty CFL than SCE store managers (39%). A large majority of the Big Box/Mass Merchandise, Large Home Improvement, Small Hardware, and Lighting/Other stores sold these specialty CFLs. Half of the Drug stores also sold specialty CFLs. However, only a minority of the Large Grocery, Small Grocery, and Discount stores sold these products.

Table 5-5
Whether Participating PG&E/SCE Lighting Retailers
Sold Specialty CFLs
According to Store Managers

	PG&E/SCE Combined								
Sell specialty CFLs?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	50%	95%	100%	28%	30%	50%	17%	88%	100%
No	45%	5%	0%	56%	70%	44%	79%	13%	0%
DK/Refused	4%	0%	0%	16%	0%	6%	4%	0%	0%
Sample size	141	22	10	25	30	18	24	8	4
	PG&E								
Sell specialty CFLs?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	61%	100%	100%	45%	33%	55%	13%	83%	100%
No	36%	0%	0%	45%	67%	36%	88%	17%	0%
DK/Refused	3%	0%	0%	9%	0%	9%	0%	0%	0%
Sample size	70	15	5	11	12	11	8	6	2
	SCE								
Sell specialty CFLs?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	39%	86%	100%	14%	28%	43%	19%	100%	100%
No	55%	14%	0%	64%	72%	57%	75%	0%	0%
DK/Refused	6%	0%	0%	21%	0%	0%	6%	0%	0%
Sample size	71	7	5	14	18	7	16	2	2

5.2.2 Selling CFL Fixtures

We also asked the store managers whether they sold CFL fixtures; Table 5-6 shows that almost half of them said that they did. When the responses from the PG&E and SCE store managers were combined, two thirds or more of the store managers in the Large Home Improvement, Lighting/Other, Big Box/Mass Merchandise, and Discount channels reported selling CFL fixtures.

Table 5-6
Whether Participating PG&E/SCE Lighting Retailers
Sold CFL Fixtures

	PG&E/SCE Combined								
Sell CFL fixtures?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	45%	68%	90%	16%	27%	22%	67%	50%	75%
No	52%	32%	0%	76%	73%	78%	33%	38%	25%
DK/Refused	3%	0%	10%	8%	0%	0%	0%	13%	0%
Sample size	141	22	10	25	30	18	24	8	4
	PG&E								
Sell CFL fixtures?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	56%	80%	80%	27%	42%	18%	100%	50%	100%
No	40%	20%	0%	64%	58%	82%	0%	33%	0%
DK/Refused	4%	0%	20%	9%	0%	0%	0%	17%	0%
Sample size	70	15	5	11	12	11	8	6	2
	SCE								
Sell CFL fixtures?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	34%	43%	100%	7%	17%	29%	50%	50%	50%
No	65%	57%	0%	86%	83%	71%	50%	50%	50%
DK/Refused	1%	0%	0%	7%	0%	0%	0%	0%	0%
Sample size	71	7	5	14	18	7	16	2	2

5.2.3 Selling Non-Program Discounted CFLs

We asked the store managers whether their stores sold spiral CFLs that had not been discounted by the PG&E/SCE ULP Programs. According to their responses over half (56%) of the retail stores sell non ULP-discounted spiral CFLs (Table 5-7). However, the table also shows that the retail channels differ a lot in terms of the percentage of their stores which sell "non-program" bulbs. All Large Home Improvement, Small Hardware, and Lighting/other store managers reported selling non-program bulbs. A majority of Big Box/Mass Merchandise, Large Grocery, and Drug store managers also reported selling these non-program bulbs. Only in the Small Grocery and Discount channels did a minority of store managers report selling non-program bulbs.

Table 5-7
Whether Participating PG&E/SCE Store Managers
Sold Non ULP-Discounted Spiral CFLs

Sell non-ULP-discounted CFLs?	PG&E/SCE Combined								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	56%	64%	100%	71%	14%	78%	29%	100%	100%
No	40%	27%	0%	21%	86%	22%	67%	0%	0%
DK/Refused	4%	9%	0%	8%	0%	0%	4%	0%	0%
Sample size	139	22	10	24	29	18	24	8	4
Sell non-ULP-discounted CFLs?	PG&E								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	59%	53%	100%	70%	25%	91%	0%	100%	100%
No	36%	33%	0%	20%	75%	9%	100%	0%	0%
DK/Refused	4%	13%	0%	10%	0%	0%	0%	0%	0%
Sample size	69	15	5	10	12	11	8	6	2
Sell non-ULP-discounted CFLs?	SCE								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	53%	86%	100%	71%	6%	57%	44%	100%	100%
No	44%	14%	0%	21%	94%	43%	50%	0%	0%
DK/Refused	3%	0%	0%	7%	0%	0%	6%	0%	0%
Sample size	70	7	5	14	17	7	16	2	2

5.2.4 Sales to Residential vs. Nonresidential Customers

In the survey we asked the store managers the following questions:

- Can you estimate what percentage of the customers buying CFLs in your store are buying these bulbs for their own home or business and which percentage are builders or contractors buying them for construction or retrofit projects?
- [IF YES] What's your estimate of this breakdown?
- [If estimate provided] Of the customers who are buying CFLs in your store for their own home or business can you estimate what percentage are buying CFLs for their home vs. for their business?
- [IF YES] What's your estimate of this breakdown?

Seventy-eight out of the 141 PG&E/SCE store managers provided estimates in response to these questions. We weighted their responses based on the volume of ULP-discounted CFLs sold through their stores. As a result, we calculated that residential customers purchased 78

percent of the rebated CFLs sold by participating retailers and nonresidential customers purchased 14 percent. The remaining eight percent are purchased by builders or contractors for use in construction or retrofit projects. We do not know the extent to which CFLs purchased by builders or contractors are eventually installed in residential vs. nonresidential applications. Therefore, we estimated the range of residential installations to be between 78 and 86 percent. The overall results are slightly different for PG&E vs. SCE, as shown in Table 5-8.

Table 5-8
Estimated Proportion of ULP-Discounted Bulbs
Sold to Various Customer Types
According to 2008 Participating PG&E/SCE Store Managers

	PG&E (n=40)	SCE (n=38)
Residential	79%	76%
Nonresidential	13%	16%
Builders/Contractors	8%	8%

As expected, there is considerable difference by retail channel, as shown in Table 5-9.

Table 5-9
2008 Participating PG&E/SCE Store Managers
Estimated Proportion of ULP-Discounted Bulbs
Sold to Various Customer Types
by Retail Channel

Retail Channel	n	Residential			Nonresidential			Builder/Contractor		
		Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.
Big Box – Costco	**6**	79%	56%	86%	13%	5%	25%	8%	2%	20%
Big Box – Wal-Mart	**2**	66%	65%	70%	26%	0%	35%	7%	0%	30%
Large Discount Chain	**6**	60%	6%	90%	17%	5%	34%	23%	0%	75%
Medium Discount Chain	**4**	85%	79%	100%	14%	0%	20%	0%	0%	1%
Small/Independent Discount	**4**	57%	25%	95%	20%	5%	25%	24%	0%	50%
Drug	**7**	85%	56%	100%	8%	0%	19%	7%	0%	25%
Large Chain Grocery	**15**	76%	35%	95%	15%	0%	30%	9%	0%	50%
Small Grocery	**21**	85%	60%	100%	12%	0%	40%	2%	0%	20%
Large Home Improvement	**5**	41%	3%	74%	23%	15%	30%	36%	0%	70%
Small Hardware – Affiliated	**4**	80%	67%	81%	15%	9%	29%	6%	1%	10%
Independent Small Hardware	**2**	60%	40%	70%	40%	30%	60%	0%	0%	0%
Lighting Stores	**2**	20%	10%	38%	14%	13%	15%	66%	50%	75%

As shown, the weighted average for home improvement stores indicates that builders/contractors and nonresidential customers purchase a much higher percentage (59%) of ULP-discounted CFLs. However, responses from only five of these stores were available for this analysis and there was a fairly wide range of responses to the first question.

In addition, as expected, residential sales are highest for small grocery (85%, n=21) and drug stores (85%, n=7). Nonresidential sales are highest for independent small hardware (40%, n=2), and builder/contractor sales are highest for lighting stores (66%, n=2). When combined, residential sales via any type of discount store (i.e., large chains such as Big Lots, 99 Cent Only and Dollar Tree, as well as medium-sized chains and independent discount stores) are 67 percent (n=14). Nonresidential sales are 16 percent and sales to builders/contractors are 17 percent.

In evaluating these estimates, it is a reasonable question to ask how retailers could know whether their customers were buying CFLs for residential or nonresidential uses. We did ask the retailers that provided estimates of this breakdown: "What information is your estimate based on?" The most common responses were that their observations were either based on the volume of CFLs that they saw customers purchasing or were variations of the response: "I know my customers."

We also asked the high-level retail lighting buyers and lighting manufacturers to estimate the proportion of ULP-discounted CFLs that were going into residential vs. nonresidential fixtures. Only six high-level buyers and seven lighting manufacturers provided estimates. Table 5-10 shows that their average estimates of these proportions were very close to each other.

Table 5-10
Estimated Proportion of ULP-Discounted Bulbs
Sold to Various Customer Types
According to High-Level Retail Lighting Buyers and Lighting Manufacturers

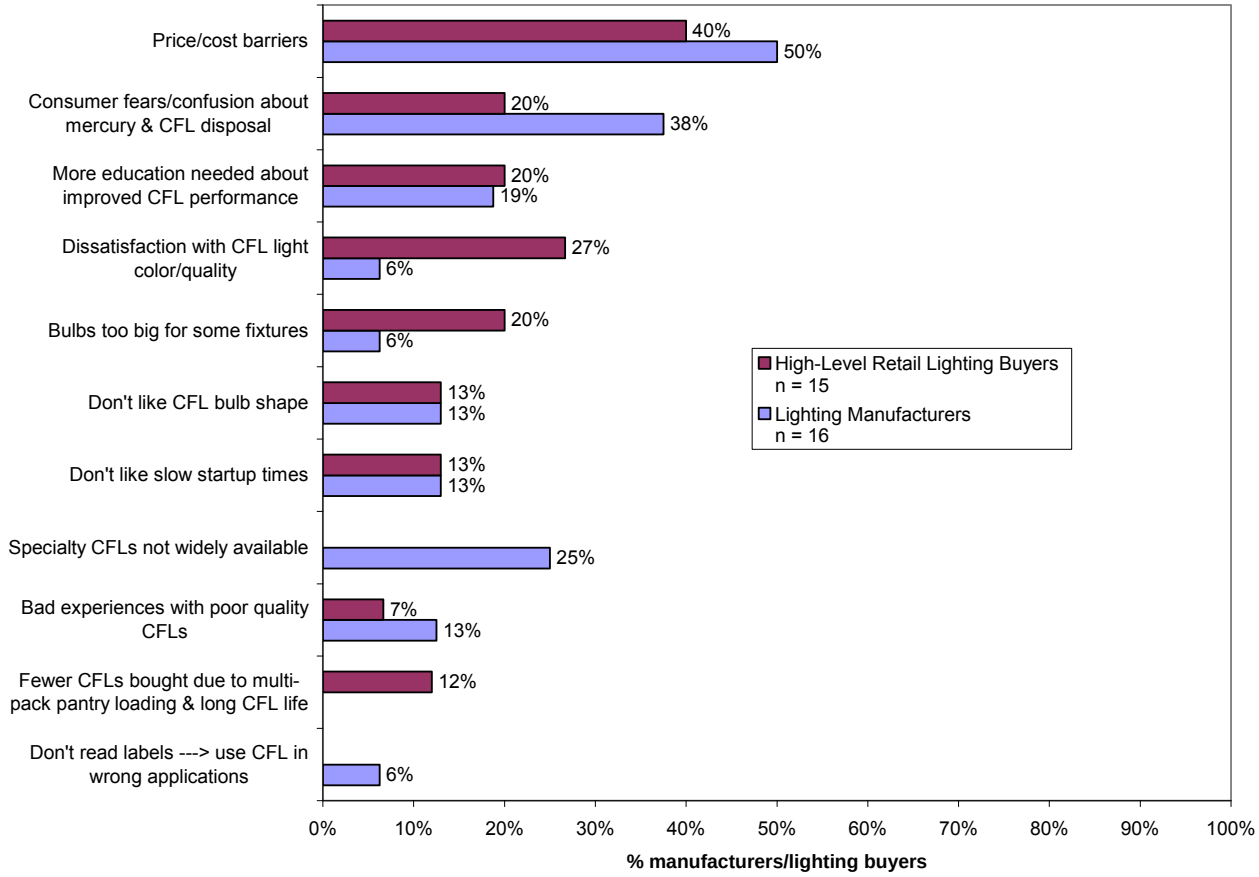
	Average Estimates Provided by High-Level Lighting Buyers (n=6)	Average Estimates Provided by Lighting Manufacturers (n=7)
Residential	90%	91%
Nonresidential	10%	9%

5.3 Barriers to CFL Purchase

The 2008 California lighting logger study found that only about 20 percent of the lighting sockets in California households have CFLs in them. This low CFL penetration is occurring even though the ULP has spent years making CFLs more widely available at significant discounts. We asked the high-level retail lighting buyers and lighting manufacturers: "What are the most important factors that are limiting customer demand for CFL products?" Figure 5-1 shows their responses. The chart shows that despite the efforts of the ULP to make CFLs more affordable, the high-level buyers and manufacturers most frequently pointed to price/cost barriers as factors that limit consumer demand for CFLs. A number of them said that the current economic crisis has made shoppers more price sensitive and some raised concerns that lower-income customers might revert back to incandescent bulbs despite the ULP discounts.

The chart shows that the high-level buyers were more likely than the manufacturers to point to consumer concerns about CFL light quality and bulb bit as barriers to consumer demand. In contrast, the manufacturers were more likely than the high-level buyers to point to CFL disposal and the limited availability of specialty CFLs as lingering barriers.

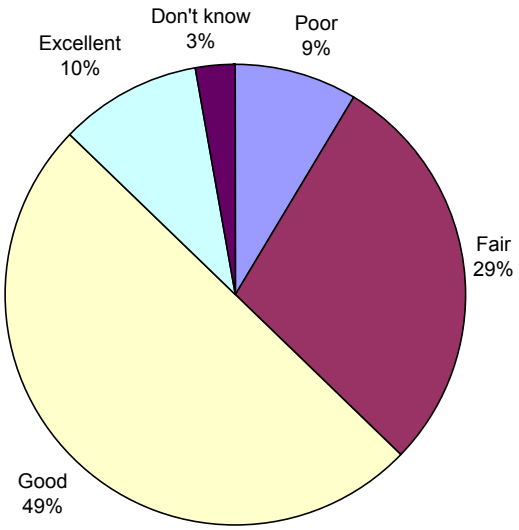
Figure 5-1
Barriers to Consumer Demand for CFLs in General
According to Lighting Manufacturers and High-Level Retail Lighting Buyers



Although the California IOUs have been promoting specialty CFLs more in recent years than they have done in the past, the penetration of specialty CFLs in the ULP and in the California CFL market at large remains relatively low. According to the program tracking data, the specialty CFLs only accounted for about 10 percent of 2006-2008 ULP sales. We asked the participating PG&E/SCE store managers who sold specialty CFLs: “Within the past year would you characterize sales of these products as being excellent, good, fair, or poor?” Figure 5-2 shows that almost 40 percent of the respondents said that sales were either “fair” or “poor.” Only 10 percent said that sales were “excellent.”

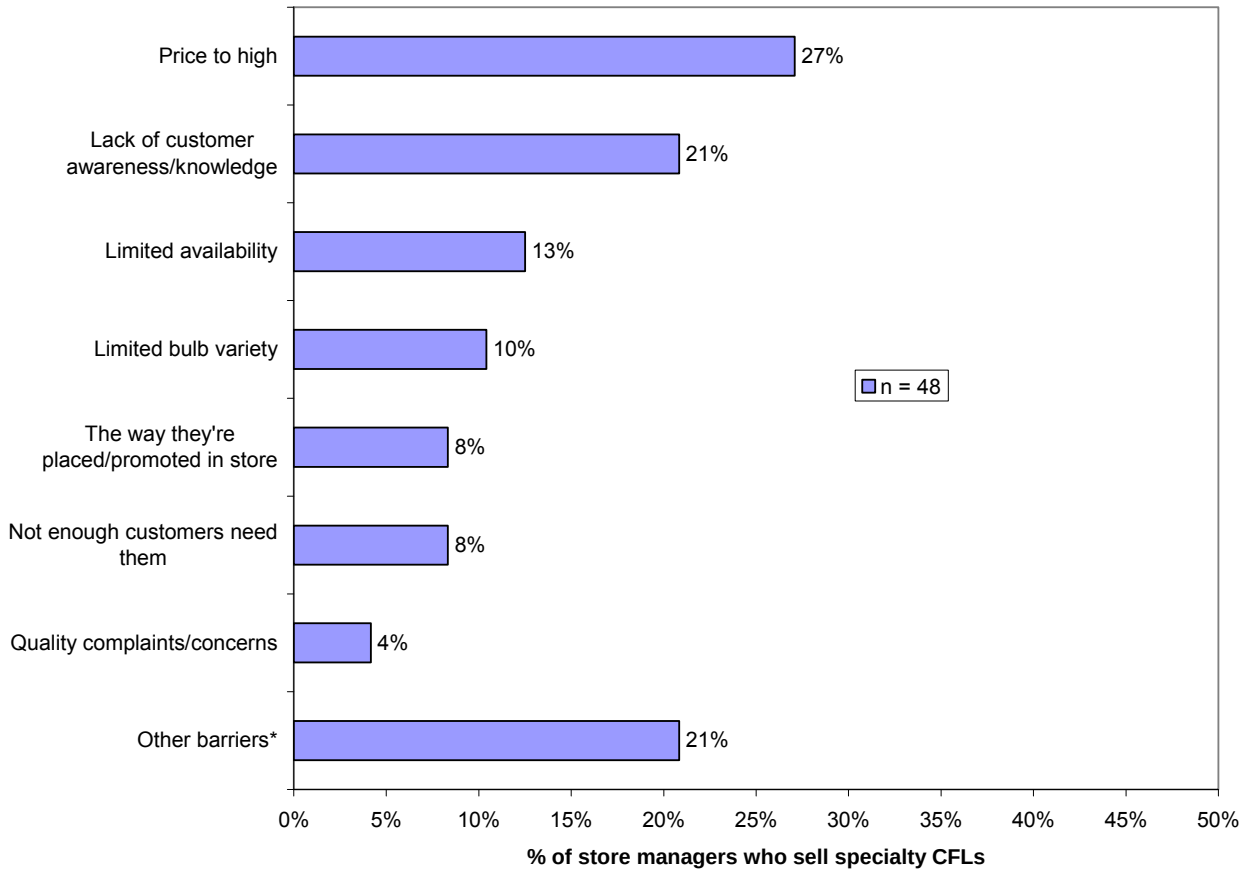
Figure 5-2
How Participating PG&E/SCE Store Managers Characterized Sales Levels for Specialty CFLs

n = 70



We then asked these store managers: “What factors or barriers prevent more of these specialty CFLs from being sold?” As the high-level buyers and manufacturers did, the store managers most frequently cited cost as a barrier to consumer demand. Lack of consumer awareness/knowledge and limited availability were other oft-cited barriers (Figure 5-3).

Figure 5-3
Barriers to Wider Use of Specialty CFLs
According to 2008 PG&E/SCE Store Managers
Who Sell Specialty CFLs



Note: Total exceeds 100% because some interviewees provided multiple responses. *Other barriers include large multi-packs providing consumers with more CFLs than they can quickly use, specialty CFL being too large for some fixtures, people disliking the light quality, and lack of consumer demand for specialty CFLs.

5.4 CFL Distribution Processes

PG&E and SCE are very interested in knowing more about the distribution processes for ULP-discounted CFLs. One reason for this interest is that they want to gain a better understanding of how long it typically takes from the time an ULP-discounted CFL is ordered from the manufacturer to the time it is sold by a retailer. This is important information because the participating utilities claim energy savings for the ULP-discounted products based on shipment data and they want to make sure that the energy savings from those shipped CFL products are realized within a reasonable time frame. Another reason why the utilities' are interested in the

distribution processes for ULP-discounted CFLs is because they are concerned about "leakage" – the phenomenon of ULP-discounted lighting products being sold either at retail outside the service territories of the ULP-participating utilities or through the Internet. A later section of this report discusses this CFL leakage problem and the pros and cons of the CFL bulk purchase limit that was introduced to combat it.

5.4.1 Retailer Sources of Supply

We asked the store managers whether the CFL bulbs they sold in their store came directly from the manufacturer, from a retail distribution center, or from a non-affiliated lighting distributor. Table 5-11 shows the distribution of responses. Nearly two thirds of the PG&E/SCE store managers said that they got their CFL bulbs from their company's own distribution centers (Table 5-11) with only 16 percent saying they came from non-affiliated lighting distributors and 15 percent saying they came directly from the manufacturer.

However, for some of the retail channels this distribution of supply sources was much different. For example, only 17 percent of the store managers in the Small Grocery channel, which includes many small-chain or independent ethnic grocery stores, said that they get their CFLs from a retail distribution channel. Interviews with participating lighting suppliers confirmed that they often direct-ship their CFL products to these smaller stores.

Table 5-11
Where PG&E/SCE Retailers
Get Their CFL Bulbs

Source of CFL products	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
	PG&E/SCE Combined								
All from retailer's distribution center	62%	91%	60%	92%	17%	89%	46%	75%	0%
All from manufacturer	14%	5%	30%	8%	21%	6%	17%	13%	50%
All from non-affiliated lighting distributor	16%	0%	0%	0%	52%	6%	13%	13%	50%
From multiple sources/Other arrangements	1%	0%	10%	0%	0%	0%	0%	0%	0%
Don't know	7%	5%	0%	0%	10%	0%	25%	0%	0%
Sample size	140	22	10	25	29	18	24	8	4
	PG&E								
All from retailer's distribution center	70%	93%	80%	91%	17%	82%	63%	83%	0%
All from manufacturer	13%	7%	20%	9%	17%	9%	13%	17%	50%
All from non-affiliated lighting distributor	14%	0%	0%	0%	58%	9%	13%	0%	50%
From multiple sources/Other arrangements	0%	0%	0%	0%	0%	0%	0%	0%	0%
Don't know	3%	0%	0%	0%	8%	0%	13%	0%	0%
Sample size	70	15	5	11	12	11	8	6	2
	SCE								
All from retailer's distribution center	54%	86%	40%	93%	18%	100%	38%	50%	0%
All from manufacturer	16%	0%	40%	7%	24%	0%	19%	0%	50%
All from non-affiliated lighting distributor	17%	0%	0%	0%	47%	0%	13%	50%	50%
From multiple sources/Other arrangements	1%	0%	20%	0%	0%	0%	0%	0%	0%
Don't know	11%	14%	0%	0%	12%	0%	31%	0%	0%
Sample size	70	7	5	14	17	7	16	2	2

5.4.2 Timing of CFL Delivery

We asked the store managers, high-level retail lighting buyers, and lighting manufacturers how long it takes CFL products to be delivered to retailers after ordering. We also asked the high-level retail lighting buyers and the lighting manufacturers to try to disaggregate these estimates of CFL product delivery times into:

- The typical time required for manufacture;
- The typical time required for shipment from the manufacturing facilities (in China); and
- The typical time required for temporary warehousing or storage before the retailer receives the product.

5.4.2.1 Full-Cycle Delivery Time

We asked the store managers how long it typically takes from the time they order CFL products from the manufacturer to the time these products arrives in their stores. Table 5-12 shows that the average delivery time was four weeks over all 84 PG&E/SCE store managers who provided estimates. However, a closer look at the retail channel breakouts reveals that all but two of the channels had delivery times of 1.5-2.7 weeks. Only the Small Grocery channels (8.2 weeks) and the Drug channel (3.6 weeks) had longer delivery times than this and only the SCE store managers in these two channels reported delivery times that were significantly longer than the other retail channels.

Why were the waiting times so much longer for the SCE Small Grocery and Drug store managers? The most likely explanation has to do with the timing of the survey in conjunction with the reliance of stores in these channels on the ULP. When the store manager surveys were conducted in May 2008, SCE's ULP – which got a late start -- was only just beginning to get ULP-discounted CFLs into the stores. Previous evaluations have shown that the ULP has been a key factor in introducing CFLs into the Small Grocery channel and that the manufacturers and resellers that supply CFLs to ethnic groceries are only able to do so through the ULP. Therefore if a small grocery store in the SCE service territory ran out of its 2007 allocation of ULP-discounted CFLs in late 2007 or early 2008, it would have to wait a significant period until the 2008 allocation of CFLs were first delivered in May.

Another explanation, as indicated in Table 5-11, is that most stores in the Small Grocery channel do not have their own distribution centers, but get their products from the manufacturers or unaffiliated distributors, which likely takes longer. Finally, for the Drug channel the explanation may have to do more with the small sample size (3) and one of the three respondents being an outlier (12 week delivery time).

Table 5-12
How Long Participating PG&E/SCE Store Managers Typically Have to Wait for a New Order of Bulbs

How long it typically takes from time they order CFL products to the time they arrive in store	PG&E/SCE Combined								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Mean (# of weeks)	4.0	1.6	2.0	1.5	8.2	3.6	2.7	2.4	2.0
Maximum (# of weeks)	36	2	4	4	36	12	10	8	4
Minimum (# of weeks)	1	1	1	1	1	1	1	1	1
Sample size	84	10	7	10	24	10	11	8	7
How long it typically takes from time they order CFL products to the time they arrive in store	PG&E								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Mean (# of weeks)	2.4	1.3	2.3	1.4	3.2	3.1	2.3	2.8	2.0
Maximum (# of weeks)	12	2	4	3	12	11	4	8	3
Minimum (# of weeks)	1	1	1	1	1	1	1	1	1
Sample size	43	6	4	5	9	7	4	6	2
How long it typically takes from time they order CFL products to the time they arrive in store	SCE								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Mean (# of weeks)	5.6	2.0	1.7	1.6	11.2	4.7	3.0	1.0	1.0
Maximum (# of weeks)	36	2	2	4	36	12	10	1	1
Minimum (# of weeks)	1	2	1	1	2	1	1	1	1
Sample size	41	4	3	5	15	3	7	2	2

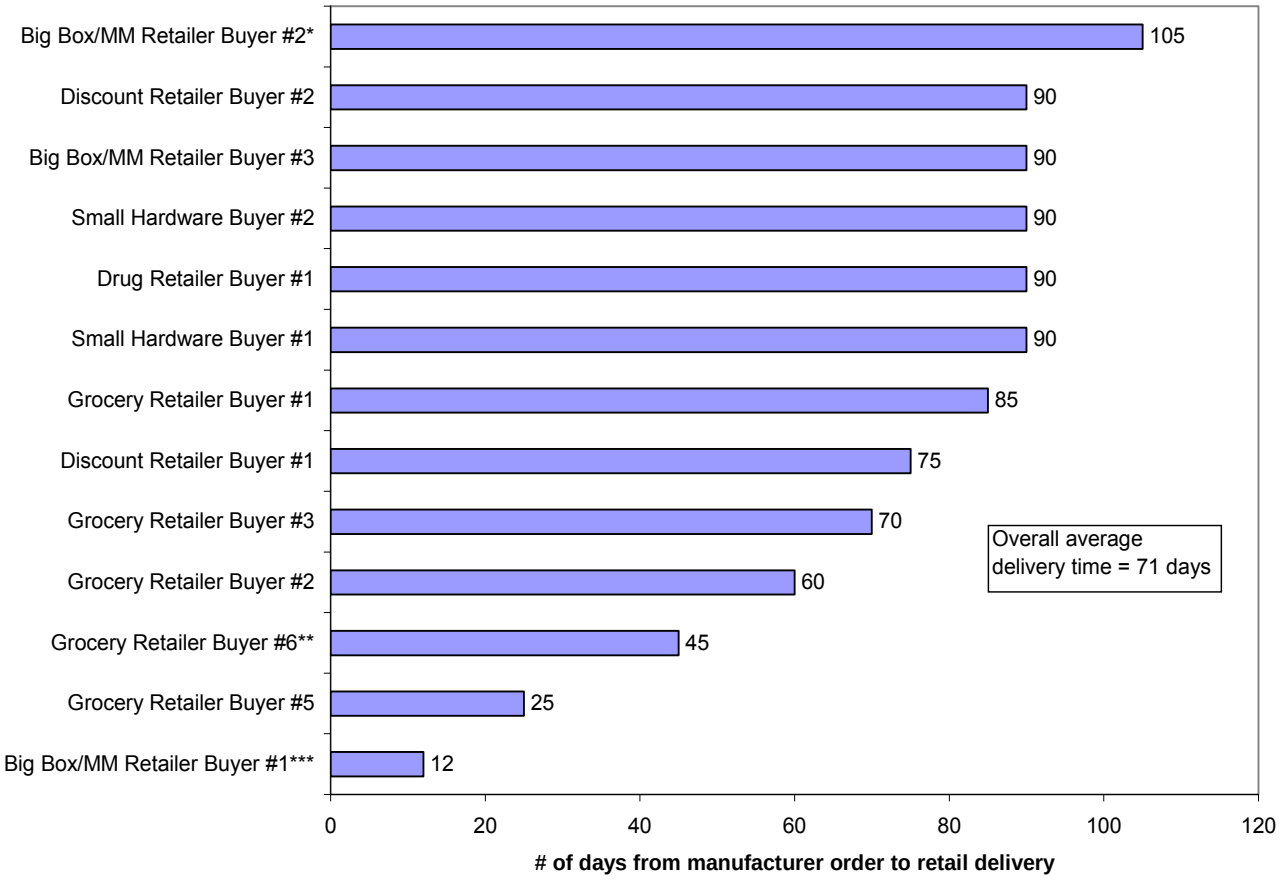
In the interviews of high-level retail lighting buyers that we conducted between August and November 2008 we also asked them about typical delivery times for CFL products. Although the delivery time question was similar to that asked of the store managers,[7] we realized that since these lighting buyers were further up the CFL distribution chain, they would have a better sense of the total amount of time involved in manufacturing, shipment, and temporary warehousing than the store managers would. Thirteen of the 16 participating lighting buyers that we interviewed provided quantifiable estimates (e.g., something more precise than "several weeks").

Seventy-one days was the average delivery time estimate provided by the high-level retail lighting buyers with a median estimate of 85 days (Figure 5-4). Most of these delivery time estimates were for scenarios that included the time for production (in China), shipment to the United States, the clearance of customs, temporary warehousing (if relevant) and delivery to the retail store. The shorter delivery time estimates were from retailers who received ULP CFLs from large established lighting manufacturers who have domestic warehouses. Some of these

[7]The question was: "How long does it typically take from the time that you place an order with the manufacturer or distributor and the time that you receive delivery of this order in your stores?"

retailers also said that they receive non-ULP CFLs in less than a week from these same manufacturers.

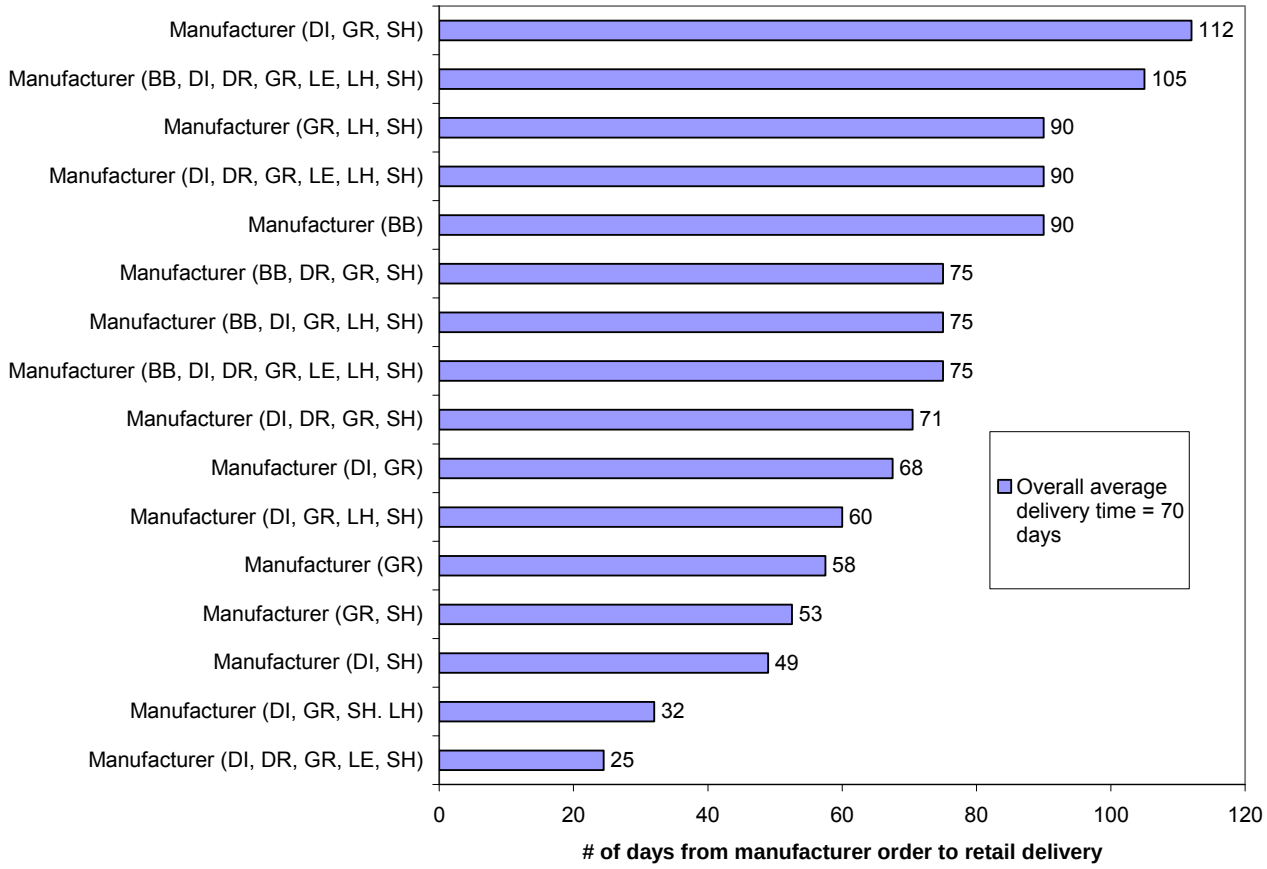
Figure 5-4
Typical Full-Cycle Delivery Times for CFL Products
As Estimated by High-Level Retail Lighting Buyers
Participating in the ULP



Note: Some lighting buyers provided a range of delivery times and the estimate represented here is the mid-point of these estimates. *This estimate is for manufacturer buydown part of the ULP. The retailer indicated that for the point-of-sale part of the ULP would be much quicker than this, but did not provide a quantifiable estimate for this. **This estimate does not include manufacturing time includes the time to get from the manufacturing warehouses in China to the retailer's stores.
***This retailer's manufacturer has domestic warehousing. So this estimate is for the time it takes the CFL products to get from the manufacturer's warehouse to the retailer (e.g., no manufacturing or overseas shipment time is included).

The lighting manufacturers' average estimated delivery time – 70 days – was very close to the estimate from the high-level retail lighting buyers. Figure 5-5 shows the full range of estimates. There appeared to be no pattern between the length of the delivery time estimates and the types of retail channels that the lighting manufacturers delivered to.

Figure 5-5
Typical Full-Cycle Delivery Times for CFL Products
As Estimated by Lighting Manufacturers
Participating in the ULP



Note: Some lighting manufacturers provided a range of delivery times and the estimate represented here is the mid-point of these estimates. Abbreviations indicate the retail channels that the manufacturer used to sell ULP-discounted CFLs. These include Big Box/Mass Merchandise (BB), Discount (DI), Drug (DR), Grocery (GR), Lighting, Electronics, Miscellaneous (LE), Large Home Improvement (LH), and Small Hardware (SH).

5.4.2.2 Manufacturing Times

Only five of the high-level retail lighting buyers felt comfortable estimating the typical time required for manufacturing. Their average estimate was 38 days with a range in estimates from 18 to 60 days.

However, 15 of the 16 lighting manufacturers were willing to estimate the typical manufacturing time for CFL products. Their average and median estimates were both 30 days, although the estimates could range widely, as Figure 5-6 shows.

The manufacturers noted that manufacturing times could be influenced by a number of variables including:

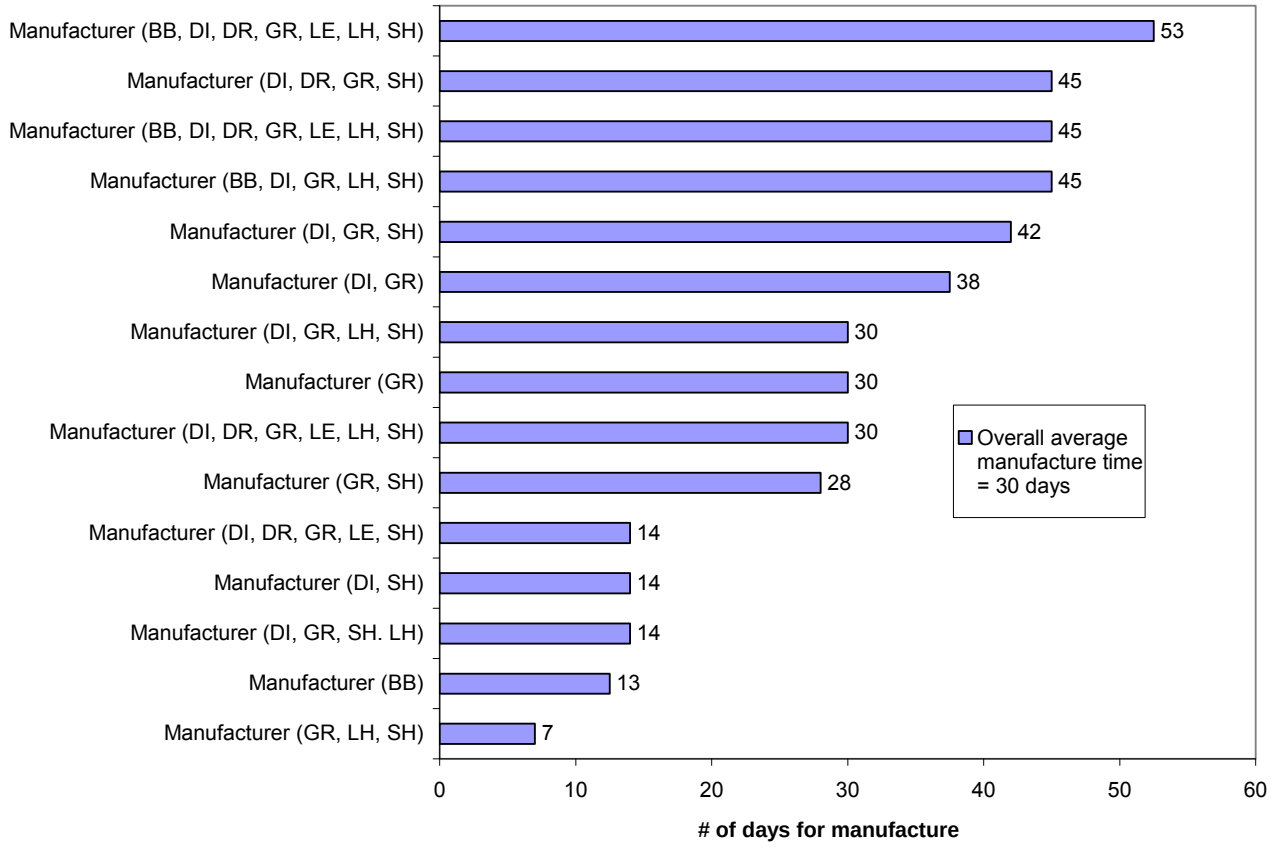
- *The size of the order:* Bigger orders take longer and if unexpected are less likely to be accommodated by existing production forecasts.

- *Whether the order is expected or not:* A couple of manufacturers provided estimates of typical manufacture times for "unexpected" orders. They noted that if the order had been expected, or could be accommodated by their forecasted production volume, or was a "reorder" of a previously-manufactured product, the manufacturing times were much shorter. Unexpected orders take longer in part because it takes a certain amount of time to gather the necessary packaging, raw materials and components such as burners and circuit boards.

- *The type of CFL product manufactured:* As discussed later in this section, lighting manufacturers said that specialty CFLs and CFL fixtures take longer to produce.

- *The timing of the order:* A number of manufacturers noted that there are spikes of CFL orders during Energy Star's Change-a-Light promotion in October as well as whenever a large national retailer such as Wal-Mart or Home Depot does a special promotion. During such periods production capacity can be constrained. Manufacturers also observed that the lengthy Chinese New Year celebrations might temporarily slow down CFL production levels.

Figure 5-6
Typical Manufacture Times for CFL Products
As Estimated by Lighting Manufacturers
Participating in the ULP



Note: Some lighting manufacturers provided a range of delivery times and the estimate represented here is the mid-point of these estimates. Abbreviations indicate the retail channels that the manufacturer used to sell ULP-discounted CFLs. These include Big Box/Mass Merchandise (BB), Discount (DI), Drug (DR), Grocery (GR), Lighting, Electronics, Miscellaneous (LE), Large Home Improvement (LH), and Small Hardware (SH).

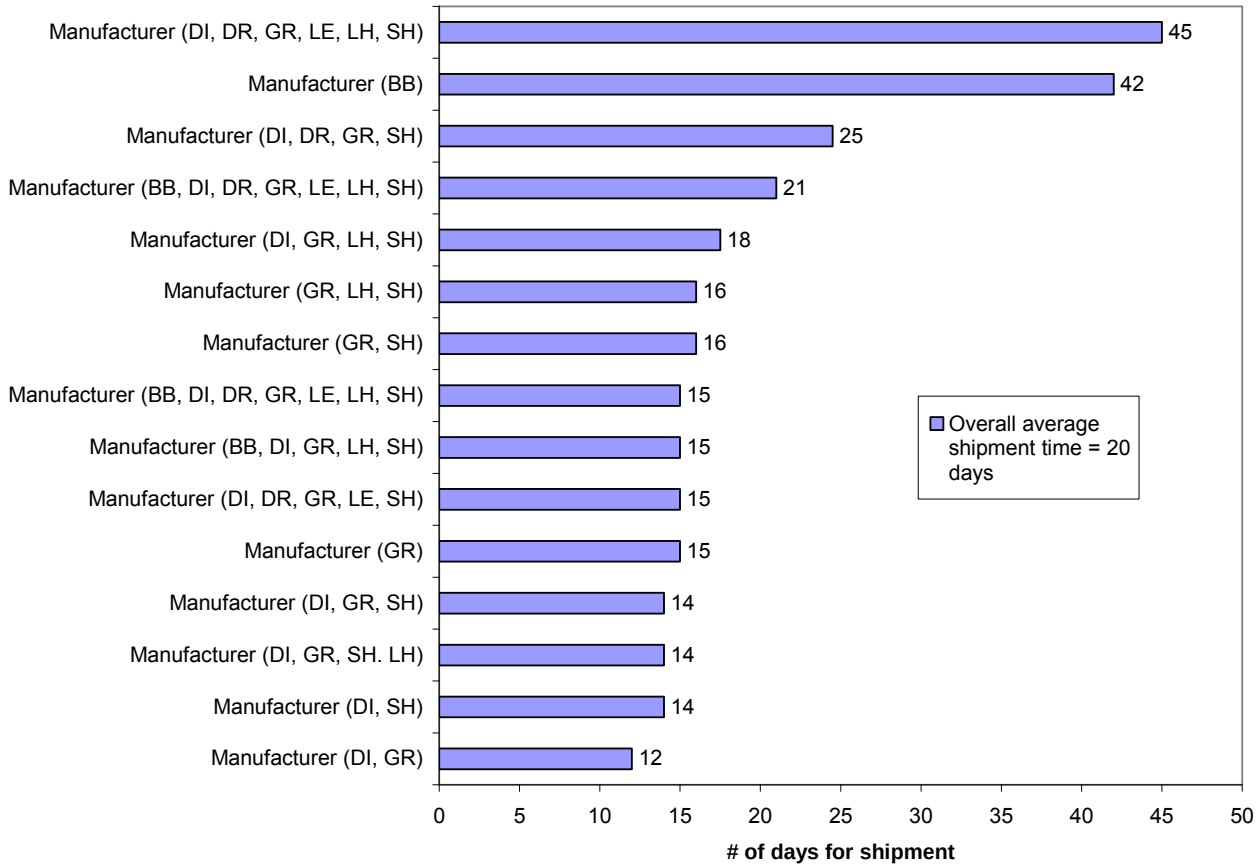
5.4.2.3 Shipment Times

Only five of the high-level retail lighting buyers offered estimates on the typical time required for shipping CFLs. Their average estimate was 27 days with a range in estimates from 15 to 38 days.

Fifteen of the 16 lighting manufacturers did provide estimates of the typical shipment times for CFL products. The average estimate was 20 days with a median estimate of 15 days. Figure 5-7 shows the full range of estimates. The lighting manufacturers said that some of the variables that might influence their shipment times included weather factors such a typhoons in Asia and

shipping congestion problems that can occur at certain times of the year such as before holidays.

Figure 5-7
Typical Shipment Times for CFL Products
As Estimated by Lighting Manufacturers
Participating in the ULP



Note: Some lighting manufacturers provided a range of delivery times and the estimate represented here is the mid-point of these estimates. Abbreviations indicate the retail channels that the manufacturer used to sell ULP-discounted CFLs. These include Big Box/Mass Merchandise (BB), Discount (DI), Drug (DR), Grocery (GR), Lighting, Electronics, Miscellaneous (LE), Large Home Improvement (LH), and Small Hardware (SH).

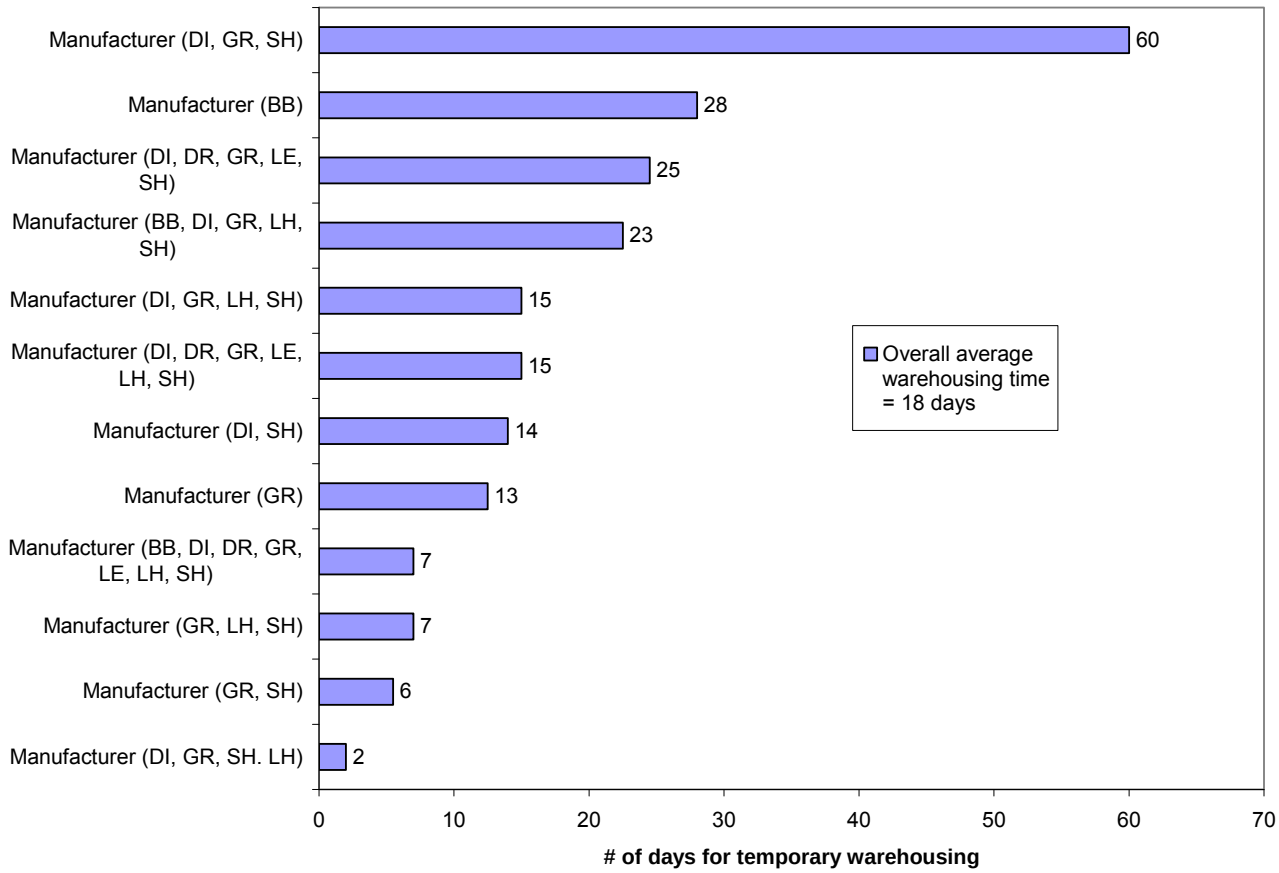
5.4.2.4 Warehousing

Only five of the high-level retail lighting buyers offered estimates on the typical time required for warehousing CFLs. Their average estimate was 28 days with a range in estimates from 11 to 58 days. Some retailers had their own warehousing while others had the CFL products shipped directly from the supplier to their stores. One high-level retail lighting buyer said that because the lighting manufacturers only get paid for their ULP-discounted CFLs upon retail delivery, they

had an economic incentive to deliver these CFLs to the retailers as quickly as possible after they arrived in the United States.

Twelve of the 16 lighting manufacturers provided quantifiable estimates of the typical times for temporary warehousing of CFL products before the retailer or distributor receives them. The average estimate was 18 days with a median estimate of 15 days. However, there was a lot of variation in the estimates, as Figure 5-8 makes clear. One likely explanation is the variation in the amount of warehousing that the different lighting manufacturers. Some of the smaller manufacturers deliver the product to their California retailers directly from the California port where the CFLs arrived from China. In such cases, the “warehousing” is limited to the few days at the port it takes to clear U.S. Customs. In contrast, other, larger manufacturers have their U.S.-based warehousing facilities. Another possible factor is whether or not the manufacturer sells non-ULP-discounted CFLs. Manufacturers who only sell ULP-discounted CFL products would have to store their CFLs longer if the ULP took a long time to get started, as was the case with SCE in 2008.

Figure 5-8
Typical Temporary Warehousing Times for CFL Products
As Estimated by Lighting Manufacturers
Participating in the ULP



5.4.2.5 Overview of the Delivery Time Estimates

Table 5-13 summarizes the delivery time estimates described in the previous subsections. It shows that the lighting manufacturer's average estimate for full-cycle delivery time (70 days) was very similar to the sum of their disaggregated time estimates for the separate CFL distribution chain components (manufacture, shipment, and warehousing) -- 68 days. This was not the case for the high-level lighting buyers. However, the variation here is likely due to the fact that while 13 of the high-level lighting buyers provided full-cycle delivery time estimates, only five provided time estimates for the disaggregated portions of the CFL distribution chain.

Table 5-13
Overview of the Delivery Time Estimates
Provided by ULP-Participating
High-Level Lighting Buyers and Lighting Manufacturers

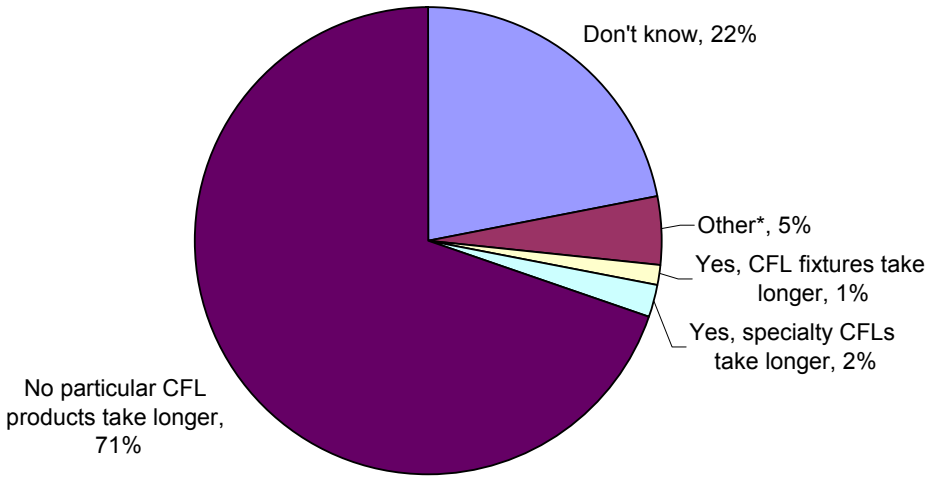
Portion of CFL Distribution Chain	Estimates from High-Level Lighting Buyers (Avg. # of days)	Estimates from Lighting Manufacturers (Avg. # of days)
Manufacture times (buyer n=5, manufacturer n=15)	38	30
Shipment times (buyer n=5, manufacturer n=15)	27	20
Warehousing times (buyer n=5, manufacturer n=12)	28	18
Sum of disaggregated estimates (buyer n=5, manufacture n=12-15)	93	68
Full-cycle delivery times (buyer n=13, manufacturer n=16)	71	70

5.4.2.6 CFL Products That Take Longer To Deliver

We asked the store managers, high-level retail lighting buyers, and lighting manufacturers whether there were any particular CFL products that took longer to deliver than the typical time periods discussed in the previous subsections. Figure 5-9 and Figure 5-10 show the responses of the store managers and the high-level retail lighting buyers. The charts show that nearly three quarters of the store managers and high-level buyers did not identify any CFL product type that took longer than average for delivery. A handful of respondents identified specialty CFLs or CFL fixtures as taking longer.

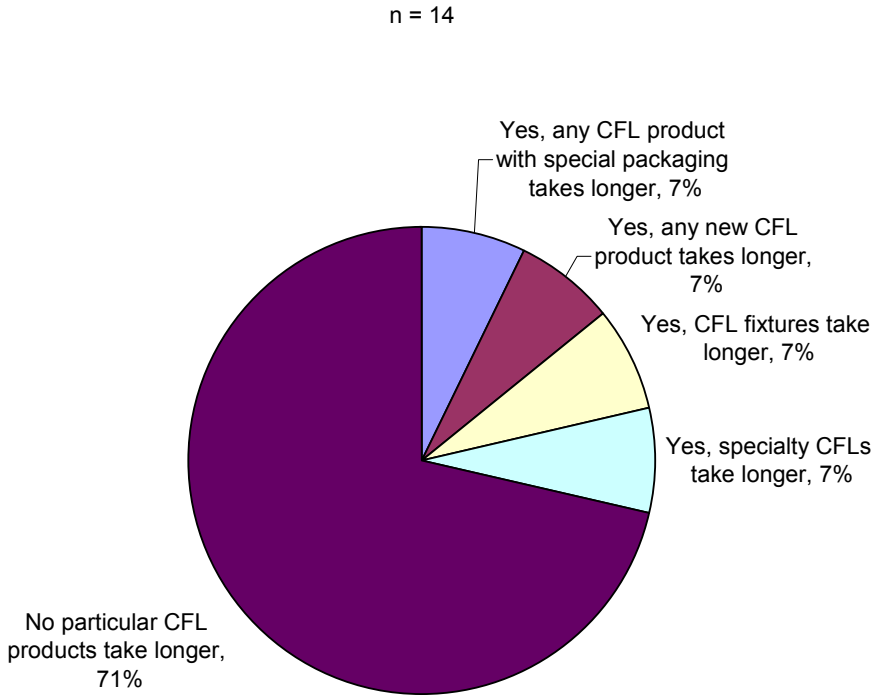
Figure 5-9
Whether There Are Any CFL Product Types
That Take Longer Than Average for Delivery
According to Participating PG&E/SCE Store Managers

n = 140



Note: *Other includes products that need to be specially "direct imported" from China, LED night lights, replacement bulbs for certain CFL fixtures, products for large promotions, and any ULP products.

Figure 5-10
Whether There Are Any CFL Product Types That Take Longer Than Average for Delivery According to High-Level Retail Lighting Buyers Participating in the ULP

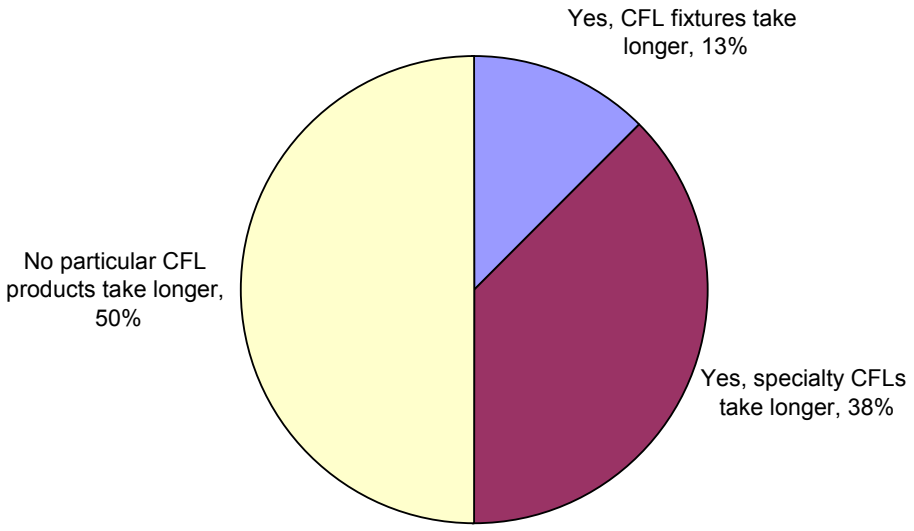


However half of the lighting manufacturers did say that certain CFL products took longer to deliver than the typical time periods mentioned above. Figure 5-11 shows that they identified specialty CFLs and CFL fixtures as taking longer than normal to deliver. Some of the reasons for these longer delivery times included:

- The longer time needed to source and order special components such as extra glass covers or special circuit boards;
- The greater complexity of the manufacturing process for these products; and
- "The slower moving the goods, the slower the production time," said one manufacturer. They don't run [production for specialty CFLs] as often."

Figure 5-11
Whether There Are Any CFL Product Types That Take Longer Than Average for Delivery According to Lighting Manufacturers

n = 16



5.4.2.7 Other Reasons for Longer CFL Product Delivery Times

We asked the high-level retail lighting buyers and lighting manufacturers what other factors – besides product type – might cause CFL products to take longer than normal to deliver. Figure 5-12 and Figure 5-13 show their responses. The most-cited reasons, by both lighting buyers and lighting manufacturers, were various difficulties with the manufacturing process. Some of these manufacturing difficulties that were mentioned by at least two respondents included:

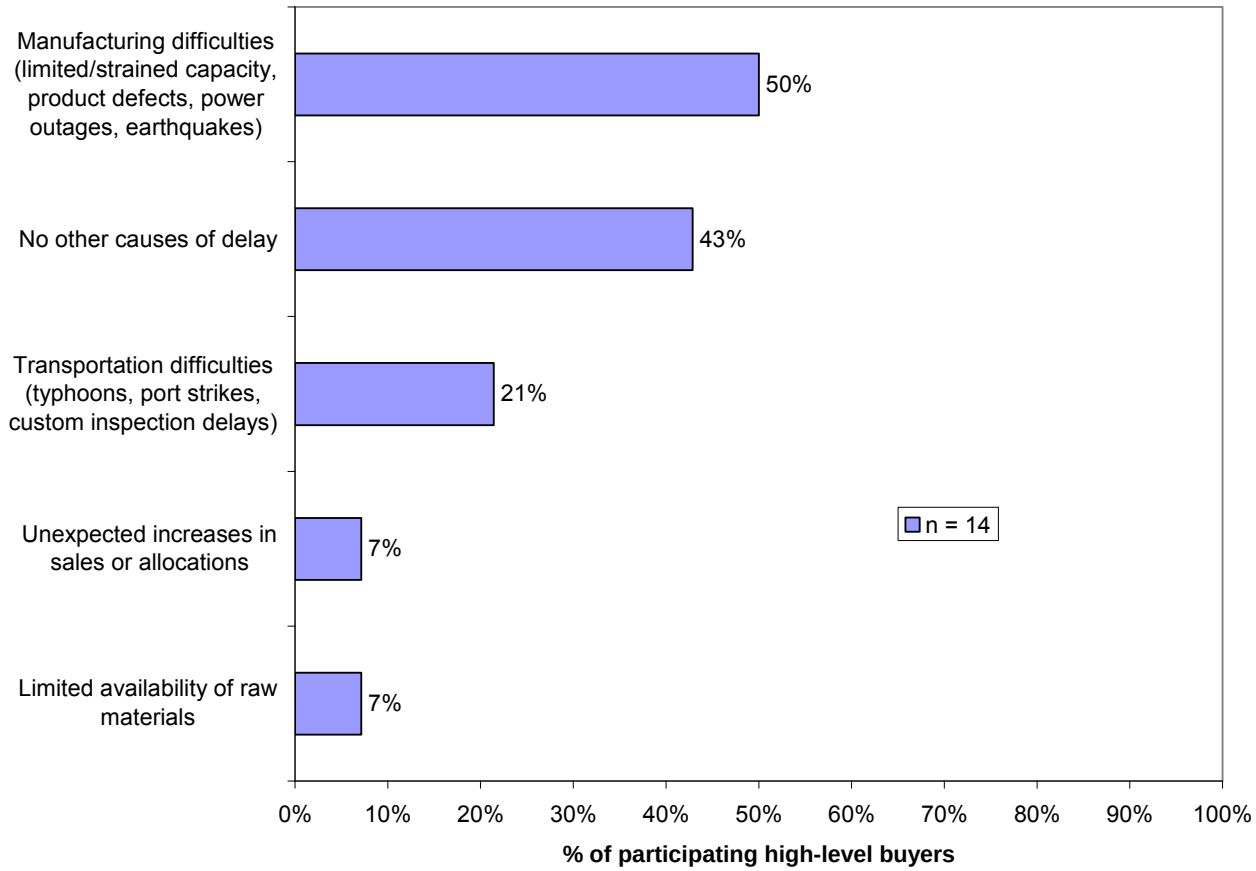
- *Limited/strained capacity:* A number of manufacturers and retailers said there was a period of time in the recent past when CFL manufacturing capacity temporarily had trouble keeping up with a surge in CFL demand. They said that the addition of new CFL production capacity has since relieved the problem.

- *Product defects:* Two retailers said that lighting manufacturers have sometimes detected flaws in their products through internal testing and had to cancel and then re-start production runs.

- *Summer heat in the factories:* A couple of manufacturers said that because Chinese CFL factories are not air-conditioned, production levels usually go down during the summertime.

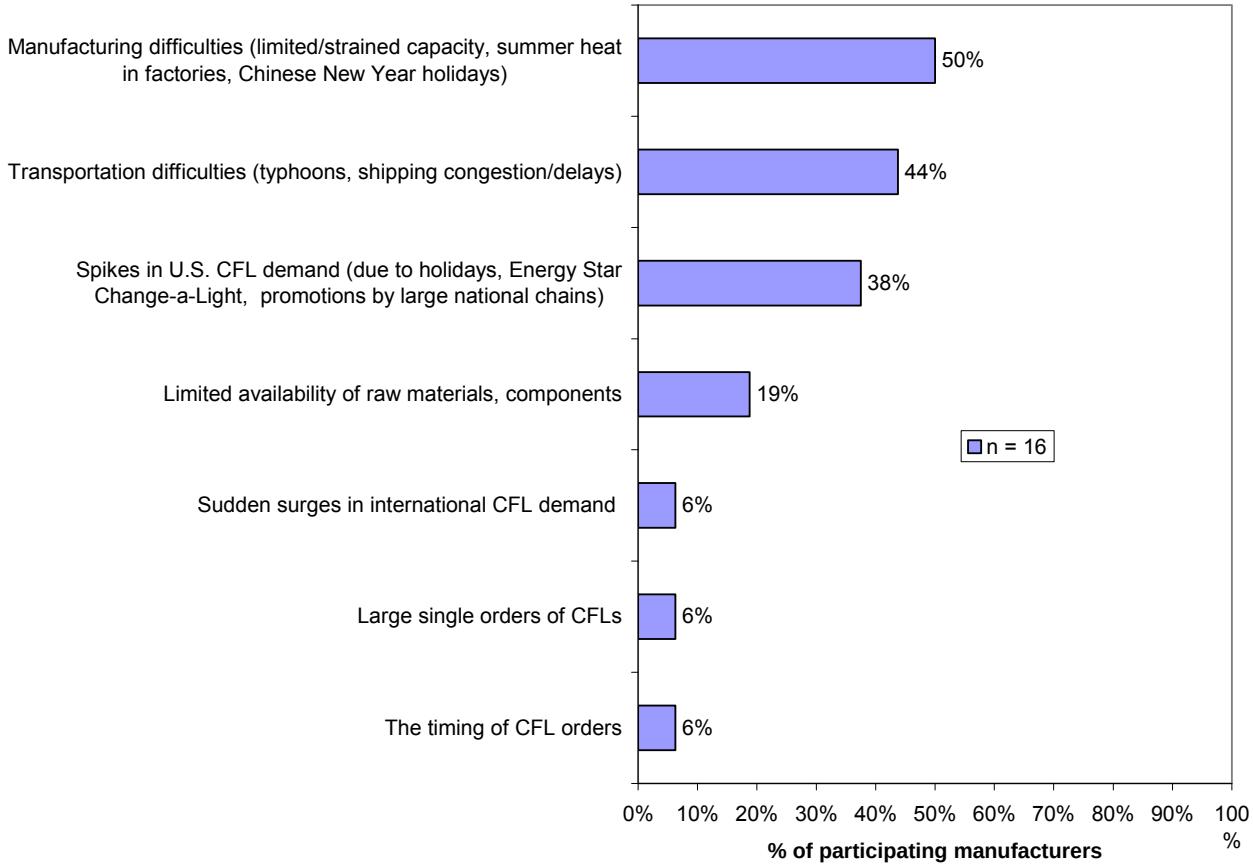
- *Chinese New Year celebrations:* These are two-week celebrations during which most production is suspended.

Figure 5-12
Other Reasons Besides Product Type
Why It Would Take Longer Than Average
for Delivery of CFL Products
According to High-Level Retail Lighting Buyers



Note: Total exceeds 100% because some interviewees provided multiple responses.

Figure 5-13
Other Reasons Besides Product Type
Why It Would Take Longer Than Average
for Delivery of CFL Products
According to Lighting Manufacturers



Note: Total exceeds 100% because some interviewees provided multiple responses.

5.4.2.8 Whether the Delivery Time of ULP-Discounted Products Is Different Than Non-ULP Products

We asked the high-level retail lighting buyers and lighting manufacturers whether the delivery times for the ULP-discounted CFL products was different than for their other CFL products. About a quarter of the high-level buyers and a little more than a third of the manufacturers said that the delivery times were different between the ULP and non-ULP products. All but a couple of these said that the ULP products took longer to deliver than the non-ULP products although some pointed out that the time difference was a week or less. A couple of high-level buyers who get some ULP products from suppliers with domestic warehousing and other ULP products from

suppliers who did not, said that the ULP products only took longer than their non-ULP products when they had to be “direct ordered” from China. Other explanations for why ULP products took longer than non-ULP to deliver included the larger size of the ULP deliveries, the need for the ULP products to have special signage or displays, and the time it took to put the ULP stickers on the product packages.

Figure 5-14
Whether ULP-Discounted CFL Products
Have a Different Delivery Time Than Other CFL Products
According to High-Level Retail Lighting Buyers

n = 13

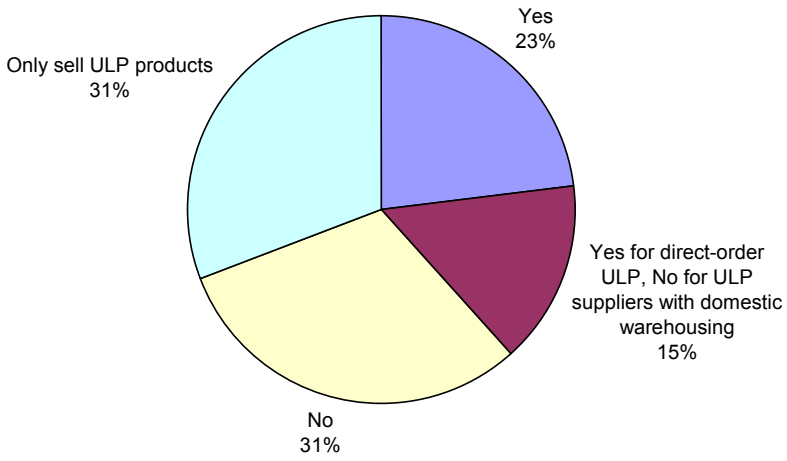
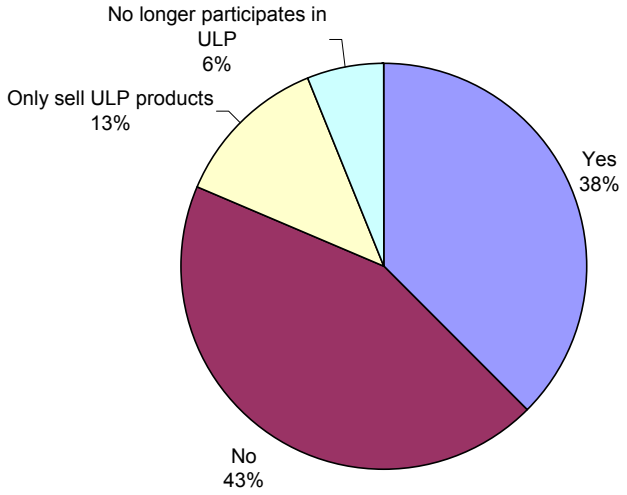


Figure 5-15
Whether ULP-Discounted CFL Products
Have a Different Delivery Time Than Other CFL Products
According to Lighting Manufacturers

n = 16

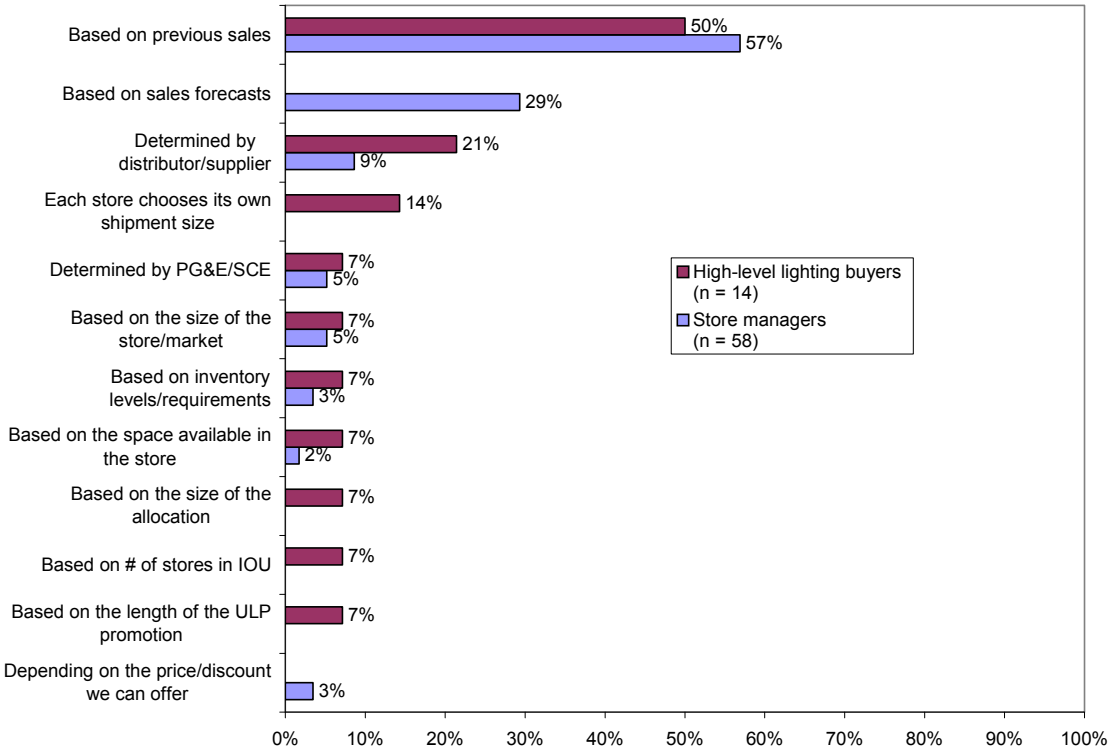


5.4.3 Processes for Ordering Shipments of ULP-Discounted CFL Products

We asked both PG&E/SCE store managers[8] and high-level lighting buyers how they determine the size of the shipments of ULP-discounted CFL products to their stores. Figure 5-16 shows that using historical sales information was the most common way although there were many other approaches.

[8] This question was only asked of 58 store managers who said that they were the primary person who decided how many ULP-discounted CFLs their store received.

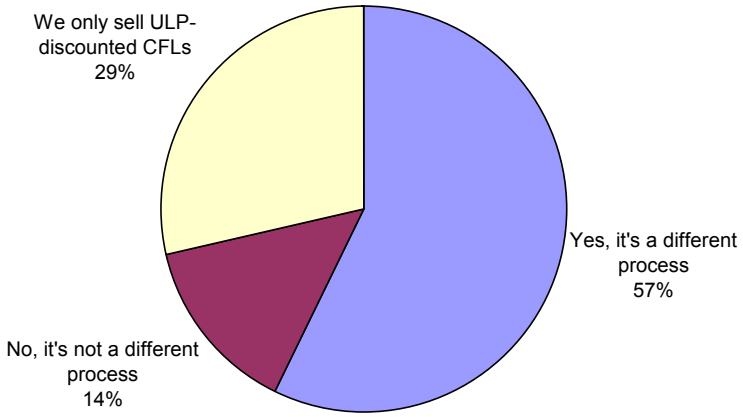
Figure 5-16
How the Size of ULP-Discounted CFL Shipments Are Determined According to High-Level Retail Lighting Buyers and PG&E/SCE Store Managers



We also asked the store managers and high-level lighting buyers whether their process for ordering the ULP-discounted CFL products was different than the process for the non-ULP products. Forty-three percent of the store managers (n=58) and 57 percent of the high-level buyers (Figure 5-17) said it was. The most common difference was that many stores get their non-ULP lighting products through automatic replenishment systems – sometime called "truck-to-shelf" systems – in which products are automatically re-supplied from the warehouse, based on inventory levels or predicted sales. In contrast, the ULP products usually are not supplied this way due to the suppliers not having domestic warehousing or due to the greater unpredictability of the timing of the ULP allocations. Since the Program can only pay ULP-participating suppliers after their products are delivered to retailers, these suppliers also have an incentive to deliver their ULP-discounted products quickly to retailers once they arrive in California from China.

Figure 5-17
Whether the Process for Ordering ULP-Discounted CFL Products Is Different Than For Ordering Non-ULP Products According to High-Level Retail Lighting Buyers

n = 14



5.5 Problems with Delivery of ULP CFLs

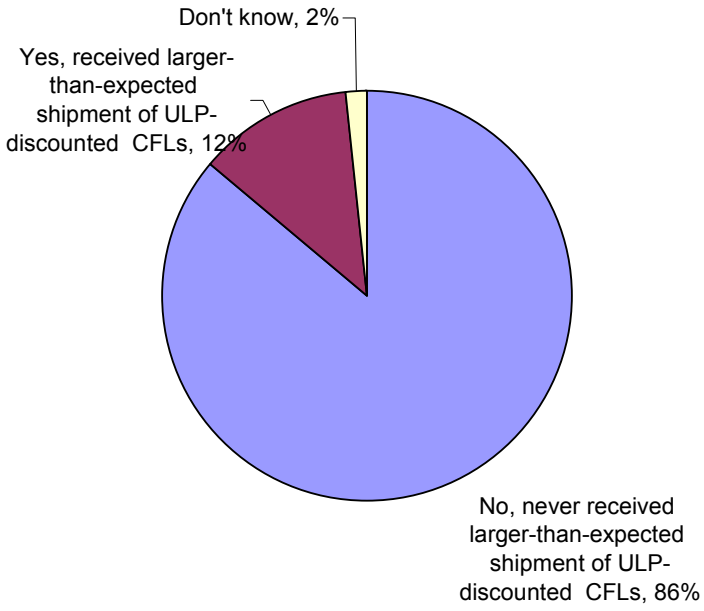
In our 2007 survey of lighting manufacturers and high-level lighting buyers we collected anecdotal information about retailers receiving deliveries of ULP-discounted CFL products that arrived at unexpected times or in unexpected amounts – usually more than the retailer had asked for. Since these delivery problems have the potential to contribute to CFL "leakage" problems, in our 2008 surveys we asked the high-level lighting buyers and store managers directly about the frequency of these types of delivery problems.

We first asked the PG&E/SCE store managers whether they had ever received a shipment of PG&E/SCE-discounted CFLs from their ULP-participating supplier (the supplier was named) that was larger than they expected or ordered. Figure 5-18 displays the responses of the of 58 PG&E/SCE store managers who said that they were the primary person who decided how many ULP-discounted CFLs their stores received. The chart shows that only a small minority of these store managers received larger-than-expected orders. We asked the seven store managers

who had encountered this situation how long it took them to sell through the extra CFLs. Their estimates ranged from three months to a year.

Figure 5-18
Whether PG&E/SCE Store Managers
Received Deliveries of ULP-Discounted CFLs
That Were Larger Than Expected or Ordered

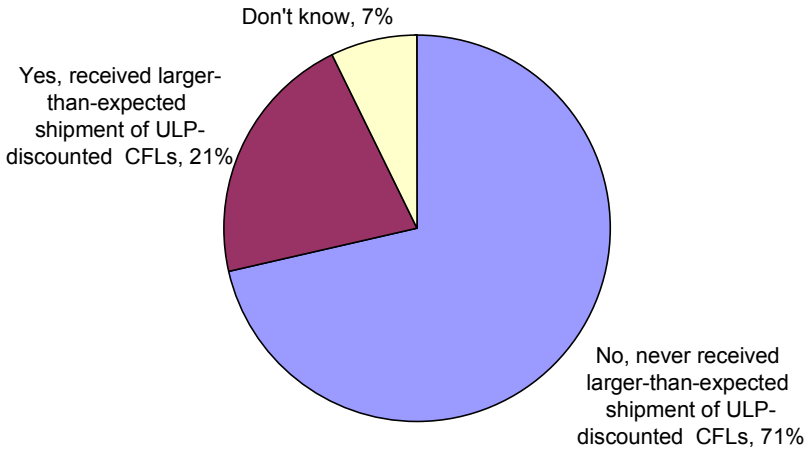
n = 58



We also asked the high-level lighting buyers whether they had received larger-than-expected orders of ULP-discounted CFLs. In this case, however, if they said “yes” we asked a follow-up question as to whether this happened frequently, occasionally, or rarely. Figure 5-19 shows that less than a third of these buyers experienced such situations and most of these only experienced them rarely.

Figure 5-19
Whether High-Level Retail Lighting Buyers Received Deliveries of ULP-Discounted CFLs That Were Larger Than Expected or Ordered

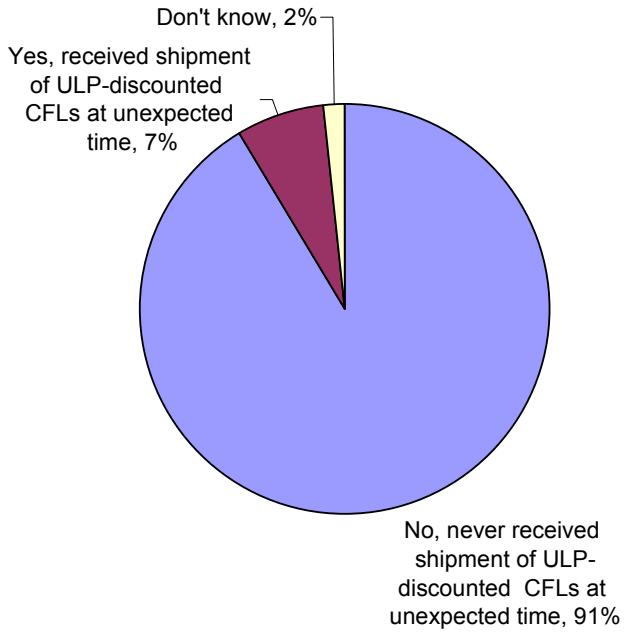
n = 14



We then asked the store managers whether they ever received a shipment of PG&E/SCE-discounted CFLs from their ULP-participating supplier that came at an unexpected time. Figure 5-20 displays the responses of the of 58 PG&E/SCE store managers who said that they were the primary person who decided how many ULP-discounted CFLs their stores received. The chart shows that over 90 percent of these store managers did not receive the ULP-discounted CFLs at an unexpected time. We asked the four store managers who received the ULP-discounted CFLs at an unexpected time how they deal with the situation. Two of them had adequate floor space and simply increased the size of their CFL displays. The other two had their suppliers take back the excess bulbs.

Figure 5-20
Whether Deliveries of ULP-Discounted CFLs Came At Unexpected Times According to PG&E/SCE Store Managers

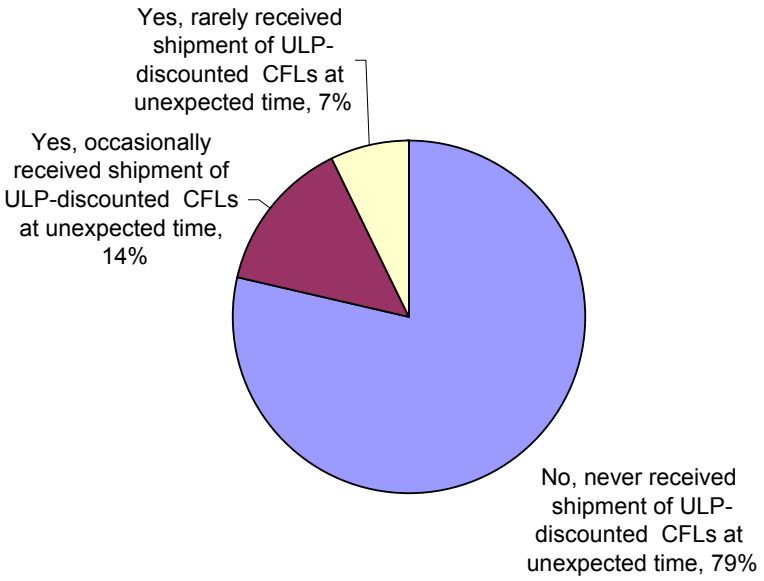
n = 58



We also asked this same question of the high-level retail lighting buyers. Figure 5-21 shows that about a fifth of these lighting buyers did receive deliveries of ULP-discounted CFLs that came at an unexpected time, although this occurred occasionally or rarely.

Figure 5-21
Whether Deliveries of ULP-Discounted CFLs Came At Unexpected Times According to High-Level Retail Lighting Buyers

n = 14



5.6 Processes for Stocking CFLs

This section address a number of topics related to stocking CFLs including:

- Whether retailers stock CFLs year round,
- Whether stocking practices differ depending on the CFL product type,
- Whether ULP-discounted and non-ULP CFLs are sold at the same time,
- How long it takes to sell through a shipment of ULP-discounted CFLs,
- What retailers do when they sell through their ULP-discounted lighting products, and
- What happens to unsold ULP-discounted products.

5.6.1 Whether retailers stock CFLs year round

One topic of interest is whether CFLs are available year-round or whether retailers only stock them when ULP-discounted CFL products are available or during certain promotional periods such as Earth Day or the Energy Star Change-a-Light promotion in October. We asked the store managers whether they stocked CFLs year-round. Table 5-14 shows that store managers from all retailer types claim to do so, except for a small percentage of the Grocery, Drug, and Discount stores. The claims of so many Discount store managers that they sell CFLs year-round is curious because this is contrary to the claims of the lighting manufacturers and high-level retail lighting buyers who supply these stores. We discuss below some possible explanations for these differences.

Table 5-14
Whether Retailers Stock CFLs All Year Round
According to Store Managers

	PG&E/SCE Combined								
Stock CFLs year round?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	86%	100%	100%	80%	79%	94%	71%	100%	100%
No	12%	0%	0%	16%	21%	6%	25%	0%	0%
DK/Refused	1%	0%	0%	4%	0%	0%	4%	0%	0%
Sample size	140	22	10	25	29	18	24	8	4
	PG&E								
Stock CFLs year round?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	93%	100%	100%	82%	92%	91%	88%	100%	100%
No	7%	0%	0%	18%	8%	9%	13%	0%	0%
DK/Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sample size	70	15	5	11	12	11	8	6	2
	SCE								
Stock CFLs year round?	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	80%	100%	100%	79%	71%	100%	63%	100%	100%
No	17%	0%	0%	14%	29%	0%	31%	0%	0%
DK/Refused	3%	0%	0%	7%	0%	0%	6%	0%	0%
Sample size	70	7	5	14	17	7	16	2	2

We asked the store managers who said they stocked CFLs all year round whether they also stocked ULP-discounted CFLs year round. Across all retail channels over two thirds (69%) of the store managers said that they did. However, less than a third of the Large Home Improvements stores, and about half of the Large Grocery and Drug store managers said that they did (Table 5-15). The Small Grocery channel was the only retail channel where the store managers said that they sell ULP-discounted CFLs all year round. This may be due to the relatively low volume of CFL sales in these stores, which allows them to preserve their allocation of ULP-discounted CFLs all year round.

Table 5-15
Whether Retailers Stock ULP-Discounted CFLs All Year Round According to Store Managers

Stock ULP-discounted CFLs year round?	PG&E/SCE Combined								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	69%	68%	30%	50%	100%	53%	82%	88%	75%
No	30%	32%	70%	50%	0%	41%	18%	13%	25%
DK/Refused	1%	0%	0%	0%	0%	6%	0%	0%	0%
Sample size	121	22	10	20	23	17	17	8	4
Stock ULP-discounted CFLs year round?	PG&E								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	77%	67%	40%	67%	100%	70%	100%	83%	100%
No	22%	33%	60%	33%	0%	20%	0%	17%	0%
DK/Refused	2%	0%	0%	0%	0%	10%	0%	0%	0%
Sample size	65	15	5	9	11	10	7	6	2
Stock ULP-discounted CFLs year round?	SCE								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	61%	71%	20%	36%	100%	29%	70%	100%	50%
No	39%	29%	80%	64%	0%	71%	30%	0%	50%
DK/Refused	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sample size	56	7	5	11	12	7	10	2	2

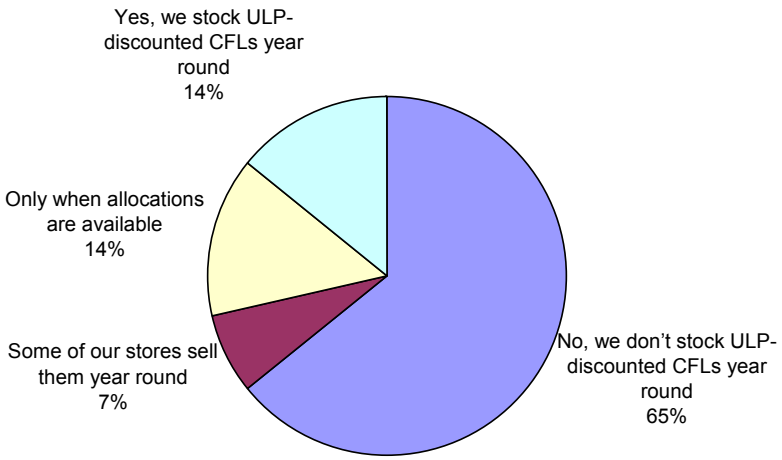
Interestingly when we asked the high-level lighting buyers whether they stock ULP-discounted CFLs year-round, only two buyers (14%) of them said that they did (Figure 5-22). Both of them represent retailers that participate in the point-of-sale part of the ULP and they said that this aspect of the program provides quicker access to the CFLs than the manufacturer buydown component of the ULP (which they participate in also). Both of these retailers also use CFL suppliers with US-based warehousing, which also means quicker re-supply of CFLs.

Two other buyers said that their stores keep ULP-discounted CFLs in their stores year round only when ULP allocations are available year round. One of these buyers said that this has happened recently but was not feasible a few years ago. One buyer said that his stores with slower CFL sales have ULP-discounted CFLs year-round while those with higher sales levels eventually run through their ULP allocations. The buyers representing retailers that did not sell ULP-discounted CFLs year round also said that this was because they sell through their allocations.

We asked the five buyers who sell ULP-discounted CFLs year-round -- at least some years or at least in some of their stores -- whether they stock approximately the same number of ULP-discounted CFL year round. Only one buyer – whose stores have automatic inventory re-supply systems – said that his company did. The others said that their supplies of ULP-discounted CFLs ebb and flow. They said they typically have a large supply right after an allocation arrives then this steadily diminishes until the next allocation arrives.

Figure 5-22
Whether Retailers Stock ULP-Discounted CFLs All Year Round
According to High-Level Retail Lighting Buyers

n = 14



Why would 69 percent of the store managers say that they sell ULP-discounted CFLs year round while only 35 percent of the high-level retail lighting buyers said that they did? One explanation is that the store managers represent independent and small-chain stores that are not being represented by the high-level buyers who, with one exception, work for large retail chains. For example, the high-level buyers do not represent the perspectives of the 23 store managers from the Small Grocery channel.[9] As noted above, slower CFL sales in these small grocery chains may allow their stores to stock ULP-discounted CFLs year round. Other possible explanations for the different responses of the store managers and high-level buyers include some managers not being involved with stocking CFLs year-round or else not hearing the question correctly and providing responses applicable to non-ULP CFLs only.

5.6.2 Whether stocking practices differ depending on the CFL product type

We asked the store managers and high-level buyers who sold both non-specialty and specialty CFLs whether their stocking practices differed between these two bulb categories. Only 18 percent of the store managers (n=38) and 29 percent of the high-level buyers (n=14) said their practices were different. Those citing differences mostly mentioned giving the non-specialty CFLs larger displays or more prominent placements (e.g., near the cash registers) because these were bigger sellers.

Similarly we asked store managers and high-level buyers who sold both CFL bulbs and fixtures whether their stocking practices differed between the bulbs and fixtures. Only 17 percent of the store managers (n=35) and one of the high-level buyers (n=6) said their stocking practices were different. The one high-level buyer said that because the ULP-discounted CFL fixtures are such good values, they usually sell out pretty quickly so they display them in end-caps rather than bothering to put them on the shelves.[10]

[9] It should be noted that the word “small” in the Small Grocery channel refers to the size of the retail chains (if they are not independent stores). Although the size of the stores in this Small Grocery channel may also be small, this can also be said of some grocery stores that belong to large discount chains that are in the Large Grocery channel.

[10] The survey did not ask the store managers *how* their stocking practices for CFL bulbs were different than for CFL fixtures.

5.6.3 Whether ULP-discounted and non-ULP CFLs are sold at the same time

We asked the store managers whether they ever sold ULP-discounted and non-discounted CFLs at the same time.[11] If they said "yes," we asked them whether this happens always, very often, sometimes, or not very often. The Small Grocery, Drug, and Discount channels were the channels least likely to do this (Table 5-16). As noted, the Small Grocery and Discount stores cater to lower-income consumers who demand lower prices. The Large Home Improvement store managers were most likely to say that they were always selling ULP-discounted and non-discounted CFLs at the same time.

[11] Because we expected the store managers to more readily recognize the ULP discounts as being utility discounts, the question actually read: "Do you ever sell <UTILITY>-discounted CFLs and non-discounted CFLs at the same time?"

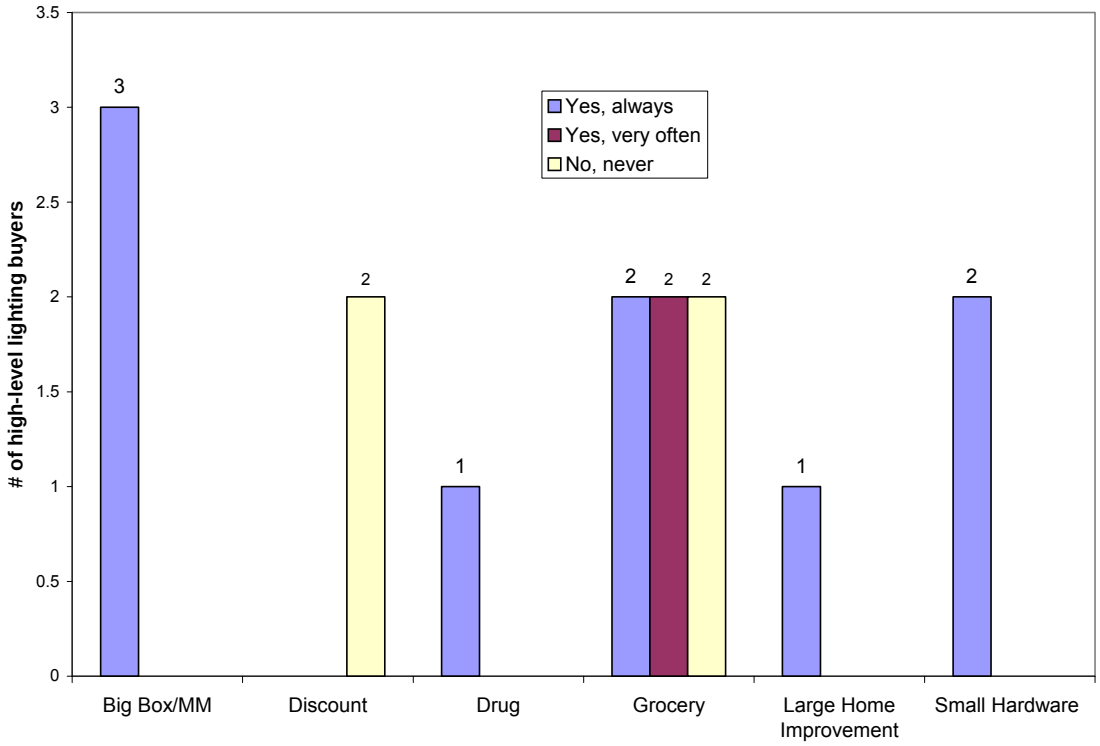
Table 5-16
Whether/How Often ULP-Discounted and Non-Discounted CFLs Are Sold at the Same Time According to Store Managers

Ever sell PG&E/SCE-discounted CFLs and non-discounted CFLs at same time?	PG&E/SCE Combined								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes, always	26%	18%	43%	17%	11%	0%	0%	50%	
Yes, very often	38%	18%	14%	17%	0%	0%	22%	0%	
Yes, sometimes	6%	18%	14%	0%	0%	22%	11%	0%	
Yes, but not very often	4%	18%	14%	8%	6%	11%	0%	0%	
No	22%	27%	14%	50%	78%	56%	67%	50%	
Don't know	3%	0%	0%	8%	6%	11%	0%	0%	
Sample size	68	11	7	12	18	9	9	2	0
Ever sell PG&E-discounted CFLs and non-discounted CFLs at same time?	PG&E								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes, always	39%	13%	25%	20%	25%	0%	0%	50%	
Yes, very often	58%	13%	25%	0%	0%	0%	0%	0%	
Yes, sometimes	3%	13%	25%	0%	0%	20%	0%	0%	
Yes, but not very often	0%	25%	0%	20%	0%	0%	0%	0%	
No	0%	38%	25%	60%	63%	80%	100%	50%	
Don't know	0%	0%	0%	0%	13%	0%	0%	0%	
Sample size	36	8	4	5	8	5	4	2	0
Ever sell SCE-discounted CFLs and non-discounted CFLs at same time?	SCE								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes, always	13%	33%	67%	14%	0%	0%	0%		
Yes, very often	16%	33%	0%	29%	0%	0%	40%		
Yes, sometimes	9%	33%	0%	0%	0%	25%	20%		
Yes, but not very often	9%	0%	33%	0%	10%	25%	0%		
No	47%	0%	0%	43%	90%	25%	40%		
Don't know	6%	0%	0%	14%	0%	25%	0%		
Sample size	32	3	3	7	10	4	5	0	0

We also asked the high-level retail lighting buyers whether their companies ever sell ULP-discounted and non-ULP-discounted CFLs at the same time. If they said “yes,” we asked them whether this happens always, very often, sometimes, or not very often. The buyers that

represented the Big Box/Mass Merchandise, Large Home Improvement, Small Hardware, and Drug retailers all reported that this happen always (Figure 5-23). The buyers for the Discount stores said that they only sold ULP-discounted CFLs. Only the Grocery channel showed some variation in the frequency.

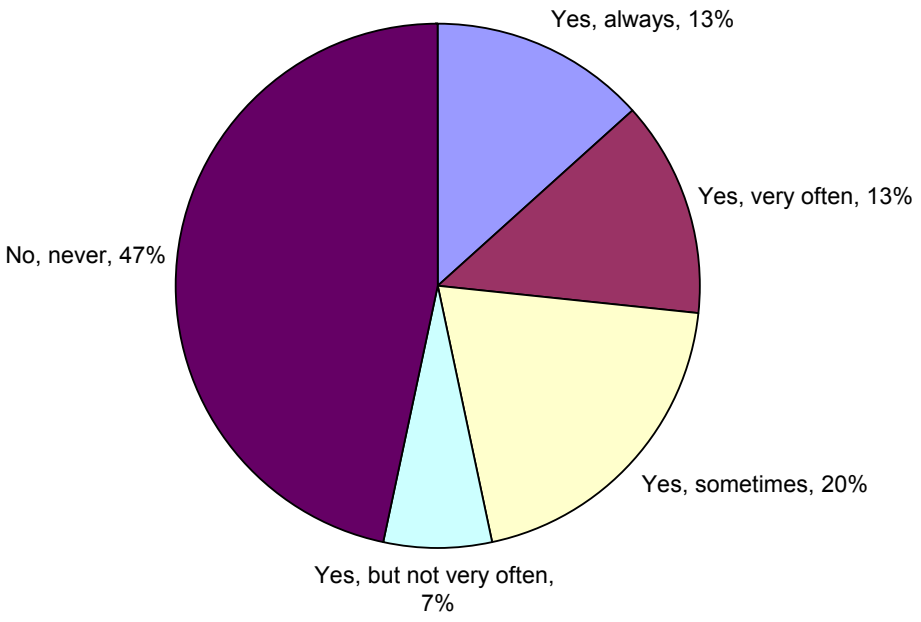
Figure 5-23
Whether/How Often
ULP-Discounted and Non-Discounted CFLs
Are Sold at the Same Time
According to High-Level Retail Lighting Buyers



Finally we asked the lighting manufacturers whether the retailers that they supply ever sell ULP CFLs and the non-ULP CFLs at the same time and, if so, how often this happens. Figure 5-24 shows that nearly half (47%) of the manufacturers said that this never happens. These tended to be smaller manufacturers who mostly supplied 99¢/$1 stores or discount grocery stores that only sell CFLs when ULP discounts are available.

Figure 5-24
Whether the Retailers That They Supply
Sell ULP-Discounted and Non-Discounted CFLs
At the Same Time
According to Lighting Manufacturers

n = 15



5.6.4 How long it takes to sell through a shipment of ULP-discounted CFLs

We asked the store managers how long a typical shipment of ULP-discounted CFLs lasts before being sold out. The managers of Big Box/Mass Merchandise and Small Hardware stores claimed to sell through their ULP-discounted CFLs the quickest with slightly over half saying

they sold through their shipments in five weeks or less (Table 5-17). Twenty-three percent of the Big Box/Mass Merchandise managers and 13 percent of the Small Hardware store managers reported that they did not sell through their ULP-discounted CFLs. Yet this is usually not because of slow sales but because these stores get their non-ULP lighting products through automatic replenishment systems from their warehouses, as discussed previously.

The table also shows that 50 percent of the Large Grocery store managers, 78 percent of the Small Grocery store managers, and 54 percent of the Discount store managers said that it takes nine weeks to a year to sell through their shipments of ULP-discounted CFLs. These slower sales are likely due to a combination of smaller package sizes, grocery stores catering more to occasional or "impulse" CFL buyers, and discount and discount grocery stores more likely to receive large shipments directly from smaller CFL manufacturers rather than more moderate shipments from larger CFL manufacturers delivered from their domestic warehouses.

Table 5-17
How Long It Takes to Sell Through
A Typical Shipment of ULP-Discounted CFLs
According to Store Managers

How long does shipment of PG&E/SCE-discounted CFLs last before being sold out?	PG&E/SCE Combined								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
0-2 weeks	12%	27%	0%	8%	3%	11%	13%	38%	0%
3-5 weeks	16%	27%	10%	21%	10%	28%	4%	13%	0%
6-8 weeks	3%	0%	10%	4%	0%	0%	4%	0%	25%
9-11 weeks	12%	0%	30%	13%	10%	11%	21%	13%	0%
12-15 weeks	12%	0%	0%	8%	34%	0%	13%	13%	25%
16-26 weeks	12%	0%	0%	29%	17%	17%	8%	0%	0%
27-51 weeks	4%	0%	0%	0%	7%	0%	4%	0%	50%
1 year	4%	0%	0%	0%	10%	6%	8%	0%	0%
Several weeks	2%	5%	0%	4%	0%	6%	0%	0%	0%
Several months	1%	0%	0%	0%	3%	6%	0%	0%	0%
We don't sell out	9%	23%	10%	4%	0%	6%	13%	13%	0%
It varies	3%	9%	10%	0%	0%	0%	4%	0%	0%
Don't know	9%	9%	30%	8%	3%	11%	8%	13%	0%
Sample size	139	22	10	24	29	18	24	8	4

We also asked the high-level retail lighting buyers how long it took to sell through a shipment of ULP-discounted non-specialty CFLs. They found it more difficult to generalize than the store managers because they said that there was a lot of variation in the sales volumes of their stores due to location and the promotional efforts of the store managers. A number of the high-level

buyers also noted that the sell-through period depends on the size of the allocation that the store receives. “I have one utility that will give me six pallets per store in one shipment, and one utility that will give me six cases per store per shipment, so there’s really no easy answer,” one buyer explained. For these reasons some high-level buyers refused to estimate a typical sell-through period. These considerations, along with the small number of respondents, explain the large variability in the estimates of sell-through periods that appear in Table 5-18.

Table 5-18
How Long It Takes to Sell Through
A Typical Shipment of ULP-Discounted CFLs
According to High-Level Retail Lighting Buyers

Retail Channel	# of High-Level Buyers Providing Quantifiable Estimates	Avg. # of Weeks to Sell Through a Shipment of ULP-Discounted Non-Specialty CFLs	Do ULP-discounted specialty CFLs take longer to sell through than ULP-discounted non-specialty CFLs?
Big Box/MM	2	2-7 weeks	Yes, 3-10 weeks average sell through period for specialties.
Discount	2	5-20 weeks	No, because we order smaller quantities of the specialties
Drug	1	11 weeks	In the past, no, because the quantities were smaller. However, in 2008 ordered larger quantity of dimmables and have had trouble selling through them.
Grocery	4	4-6 weeks*	Three said no difference between sell-through time of non-specialty vs. specialty CFLs. Fourth respondent said that specialty CFLs take longer
Small Hardware	2	2-7 weeks	No, because we order smaller quantities of the specialties

Note: *One buyer based her estimate on delivery of a single pallet and another based his estimate on delivery of 500-600 packages.

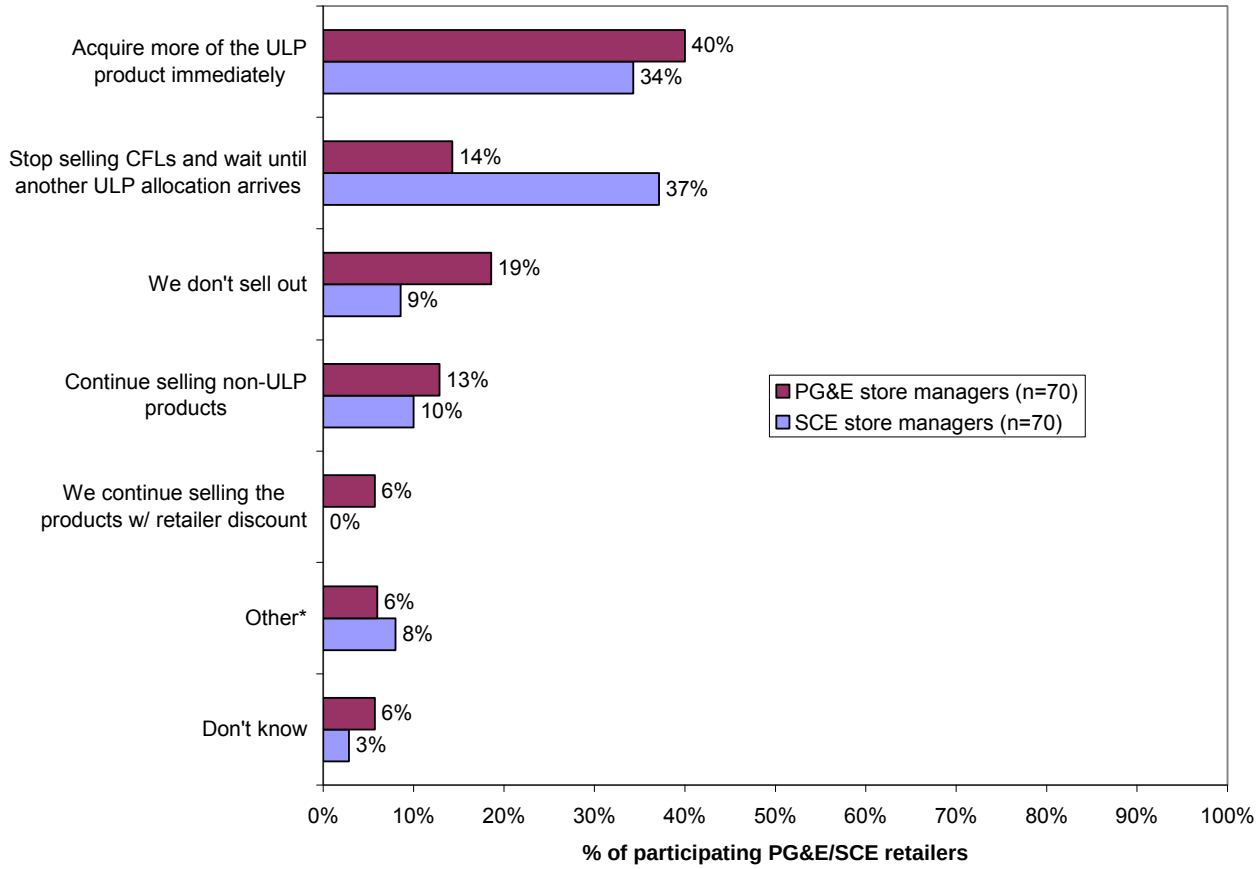
The table also shows that most of the high-level buyers said that the shipments of ULP-discounted specialty CFLs did not typically take longer to sell through than shipments of the ULP-discounted non-specialty CFLs. In most cases this was because they deliberately ordered smaller shipments of the specialty CFLs. One buyer said that package size actually made more of a difference in the sell-through rate than whether the CFL was specialty or non-specialty. He

claimed that the four-CFL packages they sold through the ULP in the past were much quicker sellers than the two-packs and singles they sell now.

5.6.5 What retailers do when they sell through their ULP-discounted lighting products

We asked the participating PG&E/SCE store managers: “If the supply of <UTILITY>-discounted CFLs in your store sells out, what do you typically do?” The most common responses of the PG&E store managers were that they would reorder more ULP-discounted products or that they never sell out (Figure 5-25). The most common responses of the SCE store managers were that they stopped selling CFLs or they would reorder more of the ULP-discounted products. As noted, the stores which never ran out, or which could acquire more ULP product immediately, tended to be the Big Box and Mass Merchandise stores with automatic replenishment systems and/or ULP suppliers with domestic warehousing. The 99¢/$1 stores and the discount Grocery stores were most likely to stop selling CFLs when they ran out of their ULP-discounted products. This was due to the price barriers (e.g., they could not sell CFLs for $1 or less) and the fact that they relied on suppliers who did not have domestic warehousing and therefore there was a lag before new supplies could be shipped from China.

Figure 5-25
What Retailers Do
When They Sell Through Their ULP-Discounted Lighting Products
According to Participating PG&E/SCE Store Managers



Note: *Other responses include: "our corporate office decides," "we receive products from another store," "we replace with like products," and "we sell like products at full price." Totals exceed 100% due to multiple responses.

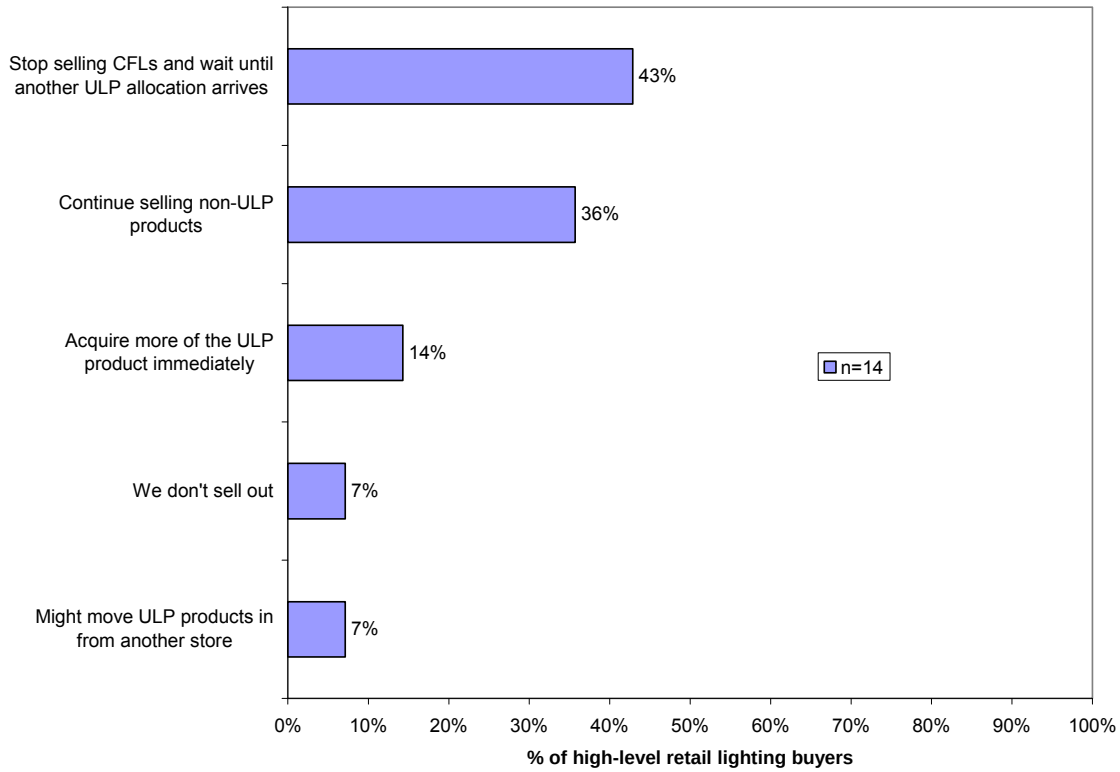
We asked some of the store managers who sold specialty CFLs or CFL fixtures whether their processes for dealing with a selling out of ULP-discounted products were any different.[12] None of the respondents said that their processes were any different for the specialty CFLs and only

[12] To reduce the length of the survey, the PG&E/SCE retailers were randomly assigned to either Group A or Group B. While we asked all the store managers the questions that we deemed most important, some of the secondary questions were posed only to those in Group A or only to those in Group B. We posed the questions about what sellers of specialty CFLs or CFL fixtures would do when they sold out their ULP-discounted products to only sellers of these products that were in Group B. This represented 16 specialty CFL retailers and 23 CFL store managers.

13 percent said that the processes were different for the CFL fixtures. Those who said that the processes were different for the CFL fixtures all said that they were less likely to reorder CFL fixtures than they were CFL bulbs because the fixtures did not sell as well.

We also asked the high-level retail lighting buyers what they typically do when their ULP-discounted non-specialty CFLs sell out in one of their stores. Almost half of the high-level buyers –most of them with 99¢/$1 or discount Grocery stores – reported that they stop selling CFLs until they can get another ULP allocation (Figure 5-26). Over a third said that they continue selling non-ULP products. These were Drug, Grocery, and Small Hardware stores who carry a "main line" of more expensive CFL products year-round.

Figure 5-26
What Retailers Do
When They Sell Through Their ULP-Discounted Lighting Products
According to High-Level Retail Lighting Buyers

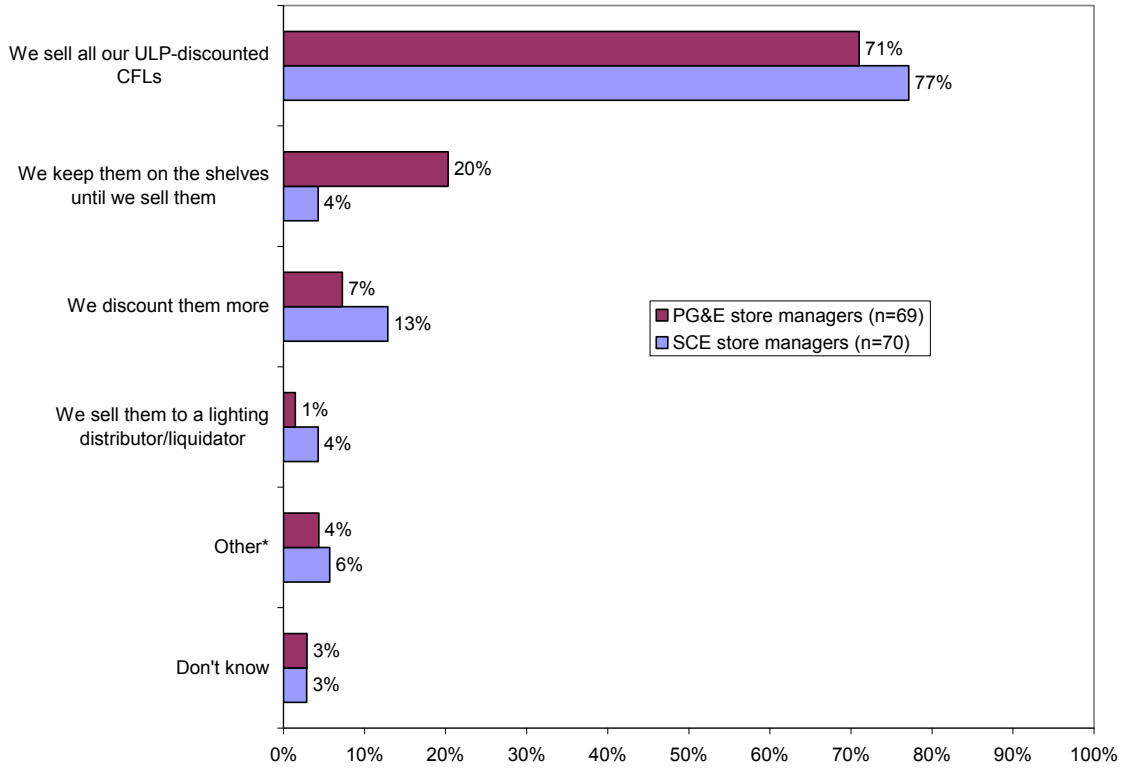


Note: Totals exceed 100% due to multiple responses.

5.6.6 What happens to unsold ULP-discounted products

The PG&E and SCE ULP staffs were interested in knowing what retailers do with their ULP-discounted CFLs that remain unsold for a long period of time. They were concerned that retailers seeking to dispose of these products might be contributing to the leakage problem. We asked the participating PG&E/SCE store managers: "What happens to <UTILITY>-discounted CFLs that remain unsold after a long period of time?" Figure 5-27 shows that about three quarters of the participating PG&E/SCE store managers claimed that they do not face this situation because they sell through all their ULP-discounted CFLs. Only a small percentage said that they allowed unsold ULP-discounted CFLs to leave their stores.

Figure 5-27
What Retailers Do When Their ULP-Discounted CFLs Remain Unsold for a Long Period of Time According to Participating PG&E/SCE Store Managers

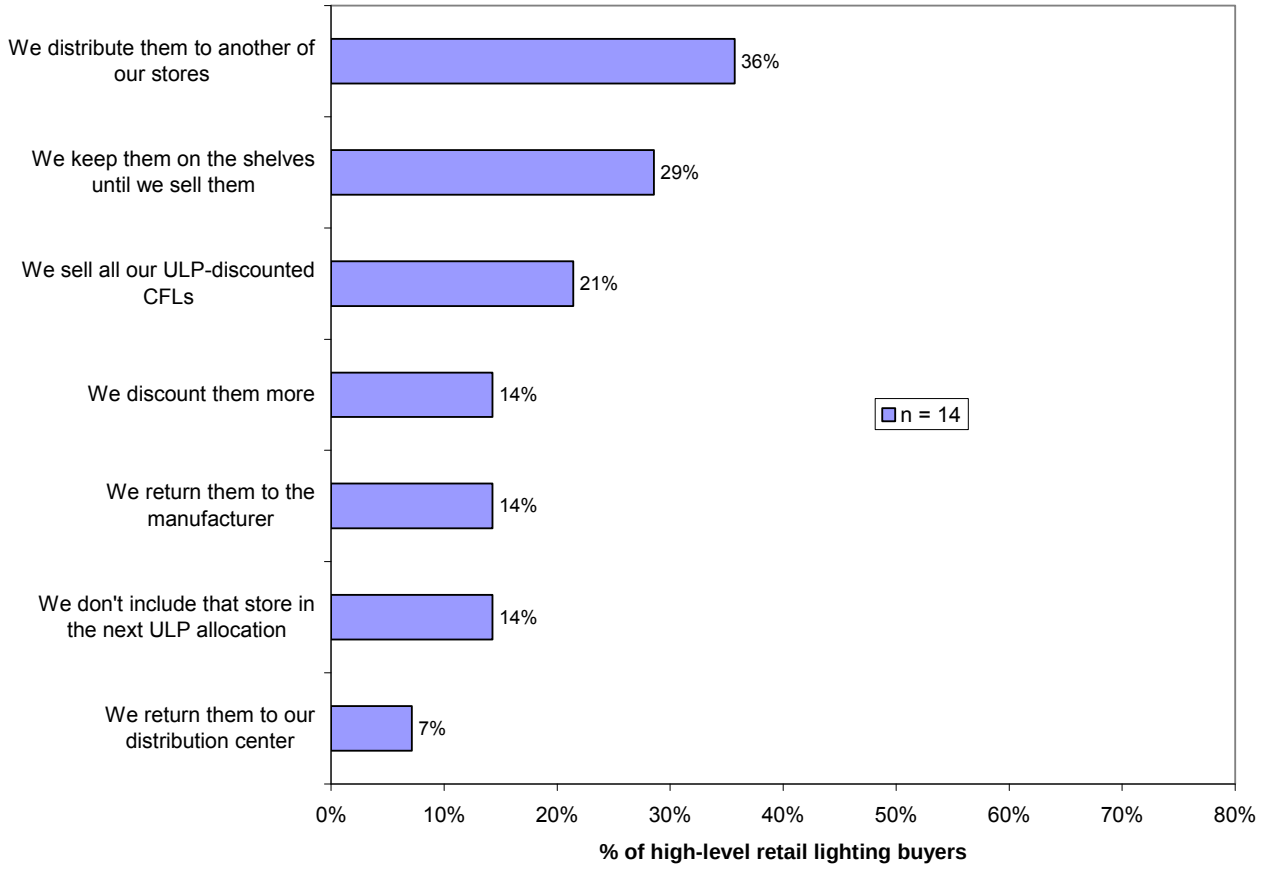


Note:

*Other responses include: "we give them away," "we use them in the store," "we run a special promotion," "we return them to our distribution center," "we return them to our manufacturer," and "we distribute them to one of our stores."

We posed a similar question to the high-level retail lighting buyers: “If one of your stores has program-discounted CFLs that remain unsold after a long period of time, what typically happens to these products?” Figure 5-28 shows the high-level buyers identified a wider range of actions than the store managers for dealing with these unsold ULP-discounted CFLs. They were much more likely than the store managers to say that these unsold ULP-discounted CFLs might be redistributed to one of their other stores. A number of them said that based on location or promotional activity some of their stores simply move a lot more of the ULP-discounted CFLs more than others so it makes sense to move this product to the higher-volume stores.

Figure 5-28
What Retailers Do When Their ULP-Discounted CFLs Remain Unsold for a Long Period of Time According to High-Level Retail Lighting Buyers



Note: Totals exceed 100% due to multiple responses.

Why did the high-level retail lighting buyers provide different answers to this question than the store managers? One possible explanation is that since the high-level buyers deal with numerous stores, they are aware of a broader array of strategies for dealing with the unsold ULP-discounted CFLs than a single store manager. Another possible explanation is that the store managers may not be aware of some of the strategies for dealing with unsold ULP-discounted CFLs. For example, as discussed earlier, the most-cited way to determine the size of shipments of ULP-discounted CFLs is to base it on historical sales. Figure 5-28 also shows that some high-level buyers will cut off future allocations to stores that have trouble selling through their current allocations. Therefore whether a given stores sells through all their ULP-discounted CFLs, or is even selling ULP-discounted CFLs, may be determined by allocation decisions that the high-level buyers make further upstream and which are invisible to the store managers. Finally it is possible that some response bias manifested itself in the survey of store managers. For example, it is possible that store managers that had success selling through their ULP-discounted CFLs -- and were therefore positively disposed towards the Program -- were more likely to respond to the telephone survey than those who had difficulty selling through these CFLs.

5.7 CFL Pricing

This section address a number of topics related to CFL pricing including:

- CFL pricing strategies,
- The pricing of free ULP-discounted CFLs, and
- Price differences between ULP-discounted and non-program CFLs.

5.7.1 CFL pricing strategies

Some have argued that paying rebates to manufacturers to buy down the cost of CFLs is preferable to paying rebates to customers directly at the point of sale because customers see greater cost reductions with the first approach. One frequent assumption in this argument is that many retailers practice “keystone pricing” where they double the wholesale prices to determine the retail prices. For example, retailers receiving CFLs at wholesale prices of $3 per bulb would sell these for $6 per bulb if they were using keystone pricing. If a CFL program paid $2 to buy down the wholesale cost of the CFLs, then the final retail prices for these retailers would be $2 per CFL. In contrast, a $2 point-of-sale rebate would only reduce the price of the CFL from $6 to $4.

We were interested in finding out how many retailers participating in the ULP actually practice keystone pricing. Only eight percent of the participating PG&E/SCE store managers said that their stores use keystone pricing for the ULP-discounted CFLs (Table 5-19). However, the table also shows that over half of the store managers said they did not know how the retail prices for these CFLs were determined. Of those store managers who claimed to know how the retail prices for these CFLs were determined, the most commonly-cited strategies included basing them on competitor prices, using a standard price or markup, keystone pricing, and selling them for 99 cents or a dollar – either because that was their store format or because that's what their competitors were doing. Most of those who named their standard retail prices for their ULP-discounted CFLs cited prices of less than a dollar per CFL with some selling two or three CFLs for a dollar.

Table 5-19
How Retail Prices for ULP-Discounted CFLs Are Determined According to Participating PG&E/SCE Store Managers

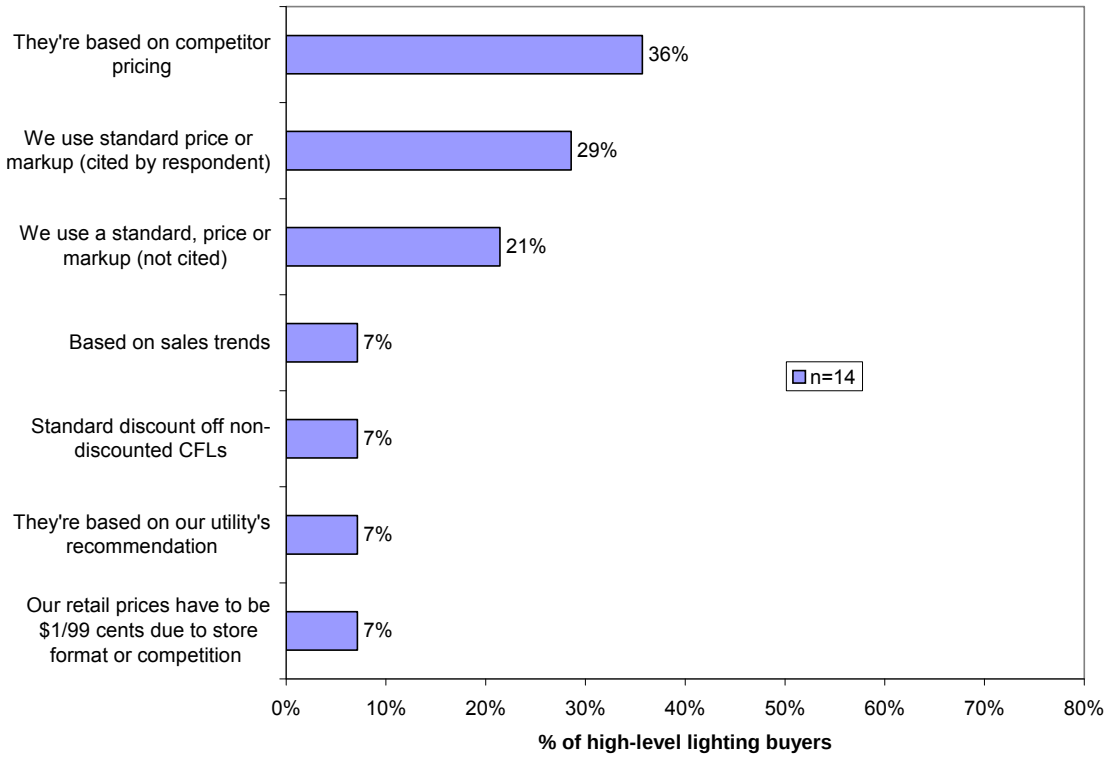
How retail prices of ULP-discounted CFLs are determined	PG&E/SCE								
	All Stores (n=140)	Big Box/ MM (n=22)	LHI (n=10)	Large Grocery (n=25)	Small Grocery (n=29)	Drug (n=18)	Discount (n=24)	Small Hardware (n=8)	Lighting, Other Retail (n=4)
They're determined in our corporate office & we don't know how	15%	9%	20%	24%	0%	44%	13%	0%	0%
They're based on competitor pricing	10%	0%	20%	4%	28%	0%	0%	13%	50%
We use standard price or markup (cited by respondent)	9%	5%	0%	0%	34%	0%	4%	0%	0%
We double the wholesale price (keystone pricing)	8%	5%	10%	0%	14%	6%	8%	13%	25%
We know the method isn't keystone, but don't know what it is	7%	5%	20%	12%	0%	6%	8%	13%	0%
Their retail prices have to be $1/99 cents due to store format or competition	7%	0%	0%	0%	10%	0%	25%	13%	0%
They're based on our supplier's recommendation	2%	0%	0%	0%	7%	0%	4%	0%	0%
They're based on our utility's recommendation	2%	0%	0%	0%	3%	0%	0%	13%	25%
We use a standard, price or markup (not cited)	2%	0%	0%	0%	7%	0%	4%	0%	0%
Other methods	4%	0%	0%	0%	14%	0%	4%	13%	0%
Don't know/Refused	38%	77%	40%	60%	0%	44%	29%	25%	0%

Note: Totals exceed 100% in some columns due to multiple responses. Other pricing methods included comparisons with other similar products, standard discounts off non-ULP-discounted CFLs, prices based on previous retail prices, and the adding of additional discounts when CFLs need to be moved more quickly.

We also asked the high-level retail lighting buyers if they used keystone pricing for the ULP-discounted CFLs. None of them said that they did. However, it is important to point out that over half of the store managers who said that they used keystone pricing were in the Small Grocery,

Small Discount, and Lighting/Other retail chains and the high-level buyers that we surveyed represented none of these chains. Figure 5-29 shows that the high-level buyers' most-cited ways to determine retail prices for ULP-discounted CFLs were basing them on competitor pricing or using some kind of standard price or markup. Like the store managers, most of the buyers identified retail prices for ULP-discounted CFLs that were significantly less than a dollar per CFL.

Figure 5-29
How Retail Prices for ULP-Discounted CFLs Are Determined According to High-Level Retail Lighting Buyers

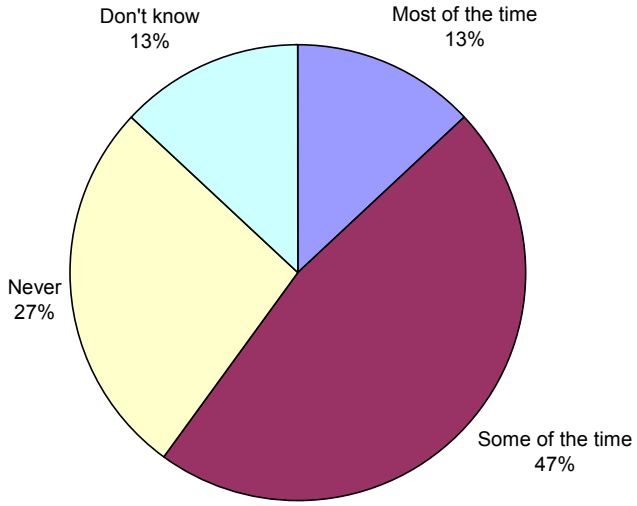


Finally we asked the lighting manufacturers: "In your experience, how frequently is this keystone pricing used for setting retail prices for CFL products. Would you say it is done always, most of the time, some of the time, or never?" Figure 5-30 shows that 60 percent of the lighting manufacturers said that retailers use keystone pricing either "some of the time" or "most of the time." Manufacturers who worked mostly with small grocery and discount stores were more likely to say that keystone pricing was being practiced. One manufacturer representative said that retailers sometimes will use keystone pricing as the starting point for their retail CFL prices and then will discount this further if the CFLs are not selling quickly enough. A manufacturer

representative who claimed that keystone pricing never happens explained that all the retailers that he was familiar with got their ULP-discounted CFLs for free. “They don’t double it because they get it free,” he said.[13] The next subsection discusses the prevalence of free ULP-discounted CFLs and how these CFLs are priced at retail.

Figure 5-30
The Frequency with which Retailers Use Keystone Pricing to Set Retail Prices for CFL Products According to Lighting Manufacturers

n = 15



5.7.2 The pricing of free ULP-discounted CFLs

One factor that may explain the relative infrequency of keystone pricing for ULP-discounted CFLs is that many of the PG&E/SCE store managers said that they received their ULP-discounted CFLs for free. Table 5-20 shows that overall a third of the participating PG&E/SCE store managers said that they had received ULP-discounted CFLs for free. In the Small Grocery

[13] Of course, retailers could theoretically still be using keystone pricing if they gave away the CFLs they received at no wholesale cost (2 x $0 wholesale = $0 retail). The ULP discourages retailers giving away CFLs for free, although some are still doing this, as shown in the next subsection.

and Lighting/Other retail channels three-quarters of the store managers reported receiving these free CFLs. Seventy-one percent of the high-level retail lighting buyers (n=14) also reported receiving free ULP-discounted CFLs.

Table 5-20
% of Participating PG&E/SCE Store Managers
Who Said They Received ULP-Discounted CFLs for Free

	PG&E/SCE								
Have you ever received <utility>-discounted CFLs for free?	All Stores (n=140)	Big Box/ MM (n=22)	LHI (n=10)	Large Grocery (n=25)	Small Grocery (n=29)	Drug (n=18)	Discount (n=24)	Small Hardware (n=8)	Lighting, Other Retail (n=4)
Yes	34%	0%	30%	32%	76%	6%	33%	25%	75%
No	46%	77%	30%	16%	24%	78%	54%	75%	25%
Don't know	20%	23%	40%	52%	0%	17%	13%	0%	0%

We asked the participating PG&E/SCE store managers who said that they received free ULP-discounted CFLs how they determined the retail prices for these free CFLs. The most-cited responses were that they based these prices on competitor pricing, used a standard price or markup (e.g., the two ULP-discounted CFLs for a dollar mentioned above), and gave them away (Table 5-21). We asked the high-level retail lighting buyers the same question and they gave very similar responses. Finally we asked the lighting manufacturers whether they provide any advice to retailers on how to price these free or nearly free CFL products. Almost all of the manufacturers said that they did. This advice usually took the form of a suggested retail price based on their understanding of the California CFL market, although some of the manufacturers also warned the retailers against giving away the free CFLs.

Table 5-21
How Participating PG&E/SCE Store Managers
Determined Retail Prices for the Free ULP-Discounted CFLs They Received

How retail prices of ULP-discounted CFLs are determined	PG&E/SCE								
	All Stores (n=46)	Big Box/ MM (n=1)	LHI (n=4)	Large Grocery (n=9)	Small Grocery (n=18)	Drug (n=3)	Discount (n=8)	Small Hardware (n=1)	Lighting, Other Retail (n=2)
They're based on competitor pricing	24%		50%	11%	17%	33%	25%		100%
We use standard price or markup (cited by respondent)	22%	100%			44%		13%		
We give them away	17%		50%	11%	17%	33%			50%
They're based on our supplier's recommendation	15%		25%	11%	17%		13%		50%
We use a standard, price or markup (not cited)	15%			22%	11%	67%	25%		
They're determined in our corporate office & we don't know how	11%		25%	44%					
They're discounted off the price of our non-ULP CFLs	7%				11%		13%		
Their retail prices have to be $1/99 cents due to store format or competition	4%				6%		13%		
Other methods	11%		25%		17%			100%	

Note: Totals exceed 100% in some columns due to multiple responses. Other pricing methods included utility recommendations, comparisons with other similar products, prices based on previous retail prices, and the adding of additional discounts when CFLs need to be moved more quickly.

5.7.3 Price differences between ULP-discounted and non-program CFLs

We asked the participating PG&E/SCE store managers who sold both ULP-discounted CFLs and non-program CFLs for the average price differences between these products. Forty-four of the store managers provided estimates with the ULP-discounted CFLs being on average $2.35 lower in price. Figure 5-31 shows the full range of price difference estimates.

Figure 5-31
Average Price Differences
Between ULP-Discounted CFLs and Non-Program CFLs
According to Participating PG&E/SCE Store Managers

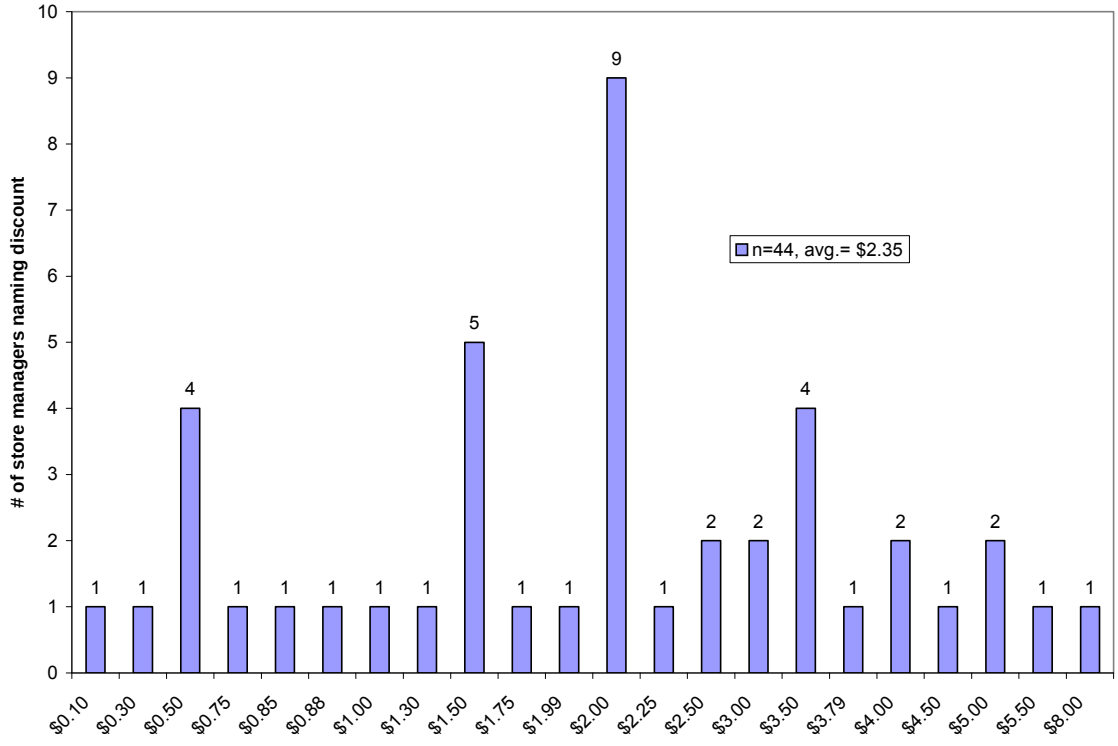
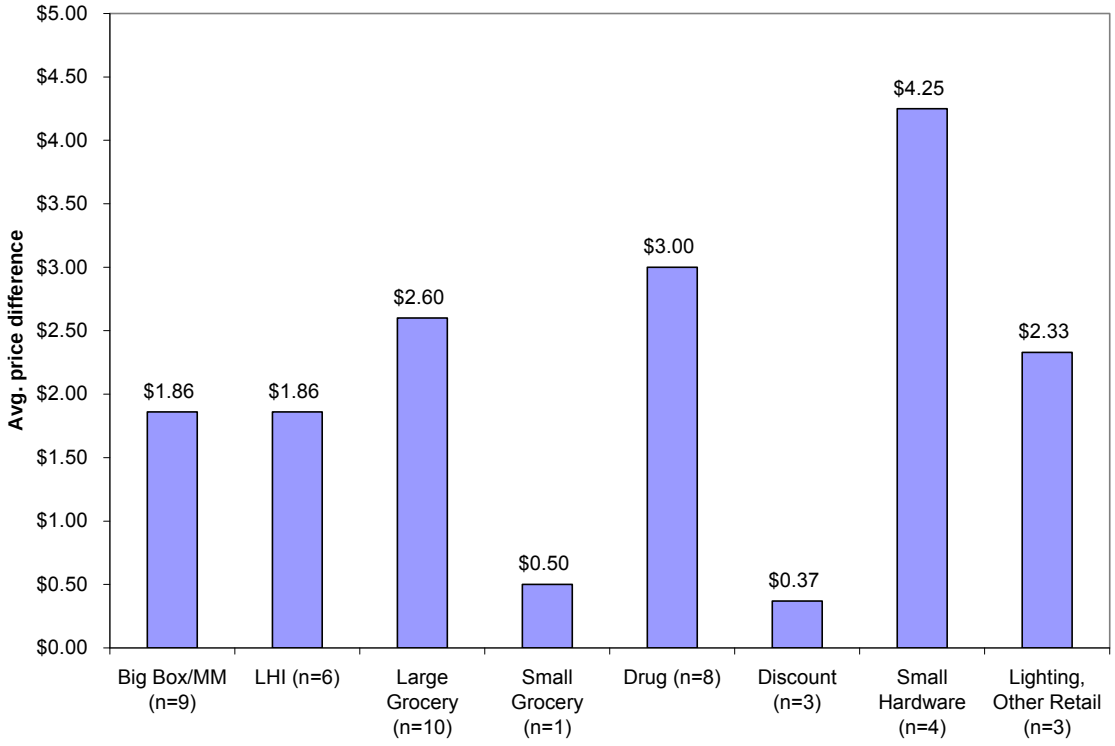


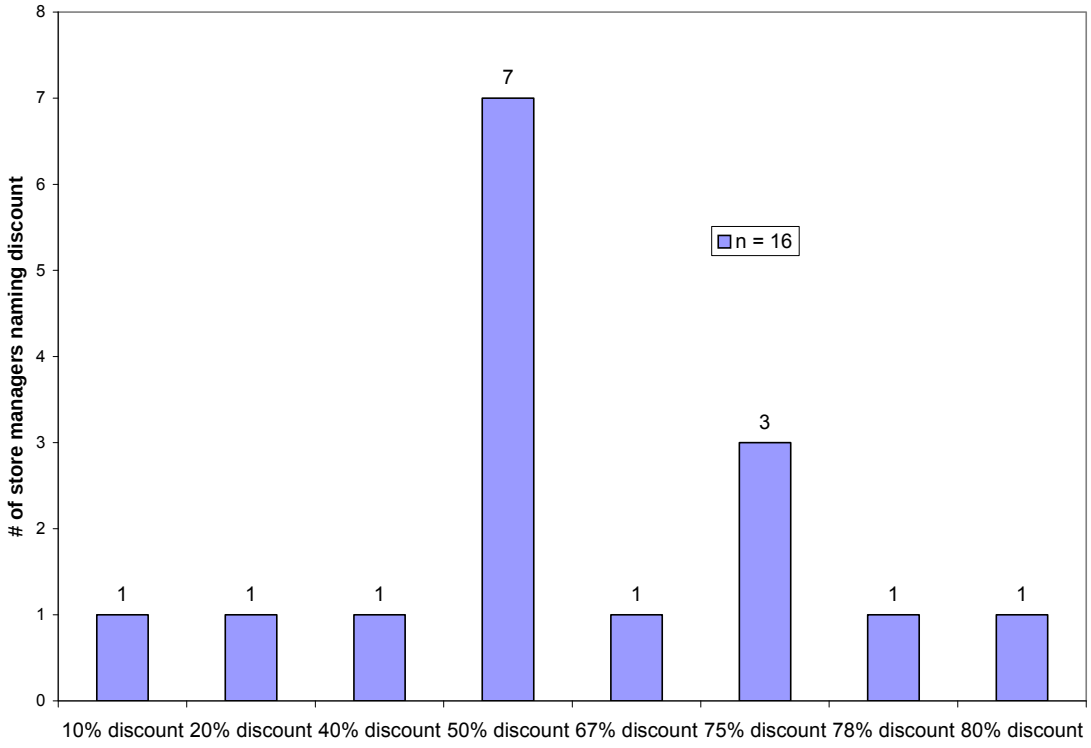
Figure 5-32 uses the same data as in the previous chart but this time breaks out the average price differences by retail channel. The chart shows that there are significant differences in the average price differences among the various retail channels. The small samples sizes for the Discount and Small Grocery channels are due to the fact that most of these stores only sell ULP-discounted CFLs and therefore have no basis of comparison.

Figure 5-32
Average Price Differences
Between ULP-Discounted CFLs and Non-Program CFLs
According to Participating PG&E/SCE Store Managers
by Retail Channel



Some store managers chose to provide their estimated price differences in percentage discount terms rather than dollars. Figure 5-33 shows that the most common discount levels were 50 percent and 75 percent off the non-program CFL prices.

Figure 5-33
Average % Price Discounts
of ULP-Discounted CFLs vs. Non-Program CFL Prices
According to Participating PG&E/SCE Store Managers



5.8 In-Store CFL Promotions

One manufacturer representative said that the more prominent locations that ULP-discounted CFLs often receive in stores are underestimated drivers of CFL sales. She said:

> *[Without the ULP] there's no way the CFLs would get the prime space location which is an added value. It's not usually accounted for, especially with the California IOUs. It's worth about a $500 per store value. … When you drop a pallet display in the front aisle at a Safeway … that's like unheard of, and [the ULP is] allowed to do that.*

To confirm the anecdotal evidence that ULP-discounted CFLs receive more prominent store locations than non-program CFLs, we asked the participating PG&E/SCE store managers: "When you're selling <UTILITY>-discounted CFLs in your store(s), do you ever place them in a more prominent place in your store than you do for your other lighting products?" If they said "yes," we asked them: "Would you say it was always, very often, sometimes, or not very often?"

Table 5-2 shows that nearly eighty percent of the store managers said that they give the ULP-discounted CFLs a more prominent display either always or very often. The Small Grocery, Drug, and Discount channels were the only ones where a significant portion of the store managers was not doing this. It's possible that this was due to CFLs not being core products for the Small Grocery and Drug stores or because the ULP-discounted CFLs were about the same price as other items in the $1/99¢ stores.

Table 5-22
How Frequently Participating PG&E/SCE Store Managers Give ULP-Discounted CFLs More Prominent Placement in Their Stores Than Other Lighting Products

In-store promotional practices	Frequency	PG&E/SCE								
		All Stores (n=72)	Big Box/ MM (n=11)	LHI (n=3)	Large Grocery (n=13)	Small Grocery (n=11)	Drug (n=9)	Discount (n=15)	Small Hardware (n=6)	Lighting, Other Retail (n=4)
ULP product placement: When you're selling <UTILITY>-discounted CFLs in your store(s), do you ever place them in a more prominent place in your store than you do for your other lighting products?	Yes, always	57%	18%	33%	77%	64%	56%	47%	83%	100%
	Yes, very often	21%	55%	67%	0%	9%	22%	20%	17%	0%
	Yes, sometimes	8%	27%	0%	8%	0%	0%	13%	0%	0%
	Yes, not very often	1%	0%	0%	8%	0%	0%	0%	0%	0%
	No	13%	0%	0%	8%	27%	22%	20%	0%	0%

We asked the store managers a similar set of questions about whether they give their ULP-discounted CFLs more prominent signage than their other lighting products and how often they do this. Table 5-23 shows that over 80 percent of the store managers said that they give the ULP-discounted CFLs more prominent signage with 72 percent saying that they do this always. When asked whether their signage promoted the price reductions resulting from the ULP discounts, 77 percent of the store managers (n=65) said that they did.

Table 5-23
How Frequently Participating PG&E/SCE Store Managers Give ULP-Discounted CFLs More Prominent Signage in Their Stores Than Other Lighting Products

In-store promotional practices	Frequency	PG&E/SCE								
		All Stores (n=72)	Big Box/ MM (n=11)	LHI (n=3)	Large Grocery (n=13)	Small Grocery (n=11)	Drug (n=9)	Discount (n=15)	Small Hardware (n=6)	Lighting, Other Retail (n=4)
ULP product signage: When you're selling <UTILITY>-discounted CFLs in your store(s), do you ever use signage that makes them more prominent than your other lighting products?	Yes, always	72%	45%	67%	69%	82%	78%	67%	100%	100%
	Yes, very often	10%	9%	33%	0%	9%	11%	20%	0%	0%
	Yes, sometimes	6%	27%	0%	0%	0%	11%	0%	0%	0%
	Yes, not very often	3%	9%	0%	8%	0%	0%	0%	0%	0%
	No	10%	9%	0%	23%	9%	0%	13%	0%	0%

We asked the store managers where they get the signage that promotes the ULP-discounted CFLs. Over half of them said that they use hand-made signs with only 15 percent using utility signage (Table 5-24). When we asked the store managers whether they knew that the utilities participating in the ULP provided free signage, only 21 percent said they knew this.

Table 5-24
Where Participating PG&E/SCE Store Managers Get the Signage They Use for ULP-Discounted CFLs

Source/Type of Signage	PG&E/SCE								
	All Stores (n=65)	Big Box/ MM (n=10)	LHI (n=3)	Large Grocery (n=10)	Small Grocery (n=10)	Drug (n=9)	Discount (n=13)	Small Hardware (n=6)	Lighting, Other Retail (n=4)
Supplier	32%	40%	0%	20%	20%	22%	38%	33%	75%
Retailer manufactured sign	23%	40%	33%	10%	30%	22%	15%	17%	0%
Retailer handmade sign	55%	10%	67%	70%	60%	89%	62%	50%	25%
Utility sign	15%	30%	33%	0%	30%	0%	8%	17%	0%

Note: Totals exceed 100% in some columns due to multiple responses.

We asked the store managers whether they were satisfied with their signage. Using a five-point scale in which 5 equaled "very satisfied" and 1 equaled "not satisfied at all," the average satisfaction score was 4.4 (n=65). The six store managers who were less than satisfied with the signage said the signs were not colorful, not "appealing to the eye," had lettering that was too small, were not big enough, and were too big to be used in their shelves.

Finally we asked the store managers whether they used displays with illuminated CFLs in any of their stores. Only 14 percent (n=72) said that they did. However, 80 percent of the store managers who used these displays said that they helped them sell CFLs.

5.9 Effects of the ULP on Lighting Retailer Sales of CFL Products

Although free ridership levels for the ULP will be officially determined by the CPUC-sponsored impact evaluation of the Residential Retrofit Program, PG&E and SCE asked us to provide them with some preliminary indicators of ULP free ridership.[14] To this purpose, we asked all the 2008 PG&E/SCE store managers to estimate how their sales of CFL products would be affected if the ULP buydown discounts had not been available.[15] This was done through the following series of questions:

- **A3.** If the discounts of $0.50-$2.75 per spiral CFL of less than 30 Watts were not available, do you think your store(s) would have sold these CFLs in the 2006-2007 period?;
- [IF A3 ≠ "NO"] **A4.** If the discounts of $0.50-$2.75 per spiral CFL of less than 30 Watts were not available, do you think your sales of these CFL bulbs would be about the same, lower, or higher?
- [IF A4 = "SAME" OR "HIGHER"] **A5.** Why do you think this is?
- [IF A4 = "LOWER"] **A6.** By what percentage do you estimate your store's sales of these spiral CFLs of less than 30 Watts would be lower during this 2006-2007 period if <UTILITY> discounts of $0.50-$2.75 per CFL bulb were not available?
- **A7.** I want to make sure I understand you correctly. When you say your store's sales would be [PERCENTAGE FROM QUESTION A6] lower without the <UTILITY> discounts. So you're saying that if you sold 100 CFLs in a given week with the <UTILITY> discounts, you would have only sold [100 - (PERCENTAGE FROM QUESTION A6 * 100)] that week without the <UTILITY> discounts. [IF RESPONSE IS ≠ YES THEN CLARIFY RESPONSE TO A6]

We asked the store managers who sold specialty CFLs and CFL fixtures a similar series of questions.

[14] The free ridership results in this section for the non-specialty CFLs were presented to PG&E and SCE in July 2008.

[15] We also asked the high-level retail lighting buyers and lighting manufacturers a similar set of questions. These free ridership results will be reported with the CPUC-sponsored impact evaluation of the Residential Retrofit Programs.

5.9.1 Free-Ridership Estimates for Non-Specialty CFLs

Figure 5-34 shows the sales-weighted free-ridership estimates that the 2008 PG&E/SCE store managers made for their non-specialty CFLs. We broke out these estimates by retail channel and by the utility service territory where the retailers are located.

Our evaluation of the 2004-2005 ULP (contained within the evaluation of the 2004-2005 SFEER program) discussed many reasons why certain retail channels have higher free ridership levels than others. For example, manufacturers and retailers participating in the California CFL market have said that Large Home Improvement stores can support higher price points than discount or grocery because consumers often go to Large Home Improvement stores to seek specific lighting products and are not doing impulse buying as they might do in a grocery store or drug store, for example. In addition, since Large Home Improvement stores have broad offerings of lighting products, with each type of lighting have its own discrete section in the store, consumers are much less likely to do price comparisons between non-specialty CFLs and incandescent bulbs, as they might do in grocery or drug stores where such products are usually grouped closely together in a small lighting section.

Figure 5-34 shows that with the exception of the Big Box/General Merchandise and Grocery channels, the average free-ridership estimates of the PG&E and SCE store managers were pretty similar. It also shows, surprisingly, that the managers of the discount stores estimated free- ridership levels of 49 percent. This was surprising because in 2007 lighting manufacturers who sold ULP CFLs through the discount channel had estimated free-ridership levels for the Discount channel to be only 3 percent.[16] These manufacturers had pointed out that, due to the 99¢/$1 price caps that these retailers operated under, it was nearly impossible to sell CFLs at these price points without receiving discounts from the ULP. Why were the managers of the discount stores providing much higher free-ridership estimates than the manufacturers who supplied them?

One possible explanation for this is that the store managers, unlike the manufacturers, did not know about, or did not consider, the extreme difficulty of supplying CFLs at 99¢/$1 or less without these ULP buydown discounts. Unfortunately our 2008 survey did not collect information from the store managers about whether they had considered these price cap issues in providing

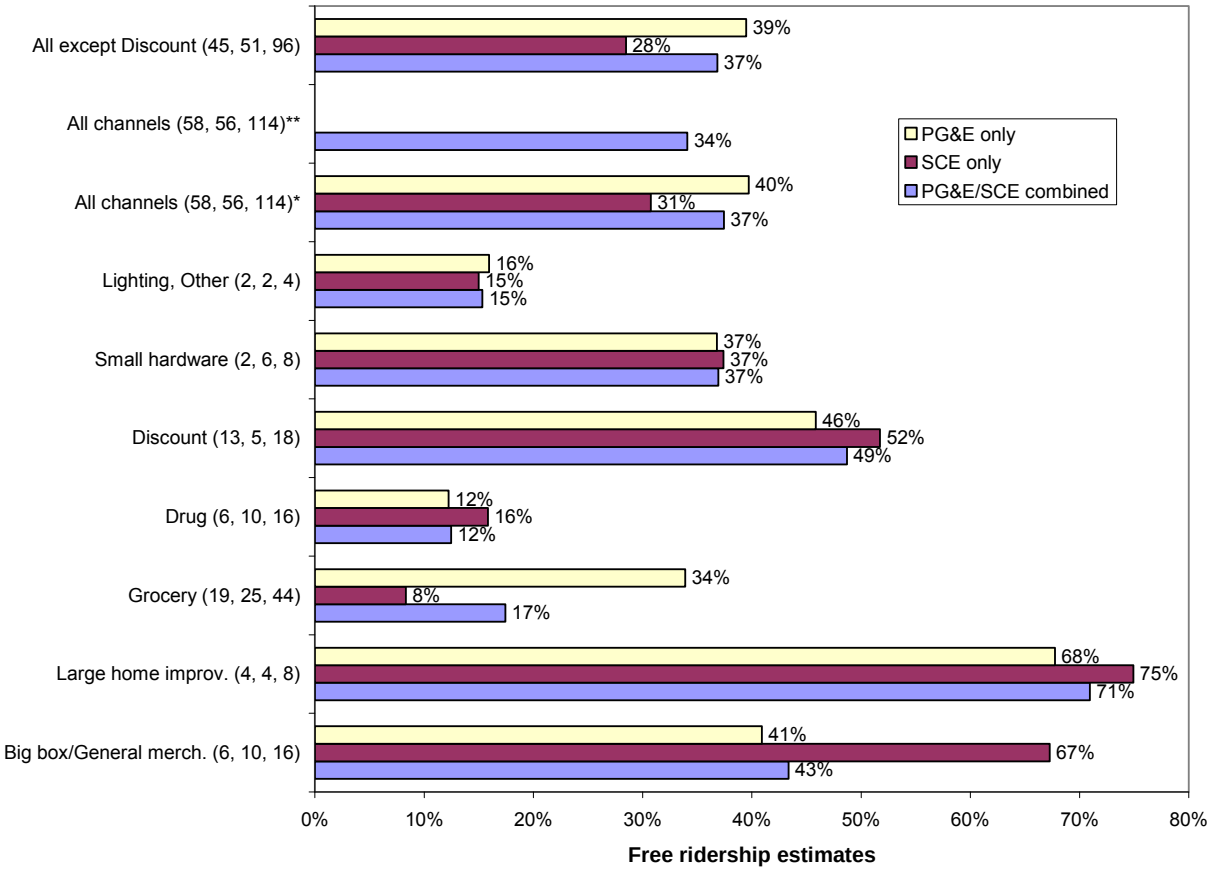
[16] This survey was conducted in the first quarter of 2007 as part of the evaluation of the 2004-2005 California Single-Family Energy Efficiency Rebate Program.

their free-ridership estimates. However, it is reasonable to believe that the manufacturers would be more knowledgeable about CFL supply costs than the store managers would be. That is why we provided two total free-ridership estimates in the chart – one with the Discount channel and one without.

Another possible explanation was that while the lighting manufacturers who had been surveyed in 2007 had been asked only about sales in 99¢/$1 stores, some of the respondents to the 2008 survey were managing stores that we classified as “discount” even though they did not have a strict 99¢/$1 price cap. It was possible that these discount stores without the 99¢/$1 price caps would provide higher free-ridership estimates because their stores could sell CFLs for more than 99¢/$1.

We did examine this second theory and found that the data did not support it. Many managers of 99¢/$1 stores provided higher free-ridership estimates. In fact the free-ridership estimates provided by the managers of the non-99¢/$1 discount stores were lower, on average, than those provided by the managers of the 99¢/$1 stores.

Figure 5-34
Non-Specialty CFL Free-Ridership Estimates
from PG&E/SCE Store Managers
by Retail Channel



Note: *Retail channel weights are based on the distribution of non-specialty ULP CFL sales in the lighting retailer sample. **Retail channel weights are based on the combined 2006-2007 non-specialty ULP CFL sales in the PG&E/SCE service territory.

Since the Grocery channel is the largest retail channel in terms of ULP CFL sales, we took a closer look at why the PG&E grocery store manager free-ridership estimates were higher than those from the SCE grocery store managers.[17] One theory we had was that managers of discount or independent (often ethnic) grocery stores, because they serve more price-sensitive low-income customers, would provide lower free-ridership estimates than managers of large-chain, non-discount grocery stores. If this was true, and if a larger proportion of the SCE grocery

[17] Because of the small sample sizes, the differences between the PG&E grocery estimate of 34% and the SCE grocery estimate of 8% is only significant at the 80% confidence level.

store respondents were in this first group, then this would explain the lower free-ridership estimates for SCE.

Table 5-25 shows that the managers of the large, non-discount grocery stores did, on average, provide higher free-ridership estimates than the managers of the discount/independent stores.[18] Yet the proportion of discount/independent grocery stores in the PG&E sample was the same as that in the SCE sample, both when measured by the number of respondents providing free-ridership estimates (44% each), and by the volume of ULP CFL sales (70% each). Therefore the reason the PG&E grocery free-ridership estimate was higher than SCE's estimate was not because its sample had a different mix of grocery store types than the SCE sample. Regardless of the grocery store type, the PG&E grocery store managers, for whatever reason, simply provided higher free-ridership estimates than their SCE counterparts.

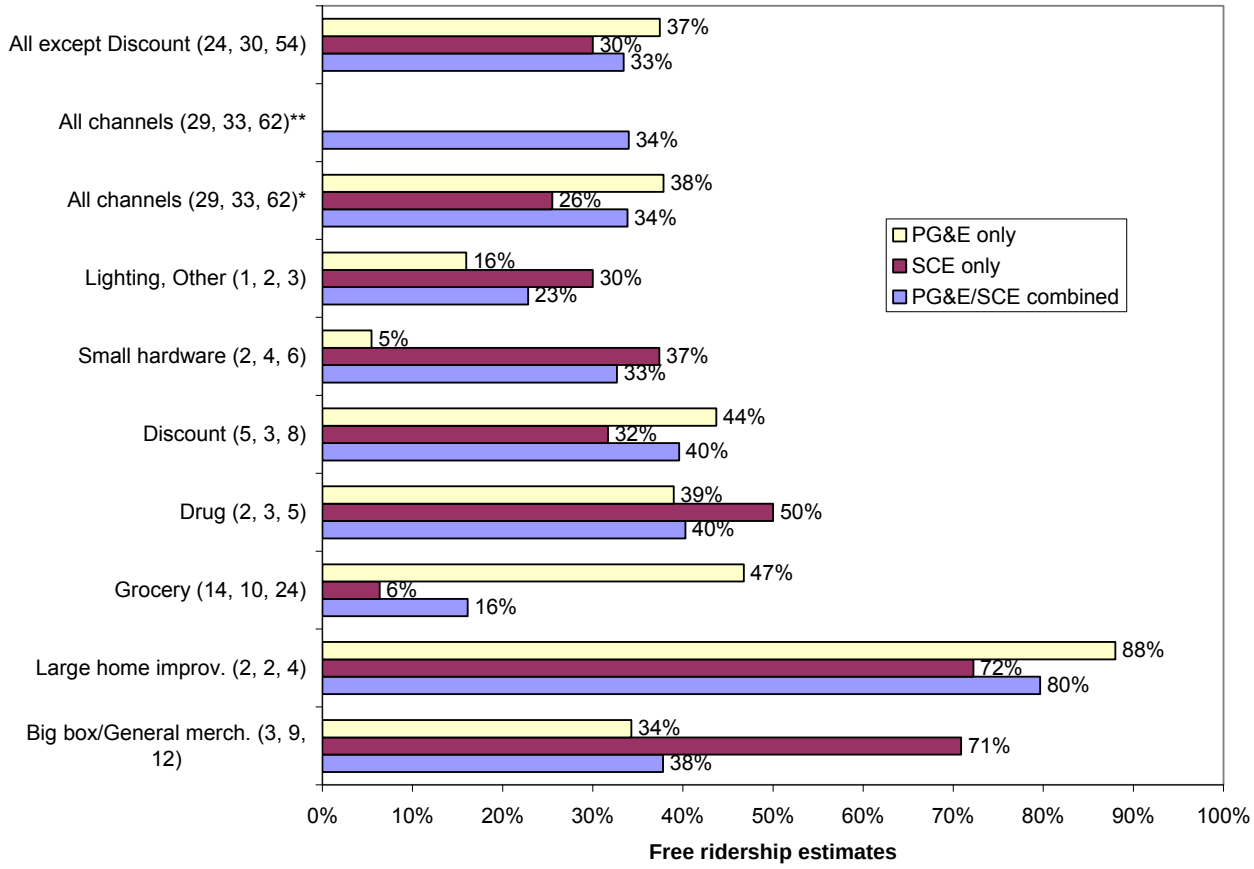
Table 5-25
Comparing Non-Specialty CFL Free-Ridership Estimates
by Grocery Store Type and Utility

Utility (sample sizes)	Large/ Non-Discount Grocery Free Ridership Estimates	Discount/Independent Grocery Free Ridership Estimates	Sales-Weighted Total Grocery Free Ridership Estimates
PG&E (8, 11, 19)	39%	32%	**34%**
SCE (11, 14, 25)	19%	3%	**8%**

Earlier in the survey we had asked the store managers: "**A1.** Are you familiar with recent sales trends for CFLs [and CFL fixtures] in your store(s)?" About half (51%) of them said that they were. Figure 5-35 is similar to Figure 5-34 except that it only shows the free-ridership estimates from these store managers who said that they were more familiar with recent CFL sales trends. With the exception of the Drug channel estimates, these free-ridership estimates are not that much different than the estimates provided by the whole retailer population.

[18] Although because of the small sample sizes, the difference between the 39% and 32%, and even between the 19% and the 3%, are not statistically significant.

Figure 5-35
Non-Specialty CFL Free-Ridership Estimates from Participating PG&E/SCE Store Managers Most Knowledgeable About CFL Sales Trends by Retail Channel



Note: *Retail channel weights are based on the distribution of non-specialty ULP CFL sales in the lighting retailer sample. **Retail channel weights are based on the combined 2006-2007 non-specialty ULP CFL sales in the PG&E/SCE service territory.

One research question of interest is how these 2008 retail-channel-specific free-ridership estimates compare to those from the 2007 survey of ULP-participating lighting manufacturers and retailer lighting buyers. Figure 5-36 shows these comparisons. The overall free-ridership estimate of 35 percent from the 2008 store managers is very close to the estimate of 34%-37% from the 2007 market actors. However, with the exception of the Grocery and Large Home Improvement channels, the free-ridership estimates by retail channel differ greatly between the 2007 and 2008 surveys. We have already discussed above some possible reasons for the

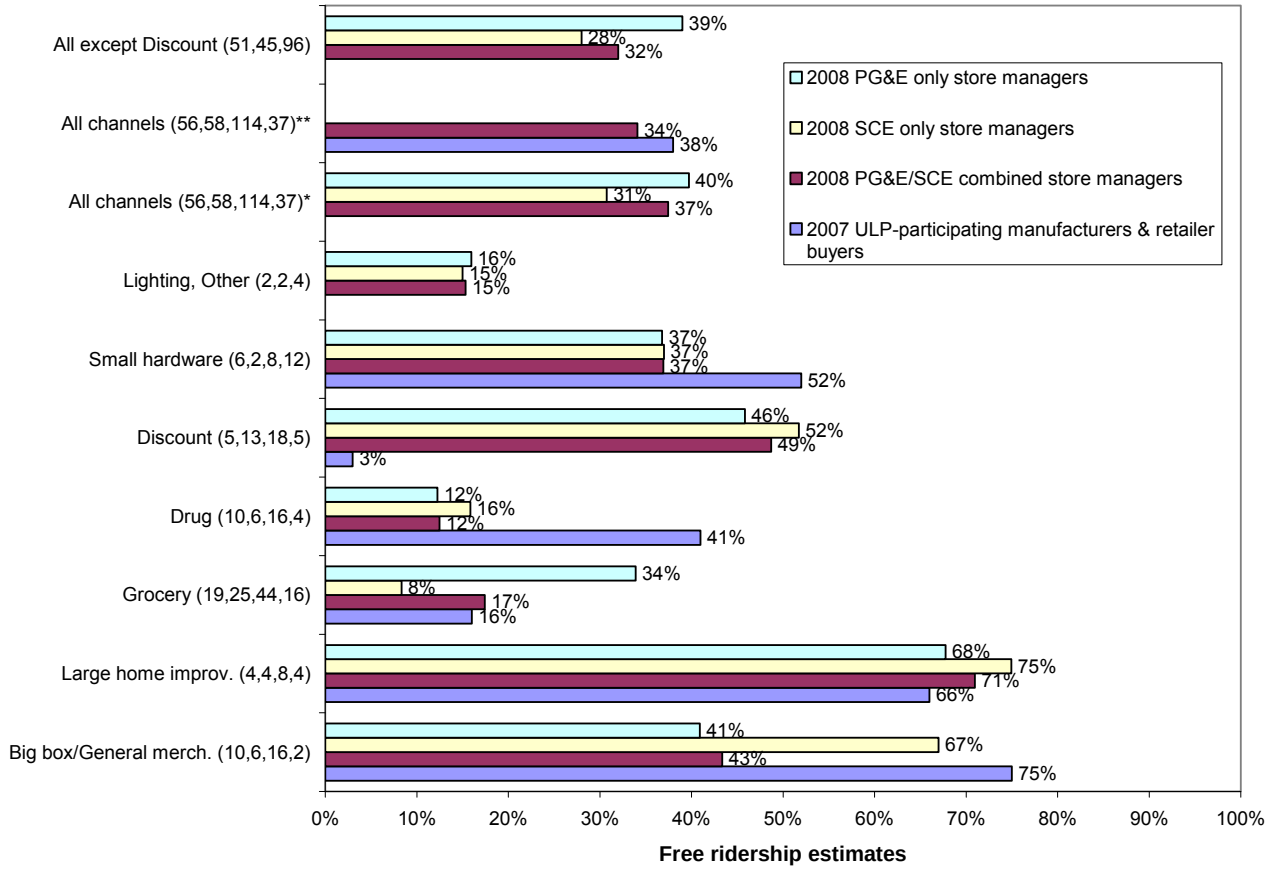
differences between the 2007 and 2008 Discount channel free-ridership estimates. Other possible explanations would include:

- *Different market actor perspectives:* The 2007 respondents were high-level representatives of lighting manufacturers or high-level lighting buyers for major retailers. The 2008 respondents were store managers. It is possible that these differences in the types of market actors would explain the differences in the free-ridership estimates. One piece of evidence for this explanation is that Figure 5-34 shows that, with the exception of the Grocery channel, the free-ridership estimates of the PG&E and SCE retailer store managers are pretty close.[19]

- *Timing issues:* The 2007 CFL market actor interviews were primarily conducted in the first quarter of 2007 while the 2008 CFL market actor interviews were was conducted in the second through fourth quarters of 2008. There may have been changes in the California CFL marketplace over the more than yearlong interval that may explain some of these differences in free-ridership estimates. However, because the 2007 interviews, with the exception of the small hardware sector, were not conducted with store managers, we are not able to see whether the store manager estimates changed between Q1 20007 and Q2 2008.

[19] The closeness in the PG&E and SCE free ridership estimates goes away when only the free ridership estimates from the store managers are used. But this may just be a case of variability naturally increasing with smaller sample sizes.

Figure 5-36
Comparing 2008 Participating PG&E/SCE Store Manager Free-Ridership Estimates for Non-Specialty CFLs with 2007 Free-Ridership Estimates from Lighting Manufacturers and High-Level Retail Lighting Buyers



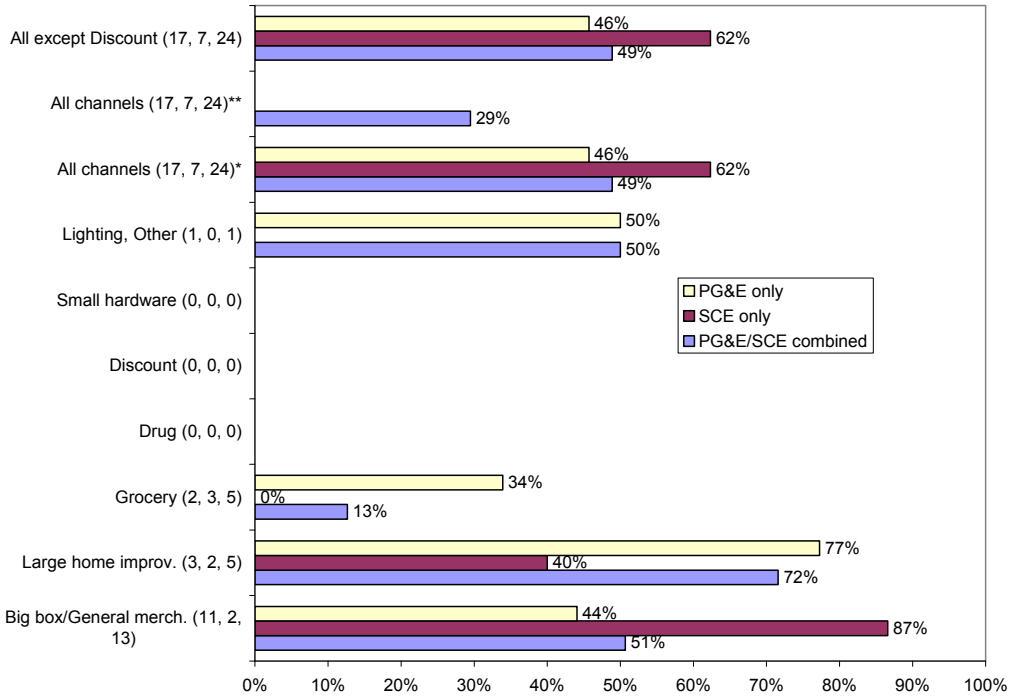
Note: *Retail channel weights are based on the distribution of non-specialty ULP CFL sales in the lighting retailer sample. **Retail channel weights are based on the combined 2006-2007 non-specialty ULP CFL sales in the PG&E/SCE service territory.

5.9.2 Free-Ridership Estimates for Specialty CFLs

Only 24 store managers provided free-ridership estimates for the specialty CFLs, with 17 of them coming from the PG&E service territory. Figure 5-37 shows these estimates by retail channel with overall free-ridership estimates ranging from 29 percent to 49 percent depending

on the weighting scheme.[20] It shows that over half of the store managers came from a single retail channel – the Big Box/General Merchandise channel and all but one store manager came from either the Big Box/General Merchandise, Large Home Improvement, or Grocery channels. This was as expected since these retail channels accounted for over 99 percent of the specialty CFLs sold through the ULP. There was greater variability between the PG&E and SCE free-ridership estimates than there had been with the non-specialty CFLs. This was likely an effect of the smaller samples sizes, especially for the SCE store managers.

Figure 5-37
Specialty CFL Free-Ridership Estimates
from 2008 Participating PG&E/SCE Store Managers
by Retail Channel

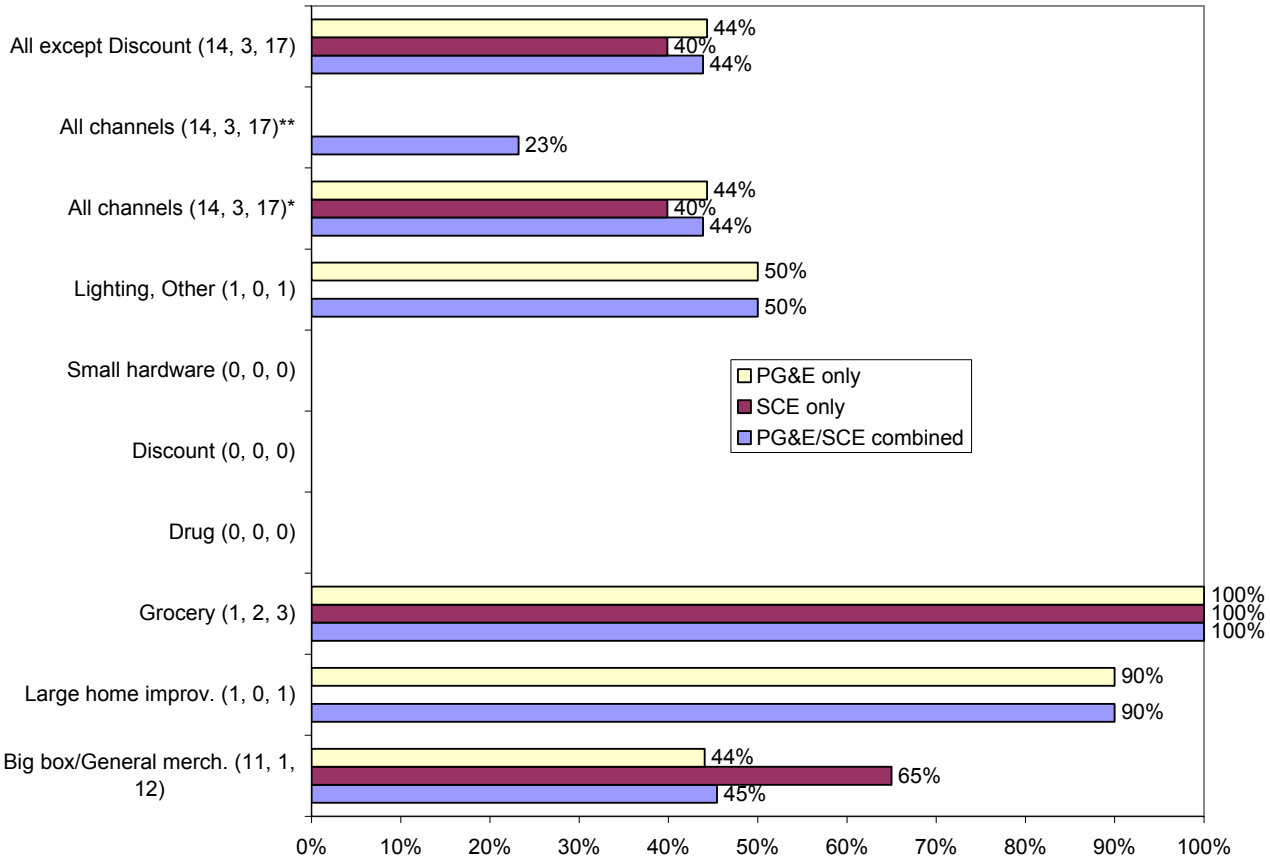


Note: *Retail channel weights are based on the distribution of specialty ULP CFL sales in the lighting retailer sample. **Retail channel weights are based on the combined 2006-2007 specialty ULP CFL sales in the PG&E/SCE service territory.

[20] The higher free-ridership estimate calculated using sample weighting was due to specialty CFL sales of the Big Box/Mass Merchandise store managers offering free-ridership estimates accounting for a much higher percentage (90%) of the sample than they did for overall 2006-2007 PG&E/SCE ULP specialty CFL sales (20%).

Figure 5-38 shows the free-ridership estimates for specialty CFLs from those store managers who said that they were more familiar with recent CFL sales trends. Once again the majority of the estimates are coming from store managers in the Big Box/General Merchandise category. This explains why the overall free-ridership estimate based on the sample sales weights is much higher than the estimate based on total program sales weights (see footnote on previous page).

Figure 5-38
Specialty CFL Free-Ridership Estimates
from 2008 PG&E/SCE Store Managers
Most Knowledgeable About CFL Sales Trends
by Retail Channel



Note: *Retail channel weights are based on the distribution of ULP specialty CFL sales in the lighting retailer sample.
**Retail channel weights are based on the combined 2006-2007 ULP specialty CFL sales in the PG&E/SCE service territory.

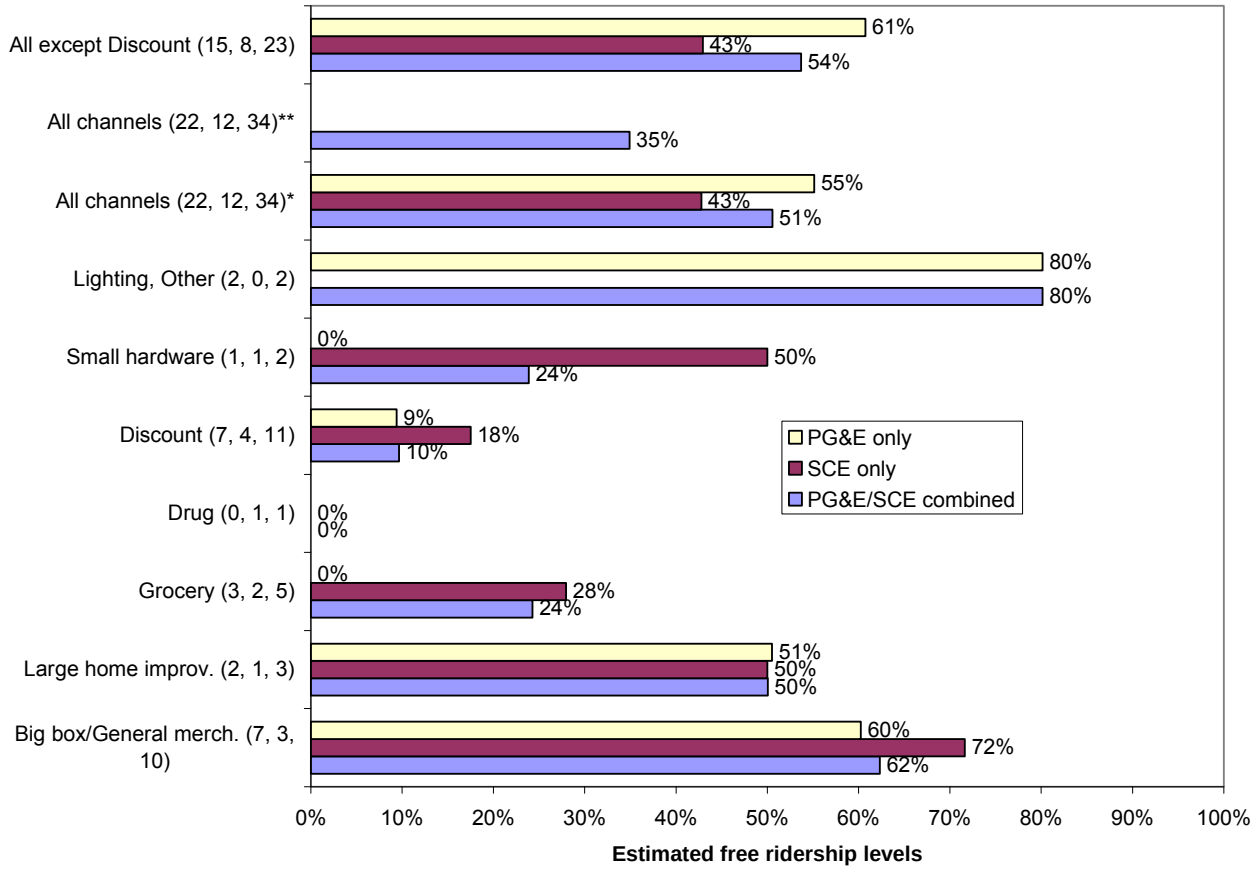
The evaluation of the 2004-2005 SFEER Program only obtained a free-ridership estimate for specialty CFLs from a single manufacturer in 2007, even though this manufacturer did account for 41 percent of the Program's specialty CFL sales during the 2004-2005 period. This free-ridership estimate was 28 percent.

5.9.3 Free-Ridership Estimates for CFL Fixtures

Thirty-four store managers provided free-ridership estimates for CFL fixtures, with almost two thirds of them coming from the PG&E service territory. Figure 5-39 shows these estimates by retail channel with overall free-ridership estimates ranging from 35 percent to 51 percent depending on the weighting scheme.[21] With the exception of the Small Hardware channel, the retail channel free-ridership estimates of the PG&E and SCE store managers are fairly close (for cases where store managers from both utilities provided an estimate). However, the sample sizes for many of these retail channels are very small.

[21] The higher free-ridership estimate calculated using sample weighting was due to CFL fixture sales of the Big Box/Mass Merchandise store managers offering free-ridership estimates accounting for a much higher percentage (52%) of the sample than they did for overall 2006-2007 PG&E/SCE ULP CFL fixture sales (18%).

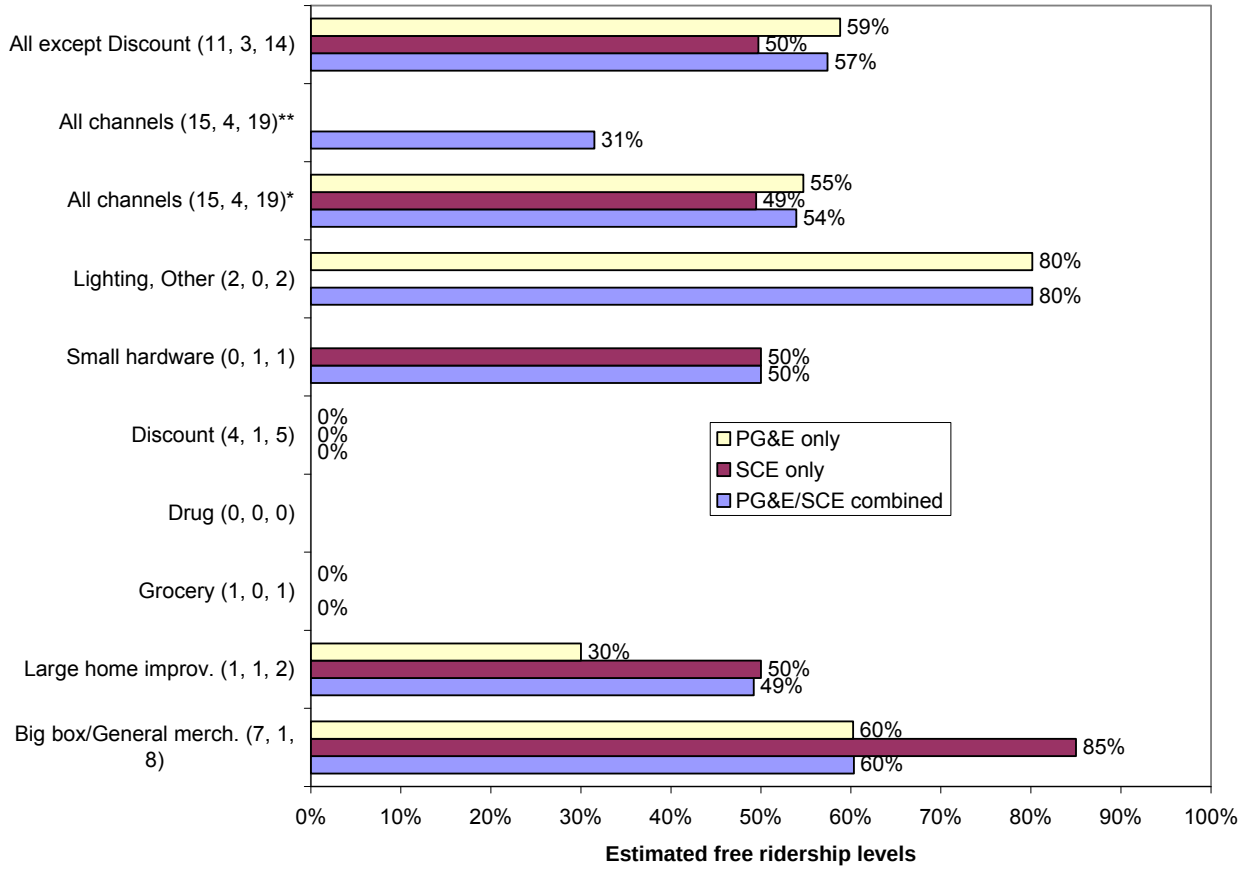
Figure 5-39
CFL Fixture Free-Ridership Estimates
from 2008 Participating PG&E/SCE Store Managers
by Retail Channel



Note: *Retail channel weights are based on the distribution of ULP CFL fixture sales in the lighting retailer sample. **Retail channel weights are based on the combined 2006-2007 ULP CFL fixture sales in the PG&E/SCE service territory.

Figure 5-40 shows the free-ridership estimates for CFL fixtures from those store managers who said that they were more familiar with recent CFL sales trends. Nearly half of the estimates are coming from store managers in the Big Box/General Merchandise category.

Figure 5-40
CFL Fixture Free-Ridership Estimates
from 2008 Participating PG&E/SCE Store Managers
Most Knowledgeable About CFL Fixture Trends
by Retail Channel



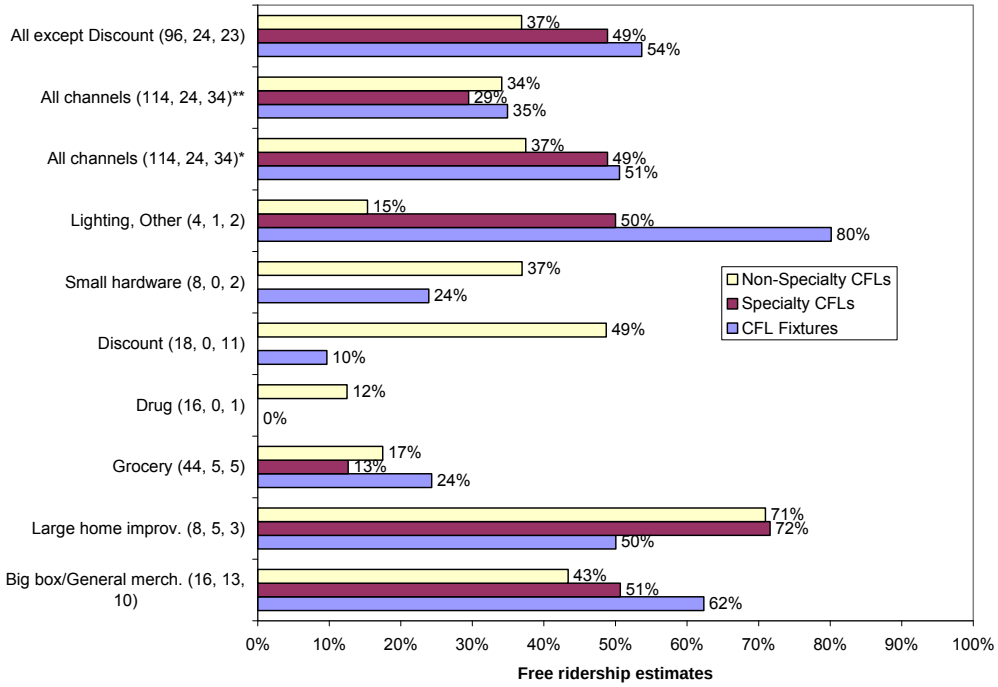
Note: *Retail channel weights are based on the distribution of ULP CFL fixture sales in the lighting retailer sample. **Retail channel weights are based on the combined 2006-2007 ULP CFL fixture sales in the PG&E/SCE service territory.

5.9.4 Free-Ridership Estimates for all CFL Products Combined

Figure 5-41 combines the free-ridership estimates from all store managers for all CFL products discounted by the ULP. It shows that when all retail channels are combined, the free-ridership estimates for non-specialty CFLs, specialty CFLs, and CFL fixtures are very similar when the results are weighted by sales of the whole participant population rather than just those of the sample. However, when disaggregated by retail channel, there is more variability.

Some manufacturers and retailers who have participated in the California CFL market in the past have suggested that free ridership might be less for specialty CFLs and CFL fixtures than for non-specialty CFLs. This is because they have claimed that shoppers looking for specialty CFLs and CFL fixtures are expecting to pay a premium for products with niche applications and the willingness to pay higher prices can diminish the influence of the ULP discounts. However, Figure 5-41 shows that, except for the Big Box/Mass Merchandise and Lighting/Other Retail channels, the free-ridership estimates for the specialty CFLs and CFL fixtures were not significantly higher than those for the non-specialty CFLs.

Figure 5-41
Free-Ridership Estimates for All CFL Products
from All 2008 Participating PG&E/SCE Store Managers
by Retail Channel



Note: *Retail channel weights are based on the distribution of ULP CFL fixture sales in the lighting retailer sample. **Retail channel weights are based on the combined 2006-2007 ULP CFL fixture sales in the PG&E/SCE service territory.

5.9.5 Other Sales Effects of the ULP

We asked the 2008 PG&E/SCE store managers: “Besides the discounts, do you think the <UTILITY> Residential Lighting Incentive Program does anything else to help you sell energy efficient lighting products such as CFLs?” Table 5-26 shows that across all utilities and all retailer types only about a third of the store managers said that the Program was doing

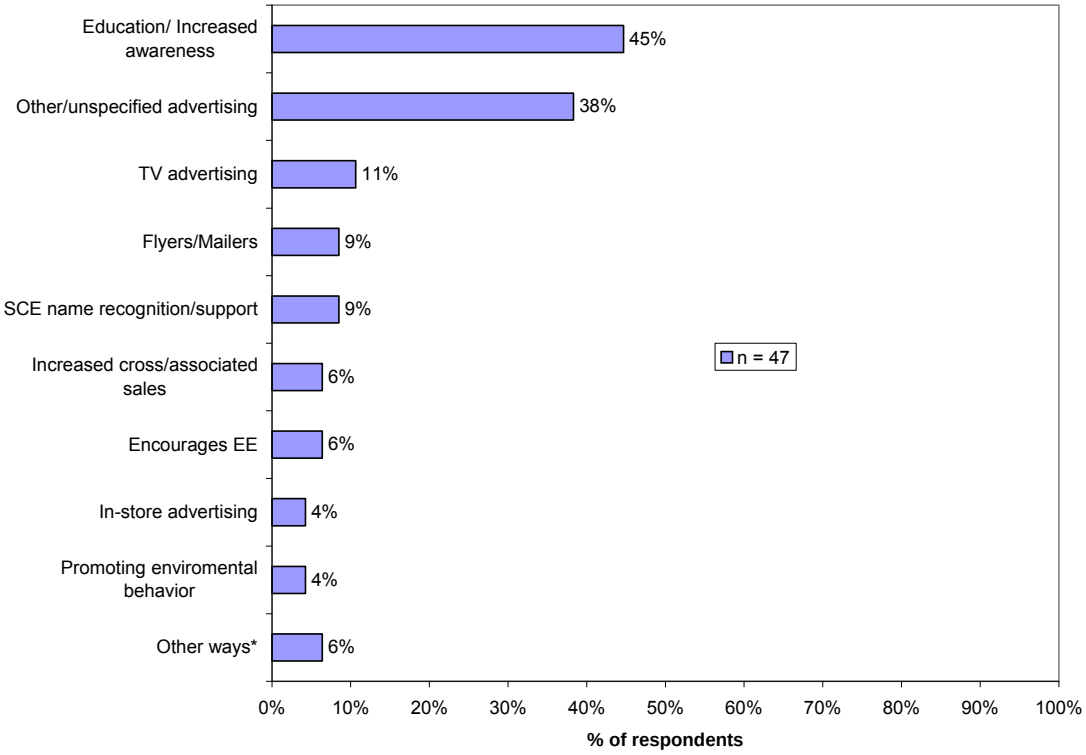
something besides the discounts to help them sell CFLs. Large Home Improvement and Small Hardware were the retail channels where store managers were most likely to say that the Program was doing something besides the discounts.

Table 5-26
Whether the ULP Does Anything Besides the Discounts to Help Retailers Sell EE Lighting Products According to Participating PG&E/SCE Store Managers

Does the ULP do anything besides the discounts to help you sell EE lighting products?	PG&E/SCE Combined								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	34%	27%	50%	36%	33%	22%	29%	75%	25%
No	56%	68%	30%	52%	50%	72%	63%	25%	75%
DK/Refused	9%	5%	20%	12%	13%	6%	8%	0%	0%
Sample size	141	22	10	25	30	18	24	8	4
Does the ULP do anything besides the discounts to help you sell EE lighting products?	**PG&E**								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	40%	27%	60%	55%	25%	18%	50%	83%	50%
No	50%	67%	0%	27%	67%	82%	38%	17%	50%
DK/Refused	10%	7%	40%	18%	8%	0%	13%	0%	0%
Sample size	70	15	5	11	12	11	8	6	2
Does the ULP do anything besides the discounts to help you sell EE lighting products?	**SCE**								
	All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware	Lighting/ Other
Yes	29%	29%	40%	21%	41%	29%	19%	50%	0%
No	63%	71%	60%	71%	41%	57%	75%	50%	100%
DK/Refused	9%	0%	0%	7%	18%	14%	6%	0%	0%
Sample size	70	7	5	14	17	7	16	2	2

We asked the 47 store managers who said that the ULP was doing something besides the discounts to help them sell CFLs what other things the Program was doing. The most common responses were increasing consumer awareness and unspecified types of advertising. Figure 5-42 shows the full range of responses.

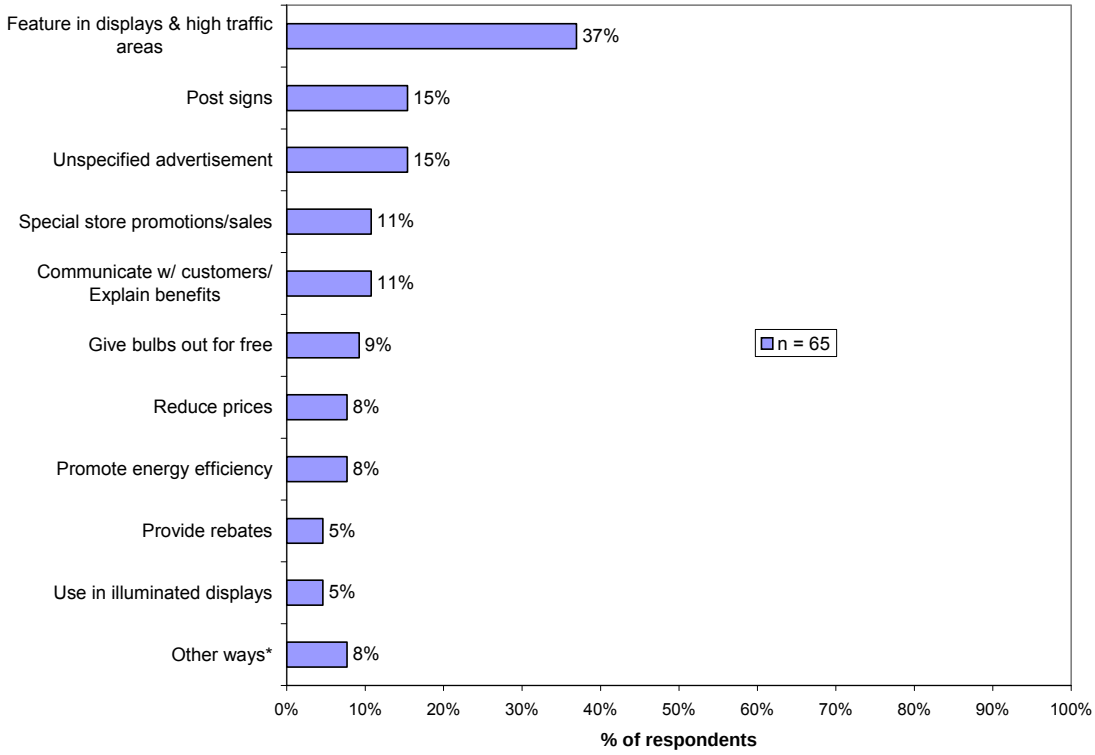
Figure 5-42
What Else the ULP Does Besides the Discounts to Help Retailers Sell EE Lighting Products
2008 Participating PG&E/SCE Store Managers



Note: *Other ways include radio and website advertising. Total exceeds 100% because some interviewees provided multiple responses.

We also asked the store managers whether their companies do anything on their own, without the utility program's help, to help sell energy-efficient lighting products. About half of them (51%) said that they did. Figure 5-43 shows what store managers said they did to help sell these lighting products. Displaying the CFLs in high-traffic areas of the store was the most-cited activity.

Figure 5-43
What the Retailers Do Without the Program's Help
To Sell Energy-Efficient Lighting Products
2008 Participating PG&E/SCE Store Managers



Note: Total exceeds 100% because some interviewees provided multiple responses.

5.10 Satisfaction with Program Processes

This section summarizes the satisfaction ratings that the participating PG&E/SCE store managers, high-level retail lighting buyers, and lighting manufacturers gave for the ULP processes and for the program as a whole.[22] It also discusses various concerns or complaints

[22] The ULP, with a few exceptions, does not collect data on which consumers purchased its discounted CFLs. In addition few respondents to random telephone surveys can identify that they received a IOU-sponsored rebate with any certainty. This makes measuring program satisfaction from the consumer perspective very difficult. However, since the ULP program is an upstream program, it is questionable how relevant or useful measuring consumer satisfaction with the ULP would be. Unlike other rebate programs, consumers are not required to fill out any rebate application forms or provide any proofs of purchase. They do not receive any rebate checks. This evaluation, however, did conduct a random-digit survey of California residential consumers to assess lighting purchasing

about program processes that were raised by participating market actors. Finally it summarizes recommendations for program improvements that these market actors made.

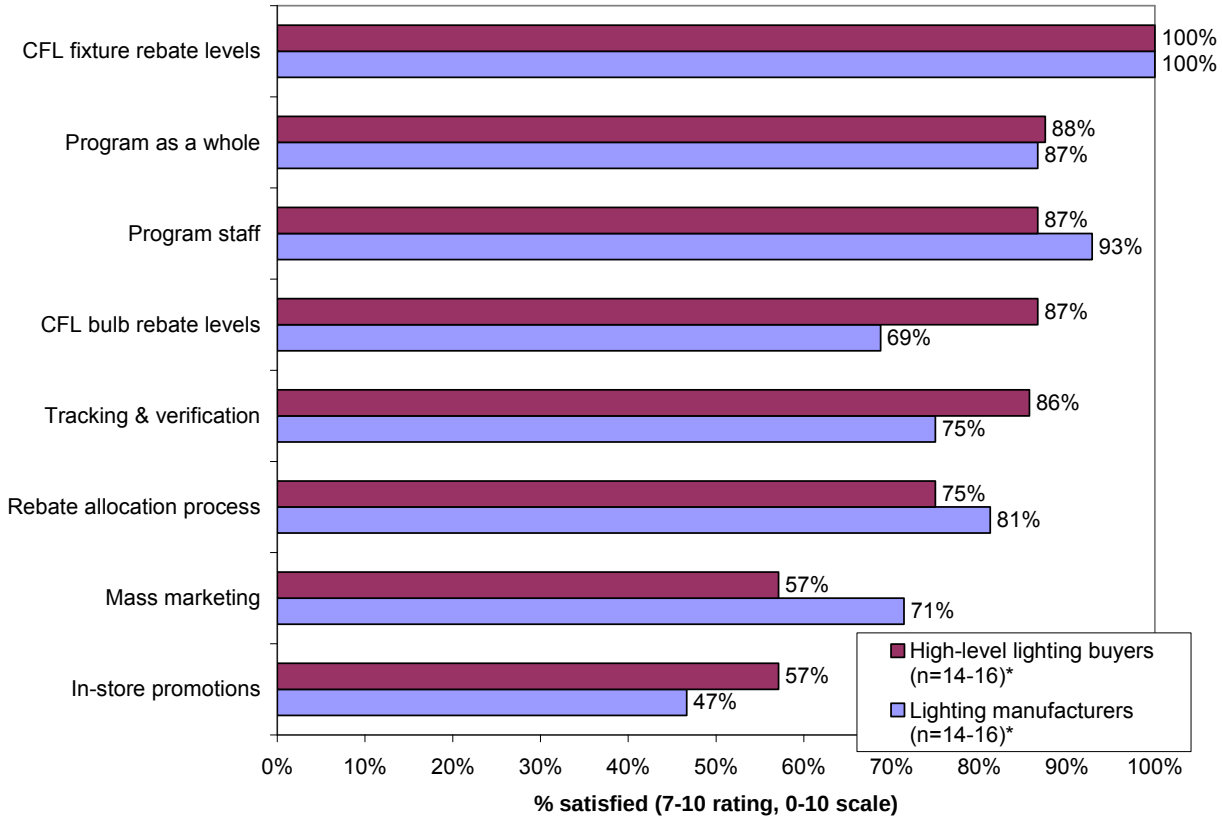
5.10.1 Levels of Satisfaction

We asked the participating retailers and manufacturers how satisfied they were with the various ULP processes as well as with the program as a whole. This subsection shows the responses of these participating market actors and explains some of their reasons for dissatisfaction.

- *Satisfaction from the high-level lighting buyer and lighting manufacturer perspective:* Figure 5-44 shows the percentage of high-level lighting buyers and lighting manufacturers who were satisfied with the ULP and its processes. In this case, we had them use a zero to ten satisfaction scale in which ten equaled “very satisfied” and zero equaled “very dissatisfied.” We considered ratings of 7-10 to indicate satisfaction. The chart shows that all of the respondents were satisfied with the CFL fixture levels and that both the high-level buyers and the manufacturers gave their lowest ratings for the ULP’s assistance with in-store promotions. It also shows that high-level buyers were much less satisfied than the manufacturers with the ULP’s mass marketing efforts but were much more satisfied with the CFL rebate levels.

behavior in the general population. This survey asked consumers whether they were satisfied with various aspects of the CFLs. It also asked them whether they recalled any signage or IOU rebates when they made their lighting purchases. Their responses to these questions appear in the full report.

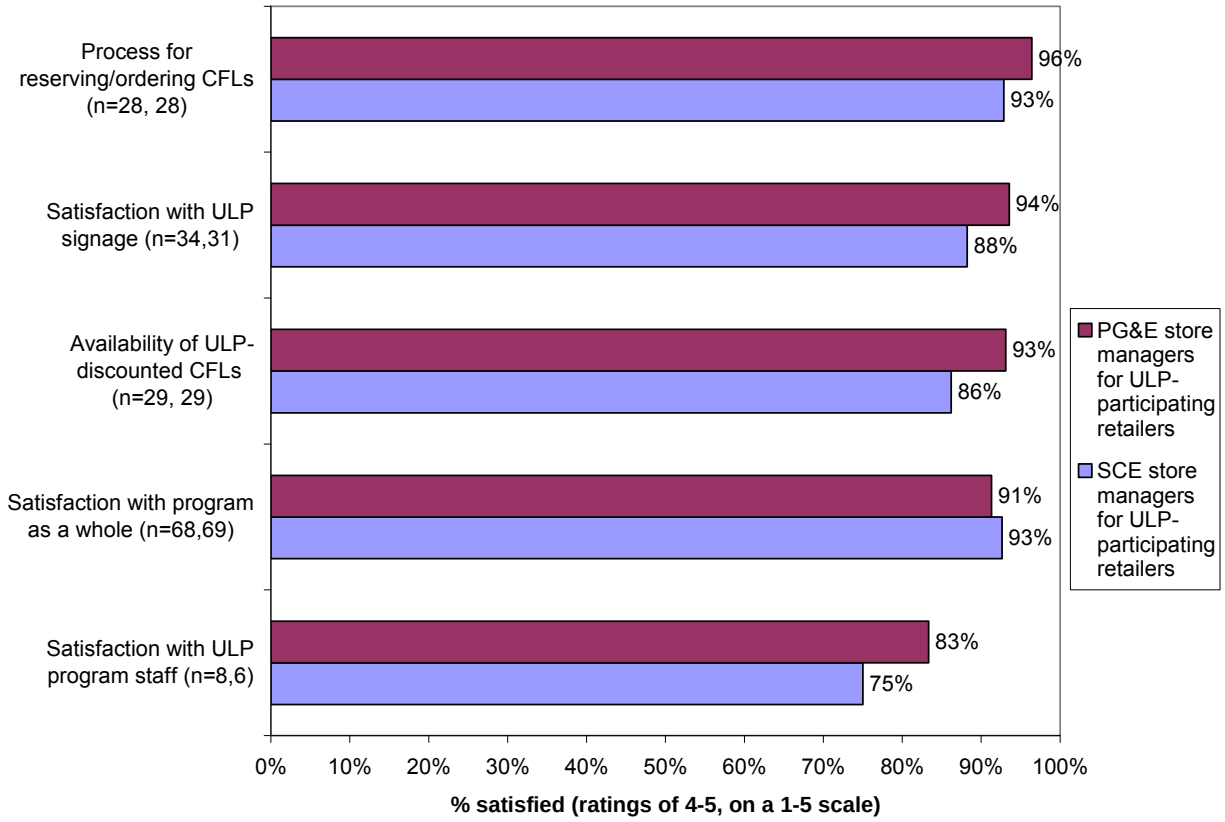
Figure 5-44
Satisfaction with ULP Processes
According to High-Level Lighting Buyers and Lighting Manufacturers



Note: *Sample sizes ranged between 14-16 for all satisfaction ratings except the ratings for CFL fixture rebate levels where the sample sizes were 4 respondents for high-level buyers and 5 respondents for lighting manufacturers.

- *Satisfaction from the store manager perspective:* Figure 5-45 shows the PG&E/SCE store manager average satisfaction ratings for ULP processes. In our experience any satisfaction level 90 percent or greater is very good and any satisfaction rating of 80 percent or greater is good. The chart shows that all the satisfaction ratings were in this good to very good range with the exception of the rating of the program staff. However, this last rating may be biased by a self selection effect. Store managers were only asked this question if they said that they had some communication with the ULP program staff. It is likely that store managers who were having some problems with the ULP would be more likely to call the ULP program staff than those who were satisfied with the program.

Figure 5-45
Satisfaction with ULP Processes
According to Participating PG&E/SCE Store Managers



5.10.2 Areas of concern

Although average satisfaction ratings for most program processes were in the good to very good range, some of the participating store managers, high-level buyers, and lighting manufacturers raised issues of concern about some program processes. The following subsections discusses these concerns

5.10.2.1 The rebate allocation process

Some of the high-level buyers complained that they had no input on the ULP rebate allocation process. They thought that the process was too manufacturer-focused and manufactured-driven. “It’s not being able to talk to the utility companies,” said one high-level buyer in explaining why he gave the allocation process a lower satisfaction rating. “They want to go just through the manufacturers … the manufacturers don’t really have a clear understanding of what a retailer can actually help deliver to the program. … It would be nice to have more … input with the utility companies and have a better understanding what the goals are and what we can both deliver together.” “My only complaint [about the rebate allocation process] is that they speak more to the vendors than they do the retailers,” said another high-level buyer. “There are a couple of utilities that I don’t think I’ve ever spoken to before.”

Most of the manufacture complaints revolved around delays in getting ULP allocations approved. Some manufacturer complaints included:

- “When we go with the customer to sign the purchase order and we submit the paper to any of the utilities, it takes two or three months for the stuff to be coming back,” one manufacturer said. “We should be able to know certain amounts or percentages of the allocation we should receive for the funding.” He also noted that long waits for allocation approvals can be difficult for the retailers also. “[If the allocation process takes] too long, the customers who haven’t heard from us … would call us and see … when they will be able to receive the bulbs,” he said. “And we don’t know how to answer the customers because every time we call in and the program managers or the person that works for the programs always tell us that they are still working on it.”

- “Delay in getting the final allocations out, especially in the past year, have been a little bit of a nightmare,” said another dissatisfied manufacturer.

- It's hard as a manufacturer to project how many CFLs to make," said a third respondent. "The reservation fund takes quite a long time so we put some … money up front on the manufacturing side and we don't actually see anything come in until several months later."

Other manufacturer complaints concerned the paperwork. "The forms are way over-complicated," said one manufacturer. Others objected to the ULP allowing smaller manufacturers to participate in the allocation process. One of the larger manufacturers said:

> *I don't understand how companies that are not in business -- that have nothing -- are allocated millions of dollars. And there are companies that bring the product in and they distribute it out of a parking lot. They don't even have a warehouse because they were allocated funds and they've gotten into business based upon the fact that they were able to buy a product that was Energy Star. And they're fly-by-night and you don't even know who they are.*

5.10.2.2 The program tracking and verification process

A number of high-level buyers and manufacturers variously described the ULP tracking and verification process as "cumbersome," "burdensome," "a very labor-intensive process," "a major hassle," and "no fun." Yet there were actually fewer complaints about this process than when we last interviewed these market actors in 2007. This may be due to some reductions in the participants' tracking and verification responsibilities. For example, in past years the suppliers were responsible for taking photos of their displays of ULP-discounted CFLs, while currently some members of the utility staff perform these functions. The lower level of complaints may also be due to the suppliers and retailers having developed systems or processes to better accommodate these tracking and verification requirements.

One high-level buyer thought that if the utilities participating in the ULP could engage the retailers more, it could make the tracking and verification process less burdensome. "If we had more collaboration with the utility company up front," he said, "we could eliminate a lot of costs for both sides in the extra stickering and stuff where we can use the technology that we have in our systems."

The high-level buyers and manufacturers gave the utility staff mixed ratings as to their enforcement of the bulk purchase rule and other ULP rules. Some of their comments included:

- "In the past year I know that PG&E, as well as SDG&E and SCE, have been sending their people out more," said one manufacturer. "They're taking more photos and providing feedback to me that I can provide back to the retailer to say: 'Hey, you're not complying with what you have agreed to for your allocation.'" However, this same manufacturer said: "in other states we have utility contractors actually managing more of that process for the utilities, manufacturers and the retailers and this makes it a far easier process."

- "The majority of the utility companies have stepped up and actually have done a lot more on their part to make sure that the manufacturers and that the products are being properly labeled and promoted," said another manufacturer.

- "They need to be more stringent with the retailer and the supplier on the rules," said a high-level buyer. While noting that some store managers are good about following the rules, he added that "other retailers would have let me buy the whole shelf if I asked."

5.10.2.3 CFL rebate levels

In general the manufacturers were less happy than the retailers with the ULP rebate levels. This was likely because the manufacturers had, on average, longer experience participating in the ULP and therefore knew more about how current incentive levels compare to past ones. Some of the manufacturer complaints included:

- "Cutting the incentives the way SCE has done this year I think will be a great detriment to their program," said one manufacturer.

- "If you asked me that question two years ago, I would put a ten [satisfaction rating] because the production cost was low and I could live with that," said another manufacturer. "Now because the production costs are getting higher and higher, it would be nice to increase the incentive level a little bit if they can … we get a very, very skinny profit margin."

- "From when it started to where it is now, the buy-down is continues to be reduced regularly year to year," said a third manufacturer.

A number of manufacturers urged that the incentive levels for specialty CFLs, in particular, be increased, not only to increase sales but also avoid reductions in quality due to production cost-cutting. Some of these comments included:

- "For some new products and specialty products, we hope that the [CPUC] can put more consideration into these new products," said one manufacturer. "It costs more to make them and if the incentive is not high enough … the price level is not going to be low enough to cover for this consumer to buy."

- "I don't think the incentive levels are based on current market conditions as it relates to the market penetration of non-specialty vs. specialty CFLs and CFL fixtures," said another manufacturer.

- [Higher incentives for specialty CFLs] are need in order to have better quality in the market," said a third manufacturer. "Because [the manufacturers] just squeeze everything just barely enough to cover their costs. And some manufacturers will find a way to cut their production costs in different ways that can affect the quality of the product."

5.10.2.4 Program mass marketing and in-store promotions

As noted above, both high-level buyers and manufacturers gave their lowest satisfaction ratings for the ULP's mass marketing and in-store promotion efforts. The general nature of the comments was that there was little evidence of mass marketing by the utilities and that the in-store promotions were mostly being done by the manufacturers and retailers with only minimal assistance from the utilities. In fact, the average satisfaction scores would have been much lower if not for the fact that some of the retailers and manufacturers actually preferred to do their own marketing.

Some participant comments on the ULP mass marketing efforts included:

- "They can do more to promote the program," said one high-level buyer."

- "I don't think they've done a really good job of mass marketing," said another high-level buyer."

- "Basically we don't see the utilities doing much mass marketing of CFLs," said a manufacturer.

- "I feel that the utilities need to take more onus on promoting their own programs to all the retailers," said another manufacturer.

Some participant comments on the ULP's contribution to in-store promotions included:

- "I don't know how much the utility people have actually done with regard to [in-store promotion] in my stores," said one high-level buyer. "All I know they ever come into the store for is to check on their products with the labels to make sure the utility is in the right place."

- "They're not working through the retailers. They're working through the manufacturers," said another high-level buyer.

- "I know that there definitely could be more contact at the store level," said a third high-level buyer. "Just go out and work more one-on-one with the stores that are selling these promotions."

- "All of our warehouses work autonomously," said a fourth high-level buyer. "And so to orchestrate any type of in-store product demonstration or education requires a lot of involvement from the merchandising staff here and coordinating it with the utility, the manufacturer, and the warehouse."

- "I even tried to work with the utilities and tried to ask them if they are willing to provide us parts of the funding to do advertising and to do activities or onsite promotions with the retail stores," said one manufacturer. "They said that they don't have the funding for doing this."

- "The biggest thing that they don't help with is implementing the program," said another manufacturer. "With other utilities in the U.S. that work through contractors, the contractors are responsible for implementing programs, for making sure signs are up, getting signs into the store by a certain time, taking photos if needed, and talking to the store managers. In our experience with utilities that have contractors, the programs were run much better than the California utilities where you have program managers sitting at a desk every day."

5.10.2.5 The ULP staff and the program as a whole

The manufacturers and high-level buyers who interacted with the ULP staff generally had positive things to say. Some typical comments included:

- "In the state of California, I believe I know the names and contacts for each of those three major utility companies, which I do not for the rest of the country," said one high-level buyer. "I think they do a great job … they seem to genuinely care about their jobs and their mission, and they keep everything equal. It's hard to be in their position with retailers always calling: 'I need more funding, I need this, I need that.' It's a lot for them to juggle."

- "They do a very good job of planning and coordinating and following through," said another high-level buyer.

- "The communications have been very, very strong, and they follow up very well," said one manufacturer. "Usually, they answer most of my questions in a very expeditious manner."

- "They have been very good, and they really try to help us and teach us what we have to change, and what is the best we should do to work with the retailers," said another manufacturer.

- "They're very efficient. They are very dedicated to the program," said a third manufacturer.

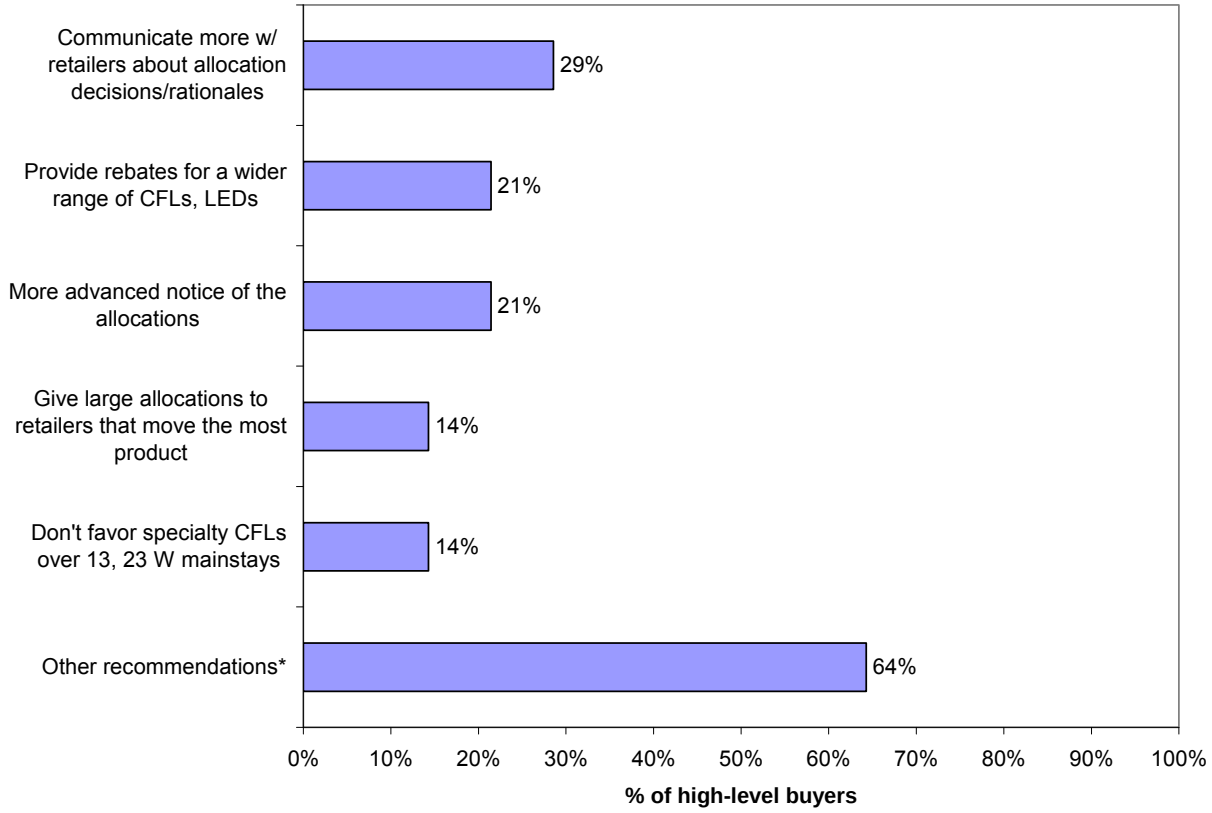
However, a few of the high-level buyers complained that the ULP staff talked only to the manufacturers and not to them.

In assessing the ULP as a whole, most of the respondents were very positive. They generally thought that the positive aspects of the program outweighed the deficiencies and the sometimes onerous participation requirements. The next section discusses some of their recommendations for program improvements.

5.10.3 Recommendations for Program Improvements

The high-level lighting buyers had many recommendations for program improvements. Figure 5-46 summarizes these. The most-cited recommendation was for the program to communicate more with the high-level buyers about allocation decisions and rationales. The high-level buyers claimed that they often hear about changes in program allocation strategies – such as moving away from multi-packs or moving towards specialty CFLs – long after the decision is made. They believed that if they were involved in these discussions much earlier, they would, at minimum, be better prepared and might be able to suggest more efficient implementation strategies.

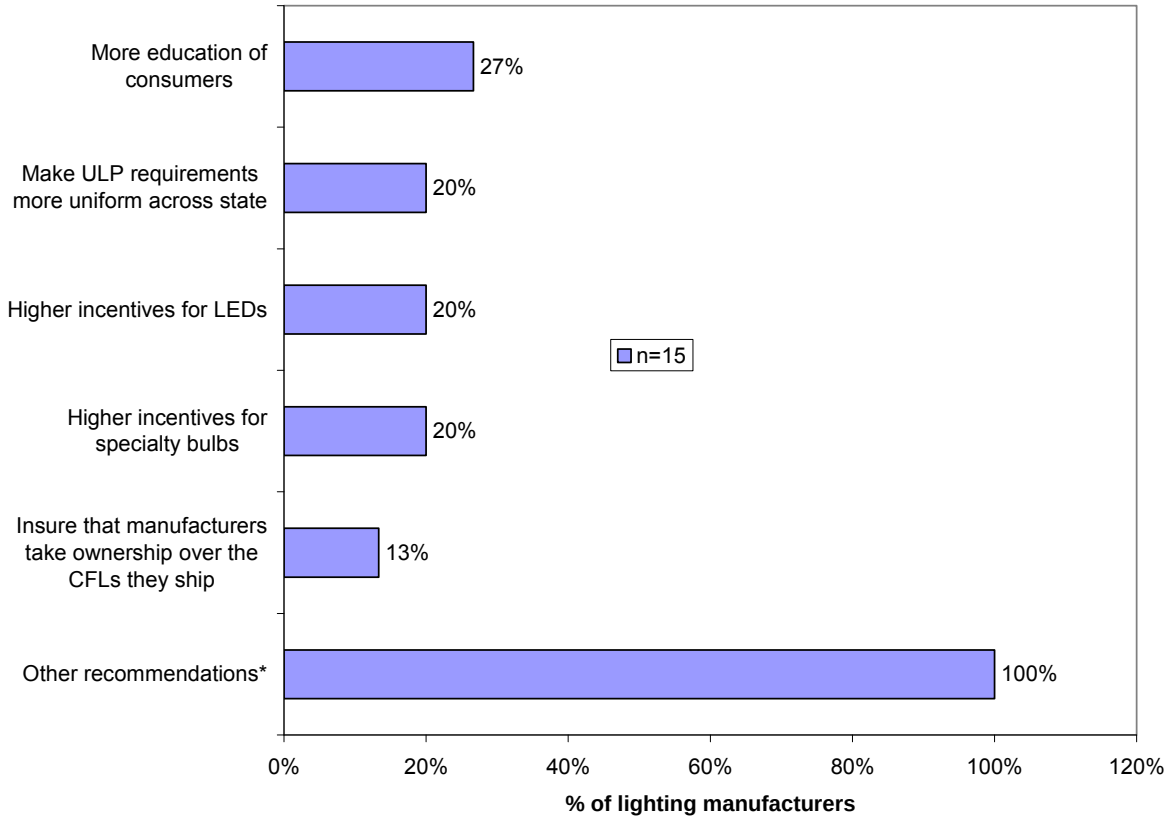
Figure 5-46
Recommendations for Program Improvements
from High-Level Lighting Buyers



Note: Total exceeds 100% because some interviewees provided multiple responses. *Other recommendations include: do more coop advertising; have more realistic expectations on how quickly retailers can get ULP products into stores, customize bulk limits for different types of retailers; work with manufacturers to improve the fit, size, brightness of CFL products; provide more customer education; pay rebates on everyday CFL sales not just special promotions; do more bilingual advertising, and have more utility representatives in the stores.

The lighting manufacturers had even more recommendations for program improvements than the high-level buyers did. Figure 5-47 shows that the most-cited recommendations were more consumer education, more uniformity of ULP requirements across the state (e.g., uniform labels, consistency in LED rebate offerings), and higher incentives for LEDs and specialty CFLs. However, there were over a dozen other recommendations that were each suggested by a single manufacturer.

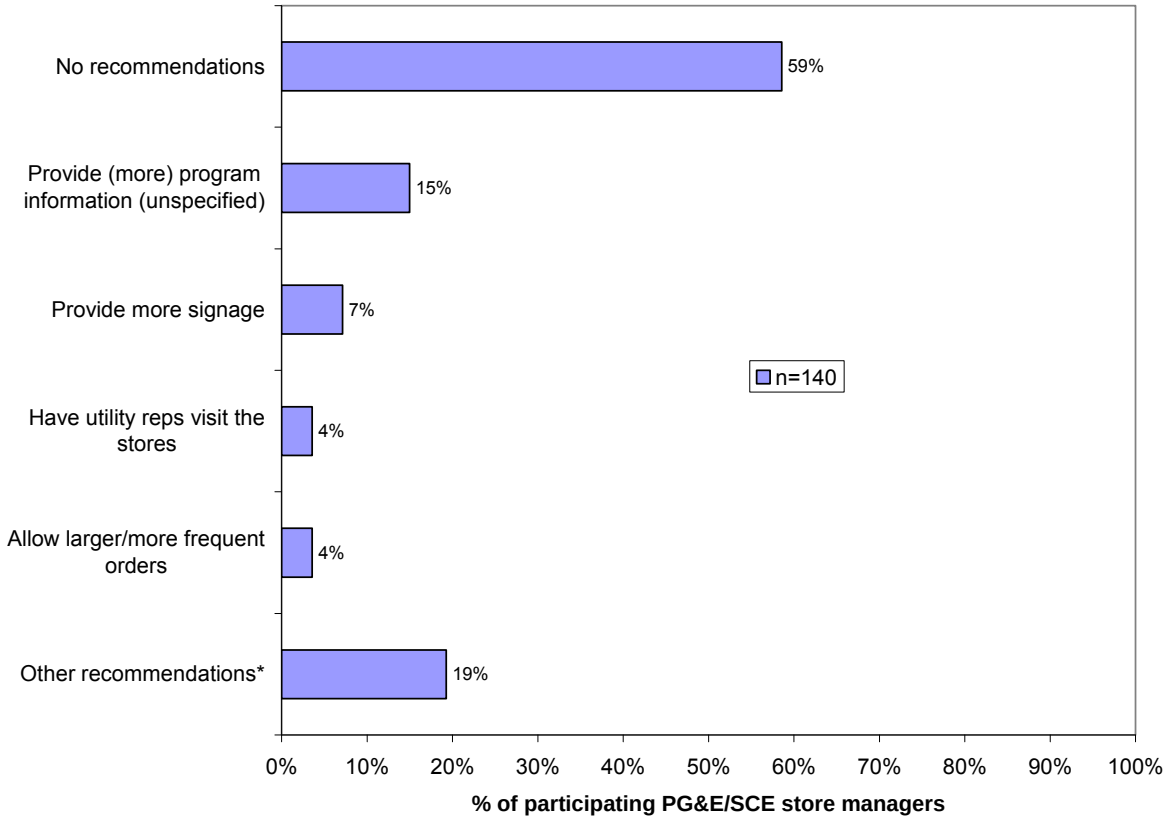
Figure 5-47
Recommendations for Program Improvements from Lighting Manufacturers



Note: Total exceeds 100% because some interviewees provided multiple responses. *Other recommendations include: offer higher incentives for bulbs with higher power factors; offer higher incentives for bulbs with better CRI; offer rebates for a wider range of CFLs; establish maximum sizes for CFLs with a given lumen output; do more in-store marketing; do more mass advertising; do more education of retailers; contract out the development of websites where consumers can purchase utility-approved CFLs; allow municipal utilities to participate in the ULP; don't just work with retailers, work with organizations also; have separate programs for smaller, larger retailers; give larger allocations to small manufacturers; provide more advanced notice of expected allocation sizes; don't push specialty CFLs over non-specialty CFLs; and make the verification process less onerous.

Finally we asked the participating PG&E/SCE store managers: “What suggestions do you have to make it easier for retailers like <RESPONDENT’S RETAILER> to participate in this program?” Figure 5-48 shows that over half of the store managers did not have any recommendations for making program participation easier. The most common suggestions were to provide or provide more program information (the precise nature of the information was unspecified) and to provide more signage.

Figure 5-48
Ways that the ULP Could Make it Easier for Retailers to Participate According to Participating PG&E/SCE Store Managers



Note: Total exceeds 100% because some interviewees provided multiple responses. *Other recommendations include lowering CFL prices; explaining energy saving / money saving benefits of CFLs; provide lists of participating distributors/wholesalers; provide a better variety of products; provide more free products; standardize the ULP across California; explain the environmental benefits of CFLs; provide information on CFL recycling, provide emails with program updates; use recyclable packaging; provide demonstrations; streamline the ordering process; provide program brochures, make program stickers larger, provide information on other programs, deliver fewer CFLs, do fewer surveys, and make the tracking/verification process less onerous.

5.11 Leakage of CFL Products Outside the ULP Service Territories

This section discusses the retailer and manufacturer perspectives on CFL “leakage” – the phenomenon of ULP-discounted lighting products being sold in stores in non-IOU service territories, outside of California or on the Internet. It also summarizes their opinions on the CFL bulk purchase limits that the ULP introduced to combat the leakage problem and how they are enforcing these limits. Finally it asks them how they enforce these limits.

5.11.1 The ULP bulk purchase limits

In late 2007 the utilities participating in the ULP introduced bulk purchase limits that restricted the number of ULP-discounted lighting products that participants could buy in a single purchase.[23] The main purpose of this bulk purchase limit was to make it more difficult for purchasers to resell bulbs. This was prompted by discoveries that some ULP-discounted lighting products were being sold in stores outside of California or on the Internet. This phenomenon is often called "leakage."

In addition to introducing these bulk purchase limits, the utilities also told the suppliers participating in the ULP to educate their retailers about the bulk purchase limits and even to monitor their sales figures for indications that certain retailers might not be abiding by the limits. In the SCE service territory, the Notification of Allocation Form that retailers signed contained language committing them to the bulk purchase limits. One utility representative even said that "secret" shopping was being done to make sure retailers were enforcing the bulk purchase limits.

5.11.2 Retailer/Manufacturer awareness of the bulk purchase limits and CFL leakage

We asked the participating manufacturers and retailers a number of questions related to these bulk purchase limits and the prevalence of leakage. With some small variations in wording for the different surveys, we asked them:

- Whether they were aware of the bulk purchase limits (asked of all three manufacture/retailer groups),
- What they thought about the bulk purchase limits (asked only of the lighting manufacturers and the high-level buyers),
- How they were enforcing the bulk purchase limits (asked of all three manufacture/retailer groups),

[23] Under the initial agreement, all three IOUs set the bulk purchase limit to 15 ULP-discounted CFL bulbs and 5 other CFL products per sale. In the first quarter of 2008 PG&E changed its bulk purchase limit to 10 CFL bulbs, 3 CFL fixtures, or 5 LED nighlights per sale. In the same period SCE changed its bulk purchase limit to 16 CFL bulbs or 5 other ULP-discounted lighting products per sale.

- Whether they were aware that lighting manufacturers were helping to police the bulk purchase limits (asked only of the high-level buyers),

- Whether they had seen evidence of *their own* ULP-discounted CFLs being sold outside of California (asked only of the lighting manufacturers and the high-level buyers),

- Whether they had seen evidence of *any* ULP-discounted CFLs being sold outside of California or on the Internet (asked only of the lighting manufacturers and the high-level buyers), and

- Whether their unsold ULP-discounted CFLs would ever be sold outside the IOU service territory (asked only of high-level lighting buyers and store managers who said that they sometimes did not sell through their ULP-discounted CFLs.

Table 5-27 shows the responses of the participating manufacturers and retailers to most of these questions.

Table 5-27
Summary of Responses to Questions Related to CFL "Leakage"
According to Lighting Manufacturers, High-Level Buyers, Store Managers

Questions	Lighting manufacturers (n=15)	High-level lighting buyers (n=12-15)	Store managers (n=141,42)
Aware of bulk purchase limits?	100%	93%	23%
Aware that lighting manufacturers are helping to police the bulk purchase limits?	Not asked	57%	Not asked
Any of your ULP-discounted CFLs sold outside of California?	53%	7%	Not asked
Seen evidence of any ULP-discounted CFLs sold outside of California or on Internet?	87%	7%	Not asked
Would your unsold ULP-discounted CFLs ever be sold outside the IOU or state?	Not asked	8%	0%

The table shows that while there was a high-level awareness of the bulk purchase limits among the lighting manufacturers and high-level buyers, less than a quarter of these store managers said they were aware of these limits. This indicates that the educational efforts of the suppliers and buyers need to improve dramatically. The fact that over half the manufacturers have seen evidence of leakage with their own ULP-discounted products, and a large majority has seen evidence of leakage with ULP-discounted products in general, suggests that leakage is a real phenomenon. However, it is important to note that many of the respondents thought that the

volume of ULP-discounted CFLs that were being "leaked" was relatively small. "I think that the eBay part of it is so small to be meaningless, but it's visible," was the comment of one manufacturer.

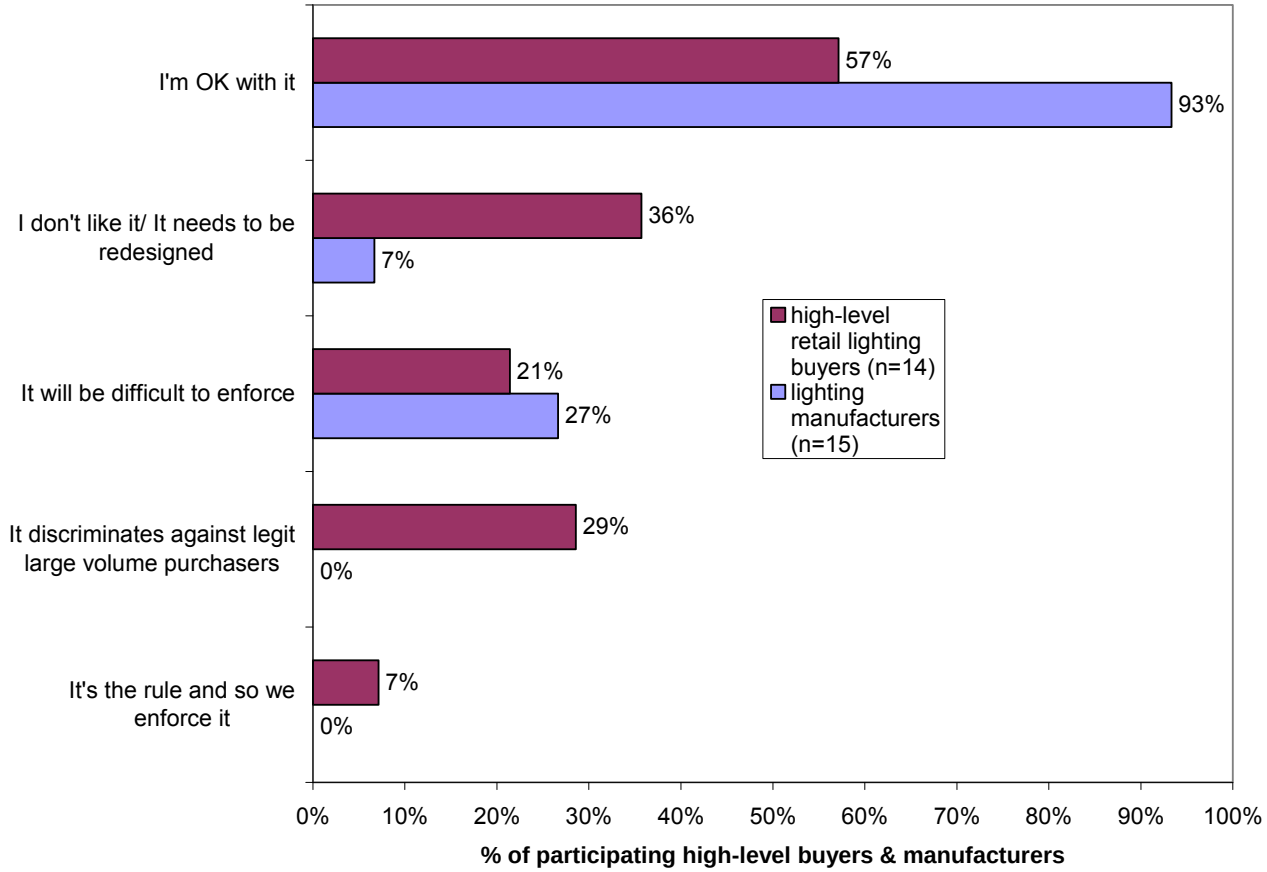
5.11.3 Retailer/Manufacturer opinions of the bulk purchase limits

We asked the high-level retail lighting buyers and the lighting manufacturers an open-ended question: "What is your opinion of these bulk purchases limits?" Figure 5-49 shows that nearly all the lighting manufacturers, but only little more than half of the high-level retail lighting buyers, were okay with the bulk purchase limits.[24] Most respondents who approved of the limits said that they were necessary to discourage leakage and a couple of them claimed that the limits could reduce "pantry storage" of CFLs by customers. Two manufacturers who had separate wholesale CFL distribution channels also said that they approved of the bulk purchase limits because it would likely force some large-volume CFL purchasers back into the wholesale market. When we interviewed these manufacturers in early 2007 for the evaluation of the SFEER program, some had complained that the ULP price discounts were causing builders and property managers to buy their CFLs from retailers rather than through their traditional wholesale channels.

The manufacturers and retailers who disapproved of the bulk purchase limits complained that the limits were too low; that they discriminated again legitimate volume purchasers such as builders and managers of apartment buildings, motels, or nursing homes; that they discriminated against membership stores that operated on a bulk purchase basis; that they caused the ULP to lose legitimate energy-saving opportunities; and that the CFL leakage problem was overblown.

[24] Since this was an open-ended question, we could not categorize their "level" of approval in any precise way. But the responses that were categorized as "I'm OK with it" included those who thought the limits were "OK," those who thought them "good," and those who thought them "necessary."

Figure 5-49
Opinions of the Bulk Purchase Limits
According to High-Level Buyers and Lighting Manufacturers



Note: Total exceeds 100% because some interviewees provided multiple responses.

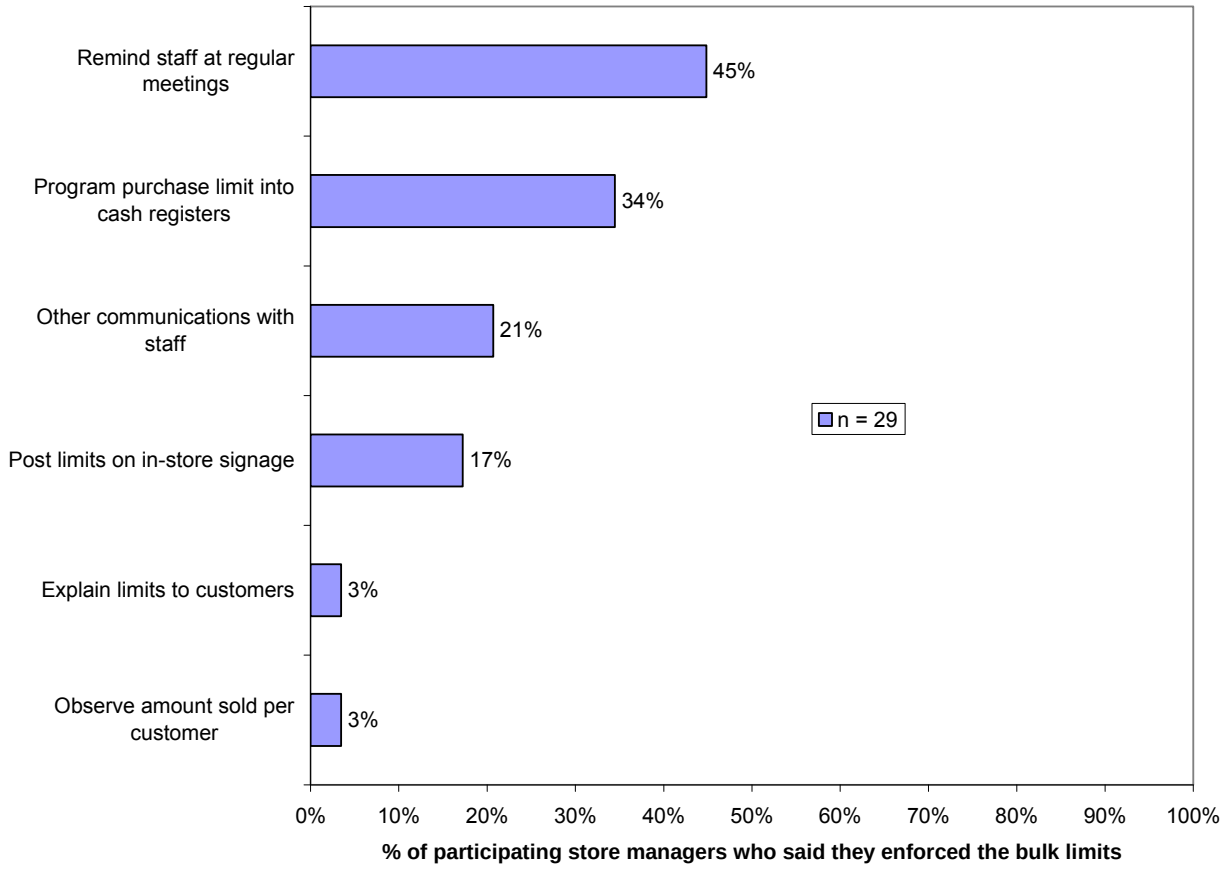
5.11.4 Enforcement of the ULP bulk purchase limits

We asked the retailers and manufacturers who said they were aware of the bulk purchase limit whether they enforce these limits and how they enforce them. Of the 32 store managers who were aware of the bulk purchase limits, 29 (91%) said they enforce the limits. Figure 5-50 shows that nearly half of the store managers said that they remind staff about the bulk purchase limits at regular meetings and about a third said that they program the limits into their cash registers.

When asked how they are enforcing the bulk purchase limits, most of the high-level buyers said that they are informing their stores through bulletins or through direct education of the cashiers. Two of the high-level buyers reported that they also post the limits on their signage. A couple of high-level buyers noted that their companies have the capability to program the limits into their

cash registers. One of them even said that he had proposed this to the ULP but it had not been acted upon. One of the discount retailers, however, said that his company did not have the capability to program these limits into the cash registers.

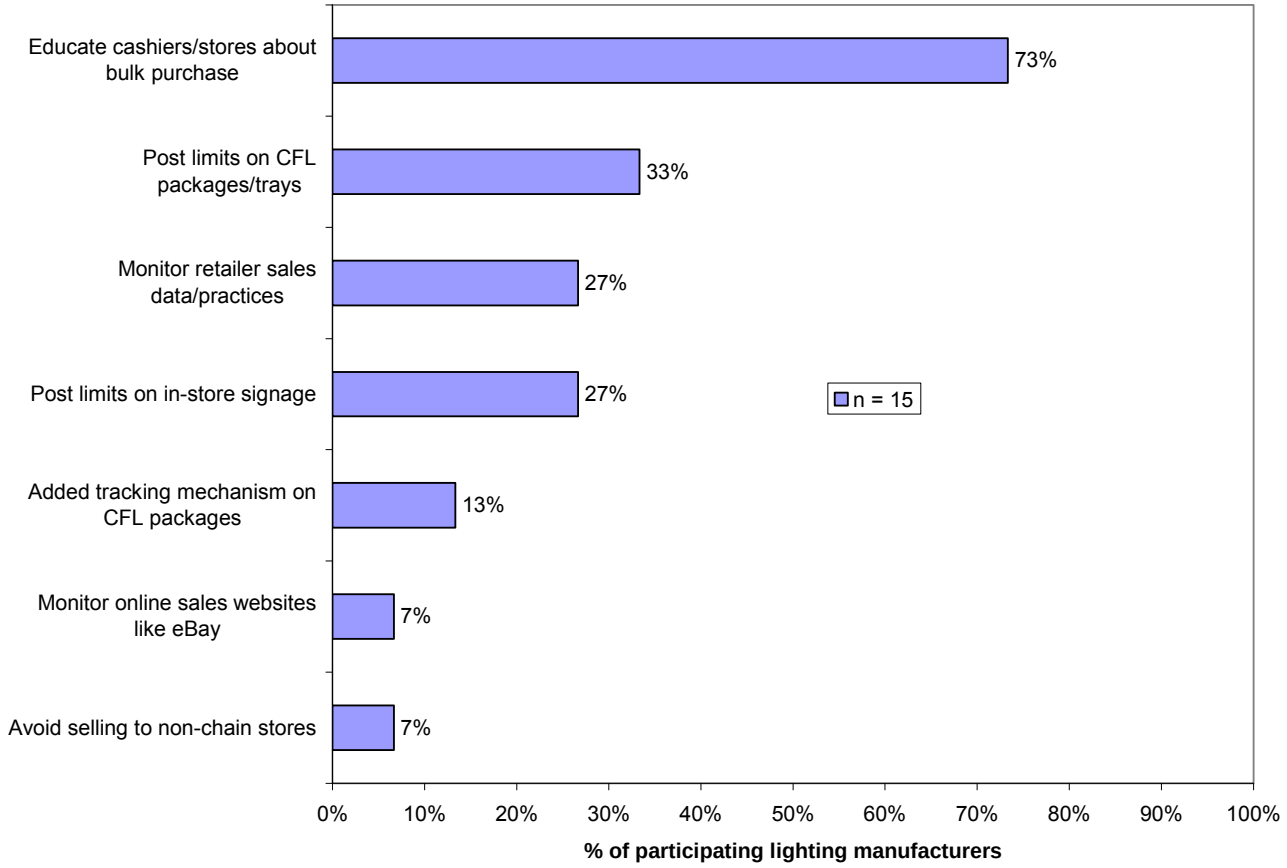
Figure 5-50
How Store Managers
Are Helping to Enforce the ULP Bulk Purchase Limits



Note: Total exceeds 100% because some interviewees provided multiple responses.

We also asked the lighting manufacturers how they are enforcing the bulk purchase limits. Nearly three quarters of them said that they enforce these limits through educating store managers or cashiers (Figure 5-51). Many said that this educational function was performed by their salespersons. Other enforcement procedures -- cited by at least a quarter of the manufacturers -- included posting the limits on CFL packages/trays or point-of-purchase signage and monitoring retailer sales figures (and in one case using “secret shoppers”) to try to identify evidence of bulk purchase sales.

Figure 5-51
How Lighting Manufacturers
Are Helping to Enforce the ULP Bulk Purchase Limits



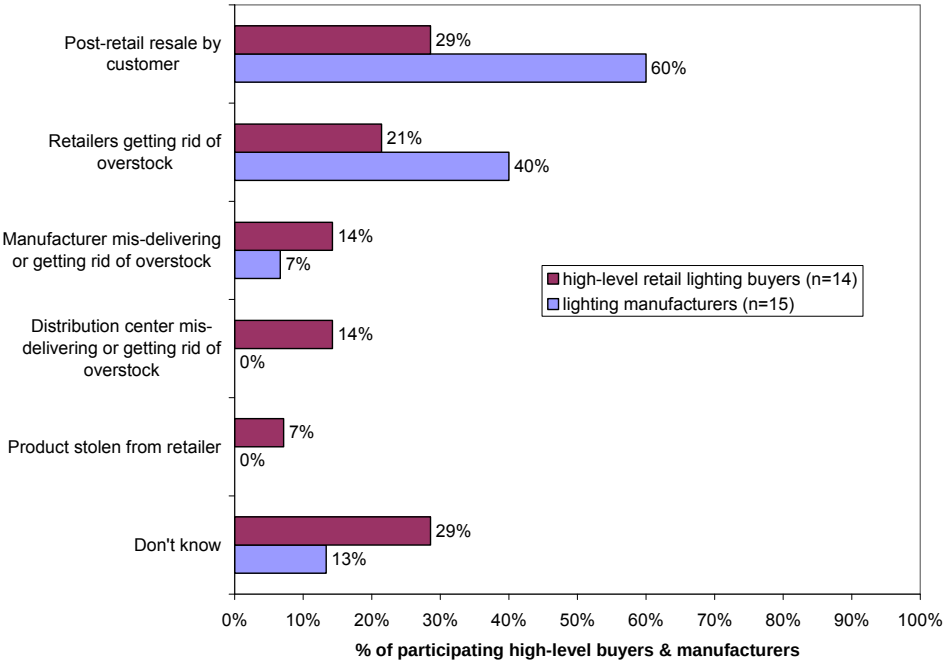
Note: Total exceeds 100% because some interviewees provided multiple responses.

Post-retail consumer resale is not the only possible cause of CFL leakage. There is also the possibility that manufacturers might accidentally ship ULP-discounted products to retailers that are not located in the service territories of the California investor-owned utilities. This includes not only out-of-state retailers but also California retailers that located in the service territories of municipal or cooperative utilities. We asked the lighting manufacturers: “What safeguards do you have in place to insure that CFLs which receive the program stickers and packaging are not sent to retailers that are not participating in the program?” The manufacturers mentioned a number of different measures to prevent this including using different UPC codes or SKUs for the ULP-discounted products, shipping directly to the stores, keeping ULP-discounted product and non-ULP-discounted products in separate inventories, giving retailers unique products codes, and the utility labels on the product packages that can help avoid product misdirection.

5.11.5 Where in the CFL distribution chain leakage is occurring

We asked the high-level retail lighting buyers and the lighting manufacturers: “There is evidence that some lighting products receiving discounts from the California Upstream Lighting Program are being sold out-of-state or through out-of-state buyers through the Internet. At what point in the supply and distribution chain do you think this might be happening?” The two most common responses were that the leakage was a result of customers reselling the products after buying them at retail or due to retailers trying to get rid of some overstock (Figure 5-52). In most cases the respondents based this on speculation, although in a few cases it was based on actual instances of leakage.

Figure 5-52
Where in the CFL Distribution Chain Leakage is Occurring According to High-Level Buyers and Lighting Manufacturers



Note: Total exceeds 100% because some interviewees provided multiple responses.

5.12 CFL Disposal and Recycling

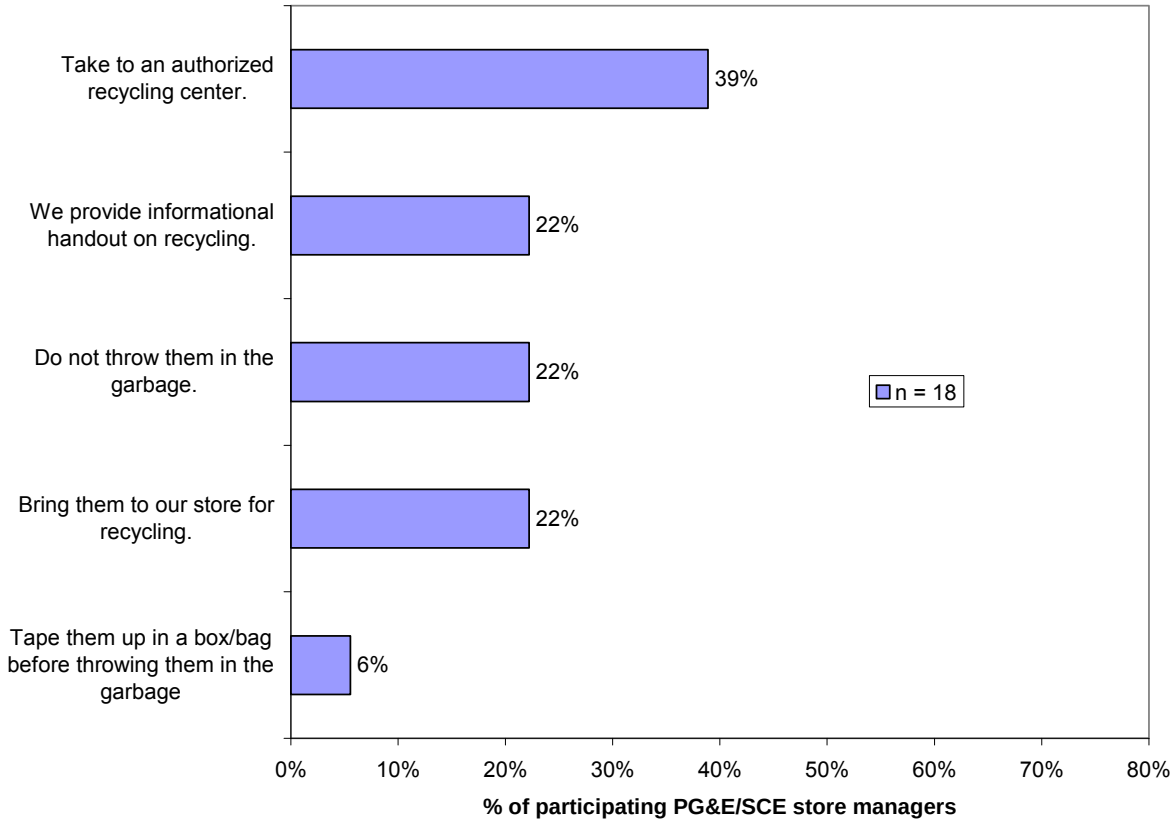
In recent years there has been increasing focus in the media and elsewhere on the issue of the recycling and disposal of CFLs. We asked the participating PG&E/SCE store managers whether they give their customers any standard recommendations on how to recycle their CFLs, whether their stores offer CFL recycling on site, and, if they did not offer recycling, whether they have

ever considered doing so. Table 5-28 shows that only 26 percent of store managers reported offering standard CFL recycling recommendations and only 15 percent said that they offer CFL recycling on site. It also shows that of those that said their stores do not currently offer CFL recycling, only 10 percent of them have ever considering doing so. The PG&E/SCE store managers who said that they had standard CFL recycling recommendations reported that these included telling customers to take their CFLs to an authorized recycling center, handing out recycling information, and advising their customers not to throw the CFLs into the garbage (Figure 5-53). The three store managers who considered offering on-site recycling -- but never did so -- cited store floor space concerns and difficulty of transport to the recycling center as barriers to implementation.

Table 5-28
CFL Recycling Practices
According to Participating PG&E/SCE Store Managers

Recycling/Disposal Questions	Responses	PG&E/SCE							
		All Stores	Big Box/ MM	LHI	Large Grocery	Small Grocery	Drug	Discount	Small Hardware
Do you have standard recommendations you give to customers about how to recycle their CFLs?	Yes	26%	45%	43%	0%	39%	11%	0%	100%
	No	72%	55%	57%	100%	61%	89%	89%	0%
	Don't know	1%	0%	0%	0%	0%	0%	11%	0%
Sample size		68	11	7	12	18	9	9	2
Do you offer CFL recycling on site?	Yes	15%	27%	57%	0%	6%	11%	0%	50%
	No	85%	73%	43%	100%	94%	89%	100%	50%
	Don't know	0%	0%	0%	0%	0%	0%	0%	0%
Sample size		68	11	7	12	18	9	9	2
Have you ever considered offering CFL recycling on site? (asked of those not already recycling)	Yes	10%	0%	0%	8%	12%	13%	11%	100%
	No	72%	50%	67%	67%	88%	63%	89%	0%
	Don't know	17%	50%	33%	25%	0%	25%	0%	0%
Sample size		58	8	3	12	17	8	9	1

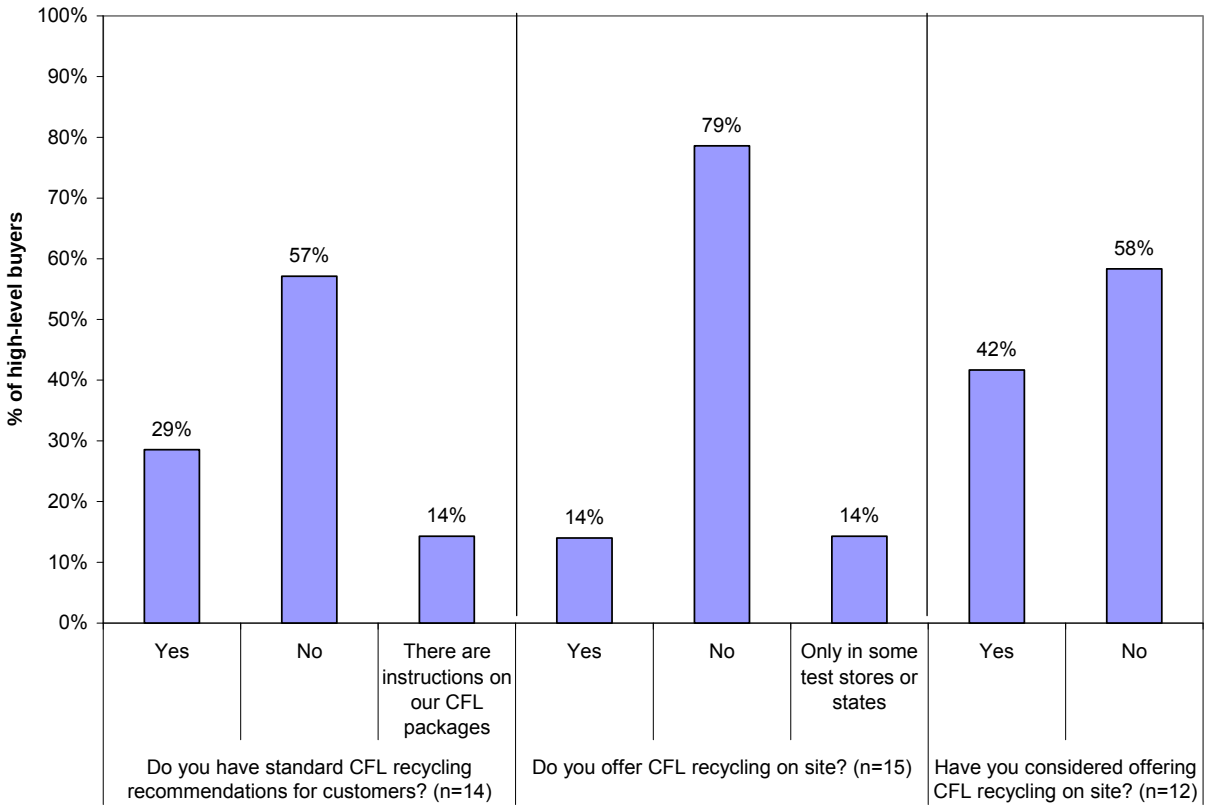
Figure 5-53
Standard CFL Disposal/Recycling Recommendations
Provided by Participating PG&E/SCE Store Managers



Note: Total exceeds 100% because some interviewees provided multiple responses.

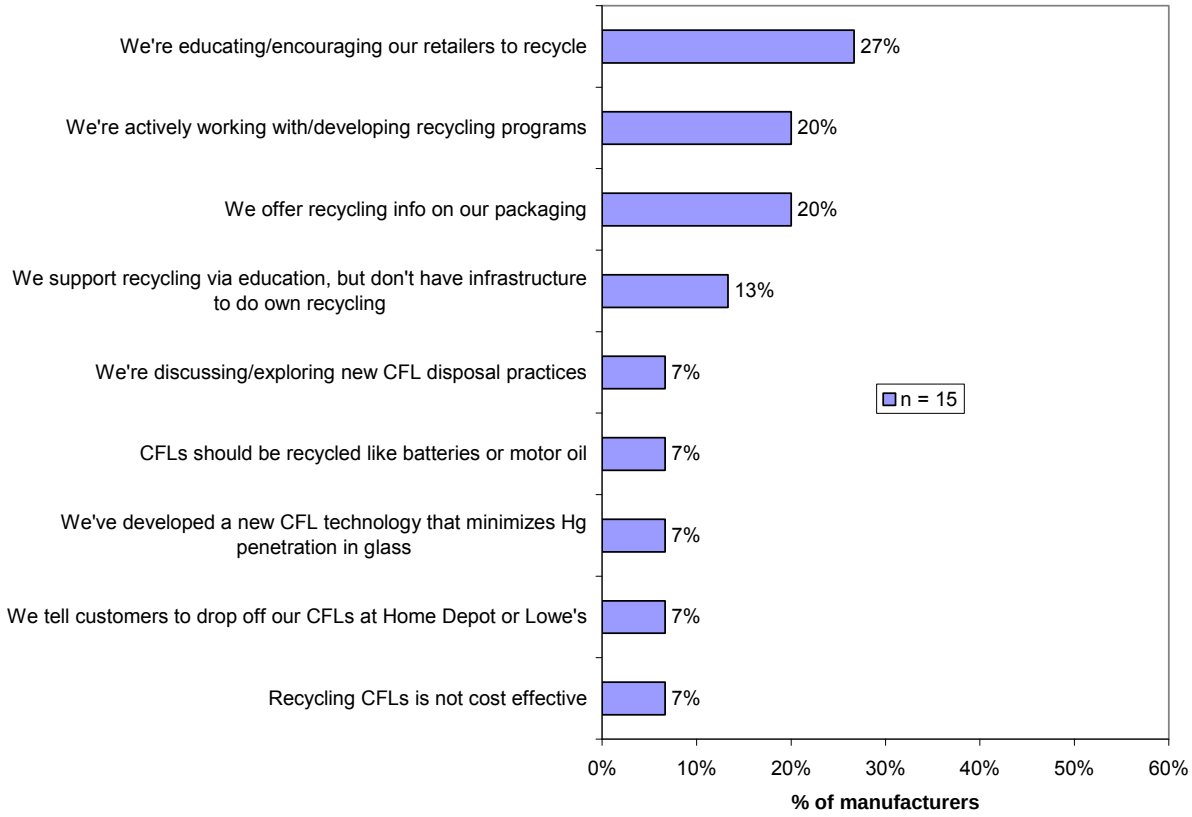
We asked the high-level retail lighting buyers a similar set of questions about CFL disposal and recycling. Like the store managers they reported a low incidence of standardized CFL recycling recommendations for their customers and a low incidence of on-site recycling (Figure 5-54). However, the high-level buyers were much more likely to report that their companies were considering on-site recycling (42% vs. 10% for the store managers). This was likely because the high-level buyers are more involved in this decision-making – or at least closer to the corporate decision-makers -- than the store managers are.

Figure 5-54
CFL Disposal/Recycling Practices
According to High-Level Retail Lighting Buyers



Finally we asked the lighting manufacturers what policies they advocated for dealing with CFL disposal. Some described concrete actions that their companies were taking to encourage safer CFL disposal while others simply described their preferred policy approaches. Figure 5-55 shows that the lighting manufacturers practiced or advocated a wide variety of CFL disposal/recycling policies. CFL disposal/recycling practices named by at least three different manufacturers included educating or encouraging their retailers to recycle (e.g., providing them with in-store recycling bins), developing or actively working with CFL recyclers – whether private or governmental, and providing CFL recycling information on their packaging.

Figure 5-55
CFL Disposal/Recycling Policies
Practiced/Advocated by Lighting Manufacturers



5.13 CFL Quality

In interviews conducted for the 2007 evaluation of the 2004-2005 SFEER program, a number of lighting manufacturers raised questions as to quality of some of the CFLs that the ULP was offering discounts for. We asked the participating PG&E/SCE store managers a number of questions about CFL quality. First we asked the store managers: “How important is product quality in deciding what types/brands of CFLs you’re selling in your store?” We expected almost all of the store managers to say “very important”, but only 70 percent of the respondents and only 78 percent of the respondents who gave responses other than “don’t know” said quality was very important (Table 5-29). Nineteen percent of the respondents and 22 percent of the respondents who gave responses other than “don’t know” said that quality was “somewhat important” or “not at all important.”

Table 5-29
The Importance of CFL Quality
According to Participating PG&E/SCE Store Managers

Importance of CFL quality	PG&E/SCE								
	All Stores (n=70)	Big Box/ MM (n=11)	LHI (n=3)	Large Grocery (n=12)	Small Grocery (n=11)	Drug (n=9)	Discount (n=15)	Small Hardware (n=6)	Lighting, Other Retail (n=4)
Very important	70%	91%	67%	25%	82%	78%	80%	67%	50%
Somewhat important	16%	0%	33%	17%	9%	22%	7%	33%	50%
Not at all important	3%	0%	0%	0%	9%	0%	7%	0%	0%
Don't know	13%	9%	0%	58%	0%	0%	7%	0%	0%

When we asked the store managers: “How can you tell whether the CFLs your store is selling are quality products?” their four most common responses were:

- By the number of returned CFLs,
- By customer feedback,
- By whether they are a quality brand name, and
- The retailer’s personal examination of or experience with the CFL product.

We asked the store managers whether their companies do anything to assure the quality of the CFLs that they sell. Table 5-30 shows that only about a quarter of the store managers said that their companies do something. When asked what actions their companies took, these store managers said their companies either offered free product replacements/guarantees or their companies discontinued CFL products that had high return rates.

Table 5-30
Whether Retailers Do Anything
to Assure the Quality of the CFLs They Sell
According to Participating PG&E/SCE Store Managers

Is your company doing anything to assure the quality of the CFLs it sells?	PG&E/SCE								
	All Stores (n=71)	Big Box/ MM (n=11)	LHI (n=3)	Large Grocery (n=12)	Small Grocery (n=11)	Drug (n=9)	Discount (n=15)	Small Hardware (n=6)	Lighting, Other Retail (n=4)
Yes	27%	36%	0%	17%	18%	22%	13%	50%	100%
No	48%	18%	100%	33%	82%	56%	60%	33%	0%
Don't know	25%	45%	0%	50%	0%	22%	27%	17%	0%

Finally we asked the store managers whether there were any CFLs that they stopped offering due to customer complaints related to quality. Only three of the 71 store managers (4%) said that they had.

6. Detailed Findings from General Population Telephone Survey

6.1 Detailed Findings

This section discusses, in much more detail, the findings that are summarized in the Executive Summary above. The sections that make up these detailed findings include:

- Introduction,
- CFL Awareness,
- CFL Purchases,
- CFL Disposition,
- Program Effects,
- CFL Non-Purchasers / Non-Recent Purchasers, and
- Demographic Characterizations of Respondents

6.2 Introduction

6.2.1 2008 General Population Survey

KEMA, Inc. conducted a General Population telephone survey focused on consumer purchase, installation, and storage behavior of compact fluorescent lamps (CFLs) as part of its process evaluation contracts with PG&E and SCE. An experienced Computer-Assisted Telephone Interviewing (CATI) company conducted the surveys using random digit dial of residences within the zip codes that comprise PG&E's and SCE's service territories. Calls were completed during the August - October 2008 period.

The survey included separate batteries for individuals who were aware of CFLs (the majority of respondents) and for individuals who were unaware. Table 6-1 shows the number of completed surveys by IOU service territory and CFL awareness. As shown in the table, we completed 1,267 total surveys including 1,205 with respondents who were aware of CFLs and 62 with respondents who were unaware.

Table 6-1
Completed Surveys by IOU Territory, 2008

IOU	CFL Awareness		Total Completed Surveys
	Aware	Unaware	
PG&E	602	25	627
SCE	603	37	640
Overall	**1,205**	**62**	**1,267**

6.2.2 Comparisons with Prior Survey Data

Evaluators fielded the 2008 general population survey among PG&E and SCE customers as part of process evaluation contracts with each of the two IOUs. The most recent data available for comparison is from the 2004/2005 Single Family Energy Efficiency Rebate Program evaluation[25] for which general population surveys were fielded in the PG&E, SCE, and SDG&E service territories in 2006. Although results of the 2008 general population survey are not directly comparable to these prior data sources (because prior sources include SDG&E), these results have been included where appropriate to show general trends over time.

6.3 CFL Awareness

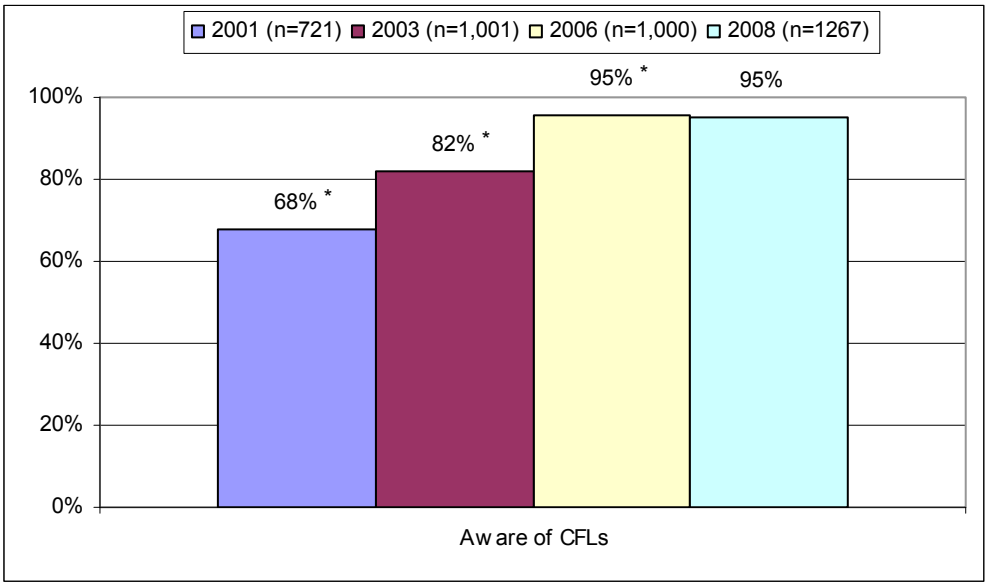
We asked the 2008 PG&E/SCE respondents whether they had ever heard of CFLs. If respondents said they had no knowledge of CFLs, or were unsure, surveyors provided them with a description of the lamps.[26] As shown in Figure 6-1, CFL awareness in California increased substantially between 2001 and 2006, but has stayed constant since then. In both 2006 and 2008, 95 percent of survey respondents claimed to be aware of CFLs, compared to 68 percent in 2001. In the 2008 data, there were no statistically significant differences in awareness rates between the PG&E and SCE respondents.

[25] Itron and KEMA Inc., 2007. 2004/2005 Statewide Residential Retrofit Single-Family Energy Efficiency Rebate Evaluation. Prepared for The California Public Utilities Commission, Pacific Gas & Electric, San Diego Gas & Electric, Southern California Edison, and Southern California Gas Company. Submitted to California Public Utilities Commission Energy Division. September 26, 2007.

[26] The description was as follows: “Compact fluorescent light bulbs, or CFLs, are small fluorescent bulbs that fit in regular light bulb sockets. They are also called ‘energy saving bulbs’ and look different than standard bulbs. They are often made out of thin tubes of glass bent into loops or a spiral shape.”

Forty-four percent of the 2008 PG&E/SCE respondents who claimed CFL awareness said that they became aware within the past two years. More than a third (36%) said they became aware three to five years ago (between 2004 and 2006). Twelve percent reportedly learned about CFLs between six and ten years ago, and five percent reported that they became aware over ten years ago.[27] A higher proportion of the 2008 SCE respondents said they became aware of CFLs between 2004-2006 than PG&E respondents. There were no other statistically significant differences in dates of awareness between the PG&E and SCE respondents.

Figure 6-1
CFL Awareness Over Time



* Difference from prior years statistically significant at the 90 percent level of confidence

2001 data source: XENERGY Inc., 2002. Phase 4 Market Effects Study of California Residential Lighting and Appliance Program. Prepared for San Diego Gas & Electric. April 26, 2002. 2003 data source: KEMA-XENERGY and Quantum Consulting, 2003. Evaluation of the 2002 Statewide Crosscutting Residential Lighting Program. Prepared for San Diego Gas & Electric, Pacific Gas & Electric, and Southern California Edison. October 13, 2003. 2006 data source: Itron and KEMA Inc., 2007.

6.3.1 How Consumers Became Aware of CFLs

The three most common sources of CFL awareness among telephone survey respondents have not changed since 2006, as Table 6-2 shows. These include becoming aware of CFLs in stores (due to a display, a sale, or point-of-purchase materials), through television, and through word

[27] Roughly 3.5 percent did not know when they became aware of CFLs.

of mouth. However, the 2008 survey did see an increase in the percentage of respondents claiming to have learned about CFLs from television. This is likely the result of increased promotion of CFLs via television commercials such as those sponsored by PG&E in 2007 and 2008 and the statewide Flex Your Power advertising campaign.

Table 6-2
Source of First Awareness of CFLs, 2006 and 2008*

Source of Awareness	% of Consumers Aware of CFLs	
	2006	2008
In-store display / Sale / POP materials	30%	27%
Television	14%	23%**
Word of mouth	22%	19%
Utility (bill insert or mailing)	7%	7%
Newspaper	6%	6%
Magazines	5%	6%
Other†	13%	29%
Don't know/Refused	18%	11%
n	**965**	**1205**

* Questions allowed multiple responses; total may exceed 100 percent.

** Difference from prior year is statistically significant at 95 percent level of confidence.

† "Other" sources of awareness include received free CFL at an event or giveaway, employer, installed in building where I live, internet, advertising (other/unspecified), radio, contractors, sales person, received CFL for free in the mail, Consumer Reports, Energy Star program website, announcement by governor or other government official, received free CFL coupon in the mail, and FLEX YOUR POWER. Each of these accounted for less than 5 percent of sources cited by the general population.

2006 data source: Itron and KEMA Inc., 2007.

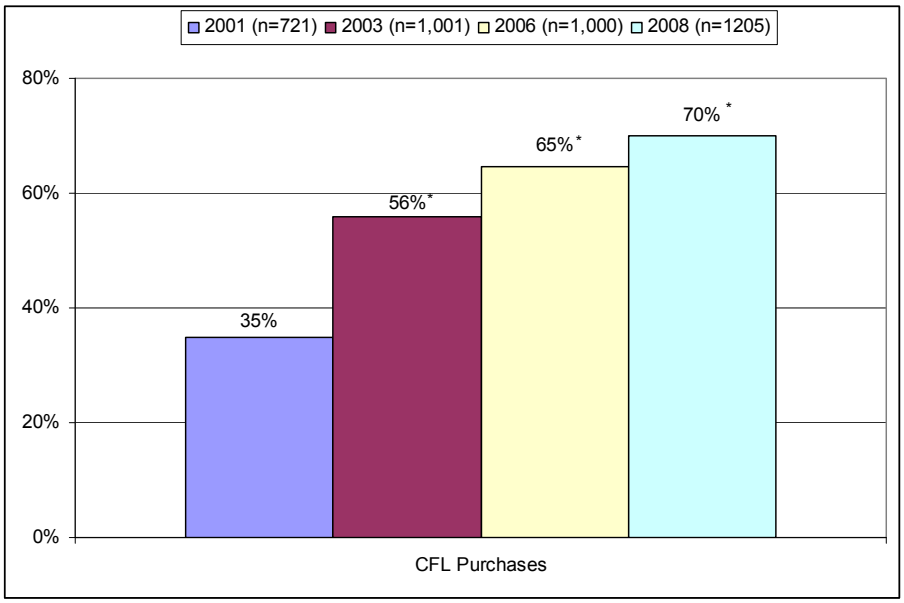
Of the respondents who first became aware of CFLs in stores due to a display, a sale, or point-of-purchase materials, 24 percent reported that they saw a PG&E/SCE sticker/ logo on the CFL packaging, on the display, or in the point-of-purchase (POP) materials. Twenty-nine percent said that they did not see an IOU sticker/logo on the CFLs, and the remaining 47 percent did not know. There are no statistically significant differences between the responses of the PG&E and SCE customers.

6.4 CFL Purchases

6.4.1 Purchase Rate

The CFL purchase rate in California has steadily increased since 2001. Figure 6-2 shows that as of 2008, 70 percent of consumers have purchased at least one CFL (a statistically significant increase over 2006 results). While the purchase rate increased significantly between 2001 and 2003, the rate of increase slowed between 2003 and 2006, and between 2006 and 2008. This slower rate of increase occurred despite increased CFL availability, increased promotion, improved quality, and declining CFL prices. This could be evidence of a typical bell-shaped technology adoption curve, where the pace of adoption slows with the last 20-30 percent of consumers. There are no significant differences between PG&E and SCE respondents or between demographic groups.

Figure 6-2
CFL Purchase Rates Over Time



* Difference from prior years statistically significant at the 90 percent level of confidence.
2001 data source: XENERGY Inc., 2002.
2003 data source: KEMA-XENERGY and Quantum Consulting, 2003.
2006 data source: Itron and KEMA Inc., 2007.

6.4.2 Quantity Purchased During Most Recent Purchase

We asked the 2008 PG&E/SCE respondents to estimate the number of CFLs that they had most recently purchased from a retail store. For the purpose of this survey, we defined the most recent purchase as the last CFL purchase that the respondent made. In addition, this purchase had to be between 2006 and 2008. The overall mean number of CFLs most recently purchased, shown in Table 6-3 below, is 7.1 CFLs. The table shows that the average number of bulbs per purchase is declining over time, even though not all the year-to-year differences are statistically significant. Possible explanations for this include the increased number of bulbs that consumers have in storage as well as the efforts by some IOUs participating in the ULP to discourage use of the larger multi-packs.

Table 6-3
Average Number of CFLs Purchased
by IOU and Year of Most Recent Purchase

Year of Most Recent Purchase	IOU		Overall
	PG&E	SCE	
2006	8.9	8.6	**8.8**
2007	8.1	7.6	**7.8**
2008	6.7	6.4	**6.6****
Overall	**7.3**	**6.9**	**7.1**

** Difference from prior year statistically significant at the 90 percent level of confidence.
Number of respondents for PG&E: 2008 n = 225; 2007 n = 106; 2006 n = 35.
Number of respondents for SCE: 2008 n = 245; 2007 n = 87; 2006 n = 30.
Number of respondents overall: 2008 n =470; 2007 n = 193; 2006 n = 65.

6.4.3 Reasons for Choosing CFLs

In both 2006 and 2008, when asked about their most recent CFL purchases, the majority of survey respondents stated that the most important factor in choosing a CFL over an incandescent was to save or conserve energy. Table 6-4 shows that respondents mentioned energy conservation more than twice as often as any other reason. Roughly one in five purchasers mentioned electricity bill reductions and CFLs lasting longer. As purchase rates and saturation rates have increased with time, fewer respondents have been claiming that they recently purchased CFLs “to try them out”. It appears that an overall increase in CFL adopters has reduced the number of purchasers looking to investigate a new technology.

Table 6-4
Reasons for Choosing CFLs, 2006 and 2008*

Reason	% of Purchasers	
	2006	2008
Save / conserve energy	66%	68%
Save money / reduce electricity bill	19%	23%
CFLs last longer	22%	23%
"Right thing to do" (environmental reasons)	3%	7%**
Product works better / higher quality	5%	5%
On sale / low price	3%	4%
To try them out	7%	3%**
Less heat given off by bulb	N/A††	2%
Other†	9%	12%
n	**756**	**753**

* Questions allowed multiple responses; total may exceed 100 percent.

** Difference from prior year is statistically significant at 95 percent level of confidence.

† "Other" reasons include energy savings worth the extra up-front cost; cost savings worth the extra up-front cost; suggestions from friends or family; suggestions from salesperson; a desire to have new, high-tech products, to replace bulbs already installed in fixture; the belief that CFLs were required by local building code; and to redeem a coupon. Each was cited by less than 4 percent of the population.

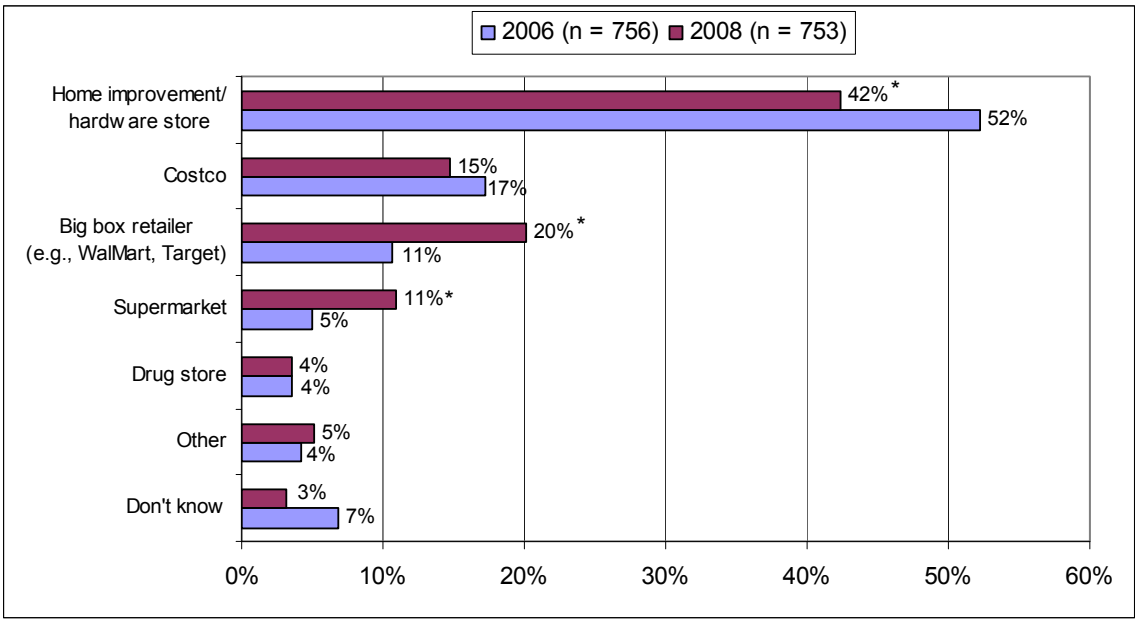
†† Not a response from 2006.

2006 data source: Itron and KEMA Inc., 2007.

6.4.4 Where Consumers Purchased CFLs

As Figure 6-3 shows, as compared to the 2006 survey respondents, the 2008 survey respondents were less likely to have said that they made their most recent CFL purchase at home improvement or hardware stores. Yet the 2008 respondents were more likely to report that they made their most recent CFL purchase at big box retailers (e.g., Wal-Mart, Target, etc.) or supermarkets.

Figure 6-3
Where Consumers Purchased CFLs Most Recently, 2006 and 2008

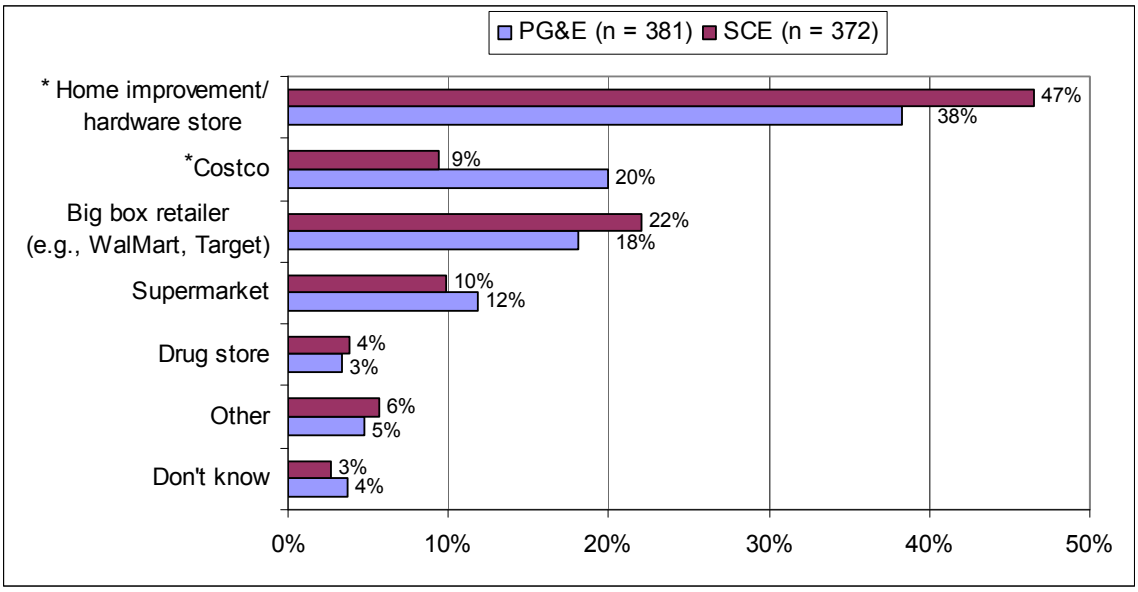


* Difference from prior year is statistically significant at the 90 percent level of confidence.
2006 data source: Itron and KEMA Inc., 2007.

When considering purchase location along with the number of lamps in the most recent CFL purchases, Costco accounts for over 21 percent of CFLs purchased (compared to 15% of *purchasers* who cited Costco as the purchase location). All other store types accounted for an equal or smaller proportion of CFLs purchased as compared to the proportion of purchasers citing each store type. This means that respondents purchased more CFLs on average at Costco during their most recent CFL purchase than at other stores. This is likely due to the relatively large CFL package sizes (multi-packs) at Costco compared to other channels.

There were significant differences in the CFL purchasing locations reported by PG&E customers and SCE customers in 2008. As Figure 6-4 shows, SCE customers made almost half (47%) of their most recent purchases at home improvement or hardware stores, compared to 38 percent of PG&E customers. The difference in recent purchase percentage is made up by a higher incidence of Costco CFL purchases among PG&E customers compared to SCE customers. Purchases through other channels were statistically the same among respondents between IOU service territories. This mirrors the ULP tracking data where Costco accounts for a much higher percentage of discounted CFLs in the PG&E service territory than in the SCE service territory.

Figure 6-4
Where Consumers Purchased CFLs Most Recently by IOU (2008)



* Difference between IOUs is statistically significant at the 90 percent level of confidence.

Home ownership and income level also played a substantial role in differences among respondent self-reports of recent CFL purchase locations. Almost half (46%) of home owners and over half (51%) of people in households with annual incomes of greater than $60,000 had most recently purchased a CFL at a home improvement or hardware store, compared to only 33 percent of renters and 34 percent of respondents in households earning less than $60,000 per year. Noticeably, a larger proportion of renters and respondents who live in households with incomes of less than $60,000 per year recently purchased CFLs at big box retailers (26% and 27%, respectively) than homeowners and higher-income respondents (18% and 15%, respectively). There are two possible explanations for this. First renters and less affluent purchasers may be less likely to make home improvements and therefore to shop in these types of stores. Second the CFL price points are often lower in the big box stores than they are in the home improvement stores.

6.4.5 Package Type

About two thirds of the 2008 PG&E/SCE respondents said that their recent CFL purchases were multi-packs (Table 6-5). There were no statistically significant differences between the package type recently purchased by PG&E and SCE respondents. However, a larger proportion (70%) of households with incomes greater than $100,000 per year have most recently purchased a multi-pack than households making less than $30,000 per year (58%).

Table 6-5
Packaging Type for Most Recent Purchase, by IOU, 2008

Package Type	% of Purchasers		
	PG&E	SCE	Overall
Multi-pack	66%	64%	65%
Single Pack	26%	25%	25%
Both	6%	9%	8%
Don't know	2%	2%	2%
n	**381**	**372**	**753**

6.5 CFL Selection

As Table 6-6 shows, more than a quarter of recent PG&E/SCE CFL purchasers chose the specific CFL that they most recently purchased because of its price. About a fifth of them also cited the wattage, the bulb style/shape, or the color of the bulb's light as their most important factors in selecting which CFL to purchase. There were no statistically significant differences among respondents between IOU service territories.

Table 6-6
Most Important Factor in Selecting Which CFL to Purchase, 2008*

Reason	% of Purchasers		Overall
	PG&E	SCE	
Bought what was cheapest / on sale	25%	28%	26%
Looked at wattage	22%	20%	21%
Style or shape of bulb / color of light	17%	18%	18%
Bought only bulbs they had available	10%	8%	9%
Looked at lumens	7%	6%	6%
Energy savings / efficiency	6%	5%	6%
Brand name / Already know / use this manufacturer's products	4%	5%	5%
Longevity / lifespan	3%	5%	4%
Already familiar with / use this model	3%	2%	3%
IOU logo / sticker / signs	4%	1%	3%
Other reasons†	10%	6%	8%
Don't know	4%	10%	7%
n	**381**	**372**	**753**

* Questions allowed multiple responses; total may exceed 100 percent.

† "Other" reasons include seeing the ENERGY STAR logo; which fixture / room its being installed in; recommendation from friend or family member; recommendation from store staff; and how it compares to previous bulbs. Each was cited by less than 3 percent of the population.

6.6 CFL Disposition

6.6.1 CFL Installation

Ninety-three percent of the 2008 PG&E/SCE CFL purchasers (n =950) said they had at least one CFL installed either in their home or in an exterior fixture outside of their homes. Table 6-7 shows the average numbers of CFLs installed, in storage, and ever removed for households of CFL purchasers. On average, the 2008 CFL purchasers reported 10.3 CFLs installed in their homes, significantly higher than the 6.8 lamps per home reported in 2006. In addition, the 2008 survey found the average number of stored lamps to be significantly higher than in 2006. Despite the average increase in CFLs per household, the relative percentages of CFLs being installed, stored and removed were statistically unchanged since 2006.

Table 6-7
Bulb Disposition in Purchaser Households, 2006 and 2008

Disposition of All CFLs Ever Acquired by Purchaser Household	2006		2008	
	Mean Number of Bulbs	% of Total Bulbs	Mean Number of Bulbs	% of Total Bulbs
CFLs currently installed	6.8	70%	10.3*	71%
CFLs currently in storage	2.5	26%	3.6*	24%
CFLs ever removed	0.3	3%	0.7	5%
Total Number of CFLs Ever Acquired	**9.6**	**100%**	**14.6***	**100%**

* Difference from 2006 results is statistically significant at 90 percent level of confidence.
2006 data source: Itron and KEMA Inc., 2007.

As Table 6-8 shows, households in PG&E's territory reported having, on average, more lamps in storage than households in SCE's territory. Yet the average numbers of CFLs installed, CFLs removed, and total CFLs acquired per household were not statistically different between PG&E and SCE respondents.

Table 6-8
Bulb Disposition in Purchaser Households, by IOU, 2008

Disposition of All CFLs Ever Acquired by Purchaser Household	PG&E		SCE	
	Mean Number of Bulbs	% of Total Bulbs	Mean Number of Bulbs	% of Total Bulbs
CFLs currently installed	10.5	69%	10.2	73%
CFLs currently in storage	4.1	26%	3.2*	22%
CFLs ever removed	0.7	5%	0.7	5%
Total Number of CFLs Ever Acquired	**15.3**	**100%**	**14.0**	**100%**

* Difference from PG&E results is statistically significant at 95 percent level of confidence.

6.6.2 Time Between Purchase and Installation (of Installed Lamps)

As Table 6-9 shows, a large majority of the 2008 respondents who had recently purchased CFLs said that these bulbs had been installed within a week of purchase. Very few CFLs remained in storage for longer than a week before ultimately being installed. There were no statistically significant differences in time-to-installation among respondents between IOU service territories.

Table 6-9
Duration of Installation After Purchase
of Recently-Purchased CFL, by IOU, 2008

Duration After Purchase	% of Lamps Installed		
	PG&E	SCE	Overall
Zero to 1 week	85%	87%	86%
2 to 6 weeks	7%	5%	6%
6 to 12 weeks	3%	1%	2%
More than 12 weeks	1%	1%	1%
Don't know	5%	6%	6%
Total Lamps	**1520**	**1511**	**3031**

6.6.3 Installation Location of Recently Purchased CFLs

Table 6-10 shows that bedrooms were the most common rooms where the 2008 respondents reported CFLs being installed. This is likely partly due to households having a higher percentage of bedrooms than any other room type. The next most common rooms for CFLs were living rooms, kitchens, and full bathrooms. PG&E respondents reported a higher percentage of CFLs installed in exterior fixtures than SCE respondents and a higher percentage in dining room fixtures. These differences are statistically significant.

Table 6-10
Location of Recently Purchased Lamps, by IOU, 2008

Location	% of Lamps		
	PGE	SCE	TOTAL
Bedroom	28%	26%	27%
Living room	16%	19%	18%
Kitchen	11%	13%	12%
Bathroom (full bath)	10%	12%	11%
Outdoors†	9%	6%**	8%
Family room/den	7%	8%	7%
Dining room	5%	3%**	4%
Hallway or entryway	3%	4%	4%
Other room (interior)††	7%	8%	8%
Don't know / refused	4%	1%	2%
n (Total Lamps)	**788**	**767**	**1555**

** Difference from PG&E is statistically significant at 95 percent level of confidence.
† Outdoors includes porch/patio, entryway, walkways, and landscape lighting.
†† Other room (interior) includes garage, laundry/utility room, half baths, and closets.

6.6.4 Nonresidential Installations

Only three percent of recent purchasers claimed that they installed some or all of their recently-purchased CFLs in a business location other than a home office (4% for PG&E and 2% for SCE). Of the 17 respondents who estimated how many CFLs they had installed in a business location, the average number installed was 4.3. Given the small sample size, there was no statistically significant difference in the number of CFLs installed in business locations among respondents in the two IOU service territories.

6.6.5 CFL Storage

Sixty-one percent of CFL purchasers said that they were storing CFLs, while 35 percent were not (the remainder did not know). The number of purchasers storing CFLs is statistically unchanged since 2006. In the 2008 survey, more PG&E respondents reported storing lamps than SCE respondents (64% and 58%, respectively). Sixty-four percent of homeowners were storing CFLs, compared to only 52 percent of renters (a statistically significant difference). Of the respondents who were storing CFLs to be installed at a later date, 63 percent also said that they were storing incandescents.

As Table 6-11 points out, a smaller proportion of the 2008 PG&E/SCE respondents were storing CFLs than the 2006 survey respondents. Interestingly, in 2008 more than double the percentage of households with incomes greater than $100,000 per year were storing CFLs because they bought them on sale than households with incomes less than $30,000 per year (15% and 6%, respectively). This is likely related to the finding, as reported earlier, that the higher customers are more likely to buy their CFLs at Costco, which sells the largest CFL multi-packs.

Table 6-11
CFL Purchaser Reasons for Storing CFLs, 2006 and 2008*

Reason for Storing CFLs	% of Purchasers	
	2006	2008
So I have them on hand if a bulb burns out	77%	70%**
Purchased more CFLs than I needed	19%	23%
Bought them on sale	6%	11%**
Can't / won't use them in certain applications	3%	4%
Other reasons†	7%	13%
Don't know	2%	1%
n	**460**	**582**

* Question allowed multiple responses; total may exceed 100 percent.

** Difference from prior year is statistically significant at 90 percent level of confidence.

† "Other reasons" include did not like them, can't / won't use them in certain rooms, CFLs don't fit in fixtures. Each was cited by less than 4 percent of respondents.

2006 data source: Itron and KEMA Inc., 2007.

6.6.6 Decision to Install CFL or Incandescent from Storage

Interviewers asked the 364 survey respondents who had both incandescent lamps and CFLs in storage how they decide which lamp type to install when a currently-installed lamp burns out. As shown in Table 6-12, the most commonly-cited criterion was the fixture type. Other criteria for bulb choice included whether or not a CFL would fit into the fixture and the type of room in which the lamp will be installed. There were no statistically significant differences in this decision-making process among respondents between the two IOU service territories.

Table 6-12
How Decision to Install CFL or Incandescent from Storage is Made, 2008*

Reason	% of Respondents
Depends on fixture type	34%
CFLs don't fit all fixtures	17%
CFLs are first choice	15%
Depends on room type	13%
No system / random replacement	7%
Use up incandescent before using CFLs	5%
Incandescents for ambiance / mood lighting	4%
CFLs don't work in dimmers / 3-ways	4%
Other reasons†	14%
Don't know	4%
n	**364**

* Question allowed multiple responses; total may exceed 100 percent.

† "Other reasons" include incandescents for task lighting; won't use CFLs; incandescents for reading; CFLs for ambience / mood lighting; CFLs for reading; and don't like CFLs because of mercury / need to recycle. Each was cited by less than 4 percent of respondents.

6.6.7 Reasons for Purchasing Additional CFLs When Already Storing CFLs

Approximately 100 of the 2008 respondents had recently purchased and stored CFLs when they already had CFLs in storage. Their most common reasons for doing so included wanting a different wattage or size, seeing a low CFL price, and simply wanting more CFL in storage (Table 6-13). Survey results show no statistically significant differences in results between the PG&E and SCE respondents.

Table 6-13
Reason for Additional CFL Purchase
(Among Respondents Storing CFLs from Prior Purchase[s]), 2008*

Reason	% of Recent Purchasers Storing CFLs
Wanted different wattage / size	42%
Price was good / low	41%
To have more in storage	32%
To give as a gift	9%
Forgot I already had CFLs in storage	6%
Wasn't sure how many CFLs I had stored at ho	4%
Wanted to try / test a specific model	4%
Other reasons†	12%
Don't know	2%
n	**100**

* Question allowed multiple responses; total may exceed 100 percent.

† "Other reasons" include: planning to switch out incandescents; wanting dimmable lamps; package size; and use in different location. Each was mentioned by less than 4 percent of respondents.

6.6.8 CFL Removal

Twenty percent of the 2008 respondents who had installed CFLs said they had removed at least one of these CFLs. Table 6-14 shows that over half of them did so because the CFLs burned out. Removing CFLs because they did not fit properly in the fixture or because they were not bright enough were other oft-cited reasons. There were no statistically significant differences among the PG&E and SCE respondents.

Table 6-14
Reasons for Removing CFLs, 2008*

Reason for Removing CFLs	% of Purchasers
Burned out	56%
Didn't fit in fixture	16%
Wasn't bright enough	14%
Broken bulb	10%
Didn't like the color	8%
Didn't like the way it looked	6%
Bulb hummed / flickered	6%
Other reasons†	8%
Don't know	1%
n	**192**

* Question allowed multiple responses; total may exceed 100 percent.

† "Other reasons" include the lamp was too bright; needed a dimmable CFL; replaced fixture; worry regarding mercury pollution. Each was mentioned by less than 5 percent of respondents.

6.6.9 CFL Satisfaction

On a scale of 1 to 10 where 1 meant the respondents were 'not at all satisfied' and 10 meant they were 'extremely satisfied' with the CFLs they purchased most recently (of purchasers who have purchased at least one CFL since 2006), PG&E and SCE respondents had an average satisfaction rating of 7.9. There was no statistically significant difference between the satisfaction ratings of the PG&E and SCE respondents.

Table 6-15 shows that CFL users cited length of life as the CFL attribute that they were most satisfied with. Respondents were least satisfied with the way CFLs look in fixtures. SCE customers were more satisfied with the brightness and light color of CFLs than PG&E customers. There were no other significant differences among respondents between the two IOU service territories

Table 6-15
Satisfaction with CFLs and Their Attributes, by IOU, 2008

CFL Attribute	Satisfaction					
	PG&E		SCE		Overall	
	Mean Rating	n	Mean Rating	n	Mean Rating	n
Overall satisfaction with CFLs	7.8	465	8.0	470	7.9	935
Length of life	8.7	406	8.7	409	8.7	815
Brightness	7.8	461	8.1**	469	7.9	930
Color of light	7.7	455	8.0**	464	7.8	919
Amount of time to light up	7.7	449	7.8	462	7.8	911
The way they fit into fixtures	7.9	457	7.8	472	7.8	929
The way they look in fixtures	7.0	443	7.1	462	7.1	905

** Difference between IOUs is statistically significant at 95 percent level of confidence.

Overall satisfaction with CFLs has improved between 2006 and 2008. In 2008 PG&E and SCE respondents rated their overall satisfaction with CFLs as an average 7.9 out of 10, compared to 7.7 out of 10 for all California IOUs in 2006 (Table 6-16). Average satisfaction ratings for four out of six CFL attribute categories have significantly improved since 2006: brightness, color of light, startup time, and the way CFLs look in fixtures. The largest improvement in satisfaction between 2006 and 2008 was for the way CFLs look in fixtures. There were no significant satisfaction differences regarding length of life or the way CFLs fit into fixtures among respondents of the 2006 and 2008 surveys.

Table 6-16
Satisfaction with CFLs and Their Attributes, 2006 and 2008

CFL Attribute	Satisfaction			
	2006		2008	
	Mean Rating	n	Mean Rating	n
Overall satisfaction with CFLs	7.7	756	7.9**	935
Length of life	8.5	357	8.7	815
Brightness	7.5	377	7.9**	930
Color of light	7.4	395	7.8**	919
Amount of time to light up	7.5	347	7.8**	911
The way they fit into fixtures	7.7	386	7.8	929
The way they look in fixtures	6.6	366	7.1**	905

** Difference from prior year is statistically significant at 90 percent level of confidence.
2006 data source: Itron and KEMA Inc., 2007.

6.7 Program Effects

6.7.1 Influence of General Promotional Materials

Thirty percent of recent CFL purchasers reported that they saw signs, brochures, lighting displays, or other information providing facts about CFLs when shopping for CFLs most recently. Of these people, 53 percent saw signs, 25 percent saw a lighting display, 24 percent saw brochures, and 6 percent saw information on the CFL packaging.[28] When asked how influential these materials were on their decision to purchase CFLs, approximately 62 percent reported that the materials were very or somewhat influential (Table 6-17). There were no statistically significant differences in influence of promotional materials between respondents in the two IOU territories.

Table 6-17
Influence of Promotional Materials on CFL Purchase, 2008

Influence of Promotional Materials	% of Purchasers Aware of Promotional Materials
Very influential (3)	35%
Somewhat influential (2)	27%
Not at all influential (1)	36%
Don't know	2%
n	**197**

6.7.2 Influence of General Promotions or Price Discounts

Thirty-seven percent of the 2008 respondents claimed that there was a special promotion or discount on the CFLs they most recently purchased. When we asked these respondents how likely they would have been to purchase CFLs in absence of the discount, 26 percent reported that they would have been not at all likely to purchase the CFLs. Thirty-eight percent reported that they would have been only somewhat likely to purchase CFLs in absence of the discount, and 35 percent reported that they would have been very likely to purchase the CFLs in absence of the discount (n = 278). Of the same group, nearly three-quarters (73%) claimed that the discount encouraged them to purchase more CFLs than they would have in absence of the

[28] The remainder saw some other form of information.

discount. There were no statistically significant differences among the PG&E and SCE respondents in terms of the influence of CFL discounts on purchasing decisions.

6.7.3 Awareness of IOU Discount

We asked the 2008 respondents whether they had seen special stickers on the discounted CFLs they most recently purchased. We also asked them if they noticed from the sticker who had provided the discount. Of the respondents (n = 278) who claimed that their recently-purchased CFLs were discounted, 28 percent reported that they saw special stickers on the CFL packaging to indicate the discount. Of those who saw such stickers (n = 79), 60 percent claimed that SCE or PG&E provided the discount.

6.8 CFL Non-Purchasers / Non-Recent Purchasers

6.8.1 Reasons for Not Purchasing CFLs Recently

The 2008 survey asked respondents who said that they were aware of CFLs but had never purchased them, or had not purchased them recently (most recent purchase before 2006), why they had not purchased CFLs. As Table 6-18 shows, about one quarter said that they were waiting for installed bulbs to burn out. Eighteen percent of the non-purchasers/non-recent purchasers reported that they do not purchase the lighting for their household and twelve percent said that they already had enough CFLs in storage. A similar percentage of all non-purchasers/non-recent purchasers had no reason for not purchasing CFLs.

The table also shows that SCE non-purchasers/non-recent purchasers were much more likely than PG&E respondents to have said that they had not purchased CFLs because they were waiting for installed bulbs to burn out. In contrast, PG&E non-purchasers/non-recent purchasers were much more likely than their SCE counterparts to have reported that they had not purchased CFLs because they had enough CFLs in storage.

Table 6-18
Reasons for Not Purchasing CFLs, 2008*

Reason	% of Respondents		
	PG&E	SCE	Overall
Waiting for bulbs installed to burn out	18%	30%**	24%
Someone else buys them / given to me as a gift	19%	17%	18%
Have enough CFLs in storage	12%	7%**	10%
CFLs are too expensive / cost too much	7%	5%	6%
Don't like CFLs / incandescents are fine	5%	5%	5%
CFLs aren't bright enough	4%	5%	4%
Contains mercury / needs to be recycled	5%	4%	4%
CFL light color isn't what I want / isn't right	5%	3%	4%
No reason	13%	10%	11%
Other reasons†	14%	16%	15%
Don't know	11%	9%	10%
n	**221**	**231**	**452**

* Question allowed multiple responses; total may exceed 100 percent.

** Difference from prior year is statistically significant at 90 percent level of confidence.

† "Other reasons" include storing incandescent bulbs; don't like the way CFLs look / fit in fixtures; CFLs take too long to light up; low operating hours for remaining non-CFLs; need 3-way bulbs; and need dimmable bulbs. Each was mentioned by less than 4 percent of respondents.

6.8.2 Potential Motivations to Purchase

Nearly one quarter of non-purchasers/non-recent purchasers reported that they could not be motivated by anything to purchase CFLs in 2008 (see Table 6-19). However, 25 percent of them said that they will buy CFLs if they need more bulbs or if they run out of what they currently have. Eighteen percent reported that they would purchase CFLs if they were cheaper, and 12 percent said that they were not yet convinced of their energy saving potential. There were no statistically significant differences among respondents between IOU territories.

Table 6-19
Potential Motivation to Purchase CFLs, 2008*

Potential Motivation	% of Respondents
If I need to buy more bulbs / if I runout of what I have	25%
They need to be cheaper	18%
Need to be convinced of their energy saving potential	12%
Improved quality of the light	6%
If they didn't contain mercury / didn't need to be recycled	4%
Nothing at all	23%
Other source†	16%
Don't know	8%
n	**452**

* Question allowed multiple responses; total may exceed 100 percent.

† "Other sources" include needing to make them look attractive in fixtures; need more information about CFLs; preference for incandescents; need to make them fit in fixtures; need 3-way and dimmable features; and need to see them in stores where lighting is purchased. Each was mentioned by less than 4 percent of respondents.

6.9 Demographic Characterizations of Respondents

The interviews included a series of demographic questions for all respondents (including those who were aware or unaware of CFLs as well as purchasers and non-purchasers). The section below compares socio-demographics between respondents who were aware or unaware of CFLs and between respondents who had or had not purchased CFLs. Generally, we found statistically significant differences between these groups for the following demographic categories:

- Home ownership;
- Building type;
- Level of education; and
- Annual household income.

The text below provides additional detail – first for unaware versus aware respondents, and then for CFL purchasers versus non-purchasers.

6.9.1 Comparison of Aware/Unaware Respondents

A significantly larger proportion of CFL-aware respondents were homeowners than respondents who were unaware of CFLs. Respondents who were aware of CFLs were more likely to have at a least college degree (or higher education) than respondents who were unaware of CFLs, and a greater proportion of aware respondents had higher incomes than unaware respondents. The text below provides additional detail.

Home ownership. Table 6-20 shows that the 2008 PG&E/ SCE respondents who were aware of CFLs were more likely to be homeowners than unaware respondents.

Table 6-20
Home Ownership by CFL Awareness, 2008

Home Ownership	% of Respondents	
	Aware	Unaware
Own	74%	61%**
Rent	24%	39%**
Don't own or rent	1%	0%
Refused	2%	0%
n	**1205**	**62**

** Difference between aware and unaware populations is statistically significant at the 90 percent level of confidence.

Building Type. A significantly higher proportion of aware respondents live in detached single-family homes than unaware respondents, as shown below in Table 6-21. In addition, a higher proportion of unaware respondents lived in apartment buildings with five or more units than aware respondents. There were no statistically significant differences between aware and unaware populations for any other building types.

Table 6-21
Building Type by CFL Awareness, 2008

Building Type	% of Respondents	
	Aware	Unaware
Detached single family home	74%	56%**
A bldg with five+ apts	9%	19%**
Attached single family bldg with two a	7%	5%
Mobile home	4%	6%
A bldg with three to four apts	4%	5%
Refused/Don't know	2%	8%
n	**1205**	**62**

** Difference between aware and unaware population is statistically significant at the 90 percent level of confidence.

Level of Education. Table 6-22 shows that respondents who were aware of CFLs were more likely to have at least a college degree than respondents who were unaware. In addition, more than a third (35%) of unaware respondents had at most completed high school or received their General Education Degree, compared to 22 percent of aware respondents. This suggests that education may directly impact awareness of CFLs.

Table 6-22
Highest Level of Education by CFL Awareness, 2008

Highest Level of Education	% of Respondents	
	Aware	Unaware
High school grad or equivalent (GED) or less	22%	35%**
Trade / tech school or some college	25%	23%
College degree or more	48%	29%**
Refused	4%	13%
Don't know	0%	0%
n	**1205**	**62**

** Difference from prior year is statistically significant at the 90 percent level of confidence.

Household Income. Table 6-23 shows that unawareness of CFLs was higher among the lower-income respondents. Unaware respondents were more than twice as likely as aware respondents to live in households earning less than $20,000 per year. Households making more than $100,000 also made up a much larger proportion of the CFL-aware population than the unaware population. Since income and education are usually highly correlated, it's possible that this may be another manifestation of the education effect.

Table 6-23
Annual Household Income by CFL Awareness, 2008

Annual Household Income	% of Respondents	
	Aware	Unaware
> $20k per year	9%	19%**
$20k to less than $50k	22%	15%
$50k to less than $100k	22%	16%
$100k or more	20%	6%**
Refused	20%	29%
Don't know	6%	15%
n	**1205**	**62**

** Difference between aware and unaware population is statistically significant at the 90 percent level of confidence.

6.9.2 Comparison of CFL Purchasers/Non-purchasers

The 2008 survey found that a significantly larger proportion of respondents who have purchased CFLs were homeowners compared to respondents who had not purchased CFLs, and more purchasers lived in detached single-family homes than non-purchasers. CFL purchasers were more likely to have at a least college degree (or higher education) than non-purchasers, and a greater proportion of purchasers had higher incomes than non-purchasers. The text below provides additional detail.

Home ownership. Table 6-24 shows that of the 2008 PG&E/SCE respondents, CFL purchasers were more likely to be homeowners than non-purchasers.

Table 6-24
Home Ownership Among
CFL Purchasers/Non-purchasers, 2008

Home Ownership	% of Respondents	
	Purchaser	Non-Purchaser
Own	78%	61%**
Rent	20%	37%
Don't know / Refused	2%	2%
n	**950**	**250**

** Difference between purchasers and non-purchasers is statistically significant at the 90 percent level of confidence.

Building Type. A significantly higher proportion of purchasers lived in detached single-family homes than non-purchasers (see Table 6-25).

Table 6-25
Building Type Among CFL Purchasers/Non-purchasers, 2008

Building Type	% of Respondents	
	Purchaser	Non-Purchaser
Detached single family home	77%	61%**
A bldg with five+ apts	8%	16%**
Attached single family bldg with two apts	6%	9%**
Mobile home	4%	7%**
A bldg with three to four apts	3%	7%**
Refused	2%	1%
n	**950**	**250**

** Difference between purchasers and non-purchasers is statistically significant at the 90 percent level of confidence.

Level of Education. A significantly higher proportion of CFL purchasers had a college degree or higher education than non-purchasers (Table 6-26). Similarly, a significantly higher proportion of non-purchasers had a high school education or less as compared to purchasers. These results suggest that level of education and CFL purchases are related.

Table 6-26
Highest Level of Education Among CFL Purchasers/Non-purchasers, 2008

Highest Level of Education	% of Respondents	
	Purchaser	Non-Purchaser
High school grad or equivalent (GED) or less	19%	35%**
Trade / tech school or some college	26%	26%
College degree or more	52%	35%**
Don't know / refused	3%	4%
n	**950**	**250**

** Difference from prior year is statistically significant at the 90 percent level of confidence.

Household Income. Table 6-27 shows that the lower-income brackets have a higher proportion of CFL non-purchasers. Almost half (46%) of purchasers had household incomes of at least $50,000 per year, compared with only 27 percent of non-purchasers (a statistically significant difference). Households with incomes of at least $100,000 per year also comprised a larger proportion of the aware population than the unaware population. As noted above, since income and education are usually highly correlated, it's possible that this may be another manifestation of the education effect.

Table 6-27
Annual Household Income Among CFL Purchasers/Non-purchasers, 2008

Annual Household Income	% of Respondents	
	Purchaser	Non-Purchaser
> $20k per year	7%	16%**
$20k to less than $50k	20%	32%**
$50k to less than $100k	24%	15%**
$100k or more	22%	12%**
Refused	6%	9%
Don't know	21%	16%
n	**950**	**250**

** Difference between purchasers and non-purchasers is statistically significant at the 90 percent level of confidence.

7. Detailed Findings from Consumer Intercept and Shelf Surveys

7.1 Methodology

The objectives of the in-store consumer intercept survey task were to conduct interviews with lighting purchasers (including CFLs and non-CFLs) at the time of purchase to provide feedback on the primary influences on CFL purchase decisions, and to better understand how decisions vary under different product type availability, pricing and packaging scenarios. In addition, the surveys provided indicators of free ridership, "leakage" (i.e., CFL sales to non-IOU customers), and residential vs. nonresidential purchases.

There were two different types of shopper intercept surveys:

- *The revealed preference survey:* This survey was administered to shoppers who had already placed a light bulb in their shopping cart. These shoppers were then asked about their decision-making criteria for choosing these light bulbs.

- *The stated preference survey:* This survey was administered to shoppers who had not purchased a light bulb but who had agreed to accompany the surveyor to the lighting section of the store to engage in a hypothetical purchase scenario. The researcher asked consumers to imagine that they were shopping to replace a light bulb installed in a typical fixture in their homes and to select a CFL or incandescent lamp for that purpose. Once they selected the light bulb (or multi-pack of bulbs) they would have chosen, we administered a limited version of the revealed preference survey. Stated preference surveys were needed because, in some store types, the volume of shoppers is so low that researchers may encounter no light bulb purchasers or very few.

As part of the data collection process, we also conducted comprehensive shelf surveys to provide detailed information on the variety of product types, prices, packaging configurations, etc. that were available to consumers at the time of the survey. The shelf survey database contains detailed characteristics data for both CFLs and incandescent lamps, including specialty lamps. The shelf survey data provides additional context for understanding consumer purchase decisions.

7.1.1 Sample Design

The 2006-2008 Upstream Lighting Program tracking databases provided the sample frame for the intercept and shelf surveys. The sample was designed to represent the channels and key retail chains that had participated in the program during 2006-2008. Table 7-1 presents an overview of the sample design, as well as the final sample sizes achieved by channel.

Table 7-2 provides additional information about the achieved sample – i.e., the average number of revealed preference and stated preference surveys completed by channel, the number of CFL models observed at the surveyed stores within each channel and the percentage of observed CFLs models that were discounted by the IOU.

Table 7-1
Sample Design and Achieved Sample Sizes by Channel

Channel	Percent of 2006-2008 Shipments	Number of Intercept Surveys Completed			Number of Stores Surveyed	Percent of Intercept Surveys Completed	Percent of Stores Surveyed
		RP	SP	RP+SP			
Discount	20%	92	214	306	53	17%	17%
Drug	7%	21	139	160	42	9%	13%
Grocery	40%	121	327	448	80	25%	25%
Hardware	8%	68	121	189	43	10%	13%
Home Improvement	7%	163	113	276	42	15%	13%
Lighting & Electronics	2%	0	0	0	0	0%	0%
Mass Merchandise	6%	204	142	346	41	19%	13%
Membership Club	10%	37	44	81	20	5%	6%
Other	0%	0	0	0	0	0%	0%

Note: RP = revealed preference survey, SP = stated preference survey

Table 7-2
Average Number of Intercept Surveys/Store and
Percent of Observed CFLs that Were IOU-Discounted

Channel	Number of RP Surveys Completed	Number of SP Surveys Completed	Number of Stores Surveyed	Average Number of RP Surveys Completed/ Store	Average Number of SP Surveys Completed/ Store	Number of CFL Models Observed	Percent of CFLs Observed that Were IOU-Discounted
Discount	92	214	53	1.7	4.0	227	60%
Drug	21	139	42	0.5	3.3	529	3%
Grocery	121	327	80	1.5	4.1	618	21%
Hardware	68	121	43	1.6	2.8	830	14%
Home Improvement	163	113	42	3.9	2.7	1261	11%
Mass Merchandise	204	142	41	5.0	3.5	1484	6%
Membership Club	37	44	20	1.9	2.2	144	26%

Note: RP = revealed preference survey, SP = stated preference survey

The following summarizes the information presented in Table 7-1 and Table 7-2 by channel:

- ***Discount*** **–** accounts for 20 percent of the shipments through ULP during 2006-2008. A total of 311 intercept surveys were completed at 53 discount stores, which represents 17 percent of the total number of intercept surveys completed and 17 percent of the total number of stores surveyed. On average, we completed 1.7 revealed preference surveys and 4.0 stated preference surveys at each discount store. A total of 227 CFL models were observed at the 53 discount stores included in the sample, 136 of which (60%) were IOU-discounted.

- ***Drug*** **–** accounts for 7 percent of the shipments through ULP during 2006-2008. A total of 169 intercept surveys were completed at 42 drug stores, which represents which represents 9% of the total number of intercept surveys completed and 13 percent of the total number of stores surveyed. On average, we completed 0.5 revealed preference survey and 3.3 stated preference surveys at each drug store. A total of 529 CFL models were observed at the 42 drug stores included in the sample, only 18 of which (3%) were IOU-discounted.

- ***Grocery*** **–** accounts for 40 percent of the shipments through ULP during 2006-2008. A total of 458 intercept surveys were completed at 80 grocery stores, which represents which represents 25 percent of the total number of intercept surveys completed and 25 percent of

the total number of stores surveyed.[29] On average, we completed 1.5 revealed preference surveys and 4.1 stated preference surveys at each grocery store. A total of 618 CFL models were observed at the 80 grocery stores included in the sample, 130 of which (21%) were IOU-discounted.

- ***Hardware –*** accounts for 8 percent of the shipments through ULP during 2006-2008. A total of 192 intercept surveys were completed at 43 hardware stores, which represents which represents 10 percent of the total number of intercept surveys completed and 13 percent of the total number of stores surveyed. On average, we completed 1.6 revealed preference surveys and 2.8 stated preference surveys at each hardware store. A total of 830 CFL models were observed at the 43 hardware stores included in the sample, 118 of which (14%) were IOU-discounted.

- ***Home Improvement –*** accounts for 7 percent of the shipments through ULP during 2006-2008. A total of 277 intercept surveys were completed at 42 home improvement stores, which represents which represents 15 percent of the total number of intercept surveys completed and 13 percent of the total number of stores surveyed. On average, we completed 3.9 revealed preference surveys and 2.7 stated preference surveys at each home improvement store. A total of 1,261 CFL models were observed at the 42 home improvement stores included in the sample, 135 of which (11%) were IOU-discounted.

- ***Mass Merchandise –*** accounts for 6 percent of the shipments through ULP during 2006-2008. A total of 346 intercept surveys were completed at 41 mass merchandise stores, which represents which represents 15 percent of the total number of intercept surveys completed and 13 percent of the total number of stores surveyed. On average, we completed 5.0 revealed preference surveys and 3.5 stated preference surveys at each mass merchandise store. A total of 1,484 CFL models were observed at the 41 mass merchandise stores included in the sample, 87 of which (6%) were IOU-discounted.

[29] The reason the grocery channel appears to have been under-sampled has to do with the fact a large number of small independent stores participated in the program during 2006-2008, contributing to the large percentage of shipments going through this channel. Even though our sample included many small grocery chains/independent stores, the sales/per store for these types of stores is very low and, as such, we would have had to include a lot of these store fronts in our sample frame to get a higher representation in our final sample. However, given that traffic/sales per store is also very low, the cost/intercept/store would have been too high to include many more of these types of stores in our final sample.

- ***Membership Club –*** accounts for 10 percent of the shipments through ULP during 2006-2008. A total of 85 intercept surveys were completed at 20 membership club stores, which represents which represents five percent of the total number of intercept surveys completed and six percent of the total number of stores surveyed. On average, we completed 1.9 revealed preference surveys and 2.2 stated preference surveys at each membership club store. A total of 144 CFL models were observed at the 20 membership club stores included in the sample, 37 of which (26%) were IOU-discounted.

The lighting and electronics channel was not included in the sample design because of its small contribution to the overall volume of sales through the program. (In addition, one of the major lighting and electronics store chains refused to participate in the study.) Finally, the "other" category consists of shipments that were not delivered through retail channels – e.g., utility-sponsored direct install/give-away campaigns, school-based programs, etc.

Table 7-3 presents sample characteristics information for each IOU.

Table 7-3
Intercept and Shelf Survey Characteristics by Channel and IOU

Channel	Percent of 2006-2008 Shipments	Number of Intercept Surveys Completed			Number of Stores Surveyed	Percent of Intercept Surveys Completed	Percent of Stores Surveyed	Average Number of RP Surveys Completed/ Store	Average Number of SP Surveys Completed/ Store	Number of CFL Models Observed	Percent of CFLs Observed that Were IOU-Discounted
		RP	SP	RP+SP							
PG&E											
Discount	16%	42	109	151	24	16%	15%	1.8	4.5	125	63%
Drug	9%	15	74	89	22	10%	14%	0.7	3.4	245	4%
Grocery	37%	69	155	224	37	24%	24%	1.9	4.2	139	34%
Hardware	10%	41	81	122	27	13%	17%	1.5	3.0	448	15%
Home Improvement	7%	55	49	104	16	11%	10%	3.4	3.1	499	12%
Lighting & Electronics	2%	0	0	0	0	na	na	na	na	na	na
Mass Merchandise	7%	110	78	188	23	20%	15%	4.8	3.4	715	6%
Membership Club	11%	13	43	56	7	6%	4%	1.9	6.1	60	37%
Other	0%	0	0	0	0	na	na	na	na	na	na
SCE Channels											
Discount	27%	41	77	118	21	19%	18%	2.0	3.7	74	68%
Drug	3%	5	54	59	17	10%	14%	0.3	3.2	195	4%
Grocery	43%	43	129	172	33	28%	28%	1.3	3.9	341	21%
Hardware	6%	18	28	46	9	7%	8%	2.0	3.1	183	7%
Home Improvement	7%	88	45	133	20	21%	17%	4.4	2.3	552	11%
Lighting & Electronics	2%	0	0	0	0	na	na	na	na	na	na
Mass Merchandise	5%	43	30	73	8	11%	7%	5.4	3.8	334	7%

Channel	Percent of 2006-2008 Shipments	Number of Intercept Surveys Completed			Number of Stores Surveyed	Percent of Intercept Surveys Completed	Percent of Stores Surveyed	Average Number of RP Surveys Completed/ Store	Average Number of SP Surveys Completed/ Store	Number of CFL Models Observed	Percent of CFLs Observed that Were IOU-Discounted
		RP	SP	RP+SP							
Membership Club	8%	23	0	23	12	4%	10%	1.9	0.0	73	19%
Other	0%	0	0	0	0	na	na	na	na	na	na
SDG&E Channels											
Discount	14%	9	28	37	8	15%	18%	1.1	3.5	28	25%
Drug	9%	1	11	12	3	5%	7%	0.3	3.7	89	1%
Grocery	39%	9	43	52	10	21%	22%	0.9	4.3	138	9%
Hardware	8%	9	12	21	7	9%	16%	1.3	1.7	199	20%
Home Improvement	9%	20	19	39	6	16%	13%	3.3	3.2	210	5%
Lighting & Electronics	2%	0	0	0	0	na	na	na	na	na	na
Mass Merchandise	6%	51	34	85	10	34%	22%	5.1	3.4	435	4%
Membership Club	12%	1	1	2	1	1%	2%	1.0	1.0	11	9%
Other	2%	0	0	0	0	na	na	na	na	na	na

Note: RP = revealed preference survey, SP = stated preference survey

The individual store fronts selected for this research were spread out throughout the service territories of PG&E, SCE and SDG&E. A total of 41 different regions were included in the study as shown Figure 7-1.

Figure 7-1
Geographic Regions Included in Intercept and Shelf Survey Sample Design

Agoura / Ventura	Fresno	Riverside / Moreno Valley / Corona / Mira Loma
Anaheim / Buena Park / Fullerton / Placentia	Huntington Beach / Newport Beach	San Bernardino / Redlands / Colton / Highland
Bakersfield	Inglewood / Carson	San Clemente / Mission Viejo
Barstow / Hesperia	La Mesa / Lemon Grove / Spring Valley	San Diego
Carlsbad / Oceanside	Lakewood / Paramount / Compton	San Dimas / Pomona / Rialto
Central Coast	Long Beach	San Fernando / Lancaster
Cerritos / Bellflower / Artesia	Los Angeles	San Francisco
Chico	Lynwood / Huntington Park	San Jose
Costa Mesa / Irvine / Fountain Valley	Monterey Park / Arcadia	Santa Ana / Orange / Garden Grove / Tustin
East Bay	National City / Chula Vista / Bonita	South Central Coast
El Cajon / Santee / Lakeside	North Bay	Stockton
El Monte / Monrovia / Glendora	Norwalk / Whittier / Brea	Temecula / Lake Elsinore
El Segundo / Rancho Palos Verdes	Palm Springs	West Hollywood / Santa Monica
Escondido / San Marcos	Poway / Ramona / Borrego Springs	

Several high-volume retail chains and independent stores were not included in the study because either their management refused to participate or failed to respond to our multiple attempts to obtain permission to conduct research in their stores. Chains/stores that were not included in this study are listed in Table 7-4.

Table 7-4
List of Chains/Stores Excluded from Intercept and Shelf Survey

Store Name
Costco
Orchard Supply
Lowe's
Winco
Food 4 Less
Raley's/Nob Hill Foods
Mollie Stone's
Stater Brothers Supermarkets
Smart & Final
Fry's Electronics
Lamps Plus
Ganahl Lumber
Bed Bath & Beyond
New Oakland Pharmacy
Delano Markets
Food Maxx / Save Mart / Lucky
Longs / CVS Pharmacy
Lunardi's Market

7.1.2 Survey Design

As mentioned above, the intercept surveys were designed to provide feedback on the primary influences on CFL purchase decisions, and to better understand how decisions vary under different product type availability, pricing and packaging scenarios. Specifically, questions were included to assess the following potential influences on CFL purchase decisions:

- Shopping/CFL purchase intent (impulse buy vs. planned purchase),
- Recall/influence of CFL price (initial versus discount),
- Recall/influence of IOU program/discount,
- Recall/influence of product placement, signage, etc. (end-cap vs. in-aisle),
- Recall/influence of product packaging (multi- vs. single-packs),
- Recall/influence of CFL advertising,
- Prior awareness/usage of CFLs, and
- Location/application for which CFL will be/is being used.

Two different yet similar intercept survey instruments were designed for this study. The first is referred to as the "revealed preference" survey and was administered to consumers who selected a light bulb to purchase and asked about specific purchase decision-making criteria. The second involved asking consumers (who were not planning to purchase lighting products that day) to conduct a "stated preference" survey. The two instruments were very similar in the specific issues they address, but the stated preference version elicited consumer preferences based on a hypothetical, rather than actual, purchase scenario.

Two additional research issues addressed in both the revealed preference and stated preference survey instruments were (1) whether or not the respondent was a customer of one of California's three electric IOUs and (2) whether the respondent was purchasing (or hypothetically shopping for) light bulbs for their home or business. Because some retail locations overlap utility service territories, it was important to understand the extent of any product 'leakage' (i.e., sales of IOU-discounted products to ratepayers from other jurisdictions). The second issue was also important because of the very different factors that influence lighting purchase decisions in residential versus nonresidential settings. In addition, lighting usage patterns vary significantly across residential and nonresidential segments, so it was important to determine where consumers plan to install the products so that estimates of energy savings can be forecast more accurately by program planners and policymakers.

In addition to the intercept surveys, comprehensive shelf surveys were conducted to provide the context for CFL purchase decisions. The shelf survey collected detailed information on a wide variety of product types, prices, packaging configurations, etc. The shelf survey also store-level data, such as a summary of the types of lighting products sold, promotional characteristics, placement information, CFL styles available, and lighting shelf space measurements. In addition, the shelf survey collected a detailed inventory of both CFL and incandescent lighting products:

- CFL inventory data – manufacturer, style, model, location, quantity in pack, original price per pack, discount amount, discount provider, wattage, lumens, 3-way, dimmable, Energy Star label.

- Incandescent inventory data – manufacturer, style, model, location, quantity per pack, price per pack, wattage, 3-way, dimmable.

7.1.3 Survey Logistics

Store managers (national, regional, local) were contacted to obtain permission to enter stores. Often store managers dictated which days of the week and which times of day we could conduct the research. About one quarter of the surveys conducted through this research were conducted on weekdays, with the remaining conducted on weekends. Surveys were either conducted in the morning (10am-2pm) or afternoon (3-7pm).

For the revealed preference surveys, trained researchers would "intercept" consumers after they had made a lighting purchase decision and recruit them to participate in a brief, in-aisle survey. Ideally, consumers were recruited immediately following their decision to purchase a particular light bulb (i.e., after they have placed it in their shopping cart or basket). This positioning and timing enabled the researcher to discuss the range of available light bulbs in a particular store with a consumer who has just selected from among those products.

For the stated preference surveys, consumers were recruited to conduct a similar survey based on a hypothetical, rather than actual, purchase scenario. Stated preference surveys were needed because, in some store types, the volume of shoppers was so low that researchers encountered very few (or zero) light bulb purchasers during the time they were in the stores conducting the research. The researcher asked consumers to imagine that they were shopping to replace a light bulb installed in a typical fixture in their homes and to select a CFL or incandescent lamp for that purpose. Once they have selected the light bulb (or multi-pack of bulbs) they would choose, a limited version of the revealed preference survey was administered.

Both the revealed and stated preference surveys lasted only two to four minutes, and consumers were recruited to participate with the offer of a gift card of nominal value (e.g., $5 or $10, depending on the store). Copies of both the revealed and stated preference intercept survey instruments are included in this Appendix.

7.2 Intercept Survey Results

This section discusses results from the intercept surveys. Results are presented for the following topics:

- Shopping intentions (i.e., plan to purchase lighting products? plan to purchase CFLs?)
- Actual vs. planned purchases (i.e., CFLs, IOU-discounted CFLs, incandescent lamps)
- Awareness of IOU CFL discounts (i.e., aware of discounts in general, aware of discounts available at this store, aware of discounts for products purchased/selected)
- Reasons for purchasing CFLs (e.g., save money, low/affordable price, prior experience, etc.)
- Barriers to CFL purchase (e.g., product design/performance characteristics, lack of awareness/information, price, etc.)
- "Free ridership" indicators (i.e., quantity of CFLs that would have been purchased if they cost twice as much or half as much)
- Effects of multi-packs on quantity of CFLs purchased
- Assessment of residential versus nonresidential CFL purchases
- Prior CFL usage, installation and storage
- "Leakage" indicators (i.e., percent of non-IOU customers purchasing CFLs)

For each topic, results are presented overall, as well as by IOU and by retail channel (e.g., discount, drug, hardware, mass merchandise, grocery, etc.). In addition, where applicable, we make relevant comparisons between the revealed and stated preference survey responses.

7.2.1 Shopping Intentions

The revealed preference intercept surveys started out with the question, *"Were you planning on purchasing lighting products today?"* This question was asked to engage the respondent in the survey, as well as initiate a discussion about their shopping intentions and whether or not they planned to purchase lighting products in general and CFLs in particular.

Overall, the results to this initial question indicate that about 70 percent of all revealed preference intercept survey respondents were planning to purchase lighting products the day the survey was conducted. Overall, half of these respondents (50%) had specifically planned to purchase CFLs the day the survey was conducted.

Results by IOU are presented in Table 7-5. As shown, SCE respondents were less likely to indicate they had planned to purchase lighting products the day the survey was conducted (65%), and 60 percent of these respondents had specifically planned to purchase CFLs. This is much different than respondents from PG&E and SDG&E, where respondents were more likely to report that they had planned to purchase lighting products the day the survey was conducted, but less likely to indicate that they had specifically planned to purchase CFLs.

Results by channel are presented in Table 7-6. As shown, respondents within the drug channel were more likely to plan lighting purchases overall but less likely to plan CFL purchases in particular. Respondents within the hardware channel were also more likely to plan lighting purchases in general, and respondents within the large grocery and mass merchandise channels were less likely to plan CFL purchases in particular. Finally, respondents within the membership club and small grocery channels were less likely to plan lighting purchases in general but more likely to plan CFL purchases in particular. Respondents within the discount and large grocery channels were not that much different than respondents overall.

Table 7-5
Plans to Purchase Lighting and Plans to Purchase CFLs by IOU
(Revealed Preference Only)

All Respondents			
Plan to purchase lighting?	**Plan to purchase CFLs?**	**Number of Respondents**	**Percent of Respondents**
Didn't plan to purchase lighting		210	30%
Planned to purchase lighting		479	70%
	Didn't plan to purchase CFLs	241	50%
	Planned to purchase CFLs	238	50%
PG&E Respondents			
Plan to purchase lighting?	**Plan to purchase CFLs?**	**Number of Respondents**	**Percent of Respondents**
Didn't plan to purchase lighting		96	28%
Planned to purchase lighting		247	72%
	Didn't plan to purchase CFLs	138	56%
	Planned to purchase CFLs	109	44%
SCE Respondents			
Plan to purchase lighting?	**Plan to purchase CFLs?**	**Number of Respondents**	**Percent of Respondents**
Didn't plan to purchase lighting		88	35%
Planned to purchase lighting		166	65%
	Didn't plan to purchase CFLs	66	40%
	Planned to purchase CFLs	100	60%
SDG&E Respondents			
Plan to purchase lighting?	**Plan to purchase CFLs?**	**Number of Respondents**	**Percent of Respondents**
Didn't plan to purchase lighting		26	28%
Planned to purchase lighting		66	72%
	Didn't plan to purchase CFLs	37	56%
	Planned to purchase CFLs	29	44%

Table 7-6
Plans to Purchase Lighting and Plans to Purchase CFLs by Channel
(Revealed Preference Only)

Channel	Plan to purchase lighting?	Plan to purchase CFLs?	Number of Respondents	Percent of Respondents
Discount	Didn't plan to purchase lighting		35	38%
	Planned to purchase lighting		57	62%
		Didn't plan to purchase CFLs	24	42%
		Planned to purchase CFLs	33	58%
Drug	Didn't plan to purchase lighting		4	19%
	Planned to purchase lighting		17	81%
		Didn't plan to purchase CFLs	12	71%
		Planned to purchase CFLs	5	29%
Hardware	Didn't plan to purchase lighting		11	17%
	Planned to purchase lighting		53	83%
		Didn't plan to purchase CFLs	25	47%
		Planned to purchase CFLs	28	53%
Home Improvement	Didn't plan to purchase lighting		37	24%
	Planned to purchase lighting		117	76%
		Didn't plan to purchase CFLs	54	46%
		Planned to purchase CFLs	63	54%
Large Grocery	Didn't plan to purchase lighting		12	29%
	Planned to purchase lighting		29	71%
		Didn't plan to purchase CFLs	20	69%
		Planned to purchase CFLs	9	31%
Mass Merchandise	Didn't plan to purchase lighting		43	21%
	Planned to purchase lighting		158	79%
		Didn't plan to purchase CFLs	102	65%
		Planned to purchase CFLs	56	35%
Membership Club	Didn't plan to purchase lighting		17	46%
	Planned to purchase lighting		20	54%
		Didn't plan to purchase CFLs	0	0%
		Planned to purchase CFLs	20	100%
Small Grocery	Didn't plan to purchase lighting		51	65%
	Planned to purchase lighting		28	35%
		Didn't plan to purchase CFLs	4	14%
		Planned to purchase CFLs	24	86%

7.2.2 Revealed Preference Lighting Purchases

Table 7-7 displays the results from the intercept surveys related to the type of lighting products actually (revealed preference) or hypothetically (stated preference) purchased. As shown:

- More than half (59%) of all respondents to the revealed preference intercept survey purchased CFLs. Of these, just about two thirds (63%) purchased IOU-discounted CFLs. Overall, 37% of all respondents to the revealed preference intercept survey purchased IOU-discounted CFLs.

- This compares to the stated preference survey results as follows:

    - Slightly more respondents to the stated preference intercept survey results indicated that they would have purchased CFLs (68% vs. 59% of revealed preference respondents).

    - However, stated preference survey respondents were less likely to indicate that they would have purchased the IOU-discounted CFLs (48% of stated preference CFL purchasers, and 33% of stated preference respondents overall).

    - This may indicate that stated preference respondents are slightly over-estimating their willingness to purchase CFLs and somewhat under-estimating their willingness to purchase IOU-discounted CFLs.

Results by IOU are displayed in Table 7-7. As shown, SCE respondents differ from respondents from the other IOUs in that a significantly greater percentage of SCE revealed preference survey respondents purchased CFLs (68%). In addition, SCE stated preference respondents fairly accurately predicted their willingness to purchase CFLs in general as well as IOU-discounted CFLs in particular. This was not the case for the respondents from PG&E and SDG&E.

Table 7-7
CFL Purchasers and IOU-Discounted CFL Purchasers by IOU

All Respondents	Revealed Preference		Stated Preference	
	Percent of Respondents		Percent of Respondents	
Purchased CFLs	59%	(413 / 701)	68%	(736 / 1085)
Purchased IOU-Discounted CFLs (as percent of all respondents)	37%	(260 / 701)	33%	(354 / 1085)
Purchased IOU-Discounted CFLs (as percent of CFL purchasers)	63%	(260 / 413)	48%	(354 / 736)
PG&E				
Purchased CFLs	54%	(186 / 343)	75%	(433 / 578)
Purchased IOU-Discounted CFLs (as percent of all respondents)	37%	(126 / 343)	33%	(189 / 578)
Purchased IOU-Discounted CFLs (as percent of CFL purchasers)	68%	(126 / 186)	44%	(189 / 433)
SCE				
Purchased CFLs	68%	(177 / 259)	62%	(223 / 362)
Purchased IOU-Discounted CFLs (as percent of all respondents)	41%	(107 / 259)	36%	(130 / 362)
Purchased IOU-Discounted CFLs (as percent of CFL purchasers)	60%	(107 / 177)	58%	(130 / 223)
SDG&E				
Purchased CFLs	51%	(50 / 99)	55%	(80 / 145)
Purchased IOU-Discounted CFLs (as percent of all respondents)	27%	(27 / 99)	24%	(35 / 145)
Purchased IOU-Discounted CFLs (as percent of CFL purchasers)	54%	(27 / 50)	44%	(35 / 80)

Results by channel are presented in Table 7-8. As shown:

- ***Discount.*** About two-thirds of the respondents within this channel (67%) purchased CFLs, the majority of which (95%) purchased IOU-discounted CFLs.
- ***Drug.*** Although the sample size for this channel is very small, the results tend to indicate that few respondents purchased CFLs overall, but those who did often purchased IOU-discounted CFLs.
- ***Hardware.*** About half of the respondents within this channel (51%) purchased CFLs, but only about half of them purchased IOU-discounted CFLs.
- ***Home Improvement.*** While 60 percent of the respondents within this channel purchased CFLs, less than one third of them purchased IOU-discounted CFLs.
- ***Large Grocery.*** Less than half of the respondents within this channel (46%) purchased CFLs, two-thirds of which purchased IOU-discounted CFLs (63%).
- ***Mass Merchandise.*** Only 41 percent of the respondents within this channel purchased CFLs, and only 46% of them purchased IOU-discounted CFLs.
- ***Membership Club.*** All of the respondents in this channel purchased CFLs, and most of them purchased IOU-discounted CFLs (68%).
- ***Small Grocery.*** The majority of respondents within this channel purchased CFLs, and all of them purchased IOU-discounted CFLs (100%).

Table 7-8
CFL Purchasers and IOU-Discounted CFL Purchasers by Channel
(Revealed Preference Only)

Channel	Percent of Respondents Who:			Sample Sizes		
	Purchased CFLs?	Purchased IOU-Discounted CFLs? (of all respondents)	Purchased IOU-Discounted CFLs? (of CFL purchasers)	All Revealed Preference Respondents	All CFL Purchasers	All IOU-Discounted CFL Purchasers
Discount	67%	64%	95%	92	62	59
Drug	33%	24%	71%	21	7	5
Hardware	51%	28%	54%	68	35	19
Home Improvement	60%	17%	28%	159	95	27
Large Grocery	46%	29%	63%	41	19	12
Mass Merchandise	41%	19%	46%	204	84	39
Membership Club	100%	68%	68%	37	37	25
Small Grocery	94%	94%	100%	79	74	74
All Channels	59%	37%	63%	701	413	260

7.2.3 Revealed Preference Plans vs. Purchases

Table 7-9 compares responses from revealed preference survey respondents regarding their plans to purchase lighting products – CFLs in particular – and their actual purchases. As indicated above, overall, 70 percent of all revealed preference survey respondents planned to purchase lighting products on the day the survey was conducted and half of these (50%) planned to purchase CFLs in particular.

As shown in Table 7-9:

- Overall, the majority of respondents who did not plan on purchasing any lighting products actually purchased CFLs and most of those CFLs were IOU-discounted. Only eight percent of respondents overall were not planning to purchase any lighting products and actually purchased incandescent lighting products.

- Nearly all of the respondents who planned to purchase CFLs in particular actually did (i.e., 233 out of 238), with about 55 percent of them purchasing IOU-discounted CFLs.

- The majority of respondents who did not plan to purchase CFLs in particular (91%) actually purchased incandescent lighting products. Only about nine percent who were not planning to purchase CFLs actually did.

Finally, overall, about 17 percent of all respondents purchased IOU-discounted CFLs but did not plan to purchase any lighting products the day the survey was conducted. This compares to about 19 percent of all respondents who planned to purchase CFLs in particular the day the survey was conducted and they actually purchased IOU-discounted CFLs.

Table 7-9
Comparison of Planned versus Actual Lighting Purchases
(Revealed Preference Only)

Plan to purchase lighting?	Plan to purchase CFLs?	Purchased CFLs?	Purchased IOU-discounted CFLs?	Number of Respondents	Percent of Respondents
Did not plan to purchase lighting		Purchased incandescents		55	8%
		Purchased CFLs	Did not purchase IOU-discounted CFLs	35	5%
			Purchased IOU-discounted CFLs	120	17%
Planned to purchase lighting	Did not plan to purchase CFLs	Purchased incandescents		219	32%
		Purchased CFLs	Did not purchase IOU-discounted CFLs	12	2%
			Purchased IOU-discounted CFLs	10	1%
	Planned to purchase CFLs	Purchased incandescents		5	1%
		Purchased CFLs	Did not purchase IOU-discounted CFLs	105	15%
			Purchased IOU-discounted CFLs	128	19%

Results by IOU are shown in Table 7-10 and summarized below: PG&E and SCE respondents do not differ significantly from the overall results:

- Overall, the majority of respondents who did not plan on purchasing any lighting products actually purchased CFLs, and most of those CFLs were IOU-discounted. Few respondents were not planning to purchase any lighting products and actually purchased incandescent lighting products.

- Nearly all respondents who planned to purchase CFLs in particular actually did, with most of them purchasing IOU-discounted CFLs.

Table 7-10
Comparison of Planned versus Actual Lighting Purchases by IOU
(Revealed Preference Only)

IOU	Plan to purchase lighting?	Plan to purchase CFL?	Purchased CFL?	Purchased IOU-discounted CFL?	Number of Respondents	Percent of Respondents
PG&E	Didn't plan to purchase lighting		Purchased incandescent		27	8%
			Purchased CFL	Didn't purchase IOU-discounted CFL	9	3%
				Purchased IOU-discounted CFL	60	17%
	Planned to purchase lighting	Didn't plan to purchase CFL	Purchased incandescent		126	37%
			Purchased CFL	Didn't purchase IOU-discounted CFL	5	1%
				Purchased IOU-discounted CFL	7	2%
		Planned to purchase CFL	Purchased incandescent		4	1%
			Purchased CFL	Didn't purchase IOU-discounted CFL	46	13%
				Purchased IOU-discounted CFL	59	17%
SCE	Didn't plan to purchase lighting		Purchased incandescent		17	7%
			Purchased CFL	Didn't purchase IOU-discounted CFL	20	8%
				Purchased IOU-discounted CFL	51	20%
	Planned to purchase lighting	Didn't plan to purchase CFL	Purchased incandescent		60	24%
			Purchased CFL	Didn't purchase IOU-discounted CFL	5	2%
				Purchased IOU-discounted CFL	1	0%
		Planned to purchase CFL	Purchased incandescent		1	0%
			Purchased CFL	Didn't purchase IOU-discounted CFL	45	18%
				Purchased IOU-discounted CFL	54	21%
SDGE	Didn't plan to purchase lighting		Purchased incandescent		11	12%
			Purchased CFL	Didn't purchase IOU-discounted CFL	6	7%
				Purchased IOU-discounted CFL	9	10%
	Planned to purchase lighting	Didn't plan to purchase CFL	Purchased incandescent		33	36%
			Purchased CFL	Didn't purchase IOU-discounted CFL	2	2%
				Purchased IOU-discounted CFL	2	2%
		Planned to purchase CFL	Purchased incandescent		0	0%
			Purchased CFL	Didn't purchase IOU-discounted CFL	14	15%
				Purchased IOU-discounted CFL	15	16%

- The majority of respondents who did not plan to purchase CFLs in particular actually purchased incandescent lighting products. Very few respondents who were not planning to purchase CFLs actually did.

- The percentage of respondents who were not planning to purchase any lighting products at all but purchased IOU-discounted CFLs is about the same as the percentage of respondents who were planning to purchase CFLs and actually purchased IOU-discounted CFLs.

The overall sample size for SDG&E was fairly small. However, SDG&E respondents are somewhat different than the other IOU respondents in that slightly more than half of the respondents who did not plan on purchasing lighting products (58%) actually purchased CFLs, and only about one third of them (35%) purchased IOU-discounted CFLs.

7.2.4 Awareness of IOU CFL Discounts

Overall, only about one third of respondents who purchased IOU-discounted CFLs (38%) were aware that the specific product they purchased was discounted by the IOU. Another 41 percent were aware that the product was discounted but not necessarily by the IOU and the remaining 21 percent were unaware that the product they purchased was discounted at all. PG&E respondents were most likely to be aware that the product they were purchasing was discounted by PG&E, whereas SCE and SDG&E respondents were more likely to be aware that the product they were purchasing was discounted but not necessarily by the IOU. Table 7-11 displays these results by IOU.

Table 7-11
Awareness of CFL Discounts by IOU
(Revealed Preference Only)

	All Respondents	PG&E	SCE	SDG&E
	(n=188)	(n=74)	(n=88)	(n=28)
Aware CFLs were discounted by IOU	38%	47%	35%	25%
Aware CFLs were discounted but not necessarily by IOU	41%	24%	50%	54%
Unaware CFLs were discounted at all	21%	28%	15%	21%

Channels in which awareness of IOU-discounted CFLs was the highest include small grocery (58%) and discount (46%). Awareness of discounts but not necessarily IOU discounts was highest in the home improvement (65%) and mass merchandise (59%) channels. Sample sizes for the hardware, drug and large grocery channels were too small to report meaningful differences.

Respondents who were aware that the CFLs they purchased were discounted by the IOU were then asked if they came into the store specifically to purchase IOU-discounted CFLs. Overall, 43 percent of these respondents indicated that they had. The overall sample size for this result is very small (n=61). As a result, meaningful differences by IOU or channel cannot be reported.

Respondents were also asked whether or not they were aware – before coming into the store on the day the survey was conducted – that the IOUs were offering discounts on CFLs. Overall, 19 percent of all revealed preference intercept survey respondents were aware of IOU discounts before the survey was conducted. This compares to 30 percent of all stated preference respondents, indicating that there may be a slight bias in the stated preference survey data toward shoppers with greater awareness of IOU discounts for CFLs. This result is consistent across the IOUs.

Table 7-12 shows these results by channel. Within the membership club channel, stated preference respondents were much more likely to report that they were aware of IOU discounts on CFLs before they completed the survey. Revealed preference respondents within the small grocery channel were more likely to report they were aware of IOU discounts on CFLs before they completed the survey.

Table 7-12
Awareness of IOU Discounts on CFLs (Before Survey) by Channel

Channel	Aware of IOU Discounts on CFLs (Before Survey)			
	Revealed Preference		Stated Preference	
	Percent of Respondents	Number of Respondents	Percent of Respondents	Number of Respondents
Discount	21%	71	29%	208
Drug	22%	18	32%	127
Hardware	17%	60	35%	119
Home Improvement	18%	154	29%	109
Large Grocery	19%	37	25%	197
Mass Merchandise	19%	189	30%	138
Membership Club	14%	29	48%	44
Small Grocery	25%	57	31%	115
All Channels	19%	615	30%	1,057

Respondents were also asked if they were aware that they could find IOU-discounted CFLs at the specific store where the survey was conducted. Overall, 43 percent of all respondents

indicated they were aware IOU-discounted CFLs were available at the store where they survey was conducted. In this case, revealed preference respondents were somewhat more likely to report that they were aware as compared to stated preference respondents (49% vs. 41%, respectively).

SCE respondents were less likely to be aware of IOU-discounted CFLs at the store where the survey was conducted (35%), whereas SDG&E respondents were more likely to be aware (62%). Awareness by channel was highest for the mass merchandise stores (58%) and lowest for drug (22%), home improvement (38%) and membership club (36%) stores.

7.2.5 Reasons for Purchasing CFLs

Revealed preference intercept survey respondents who purchased CFLs, as well as stated preference intercept survey respondents who selected a CFL over its incandescent equivalent, were asked to indicate their reasons for their revealed or stated preferences. As shown in Table 7-13, consistent with prior research, the top reasons are included saving money and/or saving energy (multiple responses were allowed). In addition, product performance issues were mentioned fairly commonly as reasons for purchasing CFLs. About one in five mentioned environmental benefits as the reason they purchased CFLs, and a similar percentage specifically mentioned the low/affordable price as they reason they purchased CFLs. Other reasons for purchasing CFLs include respondents' prior experience with the product, specific packaging/merchandising characteristics, and/or other product design features. Less than 1% of the respondents overall mentioned the IOU discount as a reason they purchased CFLs.

Table 7-13
Reasons for Purchasing CFLs

Reason for Purchasing CFLs	All Respondents	Revealed Preference	Stated Preference
	Percent of Respondents	Percent of Respondents	Percent of Respondents
	(n=1149)	(n=413)	(n=736)
Save Energy	68%	65%	70%
Save Money	40%	40%	40%
Product Performance	25%	24%	26%
Low/Affordable Price	19%	26%	14%
Environmental Reasons	19%	14%	22%
Prior Experience	10%	10%	10%
Packaging/Merchandising	5%	8%	3%
Product Design	4%	8%	1%
IOU Discount	0%	1%	0%
Other	0%	1%	0%

There were some differences between respondents revealed and stated preferences for CFLs. First, stated preference intercept survey respondents were much less likely to cite the low/affordable price of CFLs as their reason for selecting a CFL over an incandescent lighting product. On average, the CFLs selected by stated preference survey respondents were three times more expensive (on a per lamp basis) than the selected incandescent products ($2.23 vs. $0.74), as shown in Table 7-14. On a per package basis, the CFLs selected were about one and a half times more expensive than the selected incandescent lamps ($4.76 vs. $2.81). Exactly half (50%) of the CFLs selected were offered at a discounted price. The selected discounted CFLs compared more favorably to the selected incandescent products in terms of both average price per package ($2.11 vs. $2.81) as well as average price per lamp ($1.02 vs. $0.74).

Stated preference intercept survey respondents were somewhat more likely to cite environmental and/or energy savings benefits as the reason for wanting to purchase CFLs over incandescent lamps, perhaps indicating a slight bias in their response.

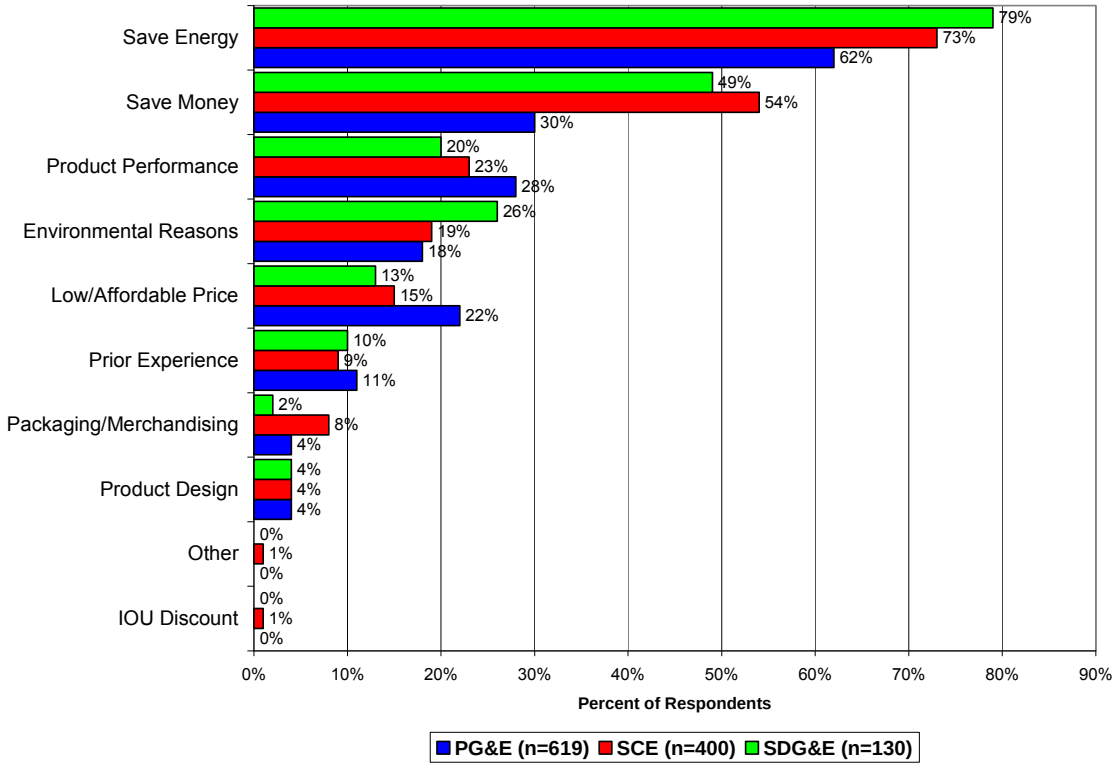
Table 7-14
Average Price and Packaging Characteristics
of Selected CFLs and Incandescent Products
(Stated Preference Only)

Product Selected	Sample Size	Price Per Package			Number of Lamps per Package			Price Per Lamp
		Average	Min	Max	Average	Min	Max	Average
CFL	736	$4.76	$0.25	$19.67	2.13	1	10	$2.71
- Non-discounted	381	$7.37	$0.99	$19.67	2.19	1	10	$4.13
- Discounted	355	$2.11	$0.25	$13.86	2.06	1	8	$1.23
Incandescent	351	$2.83	$0.48	$24.97	3.74	0	12	$1.05

Stated preference intercept survey respondents were also somewhat less likely to indicate specific product design features and packaging/merchandising characteristics as their reason for selecting a CFL over an incandescent lamp. This may be due in part to the way in which the stated preference intercept survey was implemented – for example, respondents were given a choice between a package containing 60-100W incandescent lamps and the equivalent package of CFLs. These choices were based on the actual products and packaging that was available on the shelf the day the survey was conducted. Therefore, to some extent, product design features such as wattage, shape, control type, etc., as well as packaging/merchandising characteristics such as number in package, location in the store, signage, etc., were held constant in the stated preference exercise.

Figure 7-2 displays the overall results by IOU. With revealed and stated preference responses combined, SCE respondents were more likely than other IOU respondents to cite saving money and/or energy as their reasons for selecting CFLs, and somewhat more likely to cite the packaging/merchandising characteristics as the reasons they selected CFLs. SCE respondents were slightly less likely than PG&E respondents in particular to cite the low/affordable price and/or product performance characteristics as their reason for selecting CFLs.

Figure 7-2
Reasons for Purchasing CFLs by IOU



There were also some meaningful differences in the results by channel, as shown in Table 7-15 and summarized below:

- Respondents surveyed in drug stores more commonly cited environmental benefits as the reason they selected CFLs, and less commonly cited saving money and/or low/affordable CFL prices.
- Respondents surveyed in hardware stores were similar to respondents surveyed in drug stores in that they more commonly cited environmental benefits and less commonly cited saving money as the reason for selecting CFLs.
- Saving energy, money and environmental benefits were all more commonly cited by respondents surveyed in large grocery stores.
- Low/affordable CFL prices were more often cited by respondents surveyed in small grocery stores and mass merchandise stores, and least often cited by respondents surveyed in home improvement stores.

Table 7-15
Reasons by Purchasing CFLs by Channel

Reason s for Purch-asing CFLs	Discount (n=219)	Drug (n=105)	Hardware (n=115)	Home Improve-ment (n=162)	Large Grocery (n=139)	Mass Merch-andise (n=173)	Member-ship Club (n=79)	Small Grocery (n=157)
Save Energy	66%	70%	63%	72%	76%	65%	72%	63%
Save Money	41%	30%	31%	43%	53%	39%	44%	39%
Product Perfor-mance	27%	31%	29%	28%	27%	20%	20%	21%
Low/ Affordable Price	13%	10%	18%	9%	15%	30%	13%	36%
Environ-mental Reasons	14%	28%	28%	17%	30%	15%	14%	14%
Prior Exper-ience	12%	9%	9%	9%	8%	13%	6%	13%
Packaging/ Merch-andising	5%	2%	5%	2%	5%	7%	1%	7%
Product Design	3%	1%	5%	9%	0%	8%	3%	1%
IOU Discount	1%	0%	1%	0%	0%	1%	0%	0%
Other	0%	0%	0%	1%	0%	0%	3%	1%

Note: Yellow highlight indicates reasons less commonly cited, blue highlight indicates reasons more commonly cited.

7.2.6 Barriers to CFL Purchase

Revealed preference intercept survey respondents who did not purchase CFLs were asked to indicate their primary reasons for not purchasing CFLs, and stated preference intercept survey respondents who did not select CFLs were also asked to indicate their primary reasons for not selecting CFLs. When the results are combined, the most common reasons for not purchasing/selecting CFLs fell into one of the following four categories (as shown in Table 7-16):

- ***Awareness/Information.*** Overall, 39 percent of all respondents cited some type of awareness/information barrier to CFL purchase that could be potentially overcome with targeted educational and/or outreach strategies. For example, about one in five indicated that they purchased/selected incandescent lamps out of "habit;" and a few others cited similar reasons (i.e., prior experience with incandescent lamps, wanted an exact

replacement model). Others indicated that they needed more information or were unaware of CFLs. Finally, others reported that they did not purchase/select CFLs because of prior (bad) experience with CFLs, warnings from friends and family, and/or general perceptions that incandescent lamps were "better" than CFLs. A few respondents (2%) indicated that because they "already have CFLs" they did not need to purchase any more.

- ***Product Design.*** Just over one-third of all respondents cited some type of specific product design feature as their reason for not purchasing/selecting CFLs. Most common were features such as the way CFLs look and/or fit in fixtures, as well as other aspects of the bulb shape or size. Others mentioned that they needed some a specific type of bulb (e.g., three-way, dimmable, specific wattage) or some other specification (e.g., appliance replacement bulb, outdoor/safety fixture, etc.).

- ***Product Performance.*** Overall, 30 percent of all respondents mentioned some aspect of product performance as their reason for not purchasing/selecting CFLs, the most common of which related to light quality/color. A few others mentioned that CFLs took too long to start-up, burn out too fast, and/or flicker.

- ***Price.*** About one in four of all respondents (26%) mentioned price (i.e., too expensive) as their reason for not purchasing/selecting CFLs.

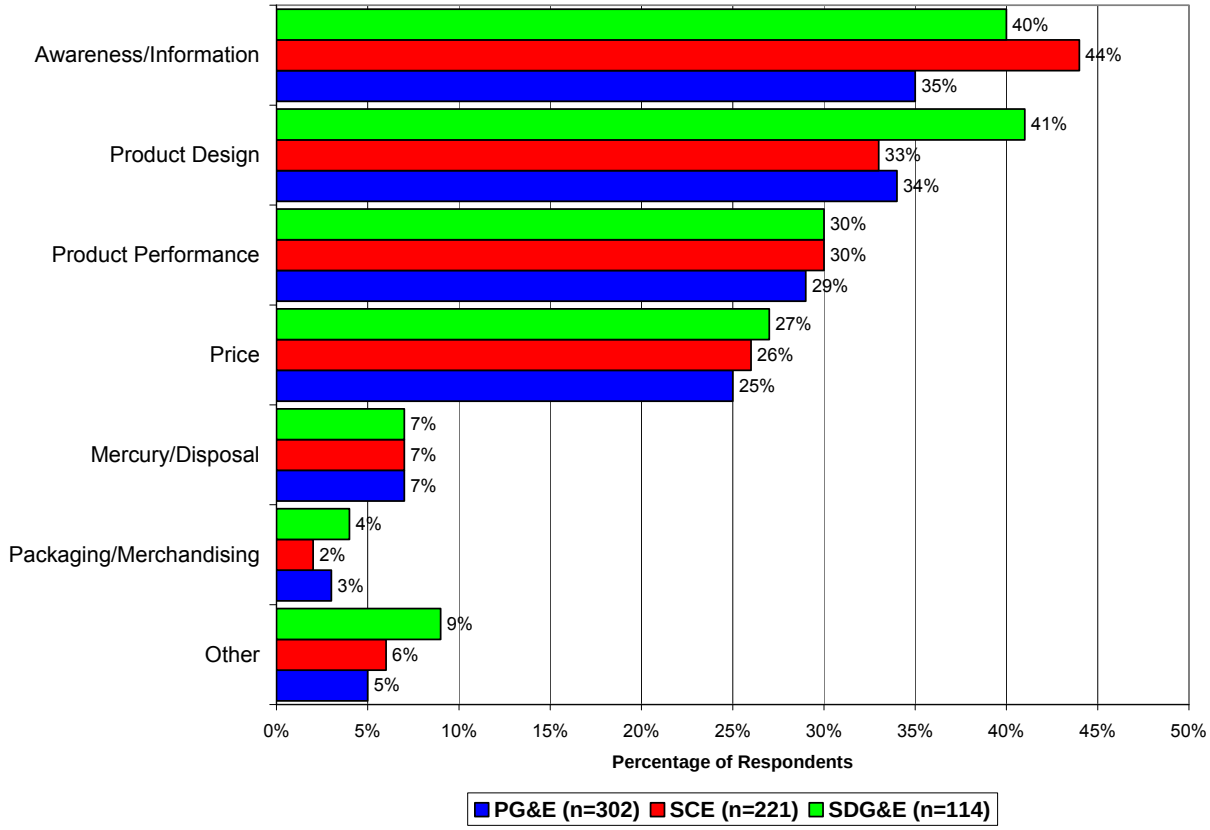
A small (but most likely growing) percentage of respondents (7%) mentioned their concerns about the mercury content in CFLs as a barrier to purchase. Finally, only about three percent mentioned barriers related to product packaging (i.e., multi-packs) and merchandising (i.e., location in the store) as reasons for not purchasing CFLs.

Table 7-16
Barriers to CFL Purchase
Percentage of All Respondents (n=637)

Awareness and Information	**39%**		
Habit	21%	Need more information	12%
Unaware of CFLs	7%	Prior experience with incandescent lamps	4%
Already have CFLs	2%	Prior experience with CFLs	1%
Better	<1%	Not recommended by F&F	<1%
Wanted exact replacement model	<1%		
Product Design	**35%**		
Look	14%	Fit	11%
Need other specification	8%	Needed three-way	4%
Brand	3%	Shape	3%
Needed dimmable	2%	Needed specific wattage	1%
Size	<1%		
Product Performance	**30%**		
Color	24%	Start-up	5%
Life	3%	Flicker	2%
Brightness	<1%		
Price	**26%**		
Mercury/disposal	**7%**		
Packaging and Merchandising	**3%**		
Location	2%	Wanted multi-pack	1%
Didn't want multi-pack	0%		
Other	**6%**		

For the most part, these results are fairly consistent across the IOUs, as shown in Table 7-3. SCE respondents are somewhat more likely to cite barriers that relate to a lack of awareness or information (e.g., “habit,” prior experience, etc.), and SDG&E respondents are more likely to cite barriers related to product design features (e.g., lamp “look” or fit).

Figure 7-3
Barriers to CFL Purchase by IOU



The overall results are also fairly consistent across channels, as shown in Table 7-17, with a few noteworthy differences summarized below:

- ***Price.*** Channels where price barriers were least common include discount and small grocery, whereas price barriers were more commonly cited in the drug and mass merchandise channels.

- ***Product Performance and Design.*** These barriers were most commonly cited in the small grocery channel. Product design barriers were least common within the drug store channel.

- ***Awareness/Information.*** This barrier was cited most commonly within the discount store channel.

Table 7-17
Barriers to CFL Purchase by Channel

	Discount (n=86)	Drug (n=55)	Hardware (n=74)	Home Improvement (n=109)	Large Grocery (n=103)	Mass Merchandise (n=173)	Small Grocery (n=36)
Awareness/Information	47%	42%	36%	36%	38%	39%	42%
Product Design	38%	24%	35%	40%	38%	31%	42%
Product Performance	28%	25%	24%	34%	32%	28%	39%
Price	16%	36%	23%	20%	28%	33%	17%
Mercury/Disposal	7%	11%	9%	4%	8%	6%	3%
Packaging/Merchandising	7%	4%	1%	2%	1%	2%	6%
Other	1%	4%	11%	6%	8%	6%	11%

Notes: Yellow highlight indicates reasons less commonly cited, blue highlight indicates reasons more commonly cited. Membership club channel results not shown because the sample size was too small (n=1).

7.2.7 Reasons CFLs May or May Not Have Been Considered for Purchase

Revealed preference intercept survey respondents who did not purchase CFLs were asked whether or not they even considered purchasing CFLs the day the survey was conducted. Stated preference intercept survey respondents were also asked a similar question when they selected incandescent lamps over CFLs. These results are shown in Table 7-18. As indicated, there are some differences in the barriers to CFL purchase between respondents who had considered purchasing CFLs (but did not) and respondents who had not even considered purchasing CFLs. These differences may highlight a need to develop different strategies for overcoming barriers that prevent consumers from even considering purchasing CFLs, versus those barriers that may prevent consumers from making purchases when they were actively considering it.

For example, one barrier that could be affecting whether or not respondents would even consider purchasing CFLs relates to perceptions regarding product performance (i.e., light quality/color). Nearly one third of all respondents who indicated that they had not even considered purchasing CFLs (32%) cited product performance barriers, whereas only 23 percent of all respondents who had considered CFLs cited these reasons. While it is true that overcoming product performance barriers specifically related to light quality/color may require actual improvements in CFL design, it is also highly possible that educational campaigns designed to inform consumers of the availability of CFLs in various light quality/color categories

would also be effective in overcoming (mis)perceptions in the market that all CFLs have poor light quality/color characteristics.

Other barriers that may be affecting whether or not respondents would even consider purchasing CFLs also relate to perceptions, beliefs or "habits" that targeted educational/outreach campaigns could effectively overcome. Respondents who indicated that they had not even considered purchasing CFLs were more likely to cite barriers related to "habit," lack of awareness/information, prior (bad) experience with CFLs, and concerns about mercury/disposal.

Finally, price and product design features (e.g., lamp shape, size, fit) were more commonly cited among respondents who had considered purchasing CFLs (but did not). This may indicate that, if a wider variety of CFL product styles and prices were available at the time of purchase, they may have selected CFLs instead of incandescent lamps.

Table 7-18
Barriers to CFL Purchase Among Respondents
Who Considered and Did Not Consider Purchasing CFLs

Reasons for Not Purchasing CFLs	Considered CFLs (n=155)	Didn't Consider CFLs (n=477)
Awareness/Information	35%	41%
Product Design	37%	34%
Product Performance	23%	32%
Price	31%	25%
Mercury/Disposal	4%	8%
Other	5%	7%
Packaging/Merchandising	3%	3%

These findings are further supported when looking at the differences in barriers to CFL purchase as cited by revealed preference intercept survey respondents versus stated preference intercept survey respondents. Revealed preference respondents (who did not purchase CFLs) were more likely to cite specific barriers related product design (e.g., lamp shape, size, fit) and stated preference respondents (who did not select CFLs in their hypothetical choice experiment) were more likely to cite barriers features related to product performance (e.g., light quality/color). It is possible that these results indicate that consumers who are actively considering purchase decisions may be basing these decisions, at least in part, on the actual characteristics/features of products that they have available to them at the time of purchase. Consumers who are inactively or hypothetically considering purchase decisions may

be basing these decisions on perceived or expected characteristics/features that may or may not be accurate or even known/understood.

7.2.8 "Free Ridership" Indicators

Both revealed and stated preference intercept survey respondents were also asked a specific question to gauge the influence of price on their CFL purchase/selection decisions. Specifically, revealed preference respondents were asked: "How many CFLs would you have purchased today if they cost twice as much?" Responses of none, fewer or the same number were recorded. Stated preference respondents were asked: "Would you have still chosen CFLs if they cost twice as much?" Responses of yes or no were recorded.

As shown in Table 7-19, the results indicate interesting differences in how these questions are answered based on hypothetical versus actual decision choices. Overall, the majority of stated preference respondents (68%) reported that they would have selected CFLs even if they cost twice as much, whereas only 34 percent of revealed preference respondents indicated that they would have purchased the same number of CFLs if they cost twice as much. While about one in four (26%) of the revealed preference respondents reported they would have purchased fewer CFLs had the price between twice as high, fully 40 percent indicated that they would not have purchased any CFLs had they cost twice as much. As a result, stated preference respondents appear to be over-stating purchase intentions when compared to revealed preference respondents.

Table 7-19
Free Ridership Indicators

How many CFLs would you have purchased today if they cost twice as much?	Revealed Preference (n=387)	Would you have still chosen CFLs if they cost twice as much?	Stated Preference (n=629)
None	40%	No	32%
Fewer	26%		
Same number	34%	Yes	68%

As shown in Table 7-20, there are some significant differences between the IOUs in terms these indicators. These results suggest that "free ridership," as defined as a respondent's willingness to purchase at least some CFLs at a higher price, is highest among SDG&E's revealed preference respondents and lowest among PG&E's revealed preference respondents. Over half (52%) of PG&E revealed preference respondents reported that they would not have purchased any CFLs had they cost twice as much, which compares to about one third of SCE respondents (33%) and only 15 percent of SDG&E respondents. Further, half of SDG&E respondents (50%)

indicated that they would have purchased the same number of CFLs even if they cost twice as much, which compares to 38 percent of SCE respondents and 22 percent of PG&E respondents.

Table 7-20
Free Ridership Indicators by IOU
(Revealed Preference Only)

How many CFLs would you have purchased today if they cost twice as much?	PG&E (n=180)	SCE (n=159)	SDG&E (n=48)
None	52%	33%	15%
Fewer	27%	29%	35%
Same number	22%	38%	50%

As shown in Table 7-21, there are not very many significant differences in these results by channel. The following channels show results going in a favorable direction (i.e., toward lower free ridership): discount, mass merchandise, membership club, and small grocery. The home improvement and hardware channels show results going in a less favorable direction (i.e., toward higher free ridership). The results for the drug and large grocery channels are based on very small sample sizes and, as such, should not be interpreted one way or the other.

Table 7-21
Free Ridership Indicators by Channel
(Revealed Preference Only)

Channel	None	Fewer	Same Number	Sample Size
Discount	42%	25%	33%	60
Drug	14%	57%	29%	7
Hardware	37%	23%	40%	35
Home Improvement	33%	29%	39%	83
Large Grocery	32%	26%	42%	19
Mass Merchandise	38%	30%	32%	79
Membership Club	36%	33%	30%	33
Small Grocery	55%	14%	31%	71
All Channels	40%	26%	34%	387

7.2.9 Effects of Multi-Pack on Quantity of CFLs Purchased

Both revealed and stated preference respondents were asked about the effects of multi-packs on the quantity of CFLs purchased. Specifically, respondents were asked: "If the CFLs were sold individually but at the same price you'd be paying per bulb, do you think you would have purchased/selected the same number, more or fewer bulbs?" Overall, about half of all respondents (55%) indicated that they would have purchased the same number of CFLs. About 30 percent reported that they would have purchased fewer, indicating that the multi-packs may have encouraged larger quantities of CFLs to be purchased than perhaps were needed. For about 15 percent of the respondents, the multi-packs limited the total number of CFLs they wanted to purchase (i.e., they would have purchased more if they could have purchased them at the same per-bulb price individually).

Similar to results presented above, stated preference respondents tended to over-state their intentions with respect to the effects of multi-packs on the quantity of CFLs purchased. That is, revealed preference respondents were more likely to report they would have purchased the same quantity of CFLs, whereas stated preference respondents more likely to indicate they would have purchased more CFLs if they were available individually at the per-bulb price. There were no significant differences in effects of multi-packs on quantity of CFLs purchased by IOU.

Results by channel are presented in Table 7-22. As shown, channels that would have resulted in fewer CFLs purchased overall if they were available individually at the multi-pack per-bulb price include hardware and membership club. Channels that would have resulted in more CFLs purchased overall include discount, large grocery, and small grocery. The effect of multi-packs seems to have had the least effect in home improvement channel, with 68% of respondents indicating they would have purchased the same quantity of CFLs regardless of the price/packaging.

Table 7-22
Effects of Multi-Packs on Quantity of CFLs Purchased by Channel

	Fewer	More	Same Number	Sample Size
Discount	24%	22%	54%	54
Drug	38%	6%	56%	48
Hardware	45%	16%	39%	38
Home Improvement	20%	12%	68%	100
Large Grocery	25%	28%	48%	61
Mass Merchandise	33%	12%	55%	99
Membership Club	42%	7%	51%	67
Small Grocery	16%	23%	61%	31
All Channels	30%	15%	55%	498

7.2.10 Residential v. Nonresidential Purchases

The revealed and stated preference intercept surveys were designed to provide information that could be used to determine the percentage of IOU-discounted CFLs that are installed in nonresidential applications. Specifically, revealed preference respondents were asked if they planned to install the lighting products they purchased in their home, business or both. Stated preference respondents were asked if they were shopping for their home, business or both.

Overall, about three percent of revealed preference respondents planned to install the lighting products they purchased in their business, and another four percent of the stated preference respondents indicated that they were shopping for their business. These results do not differ for respondents who purchased/selected CFLs versus incandescent lamps.

Table 7-23 shows the results for CFL purchasers by IOU. As shown, PG&E respondents indicated a higher percentage of nonresidential purchasers (4%), as compared to SCE (2%) and SDG&E (0%).

Table 7-23
Residential and Nonresidential CFL Purchases by IOU
(Revealed Preference Only)

	Residential	Nonresidential	Sample Size
PG&E	96%	4%	185
SCE	98%	2%	175
SDG&E	100%	0%	49
All IOUs	97%	3%	409

As expected, there are some differences by channel, as shown in Table 7-24. Channels most likely to result in nonresidential CFL purchases include membership club, hardware and home improvement. None of the CFLs purchased within the mass merchandise channel were intended for nonresidential use.

Table 7-24
Residential and Nonresidential CFL Purchases by Channel
(Revealed Preference Only)

	Residential	Nonresidential	Sample Size
Discount	98%	2%	62
Drug	100%	0%	7
Hardware	86%	14%	35
Home Improvement	97%	3%	95
Large Grocery	100%	0%	19
Mass Merchandise	100%	0%	82
Membership Club	94%	6%	35
Small Grocery	99%	1%	74
All Channels	97%	3%	409

7.2.11 Prior CFL Usage, Installation and Storage

All respondents were asked if they ever purchased and/or had been given CFLs for use in their home or business. Overall, 89 percent of all respondents indicated that they had purchased or been given CFLs. Results differed across segments as follows:

- CFL purchasers were more likely to have purchased or been given CFLs in the past, as compared to incandescent lamp purchasers; no difference between IOU-discounted CFL purchasers and other CFL purchasers.

- Stated preference respondents were more likely to have purchased or been given CFLs.
- Respondents within the mass merchandise channel were least likely to have purchased or been given CFLs; respondents in the large grocery and membership club channels were most likely to have purchased or been given CFLs.

All respondents were also asked if they currently had any CFLs installed in their home or business, as well as whether or not they currently had any CFLs in storage. The majority (89%) indicated that they have CFLs installed, and over half (58%) reported that they have CFLs in storage. These percentages varied across different segments as follows:

- CFL purchasers were more likely to have CFL installed and in storage, as compared to incandescent lamp purchasers; no difference between IOU-discounted CFL purchasers and other CFL purchasers.
- PG&E respondents most likely to have CFLs installed and in storage.
- Stated preference respondents were more likely to have CFLs in storage.
- Respondents within the membership club channel were more likely to have CFLs installed and in storage; respondents within the hardware channel were more likely to have CFLs in storage; and respondents within the mass merchandise and home improvement channels were less likely to have CFLs in storage.

7.2.12 "Leakage" Indicators

At the end of each survey, respondents were asked to indicate if PG&E, SCE or SDG&E provided electricity service to their home or business. Overall, only about three percent of all respondents who purchased CFLs indicated that they were not an electric customer of the relevant IOU. Among respondents who purchased IOU-discounted CFLs, the "leakage" percentage increased to four percent.

There are significant differences by IOU, as shown in Table 7-25. About 16 percent of SDG&E respondents who purchased CFLs reported that they were not electric customers of SDG&E. The comparable "leakage" percentage is two percent for SCE and one percent for PG&E. It is not possible to determine the "leakage" percentage for IOU-discounted CFLs among SDG&E respondents due to the small sample size (n=27). For SCE and PG&E, the "leakage" percentages for IOU-discounted CFLs are three percent and one percent, respectively.

Table 7-25
"Leakage" Indicators by IOU –
Percent of Non-IOU Customers Purchasing CFLs
(Revealed Preference Only)

		Purchased CFLs	Purchased IOU-Discounted CFLs
All Respondents	Percent	3%	4%
	n	408	258
PG&E	Percent	1%	1%
	n	184	125
SCE	Percent	2%	3%
	n	175	106
SDG&E	Percent	16%	26%
	n	49	27

Channels with relatively high "leakage" percentages include hardware, mass merchandise, and home improvement. All of the other channels show zero percent leakage, as shown in Table 7-26.

Table 7-26
"Leakage" Indicators by Channel –
Percent of Non-IOU Customers Purchasing CFLs
(Revealed Preference Only)

		Purchased CFLs	Purchased IOU-Discounted CFLs
Discount	Percent	0%	0%
	n	61	58
Drug	Percent	0%	0%
	n	7	5
Hardware	Percent	9%	16%
	n	35	19
Home Improvement	Percent	2%	4%
	n	93	27
Large Grocery	Percent	0%	0%
	n	18	12
Mass Merchandise	Percent	11%	18%
	n	84	39
Membership Club	Percent	0%	0%
	n	37	25
Small Grocery	Percent	0%	0%
	n	73	73

7.3 Shelf Survey Results

The shelf survey collected comprehensive and detailed information on a variety of CFL and incandescent lighting products available to consumers in the stores where the intercept surveys were also conducted. Information was collected for a wide variety of CFL lamp styles, including twister/spiral as well as other "specialty" shapes and features. Detailed pricing data was also collected for both CFLs and incandescent lamps[30], including whether or not the products were discounted by the IOU or the retailer (or both).

Over 5,000 different CFL product "observations" are included in the full 2008 shelf survey dataset. In this case, an observation is a unique package that was observed in the store and for which detailed data was collected. Observations are not counts of total packages only counts of unique packages observed in a store. If the same package was observed in two different locations within the same store, the observation is only entered into the database once. If the same package was found in two different stores, the observation is in the database twice.

There were two distinct data collection periods for this study: Spring 2008 and Fall 2008. A total of 1,114 CFL product observations were collected in the Spring 2008, and 3,979 CFL product observations were collected in the Fall 2008, for a total of 5,093 CFL product observations. There is an important difference in scope between the data collected in the Spring and the Fall of 2008:

- ***Only*** non-dimmable/single wattage 9-30W twister/spiral-style CFLs were included in Spring 2008 data collection, and
- ***All*** CFL models were included in Fall 2008 data collection.

This difference in scope generally reflects the fact that the Spring 2008 data collection effort primarily supported the IOUs' process evaluation efforts, whereas the Fall 2008 data collection was administered by the CPUC as part of the 2006-2008 Upstream Lighting Program Impact Evaluation. The scope of the CPUC impact evaluation was more comprehensive than the utilities' process evaluation scope. However, for the purposes of this report, we have been given

[30] The analysis of incandescent lamp prices has not been included in this draft report. A full analysis of all pricing data will be included in the final report for the CPUC Impact Evaluation.

permission by both the IOUs and the CPUC to combine the two datasets; where applicable appropriate notes have been added to the text to distinguish between the two sources of data.

Finally, it is very important to note that none of the data in the shelf survey database has yet to be weighted to reflect total sales or even sales through the program. Formal and final weighting for this dataset will be done in conjunction with the CPUC 2006-2008 Upstream Lighting Program impact evaluation and/or next DEER measure cost update. We expect these weights to be available and applied to this dataset by late summer 2009.

This section presents results from the shelf survey related to CFL lamp features, packaging characteristics and average prices, organized as follow:

- Lamp shape
- Lumens
- Wattage
- Control type (i.e., dimmable)
- Number in package
- Price paid per package, per bulb
- Discount provider (e.g., none, IOU, retailer)
- Energy Star label indicator

Results are presented by IOU, retail channel, and CFL lamp type as appropriate.

7.3.1 Lamp Shape

As shown in Table 7-27, about two thirds of the unique CFL packages observed during the shelf surveys were twister/spiral-style shaped – i.e., 62 percent of the observed packages, and 70 percent of the total lamps. The average twister/spiral-style CFL package contained 2.22 lamps. Other common CFL lamp shapes included reflector/flood CFLs and A-lamp-shaped CFLs.

Table 7-27
Distribution of CFL Lamp Shapes and Average Lamps/Package

Lamp Shape	Total Obs	Percent of Obs	Total Lamps	Percent of Lamps	Avg Lamps/Package
A-lamp	374	9%	692	9%	1.85
Bug light	78	2%	84	1%	1.08
Circline	5	0%	5	0%	1.00
Globe	224	6%	400	5%	1.79
Other	39	1%	43	1%	1.10
Reflector/flood	634	16%	838	11%	1.32
Torpedo/bullet	134	3%	246	3%	1.84
Tube-style	31	1%	36	0%	1.16
Twister/spiral	2460	62%	5448	70%	2.22
All Lamp Shapes	3979				1.96

There are no meaningful differences in the distribution of CFL lamps shapes by IOU service territory.

Results by retail channel are presented in Table 7-28. As shown, small grocery stores almost exclusively only carry twister/spiral-style CFLs, and more than 70% of CFLs sold at discount and drug stores are twister/spiral-style. Membership club stores have a wider variety of CFL shapes and styles, with only 31% of all CFLs being the twister/spiral-style shape.

Table 7-28
Distribution of CFL Lamp Shapes by Channel

Lamp Shape	All Channels	Discount	Drug	Home Improvement	Large Grocery	Mass Merchandise	Membership Club	Small Grocery	Hardware
A-lamp	9%	3%	8%	7%	6%	15%	13%	2%	7%
Bug light	2%	1%	3%	3%	2%	2%	0%	0%	1%
Circline	0%	0%	0%	0%	0%	0%	0%	0%	1%
Globe	6%	10%	5%	5%	3%	7%	8%	2%	5%
Other	1%	1%	1%	0%	3%	1%	0%	0%	1%
Reflector/flood	16%	13%	10%	22%	14%	13%	40%	0%	15%
Torpedo/bullet	3%	1%	3%	2%	4%	5%	7%	0%	4%
Tube-style	1%	1%	0%	0%	0%	1%	2%	3%	3%
Twister/spiral	62%	72%	71%	61%	68%	57%	31%	94%	62%
Sample Size	3,979	183	382	954	495	1,165	120	62	618

7.3.2 Lumens

Table 7-29 presents information on the distribution of CFL lumen levels for the unique observed packages, as well as the average lumens per lamp. As shown, about one third of all CFLs are less than 800 lumens, about a quarter are 800-1,099 lumens, and about a fifth are 1,100-1,599 lumens and 1,600 lumens or greater.

Table 7-29
Distribution of CFL Lumen Levels and Average Lumens/Lamp

Lumens	No Obs	Percent Obs	Avg Lumens/Lamp
<800	1,363	35%	529
>=800 and <1100	1,081	27%	865
>=1100 and <1600	761	19%	1232
>=1600	730	19%	1781
All Lamps	3,935		989

Results by CFL lamp shape are provided in Table 7-30. As shown, there is quite a range of lumen levels available in the twister/spiral-style CFL models observed during the shelf survey. About two thirds of the A-lamp CFLs (65%) and three quarters of the globe-shaped CFLs (76%) have lumen levels less than 800. Just over half of the reflector/flood CFLs are less than 800 lumens, and 30% are 1,100-1,599 lumens. Nearly all of the torpedo/bullet-style CFLs are less than 800 lumens.

Table 7-30
Distribution of CFL Lumen Levels and Average Lumens/Lamp by Lamp Shape

Lamp Shape	Percent of Obs				Total Obs
	<800	>=800 and <1100	>=1100 and <1600	>=1600	
A-lamp	65%	31%	4%	0%	374
Bug light	99%	1%	0%	0%	71
Circline	0%	0%	40%	60%	5
Globe	76%	23%	0%	0%	224
Other	95%	0%	3%	3%	38
Reflector/flood	58%	12%	29%	0%	625
Torpedo/bullet	99%	1%	0%	0%	133
Tube-style	11%	25%	11%	54%	28
Twister/spiral	14%	34%	23%	29%	2,437
All Lamps	35%	27%	19%	19%	3,935

Lamp Shape	Average Lumens/Lamp				
	<800	>=800 and <1100	>=1100 and <1600	>=1600	All Lamps
A-lamp	449	814	1,190	1,600	593
Bug light	622	800	na	na	625
Circline	na	Na	1,200	2,350	1,660
Globe	502	800	1,100	1,600	577
Other	684	Na	1,100	6,825	856
Reflector/flood	618	919	1,256	1,717	844
Torpedo/bullet	358	800	na	na	362
Tube-style	367	843	1,280	2,282	1,610
Twister/spiral	537	871	1,226	1,762	1,164
All Lamps	529	865	1,232	1,781	989

7.3.3 Wattage

Table 7-31 presents a summary of CFL distributions by wattage and lumen level categories. As shown, 22 percent of all CFLs are less than or equal to 12 watts, 34 percent are 13-15 watts, 16 percent are 16-22 watts, 15 percent are 23-25 watts, and 12 percent are 26 watts or greater. Lumen levels follow wattage categories in the expected pattern – i.e., lower wattage CFLs have lower lumen levels and higher wattage CFLs has higher lumen levels.

Table 7-31
CFL Distributions by CFL Wattage and Lumen Level Categories

Wattage	Percent of Obs				
	<800 lumens	>=800 and <1100 lumens	>=1100 and <1600 lumens	>=1600 lumens	All Lamps
<=12	62%	<1%	<1%	na	22%
13-15	29%	91%	3%	<1%	34%
16-18	8%	2%	13%	na	6%
19-22	<1%	3%	48%	<1%	10%
23-25	<1%	2%	23%	53%	15%
26-30	<1%	1%	13%	36%	10%
>=31	<1%	<1%	na	11%	2%
All Lamps	100%	100%	100%	100%	100%
Wattage	**Average Wattage/Lamp**				
	<800 lumens	>=800 and <1100 lumens	>=1100 and <1600 lumens	>=1600 lumens	All Lamps
<=12	9.1	7.0	9.0	na	9.1
13-15	14.2	13.7	14.9	14.5	13.8
16-18	16.0	17.8	18.0	na	17.2
19-22	19.3	19.5	19.8	19.3	19.7
23-25	23.0	23.1	23.0	23.1	23.1
26-30	26.0	29.0	26.4	26.9	26.7
>=31	41.0	46.0	na	42.0	44.0
All Lamps	11.3	14.3	21.0	26.5	17.1

Table 7-32 presents the average wattage by CFL lamp shape. As shown, the average twister/spiral-style CFL is 18.2 watts, and the average reflector/flood CFL is 18.2 watts. A-lamp shaped CFLs are 11.4 watts on average, torpedo/bullet-style CFLs are 8.0 watts on average, and CFL bug lights are 13.4 watts on average.

Table 7-32
Average Wattage by CFL Lamp Shape

Lamp Shape	Number of Obs	Average Wattage/Lamp
A-lamp	374	11.4
Bug light	78	13.4
Circline	5	27.8
Globe	224	10.7
Other	39	14.6
Reflector/flood	633	18.1
Torpedo/bullet	134	8.0
Tube-style	31	35.5
Twister/spiral	3466	18.2

Table 7-33 presents the average wattage by channel. Recall from above that small grocery stores almost exclusively only carry twister/spiral-style CFLs, and more than 70 percent of CFLs sold at discount and drug stores are twister/spiral-style. The average wattage for twister/spiral-style CFLs in these channels is 19-21 watts, which has the effect of raising the overall average wattage for CFLs in these channels.

Despite 40 percent of the CFLs observed in membership club stores being reflector/flood-style CFLs, the average lamp in this channel is only 15.2 watts due to the presence of lower wattage A-lamp shaped, globe-style, and torpedo/bullet-style CFLs. Even the twister/spiral-style CFLs in this channel have lower than average wattage for this lamp shape (16 watts v. 18 watts overall).

Table 7-33
Average Wattage by Channel

Channel	Number of Obs	Average Wattage/Lamp
Discount	182	18.6
Drug	369	17.4
Home Improvement	928	17.0
Large Grocery	483	17.0
Mass Merchandise	1144	15.6
Membership Club	111	15.2
Small Grocery	62	21.1
Small Hardware	591	18.5

7.3.4 Dimmable and Three-Way Wattage CFLs

Five percent of all the CFLs observed in the stores surveyed are dimmable, and less than three percent have three-way wattage capabilities. About half of the dimmable CFLs are twister/spiral-style, 45 percent are reflector/flood-style CFLs, and a small percentage (less than four percent) are torpedo/bullet-style CFLs. All of the three-way wattage CFLs are twister/spiral-style.

The percentage of CFLs that have dimmable or three-way wattage features does not vary significantly by IOU. Table 7-34 shows the distribution by retail channel. Membership club stores and drug stores accounted for the largest share of the dimmable CFLs (7% respectively); membership club stores account for the largest share of the three-way wattage CFLs (8%). These types of CFLs were not found in any of the small grocery stores surveyed through this effort, and only a very small fraction of the discount stores.

Table 7-34
Dimmable and Three-way Wattage CFL Distributions by Channel

Channel	Number of Obs	Percent Dimmable	Percent Three-way
Discount	183	1%	1%
Drug	382	7%	3%
Home Improvement	954	6%	2%
Large Grocery	495	3%	2%
Mass Merch	1165	5%	2%
Membership Club	120	7%	8%
Small Grocery	62	0%	0%
Small Hardware	618	4%	4%
All Channels	3,979	100%	100%

7.3.5 Energy Star Label

The majority of CFLs observed in the stores surveyed through this research were found to have the Energy Star label on the packaging. As shown in Table 7-35, Energy Star labeled CFLs were most common in the globe-style and twister/spiral-style shapes, and least common among torpedo/bullet-style and bug light CFLs. The home improvement and hardware channels stand out, with only 76 percent and 84 percent of the CFLs carried having the Energy Star label. For all of the other channels, more than 90 percent of the CFLs have Energy Star labels.

Table 7-35
Percent of CFLs with Energy Star Label by Lamp Shape and Channel

Lamp Shape	Number of Obs	Percent with ES Label	Channel	Number of Obs	Percent with ES Label
A-lamp	374	87%	Discount	182	92%
Bug light	78	71%	Drug	381	92%
Circline	5	60%	Home Improvement	953	76%
Globe	224	94%	Large Grocery	495	93%
Other	39	95%	Mass Merchandise	1165	96%
Reflector/flood	634	86%	Membership Club	120	94%
Torpedo/bullet	133	68%	Small Grocery	62	98%
Tube-style	31	74%	Small Hardware	618	84%
Twister/spiral	2458	91%	All Channels	3976	
All Lamps	3976				

7.3.6 Multi-packs and Average Lamps/Pack

Just over half of the CFLs observed in the stores surveyed for this research were single-packs (57%), 18 percent were two-packs, 11 percent were three-packs, eight percent were four-packs and six percent were packages of five or more CFLs. The average number of CFLs in the packs with five or more CFLs is between 6 and 7.

Table 7-36 below presents the average number of lamps/package by channel. As expected, membership club stores have the highest average number of lamps/package (4.1), followed by mass merchandise (2.4).

Table 7-36
Average Lamps/Package by Channel

Channel	Number of Obs	Number of Lamps	Average Lamps/Package
Discount	183	271	1.5
Drug	382	648	1.7
Home Improvement	954	1815	1.9
Large Grocery	493	794	1.6
Mass Merchandise	1165	2759	2.4
Membership Club	120	488	4.1
Small Grocery	62	87	1.4
Small Hardware	618	930	1.5
All Channels	3977	7792	1.96

7.3.7 IOU and Retailer Discounted CFLs

Only about 13 percent of the CFLs observed during the shelf surveys were identified as discounted by an IOU, and 10 percent were identified as discounted by the retailer. Results by IOU are shown in Table 7-37 below.

Table 7-37
Percent of CFLs Discounted by IOU and/or Retailer

IOU	Percent of CFLs		Sample Size
	IOU Discounted	Retailer Discounted	
PG&E	13%	7%	1509
SCE	16%	9%	1360
SDG&E	8%	14%	1110
Sample Size	3979		

As shown, IOU-discounted CFLs were most commonly found in retail stores located in SCE's service territory (16%), followed by PG&E (13%) and SDG&E (8%). Retailer discounts were more common in stores located in SDG&E's service territory (14%) as compared to SCE (9%) or PG&E (7%).

Table 7-38 presents these results by channel. As shown, IOU-discounts were most commonly found within the small grocery and discount channels (58% and 52%, respectively), whereas retailer discounts were most common within the large grocery channel (39%). Discounts of any common were infrequent in the drug and mass merchandise channels.

Table 7-38
Percent of CFLs Discounted by IOU/Retailer by Channel

Channel	Number of Obs	Percent IOU-Discounted	Percent Retailer-Discounted
Discount	183	52%	13%
Drug	382	2%	4%
Home Improvement	954	12%	12%
Large Grocery	495	15%	39%
Mass Merchandise	1165	6%	1%
Membership Club	120	28%	0%
Small Grocery	62	58%	3%
Small Hardware	618	12%	5%
All Channels	3,979	13%	10%

Table 7-39 provides these results by lamp shape.

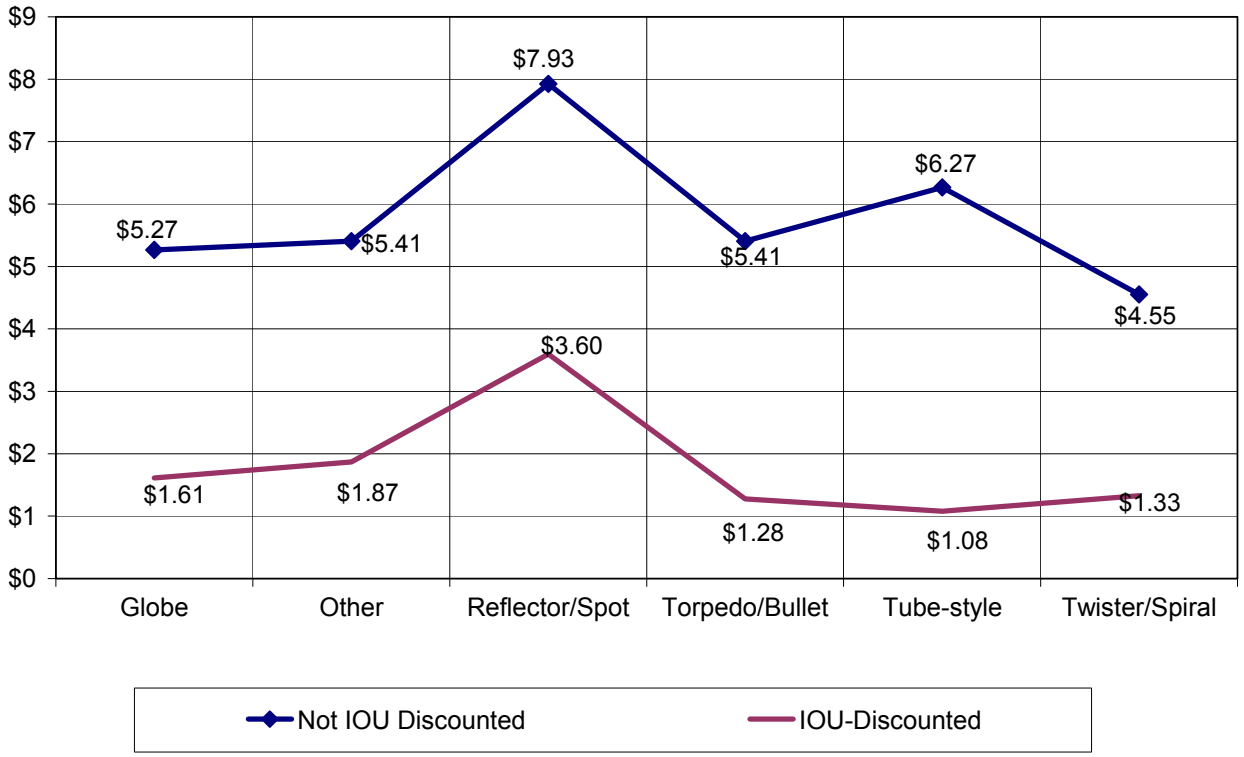
Table 7-39
Percent of CFLs Discounted by IOU/Retailer by Lamp Shape

Lamp Shape	Number of Obs	Percent IOU-Discounted	Percent Retailer-Discounted
A-lamp	374	11%	5%
Bug light	78	3%	6%
Circline	5	0%	20%
Globe	224	14%	8%
Other	39	5%	5%
Reflector/flood	634	7%	8%
Torpedo/bullet	134	11%	9%
Tube-style	31	13%	0%
Twister/spiral	3574	15%	11%

7.3.8 Average Prices/Lamp

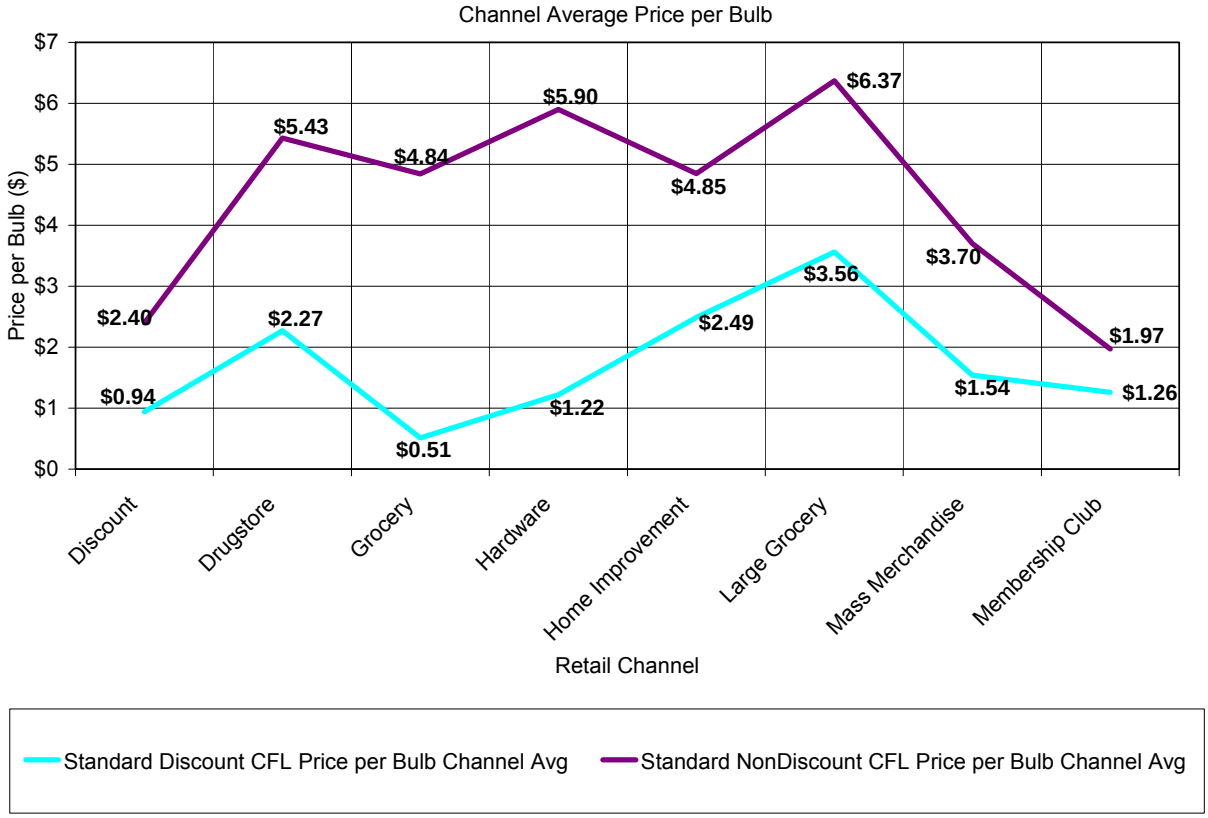
Figure 7-4 displays the average price/lamp by lamp shape, distinguishing between IOU-discounted CFLs and non-IOU discounted CFLs. As shown, twister/spiral-style CFLs discounted by the IOU are over $2.50 less expensive than similar shaped lamps that are not IOU-discounted.

Figure 7-4
Average CFL Price/Lamp by Lamp Shape –
IOU-Discounted v. Non-IOU Discounted



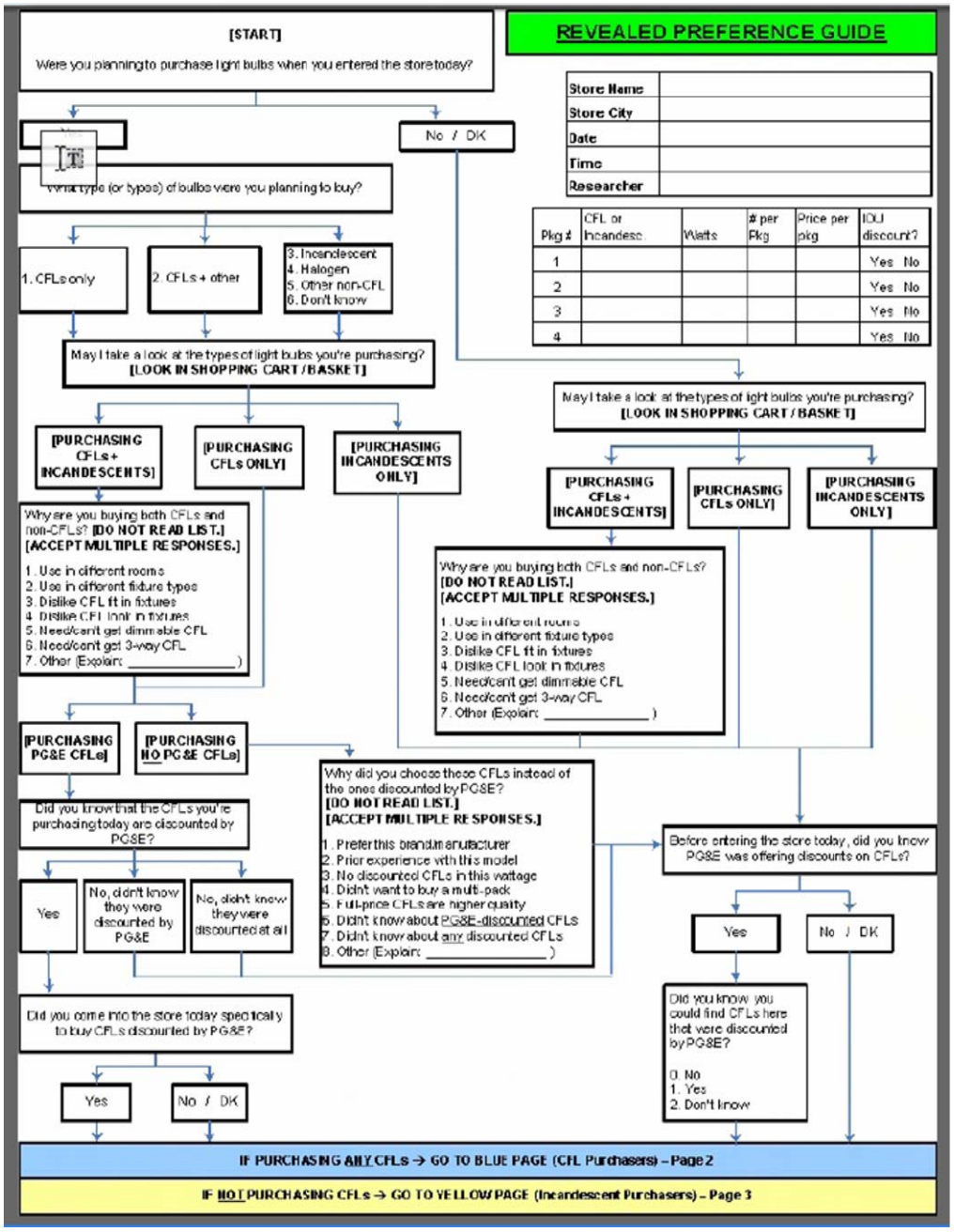
As shown in Figure 7-5, the greatest differential in average price/lamp – between IOU-discounted and non-IOU discounted CFLs – can be found in the small hardware and drug channels.

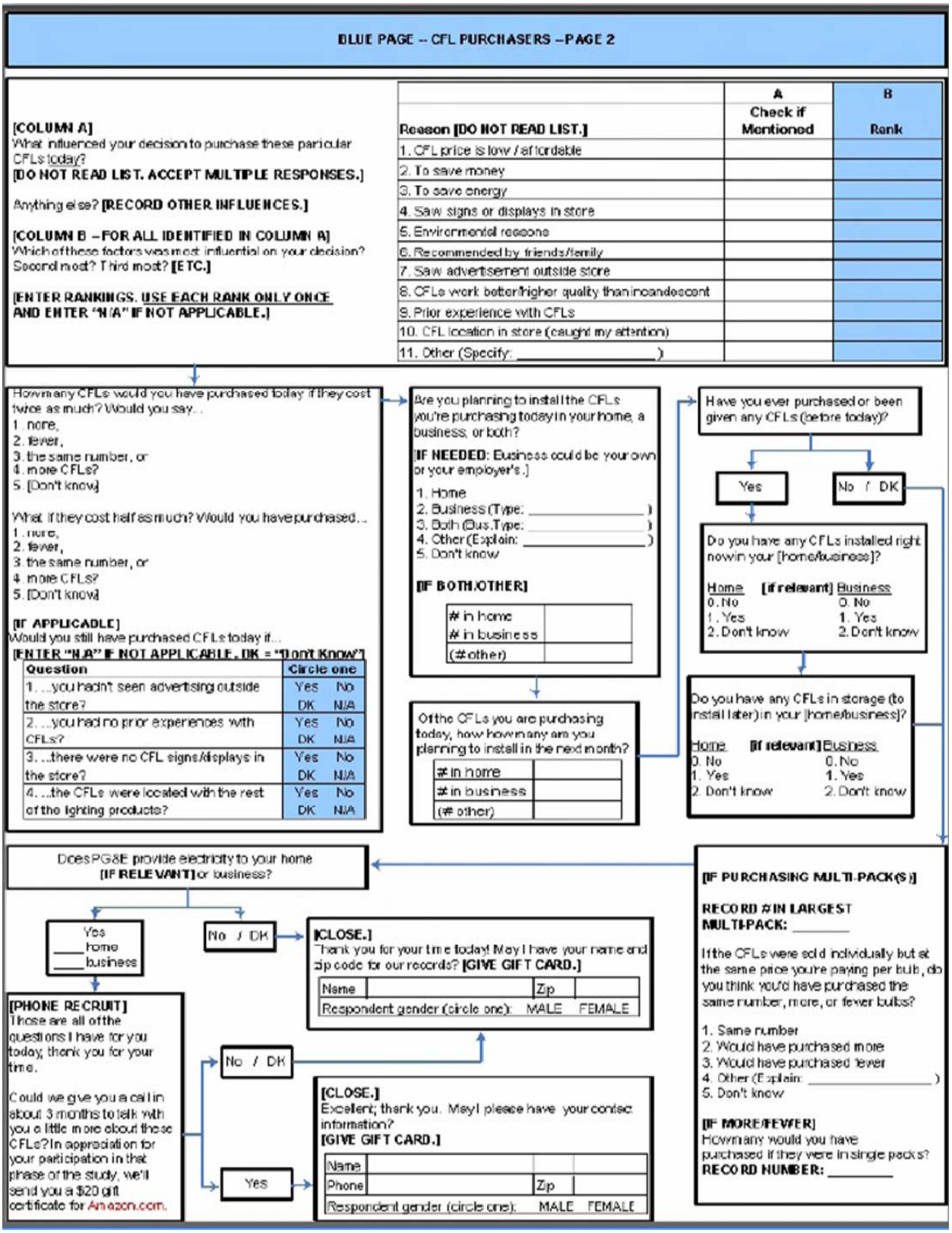
Figure 7-5
Average CFL Price/Lamp by Channel
for Non-Specialty CFLs Between 9 and 30 Watts
– IOU-Discounted v. Non-IOU Discounted

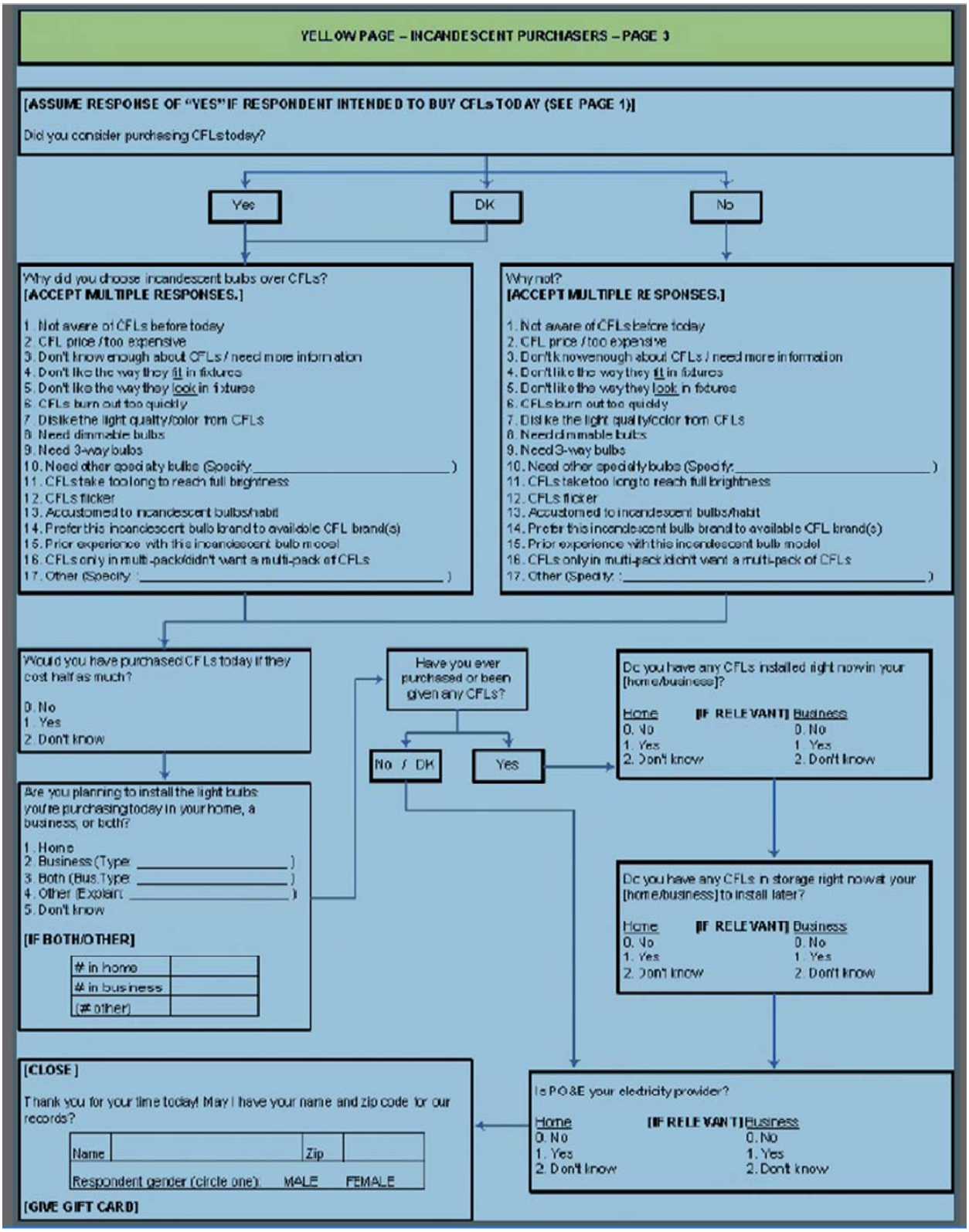


Appendix A: Revealed/Stated Preference Survey Instruments

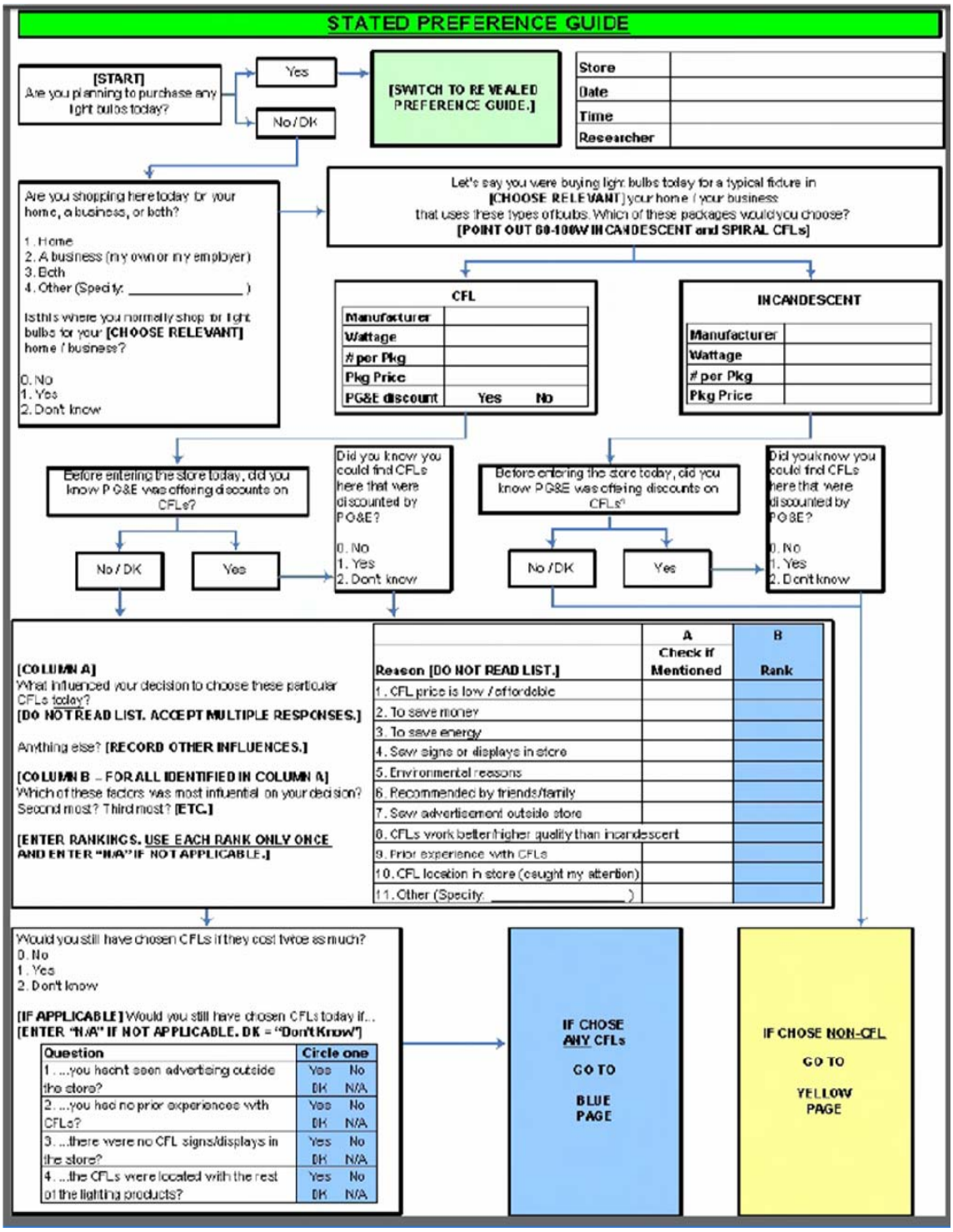
Revealed Preference Survey Instrument

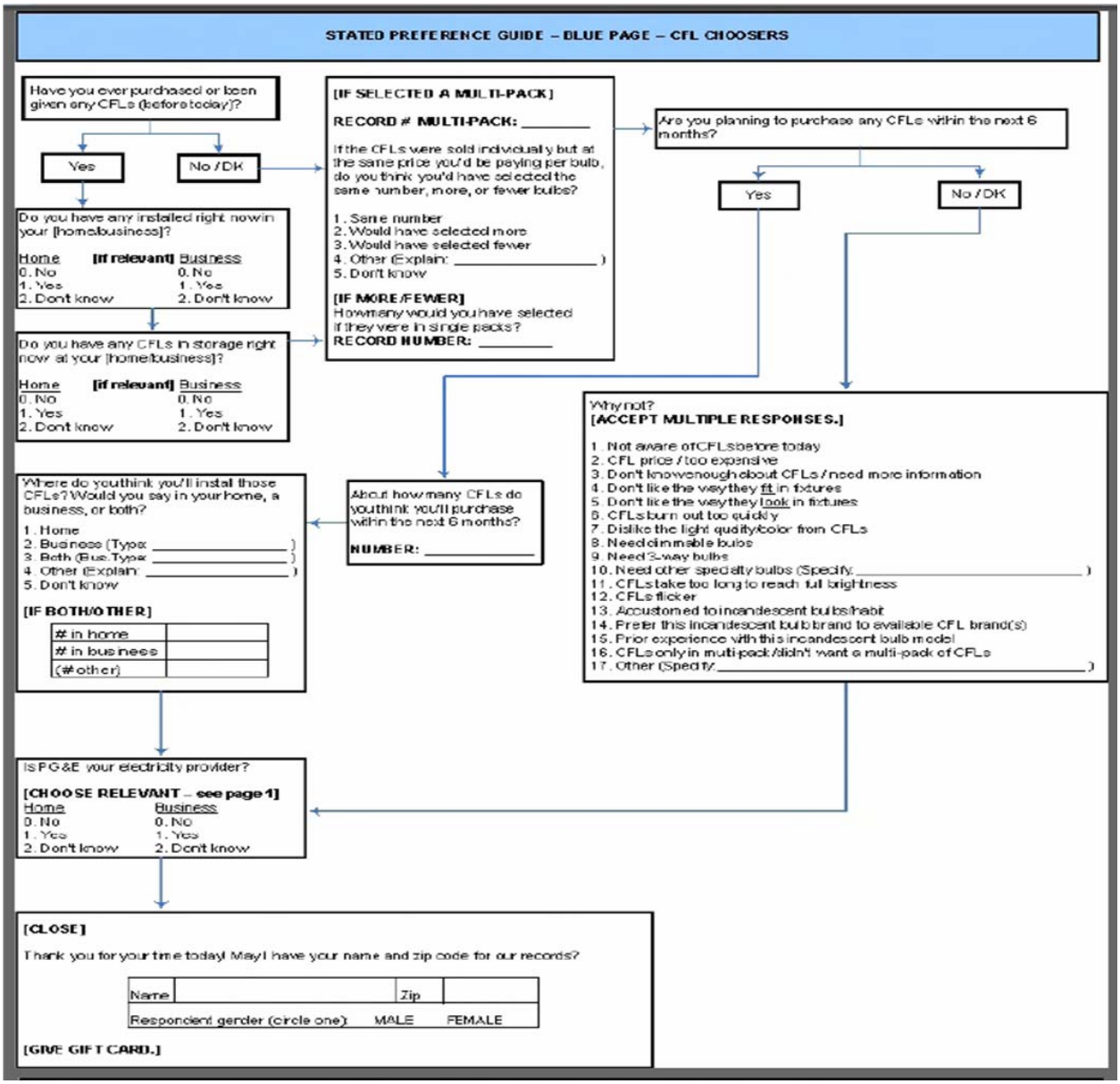


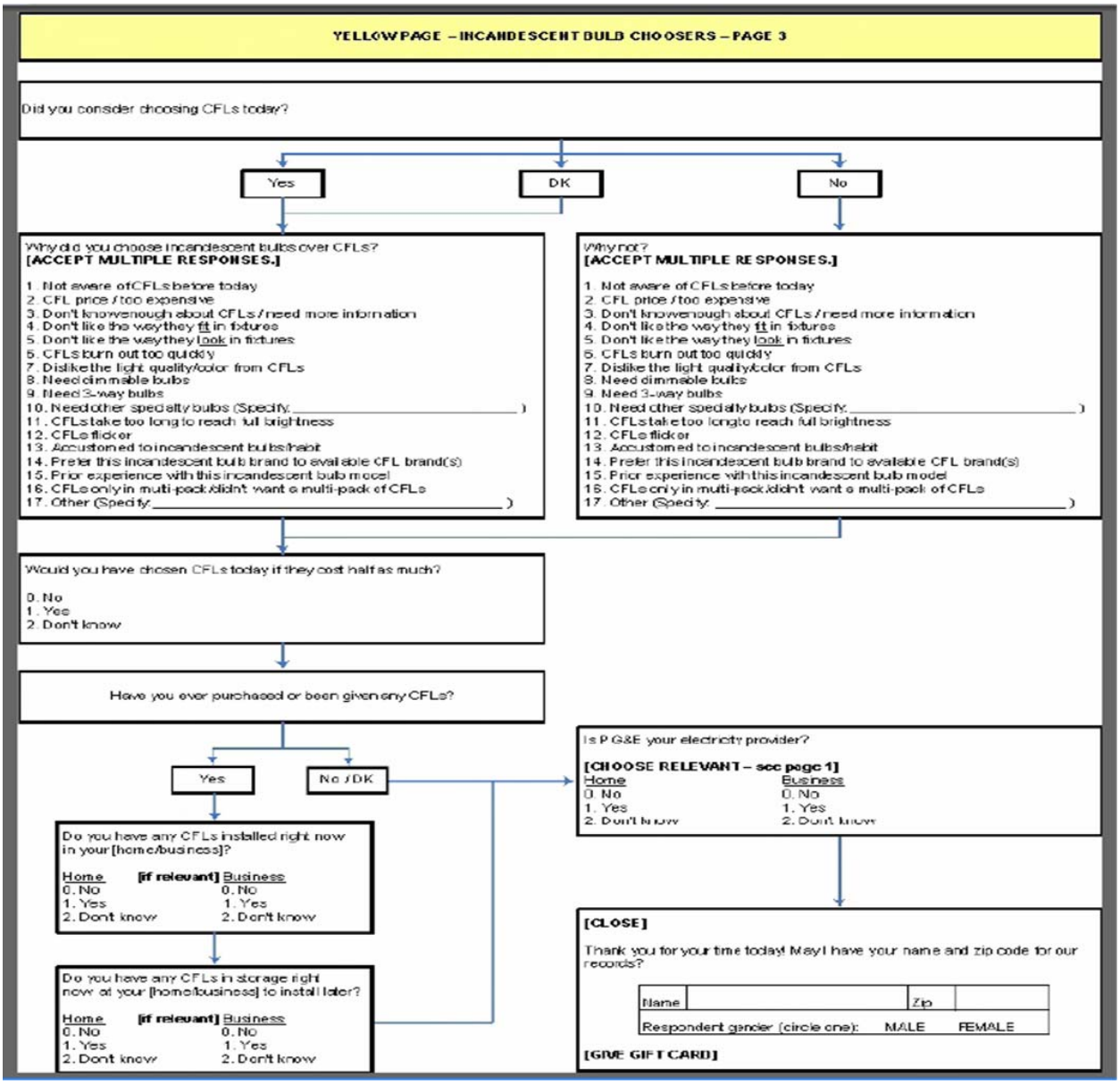

BLUE PAGE -- CFL PURCHASERS --PAGE 2
[COLUMN A]
What influenced your decision to purchase these particular CFLs today?
[DO NOT READ LIST. ACCEPT MULTIPLE RESPONSES.]
Anything else? [RECORD OTHER INFLUENCES.]
[COLUMN B --FOR ALL IDENTIFIED IN COLUMN A]
Which of these factors was most influential on your decision? Second most? Third most? [ETC.]
[ENTER RANKINGS. USE EACH RANK ONLY ONCE AND ENTER "N/A" IF NOT APPLICABLE.]
Reason [DO NOT READ LIST.]
A Check if Mentioned
B Rank
1. CFL price is low / affordable
2. To save money
3. To save energy
4. Saw signs or displays in store
5. Environmental reasons
6. Recommended by friends/family
7. Saw advertisement outside store
8. CFLs work better/higher quality than incandescent
9. Prior experience with CFLs
10. CFL location in store (caught my attention)
11. Other (Specify: _____)
How many CFLs would you have purchased today if they cost twice as much? Would you say...
1. none,
2. fewer,
3. the same number, or
4. more CFLs?
5. [Don't know]
What if they cost half as much? Would you have purchased...
1. none,
2. fewer,
3. the same number, or
4. more CFLs?
5. [Don't know]
[IF APPLICABLE]
Would you still have purchased CFLs today if...
[ENTER "N/A" IF NOT APPLICABLE, DK = "Don't Know"]
Question
Circle one
1. ...you hadn't seen advertising outside the store?
2. ...you had no prior experiences with CFLs?
3. ...there were no CFL signs/displays in the store?
4. ...the CFLs were located with the rest of the lighting products?
Yes No DK N/A
Are you planning to install the CFLs you're purchasing today in your home, a business, or both?
[IF NEEDED: Business could be your own or your employer's.]
1. Home
2. Business (Type: _____)
3. Both (Bus.Type: _____)
4. Other (Explain: _____)
5. Don't know
[IF BOTH/OTHER]
in home
in business
(# other)
Of the CFLs you are purchasing today, how how many are you planning to install in the next month?
in home
in business
(# other)
Have you ever purchased or been given any CFLs (before today)?
Yes
No / DK
Do you have any CFLs installed right now in your [home/business]?
Home
[if relevant] Business
0. No
1. Yes
2. Don't know
Do you have any CFLs in storage (to install later) in your [home/business]?
Home
[if relevant] Business
0. No
1. Yes
2. Don't know
Does PG&E provide electricity to your home [IF RELEVANT] or business?
Yes
___home
___business
No / DK
[CLOSE.]
Thank you for your time today! May I have your name and zip code for our records? [GIVE GIFT CARD.]
Name
Zip
Respondent gender (circle one): MALE FEMALE
[PHONE RECRUIT]
Those are all of the questions I have for you today; thank you for your time.
Could we give you a call in about 3 months to talk with you a little more about these CFLs? In appreciation for your participation in that phase of the study, we'll send you a $20 gift certificate for Amazon.com.
No / DK
Yes
[CLOSE.]
Excellent; thank you. May I please have your contact information?
[GIVE GIFT CARD.]
Name
Phone
Zip
Respondent gender (circle one): MALE FEMALE
[IF PURCHASING MULTI-PACK(S)]
RECORD # IN LARGEST MULTI-PACK: _____
If the CFLs were sold individually but at the same price you're paying per bulb, do you think you'd have purchased the same number, more, or fewer bulbs?
1. Same number
2. Would have purchased more
3. Would have purchased fewer
4. Other (Explain: _____)
5. Don't know
[IF MORE/FEWER]
How many would you have purchased if they were in single packs?
RECORD NUMBER: _____


YELLOW PAGE – INCANDESCENT PURCHASERS – PAGE 3
[ASSUME RESPONSE OF "YES" IF RESPONDENT INTENDED TO BUY CFLs TODAY (SEE PAGE 1)]
Did you consider purchasing CFLs today?
Yes
DK
No
Why did you choose incandescent bulbs over CFLs?
[ACCEPT MULTIPLE RESPONSES.]
1. Not aware of CFLs before today
2. CFL price / too expensive
3. Don't know enough about CFLs / need more information
4. Don't like the way they fit in fixtures
5. Don't like the way they look in fixtures
6. CFLs burn out too quickly
7. Dislike the light quality/color from CFLs
8. Need dimmable bulbs
9. Need 3-way bulbs
10. Need other specialty bulbs (Specify: _____)
11. CFLs take too long to reach full brightness
12. CFLs flicker
13. Accustomed to incandescent bulbs/habit
14. Prefer this incandescent bulb brand to available CFL brand(s)
15. Prior experience with this incandescent bulb model
16. CFLs only in multi-pack/didn't want a multi-pack of CFLs
17. Other (Specify: _____)
Why not?
[ACCEPT MULTIPLE RESPONSES.]
1. Not aware of CFLs before today
2. CFL price / too expensive
3. Don't know enough about CFLs / need more information
4. Don't like the way they fit in fixtures
5. Don't like the way they look in fixtures
6. CFLs burn out too quickly
7. Dislike the light quality/color from CFLs
8. Need dimmable bulbs
9. Need 3-way bulbs
10. Need other specialty bulbs (Specify: _____)
11. CFLs take too long to reach full brightness
12. CFLs flicker
13. Accustomed to incandescent bulbs/habit
14. Prefer this incandescent bulb brand to available CFL brand(s)
15. Prior experience with this incandescent bulb model
16. CFLs only in multi-pack/didn't want a multi-pack of CFLs
17. Other (Specify: _____)
Would you have purchased CFLs today if they cost half as much?
0. No
1. Yes
2. Don't know
Have you ever purchased or been given any CFLs?
No / DK
Yes
Do you have any CFLs installed right now in your [home/business]?
Home [IF RELEVANT] Business
0. No 0. No
1. Yes 1. Yes
2. Don't know 2. Don't know
Are you planning to install the light bulbs you're purchasing today in your home, a business, or both?
1. Home
2. Business (Type: _____)
3. Both (Bus Type: _____)
4. Other (Explain: _____)
5. Don't know
[IF BOTH/OTHER]
in home
in business
(# other)
Do you have any CFLs in storage right now at your [home/business] to install later?
Home [IF RELEVANT] Business
0. No 0. No
1. Yes 1. Yes
2. Don't know 2. Don't know
[CLOSE]
Thank you for your time today! May I have your name and zip code for our records?
Name
Zip
Respondent gender (circle one): MALE FEMALE
[GIVE GIFT CARD]
Is PG&E your electricity provider?
Home [IF RELEVANT] Business
0. No 0. No
1. Yes 1. Yes
2. Don't know 2. Don't know

Stated Preference Survey Instrument




STATED PREFERENCE GUIDE – BLUE PAGE – CFL CHOOSERS
Have you ever purchased or been given any CFLs (before today)?
Yes
No / DK
Do you have any installed right now in your [home/business]?
Home [If relevant] Business
0. No 0. No
1. Yes 1. Yes
2. Don't know 2. Don't know
Do you have any CFLs in storage right now at your [home/business]?
Home [If relevant] Business
0. No 0. No
1. Yes 1. Yes
2. Don't know 2. Don't know
Where do you think you'll install those CFLs? Would you say in your home, a business, or both?
1. Home
2. Business (Type: _____)
3. Both (Bus Type: _____)
4. Other (Explain: _____)
5. Don't know
[IF BOTH/OTHER]
in home
in business
(# other)
[IF SELECTED A MULTI-PACK]
RECORD # MULTI-PACK: _____
If the CFLs were sold individually but at the same price you'd be paying per bulb, do you think you'd have selected the same number, more, or fewer bulbs?
1. Same number
2. Would have selected more
3. Would have selected fewer
4. Other (Explain: _____)
5. Don't know
[IF MORE/FEWER]
How many would you have selected if they were in single packs?
RECORD NUMBER: _____
About how many CFLs do you think you'll purchase within the next 6 months?
NUMBER: _____
Are you planning to purchase any CFLs within the next 6 months?
Yes
No / DK
Why not?
[ACCEPT MULTIPLE RESPONSES.]
1. Not aware of CFLs before today
2. CFL price / too expensive
3. Don't know enough about CFLs / need more information
4. Don't like the way they fit in fixtures
5. Don't like the way they look in fixtures
6. CFLs burn out too quickly
7. Dislike the light quality/color from CFLs
8. Need dimmable bulbs
9. Need 3-way bulbs
10. Need other specialty bulbs (Specify: _____)
11. CFLs take too long to reach full brightness
12. CFLs flicker
13. Accustomed to incandescent bulbs/habit
14. Prefer this incandescent bulb brand to available CFL brand(s)
15. Prior experience with this incandescent bulb model
16. CFLs only in multi-pack/didn't want a multi-pack of CFLs
17. Other (Specify: _____)
Is PG&E your electricity provider?
[CHOOSE RELEVANT – see page 1]
Home Business
0. No 0. No
1. Yes 1. Yes
2. Don't know 2. Don't know
[CLOSE]
Thank you for your time today! May I have your name and zip code for our records?
Name
Zip
Respondent gender (circle one) MALE FEMALE
[GIVE GIFT CARD.]


YELLOW PAGE – INCANDESCENT BULB CHOOSERS – PAGE 3
Did you consider choosing CFLs today?
Yes
DK
No
Why did you choose incandescent bulbs over CFLs? [ACCEPT MULTIPLE RESPONSES.]
1. Not aware of CFLs before today
2. CFL price / too expensive
3. Don't know enough about CFLs / need more information
4. Don't like the way they fit in fixtures
5. Don't like the way they look in fixtures
6. CFLs burn out too quickly
7. Dislike the light quality/color from CFLs
8. Need dimmable bulbs
9. Need 3-way bulbs
10. Need other specialty bulbs (Specify: _____)
11. CFLs take too long to reach full brightness
12. CFLs flicker
13. Accustomed to incandescent bulbs/habit
14. Prefer this incandescent bulb brand to available CFL brand(s)
15. Prior experience with this incandescent bulb model
16. CFLs only in multi-pack/didn't want a multi-pack of CFLs
17. Other (Specify: _____)
Why not? [ACCEPT MULTIPLE RESPONSES.]
1. Not aware of CFLs before today
2. CFL price / too expensive
3. Don't know enough about CFLs / need more information
4. Don't like the way they fit in fixtures
5. Don't like the way they look in fixtures
6. CFLs burn out too quickly
7. Dislike the light quality/color from CFLs
8. Need dimmable bulbs
9. Need 3-way bulbs
10. Need other specialty bulbs (Specify: _____)
11. CFLs take too long to reach full brightness
12. CFLs flicker
13. Accustomed to incandescent bulbs/habit
14. Prefer this incandescent bulb brand to available CFL brand(s)
15. Prior experience with this incandescent bulb model
16. CFLs only in multi-pack/didn't want a multi-pack of CFLs
17. Other (Specify: _____)
Would you have chosen CFLs today if they cost half as much?
0. No
1. Yes
2. Don't know
Have you ever purchased or been given any CFLs?
Yes
No / DK
Do you have any CFLs installed right now in your [home/business]?
Home: 0. No 1. Yes 2. Don't know
[if relevant] Business: 0. No 1. Yes 2. Don't know
Do you have any CFLs in storage right now at your [home/business] to install later?
Home: 0. No 1. Yes 2. Don't know
[if relevant] Business: 0. No 1. Yes 2. Don't know
Is PG&E your electricity provider?
[CHOOSE RELEVANT – see page 1]
Home: 0. No 1. Yes 2. Don't know
Business: 0. No 1. Yes 2. Don't know
[CLOSE]
Thank you for your time today! May I have your name and zip code for our records?
Name
Zip
Respondent gender (circle one): MALE FEMALE
[GIVE GIFT CARD]

Intercept Survey Implementation Considerations, Challenges and Keys to Success

Excerpt from 2008 ACEEE Summer Study Conference Paper, "Walking the Aisles: Designing Research to Understand CFL Purchase Motivations at the Time of Sale," Jennifer E. Canseco, Kathleen Gaffney, and Kevin Price, KEMA, Inc.

Implementation Considerations

There are a number of important survey implementation considerations that need to be carefully planned and executed to minimize bias and ensure representativeness across the full range of both consumer and retail segments. These considerations are discussed below.

Survey Timing

There are several issues related to survey timing that are important to consider. First, how long can the study afford to have researchers in any one store conducting surveys? For some high-traffic stores, researchers will meet their survey quotas within a very reasonable timeframe and in others, where foot-traffic is low, and researchers may not achieve their targets even after spending several hours in the store. This study was designed to set a limit of four hours in any one store. Researchers are instructed to attempt to meet their target of revealed preference surveys in the first three hours and, if they are unable to meet that target, they are to spend the last hour conducting stated preference surveys.

Another important issue to consider is the actual times of day and days of the week in which the research is conducted. For some stores, foot-traffic is highest on the weekends. For others, especially home improvement and hardware stores, foot-traffic can be high in the early weekday mornings. Just like telephone survey research, it is important to conduct in-store intercept research at various times of day and days of the week in order to ensure that no particular segment of shoppers is being systematically excluded.[31]

[31] In addition, this study includes an extra step when the researcher encounters contractors who are purchasing IOU discounted CFLs to install in their clients' businesses or homes. In these cases, the researcher attempts to collect contact information (e.g., business card) so that researchers can contact the contractor to conduct a brief follow-up telephone survey. The purpose of this survey is

Surveys should also be fairly well-timed to coincide with periods during which the IOU's discounted product is being promoted and sold with sufficient volume. We also attempted to place researchers in stores where the discounted CFLs were not being sold (or only sold in very low volume). In the early study phases, this was provided an important opportunity to gain insight into how well the survey questions were working. Additionally, the absence of discounted CFLs in stores reduces the overall likelihood that researchers will meet their minimum targets for revealed preference surveys. Non-discounted CFLs are still fairly expensive relative to the discounted CFLs and not sold as frequently in large multi-packs. As such, observed purchase patterns are very different when the product is discounted, making it very important to ensure that the stores are selling the product prior to placing researchers in the store.

Language

Any research conducted in California must be able to include respondents for whom English is not their first or native language. This study has capabilities in both Spanish and Chinese (Mandarin and Cantonese). Not only is there potential bias in the data collected if surveys are not conducted in consumers' preferred language, but it makes recruitment far more difficult, especially given the other challenges associated with low foot-traffic and in-store "interference" (discussed below).

Eligible Product Types

As mentioned above, the modified lighting shelf survey included in the study design is limited to comparable medium screw-base incandescent lamps and CFLs. It is important to set these limits throughout the study in order to focus the researcher (as well as the data collection) on a specific and narrow set of factors that could be influencing consumer purchasing decisions. As such, in this study the researcher is required to conduct revealed preference surveys only with purchasers of medium screw-base CFLs or equivalent incandescent lamps. Stated preference surveys are administered after consumers make a hypothetical purchase decision between a screw-base CFL and a comparable incandescent lamp.

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more over-arching and not necessarily tied to the contractor's specific CFL purchases that day. The follow-up survey is designed to understand the volume of contractor purchases of IOU-discounted CFLs and the influence of the discount on the volume purchased in a given time period (i.e., annually), as well as contractor estimates as to where (business versus residential) the bulbs are ultimately being installed.

Introducing other types of lighting product purchases into the research would present many challenges, not least of which would have been the need to expand the survey questions to cover the technical applicability considerations of these products. Products such as linear fluorescent tubes, candelabra-based CFLs, halogens, LEDs, and lighting fixtures are excluded from the research design because they have very different applicability considerations than the more universal screw-base light bulb. Specialty CFLs, such as reflectors, dimmable and three-way CFLs, are not explicitly excluded but are also not very likely to be present in many of the retail stores in which researchers are placed (particularly discount and grocery stores). Therefore, data collected on these types of specialty lamp purchases would be fairly unreliable and have limited value in this study given the likely very low incidence of researchers encountering purchasers of these products in any given store, as well as the relatively low volume of actual purchases of these types of products in the current retail market.[32]

Sample Design

A critical consideration in the implementation of the in-store intercept research involves the sample design. Obviously, it was important to design a sample that could adequately represent the broad ranges of retail stores that are actually participating in the upstream lighting program and selling discounted CFLs to consumers in the IOU's service territory. It is also equally important to consider the geographic distribution of these participating stores across the IOU's service territory. Consumer purchase decisions related to lighting products are influenced not only by the sales conditions they face once they enter a particular store, but also by the options they have when considering which store to go to when they need to make lighting purchases. Some consumers have many options because they live in relatively urban environments, but certain mass merchandisers and big box retailers may not be as easily accessible to the urban consumer. Consumers who live in suburbs may have the most diverse range of options, whereas rural consumers must often consider purchase location more carefully since their options are the most limited.

In this study, therefore, the sample design needed to account for these very different urban/suburban/rural retail setting realities and it needed to adequately represent more than 50

[32] As a follow-up to this research, focus groups are planned to explore consumer decision-making factors that are influencing the next generation of efficient lighting products. In this more controlled environment, researchers can conduct a more thoughtful and probing exploration of consumer reactions these emerging products.

participating retail chains and hundreds of independent stores (representing more than a thousand unique storefronts[33]) throughout the state.

Implementation Challenges

Researchers interested in replicating this study should be aware of the many additional implementation challenges posed by this type of in-store intercept research. These challenges can be broadly classified into two groups: those encountered before researchers are actually placed in stores, and those that arise in the stores after the researchers have been deployed. Additional analytic challenges are likely to be identified after the data has been collected, but since this study is currently being fielded and has yet to enter the analysis phase, the discussion below centers only on the specific implementation challenges we have experienced to date.

Before the Research Begins

Obtaining permission for entry into stores. The first challenge posed by the in-store intercept research is obtaining permission to enter the stores. This challenge cannot be underestimated because the overall success of the study is very much contingent upon obtaining permission from the full range of participating retailers. If one major retail chain refuses or otherwise introduces conditions that cannot be accommodated within the study design, the overall applicability and ultimate reliability of the study results can be called into question.

In some cases, a retail chain may have an internal policy forbidding in-store research; in other cases, a retail chain may insist on using their own staff to carry out the intercept research. While there is little one can do to overcome the first barrier if there truly is a corporate policy in effect, often times a call from the program manager and/or the manufacturer supplying the discounted product to the stores can help open up the lines of communication such that stores that might have initially refused to support the study eventually agree to participate.

In the cases where a chain insists on using its own personnel to conduct the surveys, one has to consider the potential bias and other logistical challenges that this approach might introduce. Staff who work for the chain (or for a research firm hired by the chain) will not approach the research with the same degree of independence as an independent research firm not hired by the retail chain. This raises some concerns about at least the perception of bias and also

[33] Based on November 2007 program tracking data from PG&E; see footnote 7.

suggests that results from other stores may not be completely comparable to this chain. Additionally, there are logistical challenges that will inevitably arise if a retail chain insists on using its own staff: additional and potentially different training requirements, less control over the survey implementation process, more emphasis needed on quality control and verification, and so on. These concerns are heightened even further if the chain is a major player in the retail market.

Further, obtaining permission is a fairly sensitive and time consuming process that begins with identifying the appropriate individual or individuals with whom to have the initial discussions about the study sponsor and scope. For this study, the utility program managers sent emails to their key contacts at each of the participating manufacturers and large retail chains. As mentioned above, manufacturers were often crucial to opening the appropriate doors at the retail level. Researchers followed-up with in-person meetings, telephone calls and emails to the corporate-level contact at each individual retail chain. For the largest chains, this process varied from roughly two weeks to two months. For smaller chains and independent stores, store-level contacts (such as the store owner or manager) were responsible for granting permission for their own storefronts. As such, the process of obtaining permission was much more straight-forward for smaller chains and independent stores, ranging from a single telephone call or email to about a week or so of back-and-forth.

Another challenge faced in this study is that retailers often grant different forms of permission. For example, some indicated that researchers could “show up at any time” without advance notice to the individual store manager or regional representative. In many of these cases, the corporate contact sent emails or letters to the individual store managers alerting them to the purpose of the study and asking them to allow researchers to enter the stores at any time to conduct the research. Initially, this was viewed as a significant advantage as it provided the greatest scheduling flexibility (as one such store could easily be substituted for another if needed). However, this approach often resulted in a number of “turn-aways” – situations in which a researcher would arrive at a store to find that no one was aware of the study and the researcher was not permitted to conduct the surveys. Other retail chains wanted to know the specific day and time researchers would be placed in their store, which generally provided greater assurance that the researcher would be permitted to conduct the surveys, but also required more upfront coordination.

Scheduling. Because the study focused on CFLs that were discounted by the IOU upstream lighting program, it was important to time the research to coincide with the promotion. Therefore, as discussed above, it was important to know in advance which stores would be selling

discounted product during what timeframes so as to ensure researchers were placed in stores when the discounted CFLs were being sold in sufficient volume. This proved challenging, as a number of manufacturers supply the various chains involved in the promotion, and product shipment schedules varied by manufacturer and chain. Although program staff provided detailed information on the timing of shipments from manufacturers to retailers, it was not always a good predictor of when the discounted product would be physically available on the retail sales floor. Not being able to reliably predict product availability presented another challenge in planning and coordinating field activities.

Additional scheduling challenges involved having to deal with last-minute changes in planned shipments and/or cancellations. In a few cases, scheduled store visits had to be canceled or postponed because a shipment of promotional CFLs was delayed. In another case, a store manager cancelled the store visit so as not to interfere with other promotions that were taking place during the scheduled weekend. While these types of logistical challenges are not necessarily unique to this study, last minute changes or cancellations can prove difficult if not impossible to handle once the researchers have been deployed. This is primarily because of the need to obtain permission in advance and to schedule store visits on specific days and times. In addition, because of the need to select stores within reasonable proximity to one another to control study costs, finding replacement stores to fit the scheduled locations was rarely a straightforward process.

Similarly, as described above, researchers were also occasionally turned away when they arrived at a particular store to conduct the surveys. In many of these cases, the local store staff had not received the advance notice of the study as promised by the corporate-level contacts. In other cases, the store manager had received notice but was simply uncomfortable with allowing a non-employee of the store out on the sales floor. In some cases, back-up stores were available for these situations (e.g., a store for which permission had been granted to visit the store at any time), but in other cases, the researcher had no backup store available.

Sample management. Because of variations in when permission was granted to enter a specific chain and when each chain received its allocation of promotional CFLs, store "availability" for visits was contingent not only on permission to enter the stores but also on product availability. Because of these variations, the number of individual storefronts available to researchers changed over time, resulting in a constantly-evolving sample design. Researchers thus needed to reassess the sampling strategy frequently and make adjustments based on store recruitment efforts and product availability.

Training. Before entering the stores, researchers were trained on how to administer the revealed preference, stated preference, and shelf surveys and also on how to interact with store staff and consumers. Researchers also participated in at least one day of in-store training, led by the study manager and other experienced team members. Because conditions in the stores are always difficult to predict, it was necessary to conduct ongoing training and "debriefings" throughout the course of the study. Researchers gathered together for these debriefing meetings within one week of the field activities and discussed their experiences and sought advice from the study team regarding how to deal with different situations that arose in the field.

In-store Challenges

Finding the appropriate contact. As described above, the study faced challenges related to identifying the appropriate corporate-level contact within a retail chain to grant permission for the study. Once researchers were placed in stores, a similar challenge presented itself but on somewhat of a different level. Researchers were often instructed to make contact with the store manager, who was identified by the corporate-level contact as the individual who would grant local access to conduct the study. However, these individuals were not always available when the researchers arrived at the stores, so often obtaining permission at the local store level was often a separate, delicate and time-consuming process.

Positioning in the stores. Once permission was granted at the local level to enter the store and administer the surveys, researchers were then faced with the challenge of determining the best position in which to conduct the research in the store. Ideally, researchers were to stand in the aisle in which discounted CFLs were positioned, or at least close enough to be able to observe and recruit purchasers. However, researchers quickly reported variations in how lighting products are merchandised from store to store – in many stores, all of the light bulbs are positioned in the same aisle, but in other stores (particularly larger home improvement stores), light bulbs may be displayed in several different locations throughout the store. In one home improvement store, the researcher found promotional CFLs in seven different locations including aisles, end-caps, and stand-alone floor displays. In such situations, researchers must determine the best position in which to maximize their view of the available light bulbs and shoppers. Not only do multiple locations make it difficult to recruit purchasers to conduct the survey, but these variations present challenges in interpreting the actual range of choices consumers considered before making (or not making) a particular purchase.

Limited time to conduct intercept. As mentioned above, the in-store intercept approach limits the amount of time a researcher can engage a respondent in the survey process. In this study,

most surveys were completed within two to four minutes. During telephone surveys, respondents can typically "multi-task" and, as a result, may be more willing to complete a lengthier survey. Face-to-face interviews, however, require the respondent's full attention – participants must stop what they are doing to take part in the study. To keep the survey length within acceptable limits, a carefully planned, focused, and tightly scripted survey instrument is essential.

Managing "help" from store staff. At the store level, researchers typically encountered very helpful and friendly store staff. Such staff helped facilitate the research process by showing the researcher all of the different locations in which light bulbs were displayed in the store and providing advice as to the best place to stand to maximize the view of these products. In some cases, however, store staff were a little *too* helpful – for example, "helping" the researcher get a high number of completed surveys by informing shoppers that they could obtain gift cards if they purchased light bulbs. Training researchers on how to gently refuse such "assistance" without alienating the store staff helped to avoid these situations.

Offering incentives. As mentioned above, the study was designed to offer consumers a $5 or $10 gift card or gift certificate to the store in which the survey took place as an enticement to and reward for participating in the research. The gift cards also proved to be an added enticement to retailers who were initially somewhat hesitant in agreeing to support the research. However, some stores (such as local hardware stores) do not offer gift cards (or gift certificates) for their specific stores. In these cases, researchers needed to purchase gift cards from other local stores (e.g., coffee shops), which were ultimately less effective and met with mixed reviews from consumers. In other cases, store staff had problems "activating" the gift cards, which resulted in time-consuming delays in initiating research in a particular store.

Even if stores had their own gift cards available and store staff were able to activate them successfully, it was difficult to predict the precise number of gift cards that would be needed in a particular store. Because of substantial variations in the volume of shoppers from store to store and a concern about over-purchasing unneeded gift cards, researchers often under-estimated the number of cards they needed and had to go back to the counter and purchase additional cards. In some cases, the researchers over-estimated and purchased more gift cards than they needed. In many cases, the stores offered refunds for unused gift cards. In those cases where stores would not provide refunds, the study was left to absorb the cost of these extra gift cards unless researchers were planning to visit the same store in another region.

Introducing bias. Because the research takes place at the time of purchase, the in-store intercept approach raises some concerns relating to the possible introduction of bias in consumer purchase decisions (e.g., researchers influencing consumers' decisions). Proper and ongoing training of researchers is critical to minimizing this potential bias. For example, researchers must be trained to wait until *after* customers make their purchasing decisions to approach them to take part in the survey. Waiting for the consumer to make the actual purchase (i.e., approaching them at the front of the store after they have shopped, or near the cash register) is the most effective means through which to reduce this bias. However, this positioning diminishes the ability of customers to view the other product choices when describing their decision-making process.

Researchers must be also trained to understand that they cannot offer their own opinions regarding a particular lighting product or provide suggestions regarding particular products to purchase. While it is tempting to engage the consumer in this type of discussion, it is important that the researcher remain neutral throughout the process to avoid introducing any bias.

In addition, it is important to understand that even when the researcher follows these protocols and remains as neutral as possible, bias could still be introduced as a result of the attention the researcher is attracting – standing in the lighting aisle, offering gift cards, asking questions about CFLs, and so on. In one case, there was a line of consumers waiting to conduct the survey because they wanted free gift cards. Researchers took quick action to "close down" the survey effort, but not before a few consumers had participated who clearly made a decision to purchase a CFL because they thought it was the only way to get the free gift card.

Keys to Success

The implementation considerations and challenges described above highlight the most critical "lessons learned" from conducting this research effort. Anyone interested in implementing similar in-store consumer intercept surveys should keep the following in mind:

Start planning early. Because the process of obtaining permission may require several weeks' to months' worth of lead-time, it is beneficial to initiate the process far in advance of when the store visits are planned. This approach will provide researchers with a full slate of retail chains from which to select when scheduling store visits and lessen the number of changes to the sample frame that occur after the study is underway.

Leverage existing relationships. The study's overall success is contingent upon obtaining permission from retail chains participating in the promotion. One particularly successful method for obtaining permission involved leveraging relationships between the program manager and/or CFL manufacturers with corporate-level decision-makers within the retail chains. When the program manager or manufacturer was able to establish initial contact with the chain's decision-makers and introduce them to the researchers, the researchers achieved far greater cooperation from the retailers than when attempts were made without such introductions.

Enable store-level staff to verify permission. To lessen the obstacles potentially faced by field staff when they arrive to conduct surveys at a store, researchers should attempt to obtain letters of permission from the retail chains. Researchers found that when they were able to present such a letter to store staff, the process of gaining entry into the stores was greatly simplified. Wherever possible, these letters should be signed by someone within the chain who is well-known to store managers (e.g., a regional manager). In one particular chain, researchers had the name and cellular telephone number of a corporate merchandising assistant whom the store managers could call to verify that permission for the study had been granted at the corporate level.

Be flexible. Because of the challenges associated with scheduling the surveys (e.g., knowing when the promotion was active in a particular store, dealing with CFL shipment delays, *et al.*), plans to visit specific chains or individual stores must be flexible. In some cases, it may be possible for researchers to visit a different store than the one scheduled (e.g., a store for which permission had been granted to visit the store at any time), but in other cases, the research may need to be postponed until a later date. Because some delays of this nature are unavoidable, the study schedule should reflect this reality.

In addition, field staff should be flexible in their interactions with retail staff in the stores, particularly with regard to their positioning in the stores. As described, the ideal position for the researcher is in the lighting aisle, but in some stores (e.g., small hardware and drug stores), the aisles are too narrow to permit such positioning. Because researchers must not get in the way of the shoppers or the store staff, they must be flexible in terms of their positioning.

The study's incentives also required flexibility. At the study's outset, the researchers planned to offer a $5 gift card to each shopper who completed the customer intercept survey for the store in which they were shopping. As explained above, some chains offered gift cards starting at $10, some did not offer gift cards at all, and other chains offered gift cards that their staff could not activate (and could thus not be used as incentives). Instead of implementing a uniform

incentive policy across all chains in the study, the researchers dealt with incentives on a store-by-store basis.

Limit bias. Bias may be introduced into an in-store study at several different levels, thus efforts to avoid or limit bias must be undertaken on several fronts. First of all, the survey should be conducted in multiple languages that reflect the languages spoken by the target population to enable individuals with diverse backgrounds to participate.

Bias can also be controlled through the sample design process. The sample design should also include multiple regions and store types to represent shoppers with different socio-demographics and access to particular retail channels. It should also incorporate multiple retail channels and several chains within any given channel, again to represent the broad range of shoppers in the target population. Additionally, store visits should be planned on different days of the week at different times of the day to capture different categories of shoppers (e.g., those who work during the day versus those who work during the evening). Incorporating in day-of-week and time-of-day variations into the sample design may also enable researchers to intercept shoppers purchasing light bulbs for residential and nonresidential applications as well as contractors shopping for light bulbs to install in their customers' homes or businesses.

Finally, researchers should be trained on the importance of avoiding any influence on consumers' purchasing decisions by waiting until after customers make their purchasing decisions to approach them to take part in the survey. Despite the possible temptation to assist customers, researchers must remain neutral.

Conduct ongoing field staff training. Ongoing training with field staff is critical to ensure accurate data collection and reporting. Although training can (and should) take place before the study begins, field staff will frequently encounter situations that could not have been predicted. Discussions between field staff and other members of the research team are extremely beneficial for both groups in understanding how to manage unforeseen circumstances (such as the unwanted "assistance" from store staff described above). Ongoing training also enables researchers to continually underscore the importance of sound data collection practices.

Appendix B: PG&E/SCE Participating Lighting Retailer Interview Guide

PG&E/SCE Participating Lighting Retailer Interview Guide

Variable Inputs: <RETAILER>, <SUPPLIER>, <UTILITY>, <LW CFL DB>, <SP CFL DB>, <CFL FIXTURE DB>, <CONTACT NAME>

Finding the Decision Maker

I1. [<IF CONTACT NAME> IS BLANK THEN SKIP TO I2]
Hello, may I please speak with [USE CONTACT NAME, IF AVAILABLE]?
Contact available [SKIP TO I4] 1
Contact currently unavailable [ARRANGE CALL BACK] 2

I2.
I'd like to speak with someone in your store who deals with stocking and supplying your lighting products such as light bulbs?

[IF THEY ASK WHY, SAY: "ACCORDING TO OUR RECORDS, YOUR STORE HAS RECENTLY PARTICIPATED IN THE <UTILITY> RESIDENTIAL LIGHTING INCENTIVE PROGRAM. <UTILITY> HAS SOME QUESTIONS ABOUT YOUR STORE'S PARTICIPATION IN THIS PROGRAM."]

[IF THEY SAY SOMETHING LIKE : "I ALREADY RECEIVED A MAIL-IN SURVEY FROM PG&E," SAY: "PG&E IS CONDUCTING BOTH MAIL AND TELEPHONE SURVEYS. YOUR STORE WAS SELECTED FOR ONE OF THE TELEPHONE SURVEYS."]
[RECORD NAME] _____

Person responsible available 1 [SKIP TO I4]
Person responsible currently unavailable . [ARRANGE CALL BACK] 2
No person responsible for stocking or management of lighting products3 [ASK: "MAY I SPEAK TO THE STORE MANAGER."]
Don't know [SKIP TO I7] -97 [ASK: "May I speak to the store manager."]
Refused [SKIP TO I7] -98 [THANK AND TERMINATE]

I3.

I understand you're the store manager. Are you familiar with the stocking patterns or sales trends for the lighting products that you sell?

[IF THEY ASK WHY, SAY: "ACCORDING TO OUR RECORDS, YOUR STORE HAS RECENTLY PARTICIPATED IN THE <UTILITY> RESIDENTIAL LIGHTING INCENTIVE PROGRAM. <UTILITY> IS TRYING TO IMPROVE THEIR LIGHTING REBATE PROGRAM AND WAS HOPING SOMEONE FAMILIAR WITH YOUR STORE'S LIGHTING SALES AND STOCKING PATTERNS COULD HELP US OUT BY ANSWERING A FEW QUESTIONS.]

[IF THEY SAY SOMETHING LIKE : "I ALREADY RECEIVED A MAIL-IN SURVEY FROM PG&E," SAY: "PG&E IS CONDUCTING BOTH MAIL AND TELEPHONE SURVEYS. YOUR STORE WAS SELECTED FOR ONE OF THE TELEPHONE SURVEYS."]

[RECORD NAME] _____

[Yes].....1 [SKIP TO I4]
[No] .....2 [ASK: "WHO WOULD BE FAMILIAR WITH SALES AND STOCKING TRENDS FOR LIGHTING PRODUCTS IN YOUR STORE?". IF NAME RECEIVED OBTAIN PHONE NUMBER AND CONTACT THAT PERSON (STARTING WITH I4). IF NO NAME RECEIVED, THANK AND TERMINATE]
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

I4.

Hello I am _____ from Itron. I am calling on behalf of <UTILITY>. According to our records, your store has recently participated in the <UTILITY> Residential Lighting Incentive Program. This program pays lighting manufacturers $0.50-$3.50 per compact fluorescent bulb and $10 per compact fluorescent lighting fixture so that they can provide these products to retailers at discounted prices. Your supplier through this program is <SUPPLIER>. <UTILITY> is trying to improve their lighting rebate program and was hoping you could help us out by answering a few questions. Are you familiar with this <UTILITY> program?

[Yes].....1 [SKIP TO I6]
[No] 2
[Don't know/Not sure/Can't remember].....-97
[Refused] -98 [THANK AND TERMINATE]

I5.

Who would be familiar with this program?

[RECORD NAME AND PHONE NUMBER] _____ [THANK AND TERMINATE THEN CALL BACK CONTACT IDENTIFIED IN RESPONSE TO QUESTION I5 AND REPEAT QUESTION I4]

[Don't know/Not sure/Can't remember] ..... -97 [THANK AND TERMINATE]
[Refused] -98 [THANK AND TERMINATE]

I6.

What is your job title? [RECORD] _____

I7.

Now I'm going to use the abbreviation "CFL" to refer to compact fluorescent lamps. Are you the primary person who decides how many <UTILITY>-discounted CFLs your store(s) receives in shipments from <SUPPLIER> as part of the <UTILITY> Residential Lighting Incentive Program?

[Yes] ..... 1 [SKIP TO P4]
[No] 2
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

I8.

Who is the primary decision-maker?

[RECORD NAME AND PHONE NUMBER] _____

[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

Participation Information

P4. [IF <LW CFL DB> IS BLANK ELSE SKIP TO P5]

Does your store sell spiral CFLs that use less than 30 watts?

[Yes] 1
[No] ..... 2 [SKIP TO P6]
[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO P6]
[Refused] -98 [SKIP TO P6]

P5.

Does your store sell spiral CFLs that have not been discounted by the <Utility> Residential Lighting Incentive Program?

[Yes].....1
[No] 2
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

P6. [IF <SP CFL DB> IS BLANK ELSE SKIP TO P7]

Does your store sell specialty CFLs such as dimmable, 3-way, or reflector CFLs?

[Yes].....1
[No] 2
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

P7. [IF <CFL FIXTURE DB> IS BLANK ELSE SKIP TO P8]

Does your store sell Energy Star qualified CFL fixtures?

[Yes].....1
[No] 2
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

P7A.

Can you estimate what percentage of the customers buying CFLs in your store home are buying these bulbs for their own home or business and which percentage are builders or contractors buying them for construction or retrofit projects?

[Yes].....1
[No] .....2 [SKIP TO P8]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO P8]
[Refused] -98 [SKIP TO P8]

P7B.

What's your estimate of this breakdown?

1. [% of customers buying CFLs for their own home/business]...1
2. [% of customers buying CFLs for construction/retrofit].....2
[Don't know/Not sure/Can't remember].....-97 [SKIP TO P8]
[Refused] -98 [SKIP TO P8]

P7C.

What information is your estimate based on?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

P7D. [IF % ESTIMATE PROVIDED FOR P7B ELSE SKIP TO P8]

Of the customers who are buying CFLs in your store for their own home or business can you estimate what percentage are buying CFLs for their home vs. for their business?

[Yes] 1

[No] ..... 2 [SKIP TO P8]

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO P8]

[Refused] -98 [SKIP TO P8]

P7E.

What's your estimate of this breakdown?

1. [% of customers buying CFLs for their own home/business] ... 1
2. [% of customers buying CFLs for construction/retrofit] 2

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

P7F.

What information is your estimate based on?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

P8.

IF <LW CFL DB> IS NOT BLANK OR P4 = 1 THEN <LW CFL> = 1

IF <SP CFL DB> IS NOT BLANK OR P6 = 1 THEN <SP CFL> = 1

IF <CFL FIXTURE DB> IS NOT BLANK OR P7 = 1 THEN <CFL FIXTURE> = 1

Sales Trends and Preliminary Program Attribution Questions

A1. [IF <LW CFL DB> IS NOT BLANK OR <SP CFL DB> IS NOT BLANK OR <CFL FIXTURE DB> IS NOT BLANK ASK A1 ELSE SKIP TO NEXT SECTION]

Are you familiar with recent sales trends for CFLs [and CFL fixtures] in your store(s)?

[Yes]..... 1 [SKIP TO A3]
[No] 2
[Don't know/Not sure/Can't remember]..... -97
[Refused] -98

A2.

Who would be familiar with recent sales trends for CFLs [and CFL fixtures] in your store(s)?

[RECORD NAME AND PHONE NUMBER] _____ [SKIP TO NEXT SECTION]

[Don't know/Not sure/Can't remember]..... -97 [SKIP TO NEXT SECTION]
[Refused] -98 [SKIP TO NEXT SECTION]

A3. [IF <LW CFL DB> IS NOT BLANK ASK A3 ELSE SKIP TO A8]

If the discounts of $0.50-$2.75 per spiral CFL of less than 30 Watts were not available, do you think your store(s) would have sold these CFLs in the 2006-2007 period?

[Yes]..... 1
[No] ..... 2 [SKIP TO A8]
[Don't know/Not sure/Can't remember]..... -97
[Refused] -98

A4.

If the discounts of $0.50-$2.75 per spiral CFL of less than 30 Watts were not available, do you think your sales of these CFL bulbs would be about the same, lower, or higher?

[Same]..... 1
[Lower] ..... 2 [SKIP TO A6]
[Higher]..... 3
[Don't know/Not sure/Can't remember]..... -97 [SKIP TO A8]
[Refused] -98 [SKIP TO A8]

A5.

Why do you think this is?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember]..... -97
[Refused] -98

A6.

By what percentage do you estimate your store's sales of these spiral CFLs of less than 30 Watts would be lower during this 2006-2007 period if <UTILITY> discounts of $0.50-$2.75 per CFL bulb were not available?

[RECORD PERCENTAGE] _____%

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

A7. [IF A6 = -97 OR -98 THEN SKIP TO A8]

I want to make sure I understand you correctly. When you say your store's sales would be [PERCENTAGE FROM QUESTION A6] lower without the <UTILITY> discounts. So you're saying that if you sold 100 CFLs in a given week with the <UTILITY> discounts, you would have only sold [100 - (PERCENTAGE FROM QUESTION A6 * 100)] that week without the <UTILITY> discounts. [IF RESPONSE IS ≠ YES THEN CLARIFY RESPONSE TO A6]

A8. [IF <SP CFL DB> IS NOT BLANK ASK A8 ELSE SKIP TO A13]

Now I'm going to ask you about the effect of the <UTILITY> discounts on your sales of specialty CFLs such as dimmable, 3-way, or reflector CFLs. If the discounts of $1-$3.50 per bulb were not available, do you think your store(s) would have sold these specialty CFLs in the 2006-2007 period?

[Yes] 1

[No] ..... 2 [SKIP TO A13]

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

A9.

If the discounts of $1-$3.50 per specialty CFL were not available, do you think your sales of these CFL bulbs would be about the same, lower, or higher?

[Same] 1

[Lower] ..... 2 [SKIP TO A11]

[Higher] 3

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO A13]

[Refused] -98 [SKIP TO A13]

A10.

Why do you think this is?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

A11.

By what percentage do you estimate your store's sales of these specialty CFLs would be lower during this 2006-2007 period if <UTILITY> discounts of $1-$3.50 per CFL bulb were not available?

[RECORD PERCENTAGE] _____%

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

A12. [IF A11 = -97 OR -98 THEN SKIP TO A13]

I want to make sure I understand you correctly. When you say your store's sales would be [PERCENTAGE FROM QUESTION A11] lower without the <UTILITY> discounts. So you're saying that if you sold 100 CFLs in a given week with the <UTILITY> discounts, you would have only sold [100 - (PERCENTAGE FROM QUESTION A11 * 100)] that week without the <UTILITY> discounts. [IF RESPONSE IS ≠ YES THEN CLARIFY RESPONSE TO A11]

A13.

IF <CFL FIXTURE DB> IS NOT BLANK ASK A13 ELSE SKIP TO A18

Now I'm going to ask you about the effect of the <UTILITY> discounts on your sales of Energy Star qualified CFL fixtures. If the discounts of $10 per fixture were not available, do you think your store(s) would have sold these Energy Star qualified CFL fixtures in the 2006-2007 period?

[Yes] 1

[No] ..... 2 [SKIP TO A18]

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO A18]

[Refused] -98 [SKIP TO A18]

A14.

If the discounts of $10 per Energy Star CFL fixture were not available, do you think your sales of these fixtures would be about the same, lower, or higher?

[Same] 1

[Lower] ..... 2 [SKIP TO A16]

[Higher] 3

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO A18]

[Refused] -98 [SKIP TO A18]

A15.

Why do you think this is?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO A18]

[Refused] -98 [SKIP TO A18]

A16.

By what percentage do you estimate your store's sales of these Energy Star qualified CFL fixtures would be lower during this 2006-2007 period if <UTILITY> discounts of $10 per fixture were not available?

[RECORD PERCENTAGE] _____%

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO A18]

[Refused] -98 [SKIP TO A18]

A17. [IF A16 = -97 OR -98 THEN SKIP TO A18]

I want to make sure I understand you correctly. When you say your store's sales would be [PERCENTAGE FROM QUESTION A16] lower without the <UTILITY> discounts. So you're saying that if you sold 100 CFL fixture in a given week with the <UTILITY> discounts, you would have only sold [100 - (PERCENTAGE FROM QUESTION A16 * 100)] that week without the <UTILITY> discounts. [IF RESPONSE IS ≠ YES THEN CLARIFY RESPONSE TO A16]

A18.

Besides the discounts, do you think the <UTILITY> Residential Lighting Incentive Program does anything else to help you sell energy efficient lighting products such as CFLs?

[Yes] 1

[No] ..... 2 [SKIP TO A20]

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO A20]

[Refused] -98 [SKIP TO A20]

A19.

What else does the <UTILITY> program do to help sell energy-efficient lighting products?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

A20.

Does <RETAILER> do anything on its own, without the <UTILITY> program's help, to help sell energy-efficient lighting products?

[Yes].....1
[No] .....2 [SKIP TO S1]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO S1]
[Refused] -98 [SKIP TO S1]

A21.

What does <RETAILER> do on its own to help sell energy-efficient lighting products?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember].....-97
[Refused] -98

CFL Shipment Process

S1.

Now I would like to ask you some questions about how you get your CFL bulbs. Do the CFL bulbs that you sell in your store come directly from the manufacturer, from a <RETAILER> distribution center, or from a non-affiliated lighting distributor? And if different CFLs come from different sources, please make clear which types of CFLs come from where. [CODE A SEPARATE ROW IN THE MATRIX FOR EACH CFL TYPE (E.G., 23 WATT SPIRAL) THAT THE RETAILER IDENTIFIES AS A DISTINCT SUPPLY STREAM. IF THE RETAILER SAYS THAT IT WOULD TAKE TOO LONG TO IDENTIFY THE SUPPLY SOURCE OF THEIR CFL PRODUCTS, THEN ASK JUST FOR THE SOURCES OF THE BEST SELLING CFL PRODUCTS].

LIGHTING PRODUCT	A. FROM MANUFACTURER	B. FROM<RETAILER> DISTRIBUTION CENTER	C. FROM NON-AFFILIATED LIGHTING DISTRIBUTOR	D. OTHER [SPECIFY]	E. DK	F. REFUSED
1.						
2.						
3.						
4.						

S1A.

How long does it typically take from the time you order CFL products from the manufacture to the time it arrives in your store?

[RECORD RESPONSE IN UNITS OF WEEKS] _____ weeks

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

S1B.

Are there any types of CFL products for which it takes significantly longer than this to receive after your order them?

[Yes].....1
[No] .....2 [SKIP TO S2]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO S2]
[Refused] -98 [SKIP TO S2]

S1C.

Which products?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember].....-97
[Refused] -98

S2.[IF I7 = 1 ELSE SKIP TO ST1]

You mentioned earlier that you are involved in deciding how many <UTILITY>-discounted CFLs your store(s) receives. How are the sizes of your shipments of <UTILITY> discounted CFLs determined? [ALLOW MULTIPLE RESPONSES]

[Based on previous sales].....1
[Based on sales forecasts] 2
[Other] [RECORD RESPONSE] _____3
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

S2A.

Have you ever received a shipment of <UTILITY>-discounted CFLs from <SUPPLIER> that was larger than you expected or ordered?

[Yes].....1
[No] .....2 [SKIP TO S2C]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO S2C]
[Refused] -98 [SKIP TO S2C]]

S2B.

How long did it take you to sell out this shipment?
[RECORD ESTIMATE AND RELEVANT UNIT OF TIME (WEEKS, MONTHS) ____
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

S2C.

Have you ever received a shipment of <UTILITY>-discounted CFLs from <SUPPLIER> that came at an unexpected time?

[Yes].....1
[No] .....2 [SKIP TO S3]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO S3]
[Refused] -98 [SKIP TO S3]

S2D.

How did you deal with this situation?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember].....-97
[Refused] -98

S3.

Using a scale of one to five where five equals "very satisfied" and one equals "not satisfied at all," how satisfied have you been with the process of reserving and ordering these <UTILITY>-discounted CFLs?

[Not satisfied at all].....1
.....2
.....3
.....4[SKIP TO S6]
[Very satisfied].....5[SKIP TO S6]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO S6]
[Refused] -98 [SKIP TO S6]

S4.

Why are you less than satisfied with this process?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember].....-97
[Refused] -98

S5.

How could this process be improved?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember].....-97
[Refused] -98

S6.
Using this same five-point satisfaction scale, how satisfied have you been with the availability of these <UTILITY>-discounted CFLs? [REMIND RESPONDENT OF SATISFACTION SCALE, IF NECESSARY]
[Not satisfied at all].....1
.....2
.....3
.....4[SKIP TO S10]
[Very satisfied].....5[SKIP TO S10]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO S10]
[Refused] -98 [SKIP TO S10]

S8.
Are there certain types of CFLs that you have greater concern about availability than others?
[Yes].....1
[No] .....2 [SKIP TO S10]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO S10]
[Refused] -98 [SKIP TO S10]

S9.
Which types?
[RECORD RESPONSE] _____
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

S10.
Is your process for ordering shipments of <UTILITY>-discounted CFLs different from your process for ordering shipments of other lighting products?
[Yes].....1
[No] .....2 [SKIP TO ST1]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST1]
[Refused] -98 [SKIP TO ST1]

S11.
How is it different?
[RECORD RESPONSE] _____
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

CFL Stocking/Re-Stocking/Recycling Practices

ST1.
Now I would like to ask you a few questions about your CFL stocking practices. Do you stock CFLs year round?
[Yes].....1 [SKIP TO ST3]
[No] 2
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST6]
[Refused] -98 [SKIP TO ST6]

ST2.
Why not?
[RECORD RESPONSE] _____ [SKIP TO ST6]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST6]
[Refused] -98 [SKIP TO ST6]

ST3.
Do you stock <UTILITY>-discounted CFLs year round?
[Yes].....1
[No] .....2 [SKIP TO ST5]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST6]
[Refused] -98 [SKIP TO ST6]

ST4. [IF GROUP A SKIP TO ST11]
Do you stock approximately the same number of <UTILITY>-discounted CFLs year round?
[Yes].....1 [SKIP TO ST6]
[No] 2
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST6]
[Refused] -98 [SKIP TO ST6]

ST5.
Why not?
[RECORD RESPONSE] _____
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST6. [IF <SP CFL> = 1 ASK ST6 ELSE SKIP TO ST8]

You said earlier that you sell specialty CFLs such as dimmable, 3-way, or reflector CFLs. Are your stocking practices for these specialty CFLs any different than those for spiral CFLs?

[Yes].....1 [SKIP TO ST8]
[No] 2
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST8]
[Refused] -98 [SKIP TO ST8]

ST7.

How so?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST8. [IF <CFL FIXTURE> = 1 ASK ST8 ELSE SKIP TO ST9]

You said earlier that you sell Energy Star qualified CFL fixtures. Are your stocking practices for these CFL fixtures any different than those for CFL bulbs?

[Yes].....1 [SKIP TO ST6]
[No] 2
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST6]
[Refused] -98 [SKIP TO ST6]

ST9.

Do you ever sell <UTILITY>-discounted CFLs and non-discounted CFLs at the same time?

[Yes].....1
[No] .....2 [SKIP TO ST11]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST11]
[Refused] -98 [SKIP TO ST11]

ST10.

Would you say this happens always, very often, sometimes, or not very often?

[Always].....1
[Very often] 2
[Sometimes] 3
[Not very often].....4
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST11.

How long will a typical shipment of <UTILITY>-discounted spiral CFLs last before being sold out?
[RECORD ESTIMATE AND RELEVANT UNIT OF TIME (WEEKS, MONTHS) ____
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

ST12. [IF GROUP A SKIP TO ST15]

Do the <UTILITY>-discounted spiral CFLs sell quicker, slower, or at about the same pace as other light bulbs that your store sells?

[Quicker] 1
[Slower] 2
[About the same pace] 3
[Don't sell other light bulbs besides discounted spiral CFLS] 4
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

ST13. [IF <SP CFL DB> IS NOT BLANK ASK ST13 ELSE SKIP TO ST14]

How long will a typical shipment of <UTILITY>-discounted specialty CFLs such as dimmable, 3-way, or reflector CFLs last before being sold out?
[RECORD ESTIMATE AND RELEVANT UNIT OF TIME (WEEKS, MONTHS) ____
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

ST14. [IF <CFL FIXTURE DB> IS NOT BLANK ASK ST14 ELSE SKIP TO ST15]

How long will a typical shipment of <UTILITY>-discounted Energy Star qualified CFL fixtures last before being sold out?
[RECORD ESTIMATE AND RELEVANT UNIT OF TIME (WEEKS, MONTHS) ____
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

ST15.

If the supply of <UTILITY>-discounted CFLs in your store sells out, what do you typically do? [CIRCLE ALL THAT APPLY. IF MULTIPLE ACTIONS, TRY TO DETERMINE WHAT SITUATIONS WOULD DICTATE WHICH ACTION]
[Re-order more <UTILITY> discounted products] 1
[Continue selling this same product at a non-discounted price.] ... 2
[Continue selling this same product at a discount provided by the retailer.] 3
[Discontinue sales of this product] 4
[Other] [SPECIFY]_____ 5
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

ST16. [IF GROUP A, SKIP TO ST20] [IF <SP CFL DB> IS NOT BLANK ASK ST16 ELSE SKIP TO ST18]
Is this process any different for <UTILITY>-discounted specialty CFLs such as dimmable, 3-way, or reflector CFLs?
[Yes].....1
[No] .....2 [SKIP TO ST18]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST18]
[Refused] -98 [SKIP TO ST18]

ST17.
How is it different?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST18. [IF <CFL FIXTURE DB> IS NOT BLANK ASK ST18 ELSE SKIP TO ST20]
Is this process any different for <UTILITY>-discounted Energy Star qualified CFL fixtures?
[Yes].....1
[No] .....2 [SKIP TO ST20]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST20]
[Refused] -98 [SKIP TO ST20]

ST19.
How is it different?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST20.
What happens to <UTILITY>-discounted CFLs that remain unsold after a long period of time? [ALLOW MULTIPLE RESPONSES]
[We sell all our <UTILITY> discounted CFLs].....1
[We keep it on the shelves until we sell it] 2
[We distribute it to another one of our stores] 3
[We return it to the manufacturer] 4
[We sell it to another lighting distributor/contractor/liquidator.] ...5
[We give it away].....6
[Other] [SPECIFY]_____7
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST21. [IF ST20 = 1 THEN SKIP TO ST23]
Would this unsold inventory ever be sold out of the <UTILITY> service territory or out-of-state?
[Yes].....1
[No] .....2 [SKIP TO ST22A]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST23]
[Refused] -98 [SKIP TO ST23]

ST22.
How might this happen?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST22A.
How would you know this?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST23. [IF GROUP A SKIP TO A1]
Do you track broken, damaged, or returned <UTILITY>-discounted CFLs?
[Yes].....1
[No] 2
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST24.
Do you have standard recommendations you give to customers about how to recycle their CFLs?
[Yes].....1
[No] .....2 [SKIP TO ST26]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO ST26]
[Refused] -98 [SKIP TO ST26]

ST25.
What are these recommendations?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

ST26.

Do you offer CFL recycling on-site?
[Yes].....1 [SKIP TO C1]
[No] 2
[Don't know/Not sure/Can't remember].....-97 [SKIP TO C1]
[Refused] -98 [SKIP TO C1]

ST27.

Have you ever considered doing this?
[Yes].....1
[No] .....2 [SKIP TO C1]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO C1]
[Refused] -98 [SKIP TO C1]

ST28.

What factors or barriers might keep you from offering CFL recycling on-site?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

CFL Pricing

C1.
Now I would like to ask you a few questions about your CFL pricing. Some retailers use something called "keystone pricing" where the retail price is set at twice what the wholesale price is. Is this how you determine the retail price for the <UTILITY>-discounted CFLs you sell?
[Yes].....1 [SKIP TO C3]
[No] 2
[Don't know/Not sure/Can't remember].....-97 [SKIP TO C3]
[Refused] -98 [SKIP TO C3]

C2.
How do you determine the retail price for the <UTILITY>-discounted CFLs you sell?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

C3.
Some manufacturers participating in the <UTILITY>-lighting program have been more aggressive than others and have offered their products to certain retailers for free. Have you ever received <UTILITY>-discounted CFLs for free?
[Yes].....1 [SKIP TO C3]
[No] 2
[Don't know/Not sure/Can't remember].....-97 [SKIP TO C1]
[Refused] -98 [SKIP TO C1]

C4.
How do you determine the retail price for these "free" CFLs?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

C5. [IF P5 = 1 ASK C5 ELSE SKIP TO Q1]
You said earlier that you sold sell spiral CFLs that do not receive discounts from the <Utility> Residential Lighting Incentive Program. Are the <UTILITY> -discounted CFLs typically lower-priced than these other CFLs?
[Yes].....1
[No] .....2 [SKIP TO Q1]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO Q1]
[Refused] -98 [SKIP TO Q1]

C6.

On a per-bulb basis, on average how much lower are the <UTILITY>-discounted CFLs than the other CFLs that you sell?

[RECORD ESTIMATE IN $/BULB]_____1

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

CFL Quality

Q1. [IF GROUP B SKIP TO SA1]

How important is product quality in deciding what types of CFLs you're selling in your store? Would you say that quality is very important, somewhat important, or not important at all?

[Very important] 1
[Somewhat important] 2
[Not important at all] 3
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

Q1A. [IF Q1 = 3 ELSE SKIP TO Q2]

Why do you say that?

[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

Q2.

How can you tell whether the CFLs your store(s) is/are selling are quality products?

[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

Q3.

Is <RETAILER> doing anything to assure the quality of the CFL it sells?

[Yes] 1
[No] ..... 2 [SKIP TO Q5]
[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO Q5]
[Refused] -98 [SKIP TO Q5]

Q4.

What is <RETAILER> doing to assure quality?

[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

Q5.
Are there any CFLs you have stopped offering due to customer complaints related to quality?
[Yes].....1
[No] .....2 [SKIP TO PO1]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO PO1]
[Refused] -98 [SKIP TO PO1]

Q6.
What types of CFLs did you stop offering due to quality concerns?
[RECORD RESPONSE]_____1
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

CFL In-Store/Point-Of-Purchase (POP) Promotions

PO1.
Now I would like to ask you a few questions about how you promote the CFLs in your store. When you're selling <UTILITY>-discounted CFLs in your store(s), do you ever place them in a more prominent place in your store than you do for your other lighting products?
[Yes].....1
[No] .....2 [SKIP TO PO3]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO PO3]
[Refused] -98 [SKIP TO PO3]

PO2.
How often do you do this? Would you say it was always, very often, sometimes, or not very often?
[Always].....1
[Very often] 2
[Sometimes] 3
[Not very often].....4
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

PO3.
When you're selling <UTILITY>-discounted CFLs in your store(s), do you ever use signage that makes them more prominent than your other lighting products?
[Yes].....1
[No] .....2 [SKIP TO PO9]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO PO9]
[Refused] -98 [SKIP TO PO9]

PO4.
How often do you do this? Would you say it was always, very often, sometimes, or not very often?
[Always].....1
[Very often] 2
[Sometimes] 3
[Not very often].....4
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

PO5.

Where do you get the signage for promoting <UTILITY> discounted CFLs in your store(s)?

[ALLOW MULTIPLE RESPONSES]

[Lighting manufacturer].....1
[Retailer corporate/marketing] 2
[Retailer handmade sign] 3
[<Utility>] 4
[Other] SPECIFY_____..5
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

PO6.

Did this signage promote the price reduction resulting from the <UTILITY> discount?

[Yes].....1
[No] 2
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

PO7.

How satisfied have you been with this signage? Using a scale of one to five where five equals "very satisfied" and one equals "not satisfied at all," how satisfied have you been with this signage?

[Not satisfied at all].....1
.....2
.....3
.....4[SKIP TO PO9]
[Very satisfied].....5[SKIP TO PO9]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO PO9]
[Refused] -98 [SKIP TO PO9]

PO8.

Why are you less than satisfied with this signage?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember].....-97
[Refused] -98

PO9.

Did you know <UTILITY> provides free signage for its discounted CFLs?

[Yes].....1
[No] .....2 [SKIP TO PO11]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO PO11]
[Refused] -98 [SKIP TO PO11]

PO10. [IF PO9 = 1 AND PO5 ≠ 4 ASK PO11 ELSE SKIP TO PO11]
Why don't you use this <UTILITY> signage?
[RECORD RESPONSE] _____
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

PO11.
Do you use displays with illuminated CFLs in any of your stores to promote CFLs?
[Yes] 1
[No] ..... 2 [SKIP TO SA1]
[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO SA1]
[Refused] -98 [SKIP TO SA1]

PO12.
Do you think these illuminated displays have helped you sell more CFLs?
[Yes] 1
[No] 2
[Don't know/Not sure/Can't remember] ..... -97
[Refused] -98

Overall Program Satisfaction

SA1.
Have you ever interacted with <UTILITY> staff who work with the Residential Lighting Incentive Program?
[Yes].....1
[No] .....2 [SKIP TO SA4]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO SA4]
[Refused] -98 [SKIP TO SA4]

SA2.
Using a scale of one to five where five equals "very satisfied" and one equals "not satisfied at all," how satisfied have you been with the way that program staff responded to your questions and requests?
[Not satisfied at all].....1
.....2
.....3
.....4[SKIP TOSA4]
[Very satisfied].....5[SKIP TO SA4]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO SA4]
[Refused] -98 [SKIP TO SA4]

SA3.
Why are you less than satisfied with the program staff?
[RECORD RESPONSE] _____
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

SA4.
Using this same 5-point satisfaction scale, how satisfied have you been with <UTILITY's> Residential Lighting Incentive program as a whole? [IF NECESSARY, REMIND RESPONDENT OF SATISFACTION SCALE]
[Not satisfied at all].....1
.....2
.....3
.....4[SKIP TOSA6]
[Very satisfied].....5[SKIP TO SA6]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO SA6]
[Refused] -98 [SKIP TO SA6]

SA5.

Why are you less than satisfied with the program?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

SA6.

Are the rules for participating in the program clear?

[Yes] ..... 1 [SKIP TO SA7]

[No] 2

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO SA7]

[Refused] -98 [SKIP TO SA7]

SA6A.

Which program rules are not clear?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

SA6B.

Before now were you aware that the <UTILITY> lighting program has a bulk purchase limit on how many CFLs, CFL fixtures, or LED night lights can be included in a single sale? [IF UTILITY = PG&E AND THEY ASK WHAT THE RULE IS, SAY THERE IS A LIMIT OF 10 CFL BULBS, 3 CFL FIXTURES, OR 5 LED NIGHLIGHTS PER SALE. IF UTILITY = SCE AND THEY ASK WHAT THE RULE IS, SAY THERE IS A LIMIT OF 16 CFL BULBS OR 5 OTHER UTILITY-DISCOUNTED LIGHTING PRODUCTS PER SALE.]

[Yes] 1

[No] ..... 2 [SKIP TO SA7]

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO SA7]

[Refused] -98 [SKIP TO SA7]

SA6C.

Do you try to enforce this rule?

[Yes] 1

[No] ..... 2 [SKIP TO SA7]

[Don't know/Not sure/Can't remember] ..... -97 [SKIP TO SA7]

[Refused] -98 [SKIP TO SA7]

SA6D.

[Program the purchase limit in the cash register] 1
[Remind staff at regular meetings] 2
[Other]_____3
[Don't know/Not sure/Can't remember] .....-97
[Refused] -98

SA6E.

Before now were you aware that lighting manufacturers who participate in the <UTILITY> lighting program are helping <UTILITY> enforce this rule by monitoring retailers for evidence of bulk sales?

[Yes].....1
[No] 2
[Don't know/Not sure/Can't remember] .....-97
[Refused] -98

SA7.

What suggestions do you have to make it easier for retailers like <RETAILER> to participate in this program?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] .....-97
[Refused] -98

SA8.

Will you participate in this program in the future?
[Yes].....1
[No] .....2 [SKIP TO SP1]
[Don't know/Not sure/Can't remember] .....-97 [SKIP TO SP1]
[Refused] -98 [SKIP TO SP1]

SA9.

Why not?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] .....-97
[Refused] -98

Specialty CFLs

SP1. [IF <SP CFL> = 1 ASK SP1 ELSE SKIP TO SP3]
You said that your store(s) sells CFLs with special features such as dimmable, 3-way, and reflector CFLs. Within the past year would you characterize sales of these products as being excellent, good, fair, or poor?
[Excellent].....1
[Good] 2
[Fair] 3
[Poor] 4
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

SP2.
What factors or barriers prevent more of these specialty CFLs from being sold?
[RECORD RESPONSE] _____
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

SP3.
[IF <SP CFL DB> IS NOT BLANK THANK AND TERMINATE]
Did you know that the <UTILITY> Residential Lighting Incentive Program offers discounts of $1-$3.50 per bulb for specialty CFLs such as dimmable, 3-way, and reflector CFLs?
[Yes].....1
[No] .....2 [SKIP TO SP5]
[Don't know/Not sure/Can't remember].....-97 [SKIP TO SP5]
[Refused] -98 [SKIP TO SP5]

SP4.
Why aren't you selling these specialty CFLs?
[RECORD RESPONSE] _____
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

SP5.
Now that you are aware of these <UTILITY> discounts, would you be interested in selling specialty CFLs through the <UTILITY> Residential Lighting Incentive Program?
[Yes].....1
[No] 2
[Don't know/Not sure/Can't remember].....-97
[Refused] -98

SP6.

Why not?

[RECORD RESPONSE] _____

[Don't know/Not sure/Can't remember] ..... -97

[Refused] -98

[THANK

Appendix C: Program Attribution, Market Effects, and Market Characterization Interview Guide for Executives of Large Lighting Retailers Participating in the 2006-2008 California Upstream Lighting Programs

Program Attribution, Market Effects, and Market Characterization Interview Guide for Executives of Large Lighting Retailers Participating in the 2006-2008 California Upstream Lighting Programs

I. Introduction

A. Contact Protocol

1. Call potential interviewees to ascertain most appropriate interviewee. Obtain email address(es) of appropriate interviewees. If company refuses interview, determine reasons for refusal and if it's logistical in nature, try to find workaround.
2. Send email interview invitation to appropriate interviewee. This invitation will include:
   a) Explanation of purpose and scope of interview.
   b) Explanation of time frame within which the interview will need to be completed.
   c) Explanation of expected duration of interview and flexibility to complete interview over multiple sessions.
   d) Instructions to propose a convenient interview time.
   e) Contact information for interviewers.
   f) Assurances of confidentiality.
   g) A letter attachment from the CPUC explaining the importance of the interview.
3. If target interviewee does not respond to the email invitation within a week, a follow-up call will be made to try to schedule an interview time, find an alternate interview target, or determine reasons for refusal.
4. Once an interview time has been arranged, the interviewee will be emailed, a couple days in advance of the interview, a copy of the

interview guide as well as a customized data table similar to Table 1 below. The email will contain additional assurances of confidentiality.

B. At the beginning of the interview, collect information on interviewee's position and overall responsibilities, and experience with the program.

II. Program Participation Confirmation and Reasons for Participation

A. Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric jointly participate in an Upstream Lighting Program which provides per bulb or per fixture financial incentives to buy down the cost of energy efficient lighting products. According to our information your company has been selling lighting products that receive these manufacturer buydown incentives from this California Upstream Lighting Program during the 2006-2008 time period. Are you aware of your company's participation in this program? [IF UNAWARE, FIND SOMEONE WITH THE COMPANY WHO IS AWARE. IF THEY RECOGNIZE THIS PROGRAM BY A DIFFERENT NAME, EXPLAIN THAT FOR THE SAKE OF SIMPLICITY YOU'LL HENCEFORTH REFER TO THE PROGRAM AS "THE CALIFORNIA UPSTREAM LIGHTING PROGRAM."]

B. Besides getting these financial incentives, are there any other aspects of this California Upstream Lighting Program that your company has actively taken part in?

1. [IF YES] What other aspects of this program has your company been involved in?

C. About what year did your company first get involved with the California Upstream Lighting Program?

D. Before becoming involved with the California Upstream Lighting Program, was your company involved in any other California energy efficiency programs that provide rebates or buydown discounts for energy-efficient lighting products?

1. [IF YES] What programs were these? [IF REBATES MENTIONED, TRY TO DETERMINE IF THESE WERE UPSTREAM OR DOWNSTREAM (MAIL-IN REBATES, POINT-OF-SALE REBATES)]

2. [IF YES] About when did this involvement begin and what was the nature of this participation?

E. Was your company selling compact fluorescent bulbs or fixtures in California before getting involved with any of these California lighting rebate or discount programs?

F. Was your company selling Energy Star compact fluorescent bulbs or fixtures in California before getting involved with any of these California lighting rebate or discount programs?

G. What was your primary reason for getting involved with the California Upstream Lighting program?

H. Did you have any other reasons for getting involved with the California Upstream Lighting program?

1. [IF YES] What were these?

III. 2006-2008 CFL Product Sales and California Upstream Lighting Program Trends

A. My next questions concern which CFL products you sell in California. Is this a topic that you are familiar with? [IF INTERVIEWEE IS FAMILIAR, PROCEED. IF NOT FAMILIAR, GET ALTERNATIVE CONTACT NAME AND SKIP TO NEXT SECTION]

B. Non-Specialty CFL Bulbs [IF THEY SOLD NON-SPECIALTY CFL BULBS ELSE SKIP TO III. C.] First I'm going to ask you some questions about your sales of non-specialty CFL bulbs in California, both Energy Star and non-Energy Star. By "non-specialty" CFL bulbs I mean bulbs that do not have special functions or features such as reflectors, dimmability, three-way light levels, or flood lighting. Now earlier I emailed you a table that shows you a record of the types of non-specialty CFL bulbs that we have records of you selling through the ULP program along with some spaces for non-program sales that we were hoping you could fill in. [REPEAT ASSURANCES OF CONFIDENTIALITY]

Table 1
Sample Data Table

Product Type	# Non-Specialty CFL Bulbs Through Upstream Lighting Program				# Non-Specialty CFL Bulbs Sold in California Not Through Upstream Lighting Program			
	2006	2007	Q1 2008	Total 2006-2008	2006	2007	Q1 2008	Total 2006-2008
Non-Specialty CFL Bulbs of Type Sold Through Upstream Lighting Program								
CFL INT INTEGRAL - 13 WATT >= 800 LUMENS - SCREW-IN	50,000	78,000	32,000	**160,000**	A	B	C	D
INTERIOR CF BULB - 23 WATT 1,100 TO 1,399 LUMENS	100,000	213,000	81,000	**394,000**	E	F	G	H
Other Non-Specialty Energy Star CFLs Sold in California But Not Through Upstream Lighting Program								
???								
???								
???								
Non-Specialty Non-Energy Star CFLs Sold in California								
???								
???								
???								

[IF NO, MAKE APPROPRIATE CORRECTIONS/CLARIFICATIONS]

1. Does the table I sent to you seem correct in terms of the types and volume of non-specialty CFLs you sold through the California Upstream Lighting Program?

   a) [IF NO] [Record any corrections to the table]

2. Why did you choose to sell these particular products and packages through the California Upstream Lighting Program?

3. [IF THEY DID FILL IN NON-ULP DATA INTO TABLE THAT INDICATED NON-SPECIALTY ENERGY STAR CFLs SOLD IN CALIFORNIA IN 2006-2008 BUT NOT THROUGH ULP PROGRAM] I noticed that when you filled out the table you indicated that in the 2006-2008 period you sold non-specialty Energy Star CFLs in California that were not rebated by the California Upstream Lighting Program. Why didn't you sell these CFL bulbs through the program?

a) [IF THEY INDICATE MULTIPLE REASONS] Which of these reasons was the most important?

b) [IF NOT ALREADY EXPLAINED] What advantages, if any, did you see in not selling CFL bulbs through the program?

c) [IF NOT ALREADY EXPLAINED] What disadvantages, if any, did you see in not selling CFL bulbs through the program?

4. [IF THEY DID FILL IN NON-ULP DATA INTO TABLE THAT INDICATED NON-SPECIALTY NON-ENERGY STAR CFLs SOLD IN CALIFORNIA IN 2006-2008] I noticed that when you filled out the table you indicated that in the 2006-2008 period you sold non-specialty non-Energy Star CFLs in California. Why do you sell these rather than just Energy Star CFLs?

a) [IF THEY INDICATE MULTIPLE REASONS] Which of these reasons was the most important?

b) What would have to change for you to only offer Energy Star CFLs for the CFLs you sell?

5. [IF THEY DIDN'T FILL IN NON-ULP DATA INTO TABLE] During the 2006-2008 period did you sell non-specialty Energy Star CFL bulbs in California that did not receive discounts from the Upstream Lighting Program?

a) [IF YES] Are the bulb types and packages different from those you sell through the California Upstream Lighting Program?

a. [IF YES] How so?

b) [IF YES] Why didn't you sell these bulbs through the California Upstream Lighting Program?

6. [IF THEY DIDN'T FILL IN NON-ULP DATA INTO TABLE] During the 2006-2008 period did you sell non-specialty non-Energy Star CFL bulbs in California that did not receive discounts from the Upstream Lighting Program?

   a) [IF YES] What sorts of bulb types and packages were these non-specialty, non-Energy Star bulbs?

7. When discounts from the Upstream Lighting Program were not available, due to delays in program startup or product allocations for discounted CFLs running out, did you sell non-specialty Energy Star CFL bulbs in California?

   a) [IF YES] Were the bulb types and packages different from those you sell through the California Upstream Lighting Program?

   a. [IF YES] How so?

8. [IF THEY DIDN'T COMPLETE THE TABLE] Please provide your best estimate of what % of non-specialty CFL bulbs that you sold in California during the 2006-2008 period fit into the following categories:

First consider the non-specialty CFL bulbs that were discounted by the California Upstream Lighting Program (ULP). About what % non-specialty CFL bulbs that you sold in California during the 2006-2008 period did these account for?	__%
Next consider the non-specialty CFL bulbs that met Energy Star specifications but were not discounted by the program. About what % non-specialty CFL bulbs that you sold in California during the 2006-2008 period did these account for?	__%
Finally consider the non-specialty bulbs that did not meet Energy Star specifications. About what % non-specialty CFL bulbs that you sold in California during the 2006-2008 period did these account for?	__%
Total non-specialty CFL bulbs sold in California during the 2006-2008 period	**100%**

9. Do you sell non-specialty CFLs that you believe exceed Energy Star specifications? [IF NECESSARY, REMIND INTERVIEWEE OF ENERGY STAR SPECIFICATIONS]

   a) [IF YES] In what ways do these bulbs exceed Energy Star specification?

   b) [IF YES] What types (wattages, brands) of non-specialty CFL bulbs are these?

   c) [IF YES] Why do you offer such non-specialty bulbs that exceeded Energy Star specifications?

   d) [IF YES] About what percentage of the non-specialty CFL bulbs that you sold in California during the 2006-2008 period did these account for?

10. [IF THEY SOLD NON-SPECIALTY CFLS IN CALIFORNIA IN 2006-2008 THAT DID NOT RECEIVE CALIFORNIA UPSTREAM LIGHTING PROGRAM DISCOUNTS]. The California Public Utilities Commission and the California investor-owned utilities have sales data for the CFL products that your company sold through the California Upstream Lighting Program. However, they are also very interested in learning about prices and sales volumes for CFL products that were not sold through Upstream Lighting. If we provided assurances to protect the confidentiality of these sales data, would you be willing to share these data?

    a) [IF YES] What would be the next step for getting these data?

    C. Specialty CFL Bulbs [IF THEY SOLD SPECIALTY CFL BULBS ELSE SKIP TO III. D]. Next I'm going to ask you some similar questions but this time about your sales of specialty CFL bulbs, both Energy Star and non-Energy Star. By "specialty" CFL bulbs I mean bulbs that have special functions or features such as reflectors, dimmability, three-way light levels, or flood lighting.

[REPEAT QUESTIONS B1. – B10 EXCEPT SUBSTITUTE WORD "Specialty" for "Non-Specialty"]

D. CFL Fixtures [IF THEY SOLD CFL FIXTURES ELSE SKIP TO III. E.] Next I'm going to ask you some similar questions but this time about your sales of Energy Star-qualified CFL fixtures. [REPEAT QUESTIONS B1. – B10 EXCEPT SUBSTITUTE WORDS "CFL fixtures" for "Non-Specialty CFL bulbs"]

E. Recent trends, policies for the California Upstream Lighting Program

1. Are there certain types of CFL or LED bulbs or fixtures that the California Upstream Lighting Program has been encouraging your company to sell more than others?

   a) [IF YES] Which products are these?

   b) Have there been differences between the California investor-owned utilities involved in this program in terms of which lighting products they have been encouraging?

      a. [IF YES] What are these differences?

   c) [IF YES] Do you agree with an emphasis on these products?

      a. Why do you say this?

   d) Are there certain types of the energy-efficient lighting products that you think the California Upstream Lighting Program should be promoting that they are not currently promoting?

2. Are there certain types of retailers that the California Upstream Lighting Program has been encouraging lighting

manufacturers to partner with more than other retailer types?

a) [IF YES] Which types of retailers?

b) [IF YES] Do you agree with an emphasis on these retailer types?

a. Why do you say this?

c) Are there certain types of retailers that you think the California Upstream Lighting Program should be focusing on more to encourage their sales of energy-efficient lighting products?

a. Why do you say this?

3. Before now were you aware that the California Upstream Lighting Program currently has a bulk purchase limit on how many CFLs, CFL fixtures, LED night lights or holiday lights can be included in a single customer purchase?

a) What is your opinion on these bulk purchase limits?

b) [IF WERE AWARE OF BULK LIMITS] What, if anything, is your company doing to try to enforce these bulk limits?

a. [IF INVOLVED IN POLICING OF BULK LIMITS] The main purpose of the bulk purchase limits is to reduce the chance of CFL products discounted by the Upstream Lighting Program being sold outside of California. Have you discovered any of your CFL products being sold outside of California?

i. [IF YES] How do you think this happened?

c) Before now were you aware that lighting manufacturers who participate in the California Upstream Lighting Program are helping to enforce this rule by monitoring retailers for evidence of bulk sales?

IV. Free Ridership and In-State Spillover

A. My next questions are about the impact that the 2006-2008 California Upstream Lighting Program may have had on your California CFL products sales.

1. Do you think your company would have been selling CFL products during this 2006-2008 time period if the discounts of $0.50-$2.75 per bulb from this program had not been available?

2. Has the availability of these rebates had any influence on your stocking or packaging decisions, such as the amount of shelf space devoted to CFL's or number of CFL bulbs sold per package?

B. Free Ridership

1. Non-Specialty CFL bulbs [ASK IF THEY SAID YES TO IV. A. AND THEY SELL NON-SPECIALTY CFL BULBS ELSE SKIP TO IV.B.2.] According to our records in the 2006-2008 period you received California Upstream Lighting Program manufacturer buydown discounts of $0.50-$2.75 per bulb for the sale of the following types of non-specialty CFL bulbs [NAME TYPES]. If these manufacturer buydown discounts and program promotional materials had not been available during this 2006-2008 period, do you think your sales of these types of non-specialty Energy Star CFL bulbs would have been about the same, lower, or higher?

a) [IF HIGHER] Why do you say this? [RECORD RESPONSE AND THEN SKIP TO NEXT RETAILER CATEGORY]

b) [IF LOWER] By what percentage do you estimate your sales of non-specialty Energy Star CFL bulbs would be lower during this 2006-2008 period if these manufacturer buydowns and program promotional materials for non-specialty CFLs had not been available? [RECORD % DECREASE]

   a. I want to make sure I understand you correctly. You estimate that your sales would have been [PERCENTAGE FROM QUESTION IV.B.1. b.] % lower without the manufacturer buydowns. So if you actually sold 100 non-specialty CFLs in a given week, you think you'd have sold only about [100 – (PERCENTAGE FROM QUESTION IV.B.1. b. * 100)] in that period if the manufacturer buydowns hadn't been available? [IF RESPONSE IS ≠ YES THEN CLARIFY ESTIMATED SALES DECREASE]

c) Retailer add-on rebates: When the California Upstream Lighting Program was providing manufacturer buydown discounts for non-specialty bulbs during the 2006-2008 period, did your company ever provide any of its own price discounts in addition to those provided by the Upstream Lighting Program?

   a. [IF NO] Why not?

   b. [IF YES] What were your reasons for providing these additional price discounts?

   c. [IF YES] What was the typical range of these additional discounts on a $ per bulb basis?

   d. [IF YES] Were there particular types of bulbs that you were more likely to offer these additional discounts on?

      i. [IF YES] What types of bulbs were these?

e. Using a scale of 0 to 10 where 10 equals “very likely” and 0 equals “not likely at all,” how likely were you to offer these additional price discounts if the manufacturer buydown rebates had not also been available?

2. Specialty CFL bulbs [ASK IF THEY SAID YES TO IV. A. AND SOLD SPECIALTY CFL BULBS OTHERWISE SKIP TO IV.B.3.] [REPEAT QUESTIONS IV. B. 1. a) – c) BUT SUBSTITUTE APPROPRIATE PRODUCT NAME AND REBATE LEVELS.]

3. CFL fixtures [ASK IF THEY SAID YES TO IV. A. AND SOLD CFL FIXTURES OTHERWISE SKIP TO V.B.4.] [REPEAT QUESTIONS IV. B. 1. a) – c) BUT SUBSTITUTE APPROPRIATE PRODUCT NAME AND REBATE LEVELS.]

4. Effects of other California IOU programs/efforts
   a) Besides the discounts and the promotional materials, do you think the California Upstream Lighting Program does anything else that helps you sell non-specialty Energy Star CFL bulbs?

      a. [IF YES] What else does the program do?

   b) California also has a program called Flex Your Power that does mass advertising for CFL products and other energy efficient measures. Please indicate how significant you think this program is as a driver of increased CFL product sales in California in the 2006-2008 period. Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant. [RECORD RATING]

      a. Why do you give this rating?

   c) In addition to the Upstream Lighting Program and the Flex Your Power Program some California utilities have also been involved in other campaigns to promote sales of CFL products such as the Energy Star Change-a-Light promotion. Please indicate how significant you think these promotions have been as a driver of increased CFL product sales

in the 2006-2008 period. Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant. [RECORD RATING]

a. Why do you give this rating?

C. Program Effects on Non-discounted CFLs Sold in California in 2006-2008 [IF THEY SOLD NON-SPECIALTY CFLS IN CALIFORNIA IN 2006-2008 THAT DID NOT RECEIVE CALIFORNIA UPSTREAM LIGHTING PROGRAM DISCOUNTS ELSE SKIP TO SECTION V.]

1. You said earlier that you also sold CFL bulbs or fixtures in California in the 2006-2008 that did not receive discounts from the California Upstream Lighting Program. What effects, if any, do the program-discounted CFL bulbs or fixtures have on your sales levels of these non-program-discounted CFL bulbs or fixtures? [IF MECHANISM FOR THESE EFFECTS IS NOT EXPLAINED, PROBE FOR MECHANISM]

a) Would these effects vary depending on the type of CFL product?

a. [IF YES] How so?

b) Have these effects changed at all over this 2006-2008 period?

a. [IF YES] How so and about what time period did these effects change?

2. Does your company ever sell program-discounted CFL bulbs or fixtures and non-program-discounted CFL bulbs or fixtures at the same time?

a) [IF YES] Would you say this happens always, very often, sometimes, or not very often?

b) [IF YES] Do you promote these non-program-discounted CFL bulbs or fixtures differently than you do the program-discounted CFL bulbs or fixtures?

a. [IF YES] How are your promotional efforts different?

c) [IF YES] Do you think increased shopper foot traffic due to program-discounted CFL bulbs and fixtures has any impact on the sales of non-program discounted CFL bulbs or fixtures that are being sold at the same time?

a. [IF YES] Why do you say this?

3. What effects do you think program-discounted CFL bulbs or fixtures have on consumer expectations regarding prices of non-discounted CFL bulbs or fixtures?

4. You indicated that you sold the following types of non-specialty CFL bulbs in California during the 2006-2008 period that you did not sell through the ULP Program: [READ PRODUCT TYPES. IF THEY FILLED OUT THE TABLE, DIRECT THEM TO SPECIFIC ROW]. Do you think your sales of these types of non-specialty non-program-discounted CFL bulbs would be about the same, lower, or higher if the California Upstream Lighting program – with its manufacturing buydowns and promotional materials – did not exist during this time period?

a) [IF HIGHER] Why do you say this?

b) [IF HIGHER] By what percentage do you estimate your sales of these non-specialty non-program-discounted CFL bulbs would be higher during this period if the California Upstream Lighting Program did not exist during this 2006-2008 time period? [RECORD % INCREASE]

a. I want to make sure I understand you correctly. You estimate that your sales would have been [PERCENTAGE FROM QUESTION IV. D. 4. b.] % higher without the manufacturer buydowns. So if you actually sold 100 of these non-specialty CFLs in a given week, you think you'd have sold about [100 + (PERCENTAGE FROM QUESTION IV. D. 4. b. * 100)] in that period if the

California Upstream manufacturer buydowns hadn't been available? [IF RESPONSE IS ≠ YES THEN CLARIFY ESTIMATED SALES INCREASE]

c) [IF LOWER] Why do you say this?

d) [IF LOWER] By what percentage do you estimate your sales of these non-specialty CFL bulbs through [RETAILER CATEGORY] stores would be lower during this period if the California Upstream Lighting Program did not exist during this time period? [RECORD % DECREASE]

a. I want to make sure I understand you correctly. You estimate that your sales of non-program-discounted bulbs would have been [PERCENTAGE FROM QUESTION IV. D. 4. d.] % lower without the manufacturer buydowns. So if you actually sold 100 of these non-specialty CFLs in a given week, you think you'd have sold about [100 - (PERCENTAGE FROM QUESTION IV. D. 4. d. * 100)] in that period if the California Upstream Lighting Program did not exist during this time period? [IF RESPONSE IS ≠ YES THEN CLARIFY ESTIMATED SALES DECREASE]

e) [IF SAME] Why do you say this?

f) [IF THEY INDICATED IN IV B. 1. THAT EFFECTS OF PROGRAM ON NON-PROGRAM NON_SPECIALTY CFLS HAS CHANGED OVER 2006-2008 PERIOD, PROBE FOR HOW THESE SALES EFFECTS WOULD VARY OVER THE 2006-2008 PERIOD]

5. [REPEAT SEQUENCE IV. D. 4 FOR SPECIALTY CFLS OR CFL FIXTURES IF RELEVANT, MAKING SURE TO CHANGE PRODUCT DESCRIPTION IN QUESTIONS.]

D. [IF THEY SOLD BOTH SPECIALTY AND NON-SPECIALTY CFLS] You said earlier that during the 2006-2008 period, you sold both non-specialty

and specialty CFL bulbs through the California Upstream Lighting Program. What effects, if any, do the program-discounted non-specialty CFL bulbs have on your sales levels of program-discounted specialty CFL bulbs, such as dimmable bulbs, bulbs with reflectors, 3-way bulbs, and flood lights? [IF MECHANISM FOR THESE EFFECTS IS NOT EXPLAINED, PROBE FOR MECHANISM]

V. Early, Cumulative Effects of California Lighting Rebate Programs – Up until now we have been talking about the effect of the California Upstream Lighting Program on CFL bulbs and products that you sold in California during the 2006-2008 period. Now I want you to think about the earlier and cumulative effects that the years of California lighting rebate and discount programs might have had on your company's sales of CFL products.

A. Have the years of California lighting rebate and discount programs had any effects on the types of CFL products you sell or the way that you sell them?

1. [IF YES] How so?

B. [IF THEY SAID THAT THEY HADN'T BEEN SELLING CFL PRODUCTS IN CALIFORNIA BEFORE BECOMING INVOLVED IN CA LIGHTING REBATE PROGRAMS – E.G. II. E = "NO"] Earlier you said that your company was not selling CFL products in California before getting involved with any California lighting rebate or discount programs. How significant was the existence of the California lighting rebate or discount programs in your company's decision to enter the California lighting market? Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant.

C. [IF THEY SAID THAT THEY HAD BEEN SELLING CFL PRODUCTS IN CALIFORNIA BEFORE BECOMING INVOLVED IN CA LIGHTING REBATE PROGRAMS – E.G. II. E = "YES"] Earlier you said that your company sold CFL products in California before getting involved with any of these California lighting rebate or discount programs. Do you have California CFL product sales data for this period before you became involved with the California lighting rebate or discount programs?

a) [IF YES] If we provided assurances to protect the confidentiality of these sales data, would you be willing to share these data?

a. [IF YES] What would be the next step for getting these data?

D. Does your company sell CFL bulbs or fixtures in states other than California?

1. [IF YES] Does your company sell CFL bulbs or fixtures in any states that do not have utilities or state energy efficiency programs that offer manufacturer buydowns or point of sale rebates for these kind of lighting products?

a) [IF YES] Are you familiar with your company's CFL bulb or fixture sales activities in these states?

a. [IF YES] In these states without utility or state energy efficiency program rebates, do you promote your CFL products differently than you do in California?

i. [IF YES] How is this promotion different?

b. [IF YES] On a per-bulb basis, on average, how much lower are the prices of the California program-discounted CFL than the CFL bulbs that you sell in states that do not offer rebates or discounts from utilities or state energy efficiency programs?

b) [IF YES] If we provided assurances to protect the confidentiality of your data, would you be willing to share recent CFL product sales data for states other than California?

a. [IF YES] What would be the next step for getting these data?

c) [IF NO] Who would be another person at your company who is familiar with the sales of these CFL products in states that do not

have utilities or state energy efficiency programs offering CFL product rebates or discounts? [RECORD NAME AND CONTINUE TO NEXT QUESTION]

E. California energy efficiency programs have been offering rebates and discounts on CFL bulbs for many years. Do you think these California programs have influenced the level of sales of CFLs in other states?

1. Why do you say this?

a) [IF NOT EXPLAINED IN THEIR ANSWER TO E1] How do the California lighting rebate programs influence the level of sales of CFLs in other states?

2. [IF YES] How significant has been the influence of these years of California rebate programs on the price of CFLs in these states? Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant.

F. For years California lighting rebate and discount programs have been working to improve the performance of CFLs as well as their acceptability as substitutes for incandescent bulbs. For example, these programs have long required Energy Star compliance and offered larger rebates for higher lumen levels at a given wattage level. What influences, if any, have these program requirements had on the performance of the CFLs that you sell?

G. If the California lighting rebate and discount programs had not existed, do you think the performance improvements that have been made to the CFLs you sell would have happened sooner, later, or about the same time as they actually did?

1. [IF LATER] How much later would you have made these performance improvements?

H. Have the California lighting rebate and discount programs influenced the way that you market your CFLs in other states?

1. [IF YES] How so?

I. State or utility rebate and discount programs are only some of the factors that may be encouraging sales of CFL bulbs and fixtures. I'm going to name a number of possible drivers of increased CFL bulbs and fixtures. For each one I identify, please indicate how significant you think it is as a driver of increased CFL product sales during the 2006-2008 period. Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant.

1. State or utility rebate and discount programs? [RECORD RATING]

   a) Why do you give this rating?

2. The Energy Star program including its Change-a-Light campaign? [RECORD RATING]

   a) Why do you give this rating?

3. CFL promotion campaigns by some large retailers such as Wal-Mart, Home Depot, and Lowe's that are being done independently of any state or utility energy efficiency programs? [RECORD RATING]

   a) Why do you give this rating?

4. Media stories promoting the use of CFLs? [RECORD RATING]

   a) Why do you give this rating?

5. Reductions in CFL production costs and price points due to lower-cost overseas manufacturing and increases in CFL production capacity? [RECORD RATING]

   a) Why do you give this rating?

6. Growing consumer awareness about global warming? [RECORD RATING]

a) Why do you give this rating?

7. Higher energy costs? [RECORD RATING]

a) Why do you give this rating?

J. Have you seen any evidence that that some lighting products receiving discounts from the California Upstream Lighting Program are being sold out-of-state or through out-of-state buyers through the Internet?

1. [IF YES]. What evidence have you seen?

K. What do you think should be done to minimize the occurrence of out-of-state sales of lighting products receiving discounts from the California Upstream Lighting Program?

VI. Supply Chain Characterization and Stocking Practices

A. Now I would like to ask you some questions about your supply chain. Of the CFL products that you sell in California, where are most of them manufactured?

1. Are your CFL products that are discounted through the ULP-program manufactured in different places than those that are not discounted through the program? [IF YES, IDENTIFY DIFFERENT SOURCES]

B. How long does it typically take from the time that you place an order with the manufacturer or distributor and the time that you receive delivery of this order in your stores?

1. Approximately how much of this time is for manufacture?

2. Approximately how much of this time is for shipment?

3. Approximately how much of this is for temporary warehousing and storage by the manufacturer or distributor?

4. Approximately how much of this is for your own company's warehousing and storage?

C. Are there any types of CFL products for which it takes significantly longer than this to receive after your order them?

1. [IF YES] Which products?

D. What other factors could cause variations in these delivery times?

E. Are your delivery times for CFL products that you sell through the Upstream Lighting Program different than those for other CFL products that you sell?

1. [IF YES] How so?

F. At what point in the supply chain are the stickers and packages for the California Upstream Lighting Program applied?

G. How are the sizes of shipments of program-discounted CFLs to your stores determined?

H. Have your stores ever received shipments of program-discounted CFLs from manufacturers that were larger than you expected or ordered?

1. [IF YES] Has this happened frequently, occasionally, or rarely?

I. Have your stores ever received shipments of program-discounted CFLs from manufacturers that came at an unexpected time?

1. [IF YES] Has this happened frequently, occasionally, or rarely?

J. Is your process for ordering shipments of program-discounted CFLs different from your process for ordering shipments of other lighting products?

1. [IF YES] How is it different?

K. Do your stores stock CFLs that are discounted by the California Upstream Lighting Program year round?

1. [IF YES] Do your stores stock approximately the same number of program-discounted CFLs year round?

a) [IF NO] Why not?

L. [IF THEY SELL SPECIALTY CFLS] Are your stocking practices for specialty CFLs such as dimmable, 3-way, or reflector CFLs any different than those for non-specialty CFLs?

a) [IF YES] How so?

M. [IF THEY SELL CFL FIXTURES] Are your stocking practices for CFL fixtures any different than those for non-specialty CFLs?

a) [IF YES] How so?

N. How long will typical shipments of program-discounted non-specialty CFLs last in one of you stores before being sold out?

O. [IF THEY SELL SPECIALTY CFLs] How long will typical shipments of program-discounted specialty CFLs last in one of you stores before being sold out?

P. [IF THEY SELL CFL FIXTURES] How long will typical shipments of program-discounted specialty CFLs last in one of you stores before being sold out?

Q. [IF THEY SELL NON-PROGRAM-DISCOUNTED CFL PRODUCTS] Do the CFLs bulbs that are discounted by the Upstream Lighting Program sell quicker, slower, or at about the same pace as other light bulbs that your store sells?

R. If the supply of program-discounted non-specialty CFLs in your store sells out, what do you typically do?

S. Is this process any different for specialty CFLs or CFL fixtures?

1. [IF YES] How so?

T. If one of your stores has program-discounted CFLs that remain unsold after a long period of time, what typically happens to these products?

1. [IF MANUFACTURER/SUPPLIER RETAKES BULBS] Is this done as a condition of your contract with the manufacturer?

U. Would this unsold inventory ever be sold out of California?

1. [IF YES] How might this happen?

2. [IF YES] How would you know this?

V. As noted earlier, there is evidence that some lighting products receiving discounts from the California Upstream Lighting Program are being sold out-of-state or through out-of-state buyers through the Internet. At what point in the supply and distribution chain do you think this might be happening?

W. Do you track CFL products that you sell through the California Upstream Lighting Program that are lost due to breakage and other damage?

1. [IF YES] Do you just track damage/breakage to CFL products before they reach the retailer or also after?

2. [IF YES] If we gave your company assurances of confidentiality, would you be willing to share information about your loss and breakage rates?

VII. Pricing

A. How much influence does your company have over the prices of the CFL products that you receive from manufacturers? Would you say that your company is very influential, somewhat influential, or not very influential?

B. Some retailers use something called “keystone pricing” where the retail price is set at twice what the wholesale price is. Is this how you determine the retail price for the California Upstream Lighting Program CFLs products that you sell?

1. [IF NO] How do you determine the retail price for the program-discounted CFLs you sell?

C. Some manufacturers participating in the California Upstream Lighting Program have been more aggressive than others and have offered their products to certain retailers for free. Have you ever received program- discounted CFLs for free?

1. [IF YES] How do you determine the retail price for these “free” CFLs?

D. California CFL product prices have been declining in the last 10 years. Do you think this trend will continue, or will prices level off or even increase?

1. What factors are causing you to make this prediction?

E. [IF THEY SELL NON-PROGRAM-DISCOUNTED CFLS ALSO] You said earlier that you also sell CFL products in California that do not receive buydown discounts from the California Upstream Lighting Program. Are the program-discounted CFL products typically sold at a lower retail price, a higher retail price, or at the same retail prices as the non-program-discounted bulbs?

1. On a per-bulb basis, on average, how much [LOWER/HIGHER] are the prices of the program-discounted CFL bulbs than the other CFL bulbs that you sell?

2. On a per-fixture basis, on average, how much [LOWER/HIGHER] is the price on the program-discounted CFL fixtures than the other CFL fixtures that you sell?

3. Are your pricing strategies for the products with California Upstream Lighting Program buydowns handled differently than non-program products?

a) [IF YES] How are these different?

VIII. Market Characterization

A. How would you characterize the current market for CFL products in California in terms of retailer market share? For example, are there a few major retailers responsible for the major share of product sales? Or are there a large number of major players?

B. Where would you characterize your firm in terms of market share for the California CFL market?

C. Are there factors inherent in the manufacturing, importing or distributing processes that have restricted the production and supply of CFL products in the past year or so? Please describe: [IF RESPONDENT CAN'T THINK OF ANYTHING, PROMPT WITH EXAMPLES SUCH AS SHORTAGES OF INPUTS USED IN MANUFACTURING PROCESSES (LABOR, CAPITAL, RAW MATERIALS), INADEQUATE INFRASTRUCTURE TO PRODUCE OR IMPORT PRODUCTS, OR BRING THEM TO MARKET, ETC.]

1. To what degree have these production and supply restrictions varied with the type of CFL product?

2. How do these supply-side barriers compare to those for non-CFL products?

3. [IF SUPPLY BARRIERS IDENTIFIED] Has there been any progress recently to reduce these barriers?

a) [IF YES] What factors lead to the reduced barriers?

b) [IF NOT ALREADY MENTIONED] Did the 2006-2008 California Upstream Lighting Program play a role in reducing these barriers?

a. [IF YES] What role did it play?

c) Are there any supply-side barriers that have been increased due to the structure or timing of the California lighting rebate programs?

a. [IF YES] What are these?

b. [IF YES] How did/does the California programs create or increase these barriers?

4. [IF SUPPLY BARRIERS IDENTIFIED] What, if anything, needs to happen to overcome the remaining supply-side restrictions?

D. What are the most important factors that are limiting customer demand for CFL products? Please explain. [IF RESPONDENT CAN'T THINK OF ANYTHING, PROMPT WITH EXAMPLES SUCH AS LACK OF AWARENESS, PRODUCT PRICING, AND PERCEPTIONS REGARDING PRODUCT PERFORMANCE, BULB FIT, APPEARANCE, EARLY BURN-OUT,ETC. RECORD WHETHER ONE HAD TO PROMPT AND RANDOMLY ROTATE THE EXAMPLES USED IN THE PROMPT.]

1. To what degree have these demand barriers varied with the type of CFL product?

2. [IF DEMAND BARRIERS IDENTIFIED] Has there been any progress recently to reduce these barriers?

a) [IF YES] What factors lead to the reduced barriers?

b) [IF NOT ALREADY MENTIONED] Did the 2006-2008 California Upstream Lighting Program play a role in reducing these barriers?

a. [IF YES] What role did it play?

c) Are there any demand-side barriers that have been increased due to the structure or timing of the California lighting rebate programs?

a. [IF YES] What are these?

b. [IF YES] How did/does the California programs create or increase these barriers?

3. [IF DEMAND BARRIERS IDENTIFIED] What needs to happen to overcome these demand-side barriers?

E. Are you aware that in 2007 a federal Energy Bill was passed that requires new efficiency standards for light bulbs?

1. [IF YES] What do you think will be the impact of this 2007 Energy Bill on CFL sales and prices?

F. What are your expectations for U.S. CFL product sales in 2008 and beyond?

1. Why do you say that?

G. If California eliminated its CFL rebate and discount programs starting in 2009 what effects would this have on the sales levels of CFL products in California?

H. What effects do you think the California Upstream Lighting Program has on the capability and willingness of lighting manufacturers to produce innovative CFL products?

I. Do you sell CFL products in other countries besides the United States?

1. [IF YES] Are you familiar with your company's international sales trends?

a) [IF NO] Who would be another person at your company who is familiar with your company's international sales of CFL products? [RECORD NAME AND CONTACT INFORMATION AND SKIP TO SECTION IX]

b) [IF YES] How do your international sales trends for CFL products compare to those in the United States?

c) [IF YES] What do you think are driving these international sales trends?

IX. Product Quality, Recycling

A. Do you think the quality of CFL products in recent years has been increasing, decreasing, or staying about the same?

1. [IF THEY THINK QUALITY IS DECREASING] What factors do you think might be leading to the production of lower quality CFL products?

B. What do you think should be done to improve the quality of CFL products?

C. Do you think that CFL product discount programs like the California Upstream Lighting Program, have affected consumer attitudes towards the quality of CFL products in any way?

1. [IF YES] In what way?

D. How important is product quality in deciding what types or brands of CFLs you're selling in your store? Would you say that quality is very important, somewhat important, or not important at all?

1. [IF NOT IMPORTANT AT ALL] Why do you say that?

E. How can you tell whether the CFLs your stores are selling are quality products?

F. Is your company doing anything to assure the quality of the CFL products it sells?

1. [IF YES] What is your company doing to assure quality?

G. Are there any CFLs you have stopped offering due to customer complaints related to quality?

1. [IF YES] What types or brands of CFLs did you stop offering due to quality concerns?

H. Energy Star's "CFL Criteria Version 4.0" was released in February 2008 and will become effective in November 2008. What do you think will be the impact of new Energy Star standards on CFL products and prices?

I. The disposal of CFL products has becomes a major issue in recent years. Do you have standard recommendations you give to customers about how to recycle their CFLs?

1. [IF YES] What are these recommendations?

J. Do you offer CFL recycling on-site in any of your stores?

1. [IF NO] Have you ever considered doing this?

2. [IF NO] What factors or barriers might keep you from offering CFL recycling on-site?

X. Program Satisfaction

Finally I would like to find out your level of satisfaction with the California Upstream Lighting Program

A. Rebate Reservation, Program Verification Process

1. Using a scale of 0 to 10 where 10 = very satisfied and 0 = very dissatisfied, how satisfied have you been with the rebate fund reservation process – that is, the process used by the utility to allocate a set amount of rebate dollars to participating stores?

a) [IF SATISFACTION RATING IS 0-5] Why do you say that?

2. Again using a scale of 0 to 10 where 10 = very satisfied and 0 = very dissatisfied, how satisfied have you been with the program tracking and verification process – that is, the process used by the utility to ensure that

the CFL products that they are providing discounts for are being sold by retailers and are properly labeled and promoted?

a) [IF SATISFACTION RATING IS 0-5] Why do you say that?

B. Rebate Levels and Coverage

1. CFL bulbs [ASK ONLY IF THEY SELL CFL BULBS THROUGH THE PROGRAM]

a) Using this same satisfaction scale, how satisfied have you been with the level of manufacturer buydown rebates for CFL bulbs?

a. [IF SATISFACTION RATING IS 0-5] Why do you say that? For which bulb types are you unsatisfied with the rebate levels?

b) If the program, due to fund constraints, had to eliminate a manufacturer buydown rebate for one type of CFL bulb, which one should they choose? Why do say that?

2. CFL fixtures [ASK ONLY IF THEY SELL CFL FIXTURES THROUGH THE PROGRAM]

a) Using this same satisfaction scale, how satisfied have you been with the levels of manufacturer buydown rebates for CFL fixtures?

a. [IF SATISFACTION RATING IS 0-5] Why do you say that? For which fixture types are you unsatisfied with the rebate levels?

C. Marketing and Coordination with Retailers

1. Using the same satisfaction scale, how satisfied have you been with the California Upstream Lighting Program's efforts to mass market CFL products?

a) [ASK ONLY IF SATISFACTION RATING IS 0-5] Why do you say that?

2. Using the same satisfaction scale, how satisfied have you been with the program's efforts to coordinate with retailers on in-store product placement and promotions?

   a) [ASK ONLY IF SATISFACTION RATING IS 0-5] Why do you say that?

3. What effects, if any, does the inclusion of the utility logos have on the sales of your CFL products?

D. Satisfaction with Program Staff and Program As a Whole

1. Using the same satisfaction scale, how satisfied have you been with the program managers and other staff involved in the California Upstream Lighting Program?

   a) [ASK ONLY IF SATISFACTION RATING IS 0-5] Why do you say that?

2. Using the same scale, how would you rate your level of satisfaction with the program in general?

   a) [ASK ONLY IF SATISFACTION RATING IS 0-5] Why do you say that?

3. In what way could the program processes be improved?

4. Are you planning to participate in the program going forward?

   a) [IF YES] Why do you say that?

5. Can you estimate what percentage of the CFL products you sold through the California Upstream Lighting Program during the 2006-2008 time period were installed in residential vs. nonresidential fixtures?

   a) [IF YES] What is your estimate of this breakdown?

6. "Many discount, grocery stores, and drug stores are participating in the California Upstream Lighting Program that did not sell Energy Star CFLs before joining this program. To what degree do you think these grocery, drug, and discount stores are creating new Energy Star CFL product sales as opposed to taking away Energy Star CFL sales that otherwise would have gone to national chain retailers such as Wal-Mart, Home Depot, or Lowe's?

   a) [IF RESPONDENT INDICATES THESE GROCERY, DRUG, OR DISCOUNT STORES MAY BE TAKING SALES FROM OTHER RETAILERS] Which retailers do you think these grocery, drug, or discount stores are taking Energy Star CFL product sales away from?

7. If your customers could not purchase CFL bulbs in your stores, for whatever reason, do you think they would buy incandescent bulbs instead or would they wait to buy their CFL bulbs from other retailers?

   a) [IF THEY INDICATE THEIR CUSTOMERS WOULD WAIT TO BUY CFL BULBS FROM OTHER RETAILERS] What other retailers do you think your customers would be buying their CFLs from?

Appendix D: Program Attribution, Market Effects, and Market Characterization Interview Guide for Lighting Manufacturers Participating in the 2006-2008 California Upstream Lighting Programs

Program Attribution, Market Effects, and Market Characterization Interview Guide for Lighting Manufacturers Participating in the 2006-2008 California Upstream Lighting Programs

I. Introduction

A. Contact Protocol

1. Call potential interviewees to ascertain most appropriate interviewee. Obtain email address(es) of appropriate interviewees. If company refuses interview, determine reasons for refusal and if it's logistical in nature, try to find workaround.
2. Send email interview invitation to appropriate interviewee. This invitation will include:
   a) Explanation of purpose and scope of interview.
   b) Explanation of time frame within which the interview will need to be completed.
   c) Explanation of expected duration of interview and flexibility to complete interview over multiple sessions.
   d) Instructions to propose a convenient interview time.
   e) Contact information for interviewers.
   f) Assurances of confidentiality.
   g) A letter attachment from the CPUC explaining the importance of the interview.
3. If target interviewee does not respond to the email invitation within a week, a follow-up call will be made to try to schedule an interview time, find an alternate interview target, or determine reasons for refusal.
4. Once an interview time has been arranged, the interviewee will be emailed, a couple days in advance of the interview, a copy of the interview guide as well as a customized data table similar to Table 1 below. The email will contain additional assurances of confidentiality.

B. At the beginning of the interview, collect information on interviewee's position, overall responsibilities, and experience with the program.

II. Program Participation Confirmation and Reasons for Participation

A. Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric jointly participate in an Upstream Lighting Program which provides per bulb or per fixture financial incentives to buy down the cost of energy efficient lighting products. According to our information your company has been receiving these manufacturer buydown incentives from this California Upstream Lighting Program during the 2006-2008 time period. Are you aware of your company's participation in this program? [IF UNAWARE, FIND SOMEONE WITH THE COMPANY WHO IS AWARE. IF THEY RECOGNIZE THIS PROGRAM BY A DIFFERENT NAME, EXPLAIN THAT FOR THE SAKE OF SIMPLICITY YOU'LL HENCEFORTH REFER TO THE PROGRAM AS "THE CALIFORNIA UPSTREAM LIGHTING PROGRAM."]

B. Besides getting these financial incentives, are there any other aspects of this California Upstream Lighting Program that your company has actively taken part in?

1. [IF YES] What other aspects of this program has your company been involved in?

C. About what year did your company first get involved with the California Upstream Lighting Program?

D. Before becoming involved with the California Upstream Lighting Program, was your company involved in any other California programs that provide rebates or buydown discounts for energy-efficient lighting products?

1. [IF YES] What programs were these? [IF REBATES MENTIONED, TRY TO DETERMINE IF THESE WERE UPSTREAM OR DOWNSTREAM (MAIL-IN REBATES, POINT-OF-SALE REBATES)]

2. [IF YES] About when did this involvement begin and what was the nature of this participation?

E. Was your company selling compact fluorescent bulbs or fixtures in California before getting involved with any of these California lighting rebate or discount programs?

F. What was your primary reason for getting involved with the California Upstream Lighting program?

G. Did you have any other reasons for getting involved with the California Upstream Lighting program?

1. [IF YES] What were these?

III. 2006-2008 CFL Product Sales and California Upstream Lighting Program Trends

A. My next questions concern which compact fluorescent bulbs or fixtures you sell in California and what retail channels you sell them through. Is this a topic that you are familiar with? [IF INTERVIEWEE IS FAMILIAR, PROCEED. IF NOT FAMILIAR, GET ALTERNATIVE CONTACT NAME AND SKIP TO NEXT SECTION]

B. Non-Specialty CFL Bulbs [IF THEY SOLD NON-SPECIALTY CFL BULBS ELSE SKIP TO III. C.] First I'm going to ask you some questions about your sales of non-specialty CFL bulbs in California. By "non-specialty" CFL bulbs I mean bulbs that do not have special functions or features such as reflectors, dimmability, three-way light levels, or flood lighting. Now earlier I emailed you a table that shows you a record of the types of non-specialty CFL bulbs that we have records of you selling through the ULP program along with some spaces for non-program sales that we were hoping you could fill in. [REPEAT ASSURANCES OF CONFIDENTIALITY]

Table 1
Sample DataTable

Retail Channel/Product Type	# Non-Specialty CFL Bulbs Through Upstream Lighting Program				# Non-Specialty CFL Bulbs Sold in California Not Through Upstream Lighting Program			
	2006	2007	Q1 2008	Total 2006-2008	2006	2007	Q1 2008	Total 2006-2008
Non-Specialty CFL Bulbs of Type Sold Through Upstream Lighting Program								
Large Home Improvement								
CFL INT INTEGRAL - 13 WATT >= 800 LUMENS - SCREW-IN	50,000	78,000	32,000	**160,000**	A	B	C	D
INTERIOR CF BULB - 23 WATT 1,100 TO 1,399 LUMENS	100,000	213,000	81,000	**394,000**	E	F	G	H
Grocery								
CFL INT INTEGRAL - 13 WATT >= 800 LUMENS - SCREW-IN	60,000	93,600	38,400	**192,000**	I	J	K	L
INTERIOR CF BULB - 23 WATT 1,100 TO 1,399 LUMENS	120,000	255,600	97,200	**472,800**	M	N	O	P
INTERIOR CF BULB - 23 WATT >=1,600 LUMENS	85,000	34,000	56,000	**175,000**	Q	R	S	T
Other Non-Specialty Energy Star CFLs Sold in California But Not Through Upstream Lighting Program								
Channel?								
???								
???								
???								
Channel?								
???								
???								
???								
Non-Specialty Non-Energy Star CFLs Sold in California								
Channel?								
???								
???								
???								
Channel?								
???								
???								
???								

1. Does the table I sent to you seem correct in terms of the types and volume of non-specialty CFLs you sold through the California Upstream Lighting Program?

   a) [IF NO] [Record any corrections to the table]

2. Why did you choose to sell these particular products and packages through the California Upstream Lighting Program?

3. [IF THEY DID FILL IN NON-ULP DATA INTO TABLE THAT INDICATED NON-SPECIALTY ENERGY STAR CFLs SOLD IN CALIFORNIA IN 2006-2008 BUT NOT THROUGH ULP PROGRAM] I noticed that when you filled out the table you indicated that in the 2006-2008 period you sold non-specialty Energy Star CFLs in California that were not rebated by the California Upstream Lighting Program. Why didn't you sell these CFL bulbs through the program?

   a) [IF THEY INDICATE MULTIPLE REASONS] Which of these reasons was the most important?

   b) [IF NOT ALREADY EXPLAINED] What advantages, if any, did you see in not selling CFL bulbs through the program?

   c) [IF NOT ALREADY EXPLAINED] What disadvantages, if any, did you see in not selling CFL bulbs through the program?

4. [IF THEY DID FILL IN NON-ULP DATA INTO TABLE THAT INDICATED NON-SPECIALTY NON-ENERGY STAR CFLs SOLD IN CALIFORNIA IN 2006-2008] I noticed that when you filled out the table you indicated that in the 2006-2008 period you sold non-specialty non-Energy Star CFLs in California. Why do you sell these rather than just Energy Star CFLs?

   a) [IF THEY INDICATE MULTIPLE REASONS] Which of these reasons was the most important?

   b) What would have to change for you to only offer Energy Star CFLs for the CFLs you sell?

   c) What are the advantages and disadvantages of getting bulbs certified by Energy Star?

5. [IF THEY DIDN'T FILL IN NON-ULP DATA INTO TABLE] During the 2006-2008 period did you sell non-specialty Energy Star CFL bulbs in California that did not receive discounts from the Upstream Lighting Program?

   a) [IF YES] Are the bulb types and packages different from those you sell through the California Upstream Lighting Program?

      a. [IF YES] How so?

   b) [IF YES] What sorts of distribution channels did you sell these non-specialty Energy Star CFLs through?

   c) [IF YES] Why didn't you sell these bulbs through the California Upstream Lighting Program?

6. [IF THEY DIDN'T FILL IN NON-ULP DATA INTO TABLE] During the 2006-2008 period did you sell non-specialty non-Energy Star CFL bulbs in California that did not receive discounts from the Upstream Lighting Program?

   a) [IF YES] What sorts of bulb types and packages were these non-specialty, non-Energy Star bulbs?

   b) [IF YES] What sorts of retail channels do you sell these non-specialty, non-Energy Star bulbs through? [MAKE SURE TO CLARIFY WHICH BULB TYPES/PACKAGES WERE SOLD THROUGH WHICH RETAIL CHANNELS]

7. When discounts from the Upstream Lighting Program were not available, due to delays in program startup or product allocations for discounted CFLs running out, did you sell non-specialty Energy Star CFL bulbs in California?

   a) [IF YES] Were the bulb types and packages different from those you sell through the California Upstream Lighting Program?

a. [IF YES] How so?

b) [IF YES] What sorts of distribution channels did you sell these non-specialty CFLs through?

8. [IF THEY DIDN'T COMPLETE THE TABLE] Please provide your best estimate of what % of non-specialty CFL bulbs that you sold in California during the 2006-2008 period fit into the following categories:

First consider the non-specialty CFL bulbs that were discounted by the California Upstream Lighting Program (ULP). About what % non-specialty CFL bulbs that you sold in California during the 2006-2008 period did these account for?	__%
Next consider the non-specialty CFL bulbs that met Energy Star specifications but were not discounted by the program. About what % non-specialty CFL bulbs that you sold in California during the 2006-2008 period did these account for?	__%
Finally consider the non-specialty bulbs that did not meet Energy Star specifications. About what % non-specialty CFL bulbs that you sold in California during the 2006-2008 period did these account for?	__%
Total non-specialty CFL bulbs sold in California during the 2006-2008 period	**100%**

9. Did you sell non-specialty CFLs in the 2006-2008 period that you believe exceed Energy Star specifications? [REMIND INTERVIEWEE OF ENERGY STAR SPECIFICATIONS]

a) [IF YES] In what ways do these bulbs exceed Energy Star specification?

b) [IF YES] What types (wattages, brands) of non-specialty CFL bulbs were these?

c) [IF YES] Why do you offer such non-specialty bulbs that exceeded Energy Star specifications?

d) [IF YES] What sorts of distribution channels did you sell these better-than-Energy Star CFL bulbs through?

e) [IF YES] About what percentage of the non-specialty CFL bulbs that you sold in California during the 2006-2008 period did these account for?

10. [IF THEY SOLD NON-SPECIALTY CFLS IN CALIFORNIA IN 2006-2008 THAT DID NOT RECEIVE CALIFORNIA UPSTREAM LIGHTING PROGRAM DISCOUNTS]. The California Public Utilities Commission and the California investor-owned utilities have sales data for the CFL products that your company sold through the California Upstream Lighting Program. However, they are also very interested in learning about prices and sales volumes for CFL products that were not sold through the Upstream Lighting Program. If we provided assurances to protect the confidentiality of these sales data, would you be willing to share these data?

a) [IF YES] What would be the next step for getting these data?

C. Specialty CFL Bulbs [IF THEY SOLD SPECIALTY CFL BULBS ELSE SKIP TO III. D]. Next I'm going to ask you some similar questions but this time about your sales of specialty CFL bulbs. By "specialty" CFL bulbs I mean bulbs that have special functions or features such as reflectors, dimmability, three-way light levels, or flood lighting. [REPEAT QUESTIONS B1. – B10 EXCEPT SUBSTITUTE WORD "Specialty" for "Non-Specialty"]

D. CFL Fixtures [IF THEY SOLD CFL FIXTURES ELSE SKIP TO III. E.] Next I'm going to ask you some similar questions but this time about your sales of Energy

Star-qualified CFL fixtures. [REPEAT QUESTIONS B1. – B10 EXCEPT SUBSTITUTE WORDS “CFL fixtures” for “Non-Specialty CFL bulbs”]

E. Recent trends, policies for the California Upstream Lighting Program

1. Are there certain types of CFL or LED bulbs or fixtures that the California Upstream Lighting Program has been encouraging your company to sell more than others?

   a) [IF YES] Which products are these?

   b) Have there been differences between the California investor-owned utilities involved in this program in terms of which lighting products they have been encouraging?

      a. [IF YES] What are these differences?

   c) [IF YES] Do you agree with an emphasis on these products?

      a. Why do you say this?

   d) Are there certain types of the energy-efficient lighting products that you think the California Upstream Lighting Program should be promoting that they are not currently promoting?

2. Are there certain types of retailers that the California Upstream Lighting Program has been encouraging lighting manufacturers to partner with more than other retailer types?

   a) [IF YES] Which types of retailers?

   b) [IF YES] Do you agree with an emphasis on these retailer types?

      a. Why do you say this?

c) Are there certain types of retailers that you think the California Upstream Lighting Program should be focusing on more to encourage their sales of energy-efficient lighting products?

a. Why do you say this?

3. Before now were you aware that the California Upstream Lighting Program currently has a bulk purchase limit on how many CFLs, CFL fixtures, LED night lights or holiday lights can be included in a single customer purchase?

a) What is your opinion on these bulk purchase limits?

b) [IF WERE AWARE OF BULK LIMITS] What, if anything, is your company doing to try to enforce these bulk limits?

a. [IF INVOLVED IN POLICING OF BULK LIMITS] The main purpose of the bulk purchase limits is to reduce the chance of CFL products discounted by the Upstream Lighting Program being sold outside of California. Have you discovered any of your CFL products being sold outside of California?

i. [IF YES] How do you think this happened?

IV. Free Ridership and In-State Spillover for 2006-2008 Upstream Lighting Program

A. My next questions are about the impact that the 2006-2008 California Upstream Lighting Program may have had on your California CFL products sales. Are there any retailers or retailer categories that you worked with through the 2006-2008 Upstream Lighting Program that you think would not have been selling any CFL products during this 2006-2008 time period if the discounts of $0.50-$2.75 per bulb from this program had not been available?

1. [IF YES] Which retailers or retailer categories?

2. Are there any retailers or retailer categories that you worked with through the 2006-2008 Upstream Lighting Program that you think would have been selling a different assortment of CFL bulbs or fixtures than they are now if the discounts of $0.50-$2.75 per bulb from this program had not been available?

   a. [IF YES] Which retailers/retailer categories and which products?

B. [SURVEYORS: PLEASE FOLLOW THE FOLLOWING INSTRUCTIONS CAREFULLY FOR THE FREE RIDERSHIP PORTION OF THIS SURVEY].

1. FIRST ASK THE MANUFACTURER THE FREE RIDERSHIP AND SPILLOVER QUESTION SEQUENCE FOR THE RETAILER CATEGORY THROUGH WHICH THEY SOLD THE MOST CFLS THROUGH THE PROGRAM (SEE MATRIX). HOWEVER, EXCLUDE ANY RETAILER CATEGORIES THAT THEY IDENTIFIED AS NOT SELLING ANY CFL PRODUCTS AT ALL WITHOUT THE BUYDOWNS]
2. SECOND ASK THE MANUFACTURER THE FREE RIDERSHIP QUESTION SEQUENCES ONLY FOR THE RETAILER CATEGORY THROUGH WHICH THEY SOLD THE SECOND MOST CFLS THROUGH THE PROGRAM (SEE MATRIX). HOWEVER, AS BEFORE, EXCLUDE ANY RETAILER CATEGORIES THAT THEY IDENTIFIED IN V. A AS NOT SELLING ANY CFL PRODUCTS AT ALL WITHOUT THE BUYDOWNS]
3. [IF THEY SOLD DISCOUNTED CFLS THROUGH MORE THAN TWO RETAILER CATEGORIES] THEN SAY: “You also sold CFL products through [LIST OTHER RETAILER CATEGORIES, IF ANY, BESIDES THE TWO ALREADY IDENTIFIED].”

   a) “Would your responses regarding the effect of the manufacturer buydowns on CFL product sales in these types of retailers be different, in a non-trivial way than for the retailer categories we already discussed?

      a. [IF YES, OR THEY RESPOND IN A WAY THAT WOULD INDICATE SOME NON-TRIVIAL DIFFERENCE (THIS IS A JUDGEMENT CALL)] For which types of retailers would your responses be different?

i. ASK A NEW FREE RIDERSHIP QUESTION SEQUENCE FOR EACH ADDITIONAL RETAILER CATEGORY THAT THEY IDENTIFY ABOVE.

C. Free Ridership

1. Non-Specialty CFL bulbs [ASK ONLY IF SOLD NON-SPECIALTY CFL BULBS – OTHERWISE SKIP TO IV.C.2.] According to our records in the 2006-2008 period you received California Upstream Lighting Program manufacturer buydown discounts of $0.50-$2.75 per bulb for the sale of the following types of non-specialty CFL bulbs [NAME TYPES] through [RETAILER CATEGORY] such as [NAME RETAILER EXAMPLE]. The program also provided promotional materials such as signage. If these manufacturer buydown discounts and program promotional materials had not been available during this 2006-2008 period, do you think your sales of these types of non-specialty Energy Star CFL bulbs through [RETAILER CATEGORY] stores would have been about the same, lower, or higher?

a) [IF HIGHER] Why do you say this? [RECORD RESPONSE AND THEN SKIP TO NEXT RETAILER CATEGORY]

b) [IF LOWER] By what percentage do you estimate your sales of non-specialty Energy Star CFL bulbs through [RETAILER CATEGORY] stores would be lower during this 2006-2008 period if these manufacturer buydowns and program promotional materials for non-specialty CFLs had not been available? [RECORD % DECREASE]

a. I want to make sure I understand you correctly. You estimate that your sales would have been [PERCENTAGE FROM QUESTION IV.C.1. b.] % lower without the manufacturer buydowns. So if you actually sold 100 non-specialty CFLs in a given week, you think you'd have sold only about [100 – (PERCENTAGE FROM QUESTION IV.C.1. b. * 100)] in that period if the manufacturer buydowns hadn't been available? [IF RESPONSE IS ≠ YES THEN CLARIFY ESTIMATED SALES DECREASE]

c) Manufacturer add-on discounts: When the California Upstream Lighting Program was providing manufacturer buydown discounts for non-specialty bulbs sold through the [RETAIL CATEGORY] retail channel, did your company ever provide any of its own price discounts in addition to those provided by the Upstream Lighting Program?

a. [IF NO] Why not?

b. [IF YES] What were your reasons for providing these additional price discounts?

c. [IF YES] What was the typical range of these additional discounts on a $ per bulb basis?

d. [IF YES] Were there particular types of bulbs that you offered these additional discounts on?

i. [IF YES] What types of bulbs were these?

e. Using a scale of 0 to 10 where 10 equals “very likely” and 0 equals “not likely at all,” how likely were you to offer these additional price discounts if the manufacturer buydowns had not also been available?

[REPEAT QUESTIONS IV. C. 1. a) – d). FOR THE NEXT RETAILER CATEGORY]

2. Specialty CFL bulbs [ASK ONLY IF SOLD SPECIALTY CFL BULBS THROUGH THIS RETAILER CATEGORY OTHERWISE SKIP TO IV.C.3.] [REPEAT QUESTIONS IV. C. 1. a) – d) BUT SUBSTITUTE APPROPRIATE PRODUCT NAME AND DISCOUNT LEVELS. REPEAT SEQUENCE FOR EACH RETAILER CATEGORY]

3. CFL fixtures [ASK ONLY IF SOLD SPECIALTY CFL BULBS THROUGH THIS RETAILER CATEGORY OTHERWISE SKIP TO NEXT QUESTION] [REPEAT QUESTIONS IV. C. 1. a) – d) BUT SUBSTITUTE APPROPRIATE PRODUCT NAME AND DISCOUNT LEVELS. REPEAT SEQUENCE FOR EACH RETAILER CATEGORY]

4. Effects of other California IOU programs/efforts

   a) Besides the discounts and the promotional materials, do you think the California Upstream Lighting Program does anything else to help you sell non-specialty Energy Star CFL bulbs?

      a. [IF YES] What else does the program do?

   b) California also has a program called Flex Your Power that does mass advertising for CFL products and other energy efficient measures. Please indicate how significant you think this program is as a driver of increased CFL product sales in California in the 2006-2008 period. Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant. [RECORD RATING]

      a. Why do you give this rating?

   c) In addition to the Upstream Lighting Program and the Flex Your Power Program some California utilities have also been involved in other campaigns to promote sales of CFL products such as the Energy Star Change-a-Light promotion. Please indicate how significant you think these promotions have been as a driver of increased CFL product sales in the 2006-2008 period. Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant. [RECORD RATING]

      a. Why do you give this rating?

D. Program Effects on Non-discounted CFLs Sold in California in 2006-2008 [IF THEY SOLD NON-SPECIALTY CFLS IN CALIFORNIA IN 2006-2008 THAT DID NOT RECEIVE CALIFORNIA UPSTREAM LIGHTING PROGRAM DISCOUNTS ELSE SKIP TO SECTION V.]

1. You said earlier that you also sold CFL bulbs or fixtures in California in the 2006-2008 that did not receive discounts from the California Upstream Lighting Program. What effects, if any, do the program-discounted CFL bulbs or fixtures have on your sales levels of these non-program-discounted CFL bulbs or fixtures? [IF MECHANISM FOR THESE EFFECTS IS NOT EXPLAINED, PROBE FOR MECHANISM]

    a) Would these effects vary depending on the type of CFL product?

        a. [IF YES] How so?

    b) Have these effects changed at all over this 2006-2008 period?

        a. [IF YES] How so and about what time period did these effects change?

2. Do the retailers that you supply ever sell program-discounted CFL bulbs or fixtures and non-program-discounted CFL bulbs or fixtures at the same time?

    a) [IF YES] Would you say this happens always, very often, sometimes, or not very often?

    b) [IF YES] Do you promote these non-program-discounted CFL bulbs or fixtures differently than you do the program-discounted CFL bulbs or fixtures?

        a. [IF YES] How are your promotional efforts different?

c) [IF YES] Do you think increased shopper foot traffic due to program-discounted CFL bulbs and fixtures has any impact on the sales of non-program discounted CFL bulbs or fixtures that are being sold at the same time?

a. [IF YES] Why do you say this?

3. What effects do you think program-discounted CFL bulbs or fixtures have on consumer expectations regarding prices of non-discounted CFL bulbs or fixtures?

4. You indicated that you sold the following types of non-specialty CFL bulbs in California during the 2006-2008 period that you did not sell through the ULP Program:[READ PRODUCT TYPES AND RETAIL CHANNELS (IF AVAILABLE). IF THEY FILLED OUT THE TABLE, DIRECT THEM TO SPECIFIC ROW]. Do you think your sales of these types of non-specialty non-program-discounted CFL bulbs would be about the same, lower, or higher if the California Upstream Lighting program – with its manufacturing buydowns and promotional materials – did not exist during this time period?

a) [IF HIGHER] Why do you say this?

b) [IF HIGHER] By what percentage do you estimate your sales of these non-specialty non-program-discounted CFL bulbs through [RETAILER CATEGORY] stores would be higher during this period if the California Upstream Lighting Program did not exist during this 2006-2008 time period? [RECORD % DECREASE]

a. I want to make sure I understand you correctly. You estimate that your sales of non-program-discounted bulbs would have been [PERCENTAGE FROM QUESTION IV. D. 4. b.] % higher without the manufacturer buydowns. So if you actually sold 100 of these non-specialty CFLs in a given week, you think you'd have sold about [100 + (PERCENTAGE FROM QUESTION IV. D. 4. b. * 100)] in that period if the California Upstream manufacturer buydowns hadn't been available? [IF RESPONSE IS ≠ YES THEN CLARIFY ESTIMATED SALES INCREASE]

c) [IF LOWER] Why do you say this?

d) [IF LOWER] By what percentage do you estimate your sales of these non-specialty CFL bulbs through [RETAILER CATEGORY] stores would be lower during this period if the California Upstream Lighting Program did not exist during this time period? [RECORD % DECREASE]

a. I want to make sure I understand you correctly. You estimate that your sales of non-program-discounted bulbs would have been [PERCENTAGE FROM QUESTION IV. D. 4. d.] % lower without the manufacturer buydowns. So if you actually sold 100 of these non-specialty CFLs in a given week, you think you'd have sold about [100 - (PERCENTAGE FROM QUESTION IV. D. 4. d. * 100)] in that period if the California Upstream Lighting Program did not exist during this time period? [IF RESPONSE IS ≠ YES THEN CLARIFY ESTIMATED SALES DECREASE]

e) [IF SAME] Why do you say this?

f) [IF THEY INDICATED IN IV B. 1. THAT EFFECTS OF PROGRAM ON NON-PROGRAM NON_SPECIALTY CFLS HAS CHANGED OVER 2006-2008 PERIOD, PROBE FOR HOW THESE SALES EFFECTS WOULD VARY OVER THE 2006-2008 PERIOD]

5. [REPEAT SEQUENCE IV. D. 4 FOR SPECIALTY CFLS OR CFL FIXTURES IF RELEVANT, MAKING SURE TO CHANGE PRODUCT DESCRIPTION IN QUESTIONS.]

6. [IF THEY SOLD BOTH SPECIALTY AND NON-SPECIALTY CFLS] You said earlier that during the 2006-2008 period, you sold both non-specialty and specialty CFL bulbs through the California Upstream Lighting Program. What effects, if any, do the program-discounted non-specialty CFL bulbs have on your sales levels of program-discounted specialty CFL bulbs, such as dimmable bulbs, bulbs with reflectors, 3-way bulbs, and flood lights? [IF MECHANISM FOR THESE EFFECTS IS NOT EXPLAINED, PROBE FOR MECHANISM]

V. Early, Cumulative Effects of California Lighting Rebate Programs – Up until now we have been talking about the effect of the California Upstream Lighting Program on CFL bulbs and products that you sold in California during the 2006-2008 period. Now I want you to think about the earlier and cumulative effects that the years of California lighting rebate and discount programs might have had on your company's sales of CFL products.

A. Have the years of California lighting rebate and discount programs had any effects on the types of CFL products you sell or the way that you sell them?

1. [IF YES] How so?

B. [IF THEY SAID THAT THEY HADN'T BEEN SELLING CFL PRODUCTS IN CALIFORNIA BEFORE BECOMING INVOLVED IN CA LIGHTING REBATE PROGRAMS – E.G. II. E = "NO"] Earlier you said that your company was not selling CFL products in California before getting involved with any California lighting rebate or discount programs. How significant was the existence of the California lighting rebate or discount programs in your company's decision to enter the California lighting market? Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant.

C. [IF THEY SAID THAT THEY HAD BEEN SELLING CFL PRODUCTS IN CALIFORNIA BEFORE BECOMING INVOLVED IN CA LIGHTING REBATE PROGRAMS – E.G. II. E = "YES"] Earlier you said that your company sold CFL products in California before getting involved with any of these California lighting rebate or discount programs. Are you familiar with your company's CFL product sales activities during this period?

1. [IF YES] Currently you sell CFL products in the following retail channels in California [IDENTIFY RETAIL CHANNELS]. Were you selling in these same retail channels before you became involved with the California lighting rebate or discount programs?

    a) [IF NO] Which retail channels did you enter only after becoming involved with the California lighting rebate or discount programs?
        a. How significant was your involvement in the California lighting rebate or discount programs in your decision to enter the [X] retail channel. Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant. [REPEAT QUESTIONS FOR ALL NEW RETAIL CHANNELS]?

        b. Why do you say this?

2. [IF NO, OR NO LONGER RECALL] Is there anyone else in your company that might recall your CFL sales trends during this period? [IF SO, RECORD NAME AND CONTACT INFORMATION AND CONTINUE TO NEXT QUESTION]

3. Do you have California CFL product sales data for this period before you became involved with the California lighting rebate or discount programs?

    a) [IF YES] If we provided assurances to protect the confidentiality of these sales data, would you be willing to share these data?

        a. [IF YES] What would be the next step for getting these data?

D. Does your company sell CFL bulbs or fixtures in any states that do not have utilities or state energy efficiency programs that offer manufacturer buydowns or point of sale rebates for these kind of lighting products?

1. [IF YES] Are you familiar with your company's CFL bulb or fixture sales activities in these states?

a) [IF YES] Currently you sell CFL bulbs or fixtures in [IDENTIFY RETAIL CHANNELS] channels in California. Do you sell CFL products in the same retail channels in these states that do not have utilities or state energy efficiency programs offering CFL product rebates or discounts?

a. [IF NO] Which retail channels do you use to sell CFL products in these other states?

b. [IF RETAIL CHANNELS ARE USED IN CALIFORNIA THAT ARE NOT USED IN THESE OTHER STATES] You sell CFL products through the [INCREMENTAL CA CHANNELS] retail channels in California but not in other states. How significant is the 2006-2008 California Upstream Lighting program in explaining why you sell CFL products through these retail channels in California and not these other states? Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant.

b) [IF NO] Who would be another person at your company who is familiar with the sales of these CFL products in states that do not have utilities or state energy efficiency programs offering CFL product rebates or discounts? [RECORD NAME AND CONTINUE TO NEXT QUESTION]

E. [IF YES] If we provided assurances to protect the confidentiality of your data, would you be willing to share recent CFL product sales data for states other than California?

1. [IF YES] What would be the next step for getting these data?

F. California energy efficiency programs have been offering rebates and discounts on CFL bulbs for many years. Do you think these California programs have influenced the level of sales of CFLs in other states?

1. Why do you say this?

    a) [IF NOT EXPLAINED IN THEIR ANSWER TO E1] How do the California lighting rebate programs influence the level of sales of CFLs in other states?

2. [IF YES] How significant has been the influence of these years of California rebate programs on the price of CFLs in these states? Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant.

G. Has your firm experienced any reductions in manufacturing production costs for non-specialty CFLs over the last ten years?

1. [IF YES] By how much do you think these reductions in production costs have reduced the average per-bulb prices during this ten-year period?

2. [IF YES] What factors have led to these reductions in manufacturing production costs?

    a) [IF STATE/UTILITY REBATE PROGRAMS ARE MENTIONED] How did these rebate programs influence these reductions in your manufacturing costs?

    b) [IF STATE/UTILITY REBATE PROGRAMS ARE MENTIONED] In what time period did these rebate programs influence these reductions in your manufacturing costs?

    c) [IF STATE/UTILITY REBATE PROGRAMS ARE MENTIONED] Do you think that the California lighting rebate and discount programs in particular have been an important factor in influencing these reductions in your manufacturing costs?

        a. [IF YES] How important a factor were the California lighting rebate programs, in particular, in influencing these reductions in your manufacturing costs? Please use a scale of 0 to 10 where 10 equals “very important” and 0 equals “not important at all.”

i. Why do you give this rating?

1. [IF INCREASED MANUFACTURING CAPACITY CAUSED BY CALIFORNIA REBATE PROGRAMS MENTIONED] By approximately what % did you increase your manufacturing capacity in response to the California rebate programs?

2. [IF INCREASED MANUFACTURING CAPACITY CAUSED BY CALIFORNIA REBATE PROGRAMS MENTIONED] About when did these increases in manufacturing capacity caused by the California rebate programs occur?

3. [IF INCREASED MANUFACTURING CAPACITY CAUSED BY CALIFORNIA REBATE PROGRAMS MENTIONED] By approximately what % did this increase in CFL manufacturing capacity reduce your average CFL production cost?

d) [IF GENERAL INCREASES IN WORLD CFL DEMAND MENTIONED] How important a factor were the California lighting rebate programs, in particular, in increasing demand for these CFL products? Please use a scale of 0 to 10 where 10 equals "very important" and 0 equals "not important at all."

a. Why do you give that rating?

e) [IF TECHNOLOGICAL IMPROVEMENTS AT THE FACTORY MENTIONED] How important a factor were the California lighting rebate programs, in particular, in driving these technological improvements in the factory? Please use a scale of 0 to 10 where 10 equals "very important" and 0 equals "not important at all."

a. Why do you give that rating?

f) If the California rebate and discount programs went away after 2008 do you think your average production costs for non-specialty CFLs would go up, would go down, or stay about the same?

a. Why do you say that?

H. For years California lighting rebate and discount programs have been working to improve the performance of CFLs as well as their acceptability as substitutes for incandescent bulbs. For example, these programs have long required Energy Star compliance and offered larger rebates for higher lumen levels at a given wattage level. What influences, if any, have these program requirements had on the performance of the CFLs that you manufacture?

I. If the California lighting rebate and discount programs had not existed, do you think the performance improvements you have made to your CFLs would have happened sooner, later, or about the same time as they actually did?

1. [IF LATER] How much later would you have made these performance improvements?

J. Have the California lighting rebate and discount programs influenced the way that you market your CFLs in other states?

1. [IF YES] How so?

K. State or utility rebate and discount programs are only some of the factors that may be encouraging sales of CFL bulbs and fixtures. I'm going to name a number of possible drivers of increased CFL bulbs and fixtures. For each one I identify, please indicate how significant you think it is as a driver of increased CFL product sales during the 2006-2008 period. Please use a 0 to 10 scale, where 0 is not at all significant and 10 is extremely significant.

1. State or utility rebate and discount programs? [RECORD RATING]

a) Why do you give this rating?

2. The Energy Star program including its Change-a-Light campaign? [RECORD RATING]

a) Why do you give this rating?

3. CFL promotion campaigns by some large retailers such as Wal-Mart, Home Depot, and Lowe's that are being done independently of any state or utility energy efficiency programs? [RECORD RATING]

   a) Why do you give this rating?

4. Media stories promoting the use of CFLs? [RECORD RATING]

   a) Why do you give this rating?

5. Reductions in CFL production costs and price points due to lower-cost overseas manufacturing and increases in CFL production capacity? [RECORD RATING]

   a) Why do you give this rating?

6. Growing consumer awareness about global warming? [RECORD RATING]

   a) Why do you give this rating?

7. Higher energy costs? [RECORD RATING]

   a) Why do you give this rating?

L. Have you seen any evidence that that some lighting products receiving discounts from the California Upstream Lighting Program are being sold out-of-state or through out-of-state buyers through the Internet?

   1. [IF YES]. What evidence have you seen?

M. What do you think should be done to minimize the occurrence of out-of-state sales of lighting products receiving discounts from the California Upstream Lighting Program?

VI. Supply Chain Characterization

A. Now I would like to ask you some questions about your supply chain. Of the CFL products that you sell in California, where are most of them manufactured?

1. Are your CFL products that are discounted through the ULP-program manufactured in different places than those that are not discounted through the program? [IF YES, IDENTIFY DIFFERENT SOURCES]

B. How long does it typically take from the time that you notify your production facilities that you have received a new order for CFL products and the time that order is delivered to the California retailer or distributor who ordered it?

1. Approximately how much of this time is for manufacture?

2. Approximately how much of this time is for shipment?

3. Approximately how much of this is for temporary warehousing and storage that occurs before the retailer or distributor receives the product?

C. Are there any types of CFL products for which it takes significantly longer than this to receive after your order them?

1. [IF YES] Which products?

D. What other factors could cause variations in these delivery times?

E. Are your delivery times for CFL products that you sell through the Upstream Lighting Program different than those for other CFL products that you manufacture?

1. [IF YES] How so?

F. At what point in the supply chain are the stickers and packages for the California Upstream Lighting Program applied?

1. What safeguards do you have in place to insure that CFLs which receive the program stickers and packaging are not sent to retailers that are not participating in the program?

G. If a retailer has program-discounted CFLs that remain unsold after a long period of time do you ever regain possession of these unsold bulbs through retailer returns, buybacks, or other means?

1. [IF YES] Do you track these returned or repossessed CFLs?

2. [IF YES] About what percentage of the program-discounted CFLs that you sell do these account for?

3. [IF YES] In such case, what do you typically do with these unsold bulbs?

H. As noted earlier, there is evidence that some lighting products receiving discounts from the California Upstream Lighting Program are being sold out-of-state or through out-of-state buyers through the Internet. At what point in the supply and distribution chain do you think this might be happening?

I. Do you track CFL products that you sell through the California Upstream Lighting Program that are lost due to breakage and other damage?

1. [IF YES] Do you just track damage/breakage to CFL products before they reach the retailer or also after?

2. [IF YES] If we gave your company assurances of confidentiality, would you be willing to share information about your loss and breakage rates?

VII. Pricing

A. The California Upstream Lighting Program requires manufacturers to estimate the price for which their CFL products would have been selling for if the program's buydown discounts had not been available. How are these estimates derived?

1. [IF SOLD PROGRAM-DISCOUNTED CFLs THROUGH MULTIPLE RETAIL CHANNELS] Did they way that you estimate these retail prices vary by retailer type?

    a) [IF YES] How so?

B. You sold the most program-discounted CFL products through the [RETAILER CATEGORY] retail channel. How much influence do the retailers in this channel have over the price of the CFL products that you supply them? Would you say that they are very influential, somewhat influential, or not very influential?

C. [IF SOLD PROGRAM-DISCOUNTED CFLs THROUGH MULTIPLE RETAIL CHANNELS] You sold the second-most program-discounted CFL products through the [RETAILER CATEGORY] retail channel. How much influence do the retailers in this channel have over the price of the CFL products that you supply them? Would you say that they are very influential, somewhat influential, or not very influential?

D. Some claim that retailers often use something called “keystone pricing” where they double the wholesale price to determine the retail price. In your experience, how frequently is this keystone pricing used for setting retail prices for CFL products. Would you say it is done always, most of the time, some of the time, or never?

1. [IF KEYSTONE PRICING NOT USED ALWAYS] What other rules or strategies do retailers use to mark up wholesale prices?

2. [ASK OF ALL] Are the retail pricing strategies for the products with California Upstream Lighting Program buydowns handled differently than non-program products?

    a) [IF YES] How are these different?

    b) [IF YES] Why do you think the retail pricing of these program discounted products is set in this way?

E. For CFL types that have very low costs of production, sometimes the buydown discounts from the California Upstream Lighting Program can reduce the wholesale prices to almost nothing. Do you provide any advice to retailers on how to price these free or nearly free CFL products?

1. [IF YES] What advice do you give them?

F. California CFL product prices have been declining in the last 10 years. Do you think this trend will continue, or will prices level off or even increase?

1. What factors are causing you to make this prediction?

G. [IF THEY SELL NON-PROGRAM-DISCOUNTED CFLS ALSO] You said earlier that you also sell CFL products in California that do not receive buydown discounts from the California Upstream Lighting Program. Are the program-discounted CFL products typically sold at a lower retail price, a higher retail price, or at the same retail prices as the non-program-discounted bulbs?

1. On a per-bulb basis, on average, how much [LOWER/HIGHER] are the prices of the program-discounted CFL bulbs than the other CFL bulbs that you sell?

2. On a per-fixture basis, on average, how much [LOWER/HIGHER] is the price on the program-discounted CFL fixtures than the other CFL fixtures that you sell?

3. Are your pricing strategies for the products with California Upstream Lighting Program buydowns handled differently than non-program products?

a) [IF YES] How are these different?

VIII. Market Characterization

A. How would you characterize the current market for CFL products in California in terms of manufacturer market share? For example, are there a few major manufacturers responsible for the major share of product sales? Or are there a large number of major players?

B. Where would you characterize your firm in terms of market share for the California CFL market?

C. Are there factors inherent in the manufacturing, importing or distributing processes that have restricted the production and supply of CFL products in the past year or so? Please describe: [IF RESPONDENT CAN'T THINK OF ANYTHING, PROMPT WITH EXAMPLES SUCH AS SHORTAGES OF INPUTS USED IN MANUFACTURING PROCESSES (LABOR, CAPITAL, RAW MATERIALS), INADEQUATE INFRASTRUCTURE TO PRODUCE OR IMPORT PRODUCTS, OR BRING THEM TO MARKET, ETC.]

1. To what degree have these production and supply restrictions varied with the type of CFL product?

2. How do these supply-side barriers compare to those for non-CFL products?

3. [IF SUPPLY BARRIERS IDENTIFIED] Has there been any progress recently to reduce these barriers?

a) [IF YES] What factors led to the reduced barriers?

b) [IF NOT ALREADY MENTIONED] Did the 2006-2008 California Upstream Lighting Program play a role in reducing these barriers?

a. [IF YES] What role did it play?

c) Are there any supply-side barriers that have been increased due to the structure or timing of the California lighting rebate programs?

a. [IF YES] What are these?

b. [IF YES] How did/does the California programs create or increase these barriers?

4. [IF SUPPLY BARRIERS IDENTIFIED] What, if anything, needs to happen to overcome the remaining supply-side restrictions?

D. What are the most important factors that are limiting customer demand for CFL products? Please explain. [IF RESPONDENT CAN'T THINK OF ANYTHING, PROMPT WITH EXAMPLES SUCH AS LACK OF AWARENESS, PRODUCT PRICING, AND PERCEPTIONS REGARDING PRODUCT PERFORMANCE, BULB FIT, APPEARANCE, EARLY BURN-OUT, ETC. RECORD WHETHER ONE HAD TO PROMPT AND RANDOMLY ROTATE THE EXAMPLES USED IN THE PROMPT.]

1. To what degree do these demand barriers vary with the type of CFL product?

2. [IF DEMAND BARRIERS IDENTIFIED] Has there been any progress recently to reduce these barriers?

a) [IF YES] What factors lead to the reduced barriers?

b) [IF NOT ALREADY MENTIONED] Did the 2006-2008 California Upstream Lighting Program play a role in reducing these barriers?

a. [IF YES] What role did it play?

c) Are there any demand-side barriers that have been increased due to the structure or timing of the California lighting rebate programs?

a. [IF YES] What are these?

b. [IF YES] How did/does the California programs create or increase these barriers?

3. [IF DEMAND BARRIERS IDENTIFIED] What needs to happen to overcome these demand-side barriers?

E. Are you aware that in 2007 a federal Energy Bill was passed that requires new efficiency standards for light bulbs?

1. [IF YES] What do you think will be the impact of this 2007 Energy Bill on CFL sales and prices?

F. What are your expectations for U.S. CFL product sales in 2008 and beyond?

1. Why do you say that?

G. If California eliminated its CFL rebate and discount programs starting in 2009 what effects would this have on the sales levels of CFL products in California?

H. Will manufacturers continue to develop and market CFLs without support from rebate and discount programs?

I. What effects do you think the California Upstream Lighting Program has on the capability and willingness of lighting manufacturers to produce innovative CFL products?

J. What has a greater impact on the level of sales of CFL products: 1) having a lower level of price or 2) having a higher awareness of CFL benefits and options?

K. Do you sell CFL products in other countries besides the United States?

1. [IF YES] Are you familiar with your company's international sales trends?

a) [IF NO] Who would be another person at your company who is familiar with your company's international sales of CFL products? [RECORD NAME AND CONTACT INFORMATION AND SKIP TO SECTION IX]

b) [IF YES] How do your international sales trends for CFL products compare to those in the United States?

c) [IF YES] What do you think are driving these international sales trends?

IX. Product Quality, Recycling

A. Do you think the quality of CFL products in recent years has been increasing, decreasing, or staying about the same?

1. [IF THEY THINK QUALITY IS DECREASING] What factors do you think might be leading to the production of lower quality CFL products?

B. What do you think should be done to improve the quality of CFL products?

C. Do you think that CFL product discount programs like the California Upstream Lighting Program, have affected consumer attitudes towards the quality of CFL products in any way?

1. [IF YES] In what way?

D. Energy Star's "CFL Criteria Version 4.0" was released in February 2008 and will become effective in November 2008. What do you think will be the impact of new Energy Star standards on CFL products and prices?

E. CFL disposal has becomes a major issue in recent years. What policies do you advocate for dealing with CFL disposal?

F. What actions has your own company taken to encourage environmentally-safe recycling and disposal of CFL products?

X. Program Satisfaction

Finally I would like to find out your level of satisfaction with the California Upstream Lighting Program

A. Rebate Reservation, Program Verification Process

1. Using a scale of 0 to 10 where 10 = very satisfied and 0 = very dissatisfied, how satisfied have you been with the incentive fund reservation process – that is, the process used by the utility to allocate a set amount of incentive dollars to participating stores?

a) [IF SATISFACTION RATING IS 0-5] Why do you say that?

2. Again using a scale of 0 to 10 where 10 = very satisfied and 0 = very dissatisfied, how satisfied have you been with the program tracking and verification process – that is, the process used by the utility to insure that the CFL products that they are providing discounts for are being sold by retailers and are properly labeled and promoted?

a) [IF SATISFACTION RATING IS 0-5] Why do you say that?

B. Incentive Levels and Coverage

1. CFL bulbs [ASK ONLY IF THEY SELL CFL BULBS THROUGH THE PROGRAM]

a) Using this same satisfaction scale, how satisfied have you been with the level of manufacturer buydown incentives for CFL bulbs?

a. [IF SATISFACTION RATING IS 0-5] Why do you say that? For which bulb types are you unsatisfied with the incentive levels?

b) If the program, due to fund constraints, had to eliminate a manufacturer buydown incentive for one type of CFL bulb, which one should they choose? Why do say that?

2. CFL fixtures [ASK ONLY IF THEY SELL CFL FIXTURES THROUGH THE PROGRAM]
   a) Using this same satisfaction scale, how satisfied have you been with the levels of manufacturer buydown incentives for CFL fixtures?

      a. [IF SATISFACTION RATING IS 0-5] Why do you say that? For which fixture types are you unsatisfied with the incentive levels?

3. Are there CFL products that you think that the program should be offering manufacturer buydown incentives for, that it's not currently offering?

   a) [IF YES] For what CFL products?

C. Marketing and Coordination with Retailers

1. Using the same scale of 0 to 10, how satisfied have you been with the California Upstream Lighting Program's efforts to mass-market CFL products?

   a) [ASK ONLY IF SATISFACTION RATING IS 0-5] Why do you say that?

2. Using the same satisfaction scale, how satisfied have you been with the program's efforts to coordinate with retailers on in-store product placement and promotions?

   a) [ASK ONLY IF SATISFACTION RATING IS 0-5] Why do you say that?

3. What effects, if any, does the inclusion of the utility logos have on the sales of your CFL products?

D. Satisfaction with Program Staff and Program As a Whole

1. Using the same satisfaction scale, how satisfied have you been with the program managers and other staff involved in the California Upstream Lighting Program?

   a) [ASK ONLY IF SATISFACTION RATING IS 0-5] Why do you say that?

2. Using the same scale, how would you rate your level of satisfaction with the program in general?

   a) [ASK ONLY IF SATISFACTION RATING IS 0-5] Why do you say that?

3. In what way could the program be improved?

4. Are you planning to participate in the program going forward?

   a) [IF YES] Why do you say that?

5. Can you estimate what percentage of the CFL products you sold through the California Upstream Lighting Program during the 2006-2008 time period were installed in residential vs. nonresidential fixtures?

   a) [IF YES] What is your estimate of this breakdown?

6. "Many discount, grocery stores, and drug stores are participating in the California Upstream Lighting Program that did not sell Energy Star CFLs before joining this program. To what degree do you think these grocery, drug, and discount stores are creating new Energy Star CFL product sales as opposed to taking away Energy Star CFL sales that otherwise would have gone to national chain retailers such as Wal-Mart, Home Depot, or Lowe's?

   a) [IF RESPONDENT INDICATES THESE GROCERY, DRUG, OR DISCOUNT STORES MAY BE TAKING SALES FROM OTHER RETAILERS] Which retailers do you think these grocery, drug, or discount stores are taking Energy Star CFL product sales away from?