Final Report

An Evaluation Energy Star Products

Results of a Process and Impact Evaluation of Duke Energy's CFL Promotion and Lighting Logger Programs

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Prepared for

Duke Energy
139 East Fourth Street
Cincinnati, OH 45202

Prepared by:
Nick Hall, Johna Roth
Pete Jacobs

TecMarket Works
165 West Netherwood Road, Suite A
Oregon, WI 53575
Voice: (608) 835-8855
Fax: (608) 835-9490
Mail@TecMarket.net

BuildingMetrics
2540 Frontier Ave
Boulder, CO 80301
Voice: (303) 444-4149
Fax: (608) 835-9490
pjacobs@archenergy.com

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This evaluation was conducted by TecMarket Works and BuildingMetrics with support from Duke Energy.

The process evaluation was conducted by TecMarket Works. The impact evaluation was conducted by Duke Energy with BuildingMetrics supervision and approval. The CFL surveys were conducted by Duke Energy and the analysis was supervised and approved by TecMarket Works. TecMarket Works and BuildingMetrics are independent evaluation firms providing energy efficiency program evaluation services to government and utility clients.

Executive Summary

This report presents the findings of the CFL Promotions Programs for Duke Energy from November 2007 through February 2008. This report reviews the program's customer satisfaction, customer demographics, customer CFL use, and the impacts from the CFLs purchased through the program. The evaluation is separated into the two components: first is the Wal-Mart CFL Promotion; the second is the Logger Study (Initial and Final). In addition, four surveys were conducted across various program participant groups, including:

- **Wal-Mart CFL Promotion (October-December 2007)**
  - Description: Customers were mailed coupons to purchase General Electric CFLs for $1 at Wal-Mart Stores.
  - Surveys:
    - Wal-Mart CFL Redeemer Survey
    - Wal-Mart CFL Non-redeemer Survey
    - Wal-Mart In-Store Purchases Survey (same as Wal-Mart CFL Redeemer Survey but also included additional in-store purchase questions).

- **Initial Lighting Logger Study (November 2007)**
  - Description: 41 households participated in a lighting logger study in which four or five light bulbs in the homes were fitted with loggers. Usage was tracked for approximately one month.
  - Survey:
    - Premeasure Survey

- **Final Lighting Logger Study (February 2008)**
  - Description: 51 households who indicated that they redeemed Wal-Mart CFL coupons were fitted with loggers on four or five bulbs in their homes. Their lighting usage was tracked for approximately one month.
  - Survey:
    - Wal-Mart CFL Redeemer Survey

Each of the program's participant groups (as bulleted above) are first presented separately, then Section 6 compares the program's demographics and survey results to each other for the reader to better understand the results and optimal demographics to target in future outreach efforts of CFL promotions and programs.

According to the program manager, the primary objective of this program is for Duke Energy customers to purchase and install 500,000 CFLs in Ohio. Other objectives include identifying new ENERGY STAR® products to promote, and to improve customer satisfaction with Duke Energy. Program staff is continuing to look at new products that they can include - cost effectively - into the mix of program offerings, such as clothes washers and LED Christmas lights. However, this evaluation report focuses on CFLs only.

Methodology

To conduct the energy impact analysis this study combined the information from two data collection approaches that together allowed the estimation of saved energy. In addition, this study conducted interviews with program managers and retail store managers, that when combined with customer surveys allowed for the assessment of the operations of the program.

The kilowatt hour savings were calculated using the data obtained from the initial and final logger studies performed on homes in the area, which provided average hours of use by room type. The savings were then applied to the CFL programs based on customer responses to the survey which indicated the room type and wattage of lamp replaced. The surveys were sent to customers who both redeemed the CFL coupons sent to them and those that did not redeem the coupons sent to them, and were also filled out by customers that participated in the Logger study.

The surveys can be found in the appendices of this report, and the statistical analysis of the populations of the logger study can be found in Appendix 5.

Program operations were evaluated through an in-depth interview with two program managers, five retail store managers from Kentucky, and 16 retail store managers from Ohio.

Process Evaluation Summary

The retailers are overall very happy with the program's operations and offerings. They are experiencing increased foot traffic in their stores, are happy to offer more energy efficient options to their customers, and are very happy with their communications with Duke Energy. According to the store managers interviewed, this program is a success for them, Duke Energy, and customers.

Other key findings include:

- All but one of the retailers is doing special advertising or displays for the CFL promotion. The exception is Retailer B. All five Retailer B managers interviewed indicated that they do not do any additional or special marketing for the CFLs.
- Most retailers believe that this program is needed. The most common reason given is that there needs to be more awareness of energy efficient options among their customers. The immediate savings of the coupon and long-term savings through reduced energy consumption are both needed to encourage previously unaware customers to try out the CFLs.

Energy Savings Summary

Gross Energy Savings Calculations – Wal-Mart CFL promotion

Using hourly use data from the initial and final lighting logger studies energy savings were extrapolated according to the participant's responses to the survey. From this calculation a gross yearly energy savings of 207,526 kWh/year was estimated for those customers participating in the Wal-Mart CFL promotion. This estimation includes those that responded to the Wal-Mart CFL Redeemer survey as well as those who responded to the Wal-Mart In-Store Purchases survey.

Free Riders and Free Drivers – Wal-Mart CFL Promotion

From the Wal-Mart CFL Redeemer and In-Store Purchases survey results, it was determined that 22.6% of purchases made were due to free riders[1], while 13.2% of purchases made were due to free drivers[2].

Total Program Net Energy Savings Calculations

The final total program energy savings was 14,378,038 kWh/year, based on a net savings of 188,019 kWh/year calculated from the survey and lighting logger data and the number of bulbs redeemed. Program impacts are presented in Table 1 below.

Table 1. CFL Program Impacts

Gross program savings	207,526
Gross savings per bulb	67.7 kWh/year
Freeridership level	22.6%
Freedriver (spillover) level	13.2%
Net program savings = 207,526*(1-(22.6%-13.2%))	188,019 kWh/year*
Total bulbs in gross and net savings calculations	3,067
Net savings per bulb	61.3 kWh/year
Total bulbs purchased using coupons	234,552
Total program savings	14,378,038 kWh/year

Table 2 below shows a summary of the usage in various rooms calculated from the logger data from both the initial and the final lighting logger studies. The kitchen lights were turned on for a longer period of time than the lights in other rooms that were monitored, followed closely by the living room lights. Table 3 shows the location of where the purchased CFLs were installed in the participants' homes, what the average wattage of the bulb replaced was, and the self-reported average number of hours the CFL is turned on each day. Purchased CFLs could include 13W, 20W, and/or 26W bulbs.

Table 2. Average hours of use and wattages replaced from Lighting Logger Study

[1] Free rider: someone who would have taken the same action without the program's influence.
[2] Free driver: someone who takes additional actions as a result of the influence of the program.

Room	Average Logged Hours Bulb was Used[3] per Day
Kitchen	5.15
Living Room	4.65
Basement	3.29
Dining Room	3.15
Bedroom	2.41
Other	2.16
Bathroom	2.05

Table 3. CFL Redeemer Survey: Location of Purchased Bulbs, n=583

Room	Number of Replacements in This Room	Percent of Respondents Replacing Bulb in This Room	Average Wattage of Bulb Replaced[4]	Average Self-Reported Hours bulb used[5]
Living Room	384	65.9%	70	5.09
Bedroom	262	44.9%	67	2.89
Kitchen	185	31.7%	67	5.46
Bathroom	147	25.2%	63	3.19
Basement	91	15.6%	68	4.08
Dining Room	65	11.1%	63	4.21
Outside	58	9.9%	67	9.65
Hallway	56	9.6%	64	3.92
Office	43	7.4%	73	4.44
Garage	23	3.9%	79	3.34
Utility Room	14	2.4%	75	2.29
Closet	7	1.2%	66	1.29

[3] From logger studies.
[4] From In-Store Purchase Survey. Median wattage = 60 for all locations.
[5] From In-Store Purchase Survey

Section 1: Program Operations

Two program managers and 21 retail store managers were interviewed for this evaluation. Store manager responses are split into the following categories:

- **Kentucky Retailers** – includes responses from five different retailers in Kentucky.
- **Ohio Retailers** – includes responses from:
  - **Retailer A** (n=2)
  - **Retailer B** (n=8)
  - **Retailer C** (n=1)
  - **Retailer E** (n=5) [6]

The Ohio Retailers have been with the program for a few months to about a year, so their program experience is somewhat limited. Kentucky retailers estimate that they've been a partner in the program for 2 to 4 years.

To ensure confidentiality, the Kentucky Retailer responses are grouped together, and the Ohio Retailer responses are all grouped together or are grouped by the store.

The program manager and the retail store managers feel that the program objectives are being met (or on track to be met). However, there are some recommendations that were made for improvements to the program and possible expansion of offerings.

Program Operation Overview

Duke Energy, Wal-Mart and the manufacturer were involved in the program planning process, however, the coupons and the mailer (in which the coupons went out) had to be approved by Wal-Mart, GE and Duke Energy staff. The initial planning for the program involved both Duke Energy and Wal-Mart managers who designed a program in which customers were sent coupons to purchase CFLs. The coupons lowered the price of a CFL to $1 per bulb. The product and packaging offered was a three-pack of GE bulbs ($3 for a package of three 20watt or 26 watt bulbs).

The coupons (4 in a single mailer) were mailed to the Ohio customers. To ease the purchase burden and help maintain program records at the same time the coupons had a customer ID barcode on the back (to identify the customer), and a regular checkout product barcode on the front (to speed the check-out process). Images of the coupon mailer are in Appendix 6. When customers redeemed the coupon the transaction record went back to GE via a national rebate clearinghouse. Duke Energy paid GE for the processed coupons and retrieved the coupons (with the customer ID's) back from GE for evaluation and tracking purposes.

This type of campaign has since been replicated with Sam's Club, Home Depot, and other big box stores.

[6] Note: Retailer D refused to participate in any interviews for this program evaluation.

While this approach was successful, other program tracking mechanisms are being tested and used in other stores and states. For example, campaigns with Retailer C have included in-store promotions with the coupons available in the store. The customers print their name and address on the coupon before it is redeemed.

Duke Energy is also testing a campaign with Retailer A, in which they are asking customers to go to Duke Energy's website and print coupons. Promotion of this program consists of 10,000 customer mailings and electronic bill messages that direct customers to the coupons.

Retailer Participation

Reasons for Participating

Retailers were asked about their reasons for participating in the program. Their responses are mostly related to their desire to increase customer foot traffic in their store. Their responses are below:

Kentucky Retailers:

- Feel like we have to because customers come in and want to know about them and you don't want them to go to a competitor
- It brings a lot of people into the store and helps overall sales
- The customers really come after them
- Increases traffic flow to the store
- Drive foot traffic

Ohio Retailers:

- Retailer A:
  - Make them more aware or offer the retailers something in return for participating.
  - To give our customers the best possible shopping experience. I think it's a wise business move to provide as many options as possible, plus I believe in energy conservation.
- Retailer B:
  - Retailer B does it as a whole, so my store does it as well. Wise business move, service to the customers and helps reduce energy consumption
  - Giving the customer more options. I think energy reduction is important, and everyone likes to save money.
  - It is a company program. Personally, I think anything that can be done to save energy is great, so I fully support the program.
  - All Retailer B stores are involved.
  - Good to save energy and work with Duke to reduce costs, and we can carry their products and get good publicity.
  - Satisfying customers.… We do it to provide the best service possible to our customers.

  - To offer the customers a wider variety of products at the best possible prices. It is a company-wide initiative. It provides a service to our customers and I believe in it professionally.

- Retailer C:
  - To offer the customers a wider variety of products. I think it is a good idea to sell energy efficient products.
- Retailer E:
  - Energy savings for the customer
  - It's a company program. I believe it provides better service to our customers by offering them more products.
  - It's required
  - Mandatory. I think it is always good to give customers more choices and rebates always encourage people to purchase things, especially those that can save them money immediately and in the long run.

Impact of Participation on Business

We also asked the retailers if the program has made any difference in their businesses. Many think that their participation in this program has increased the stores' traffic and customer satisfaction.

Kentucky:

- Very seldom do people buy something else in addition to the bulbs
- Yes, picks up business during the slow times of the year
- Brought new people in, yes, driving in more traffic
- Yes and no, increases traffic flow from people looking for bulbs but nothing else
- Yes, bringing in more customers

Ohio:

- We're selling a lot of the CFLs with the coupons, it boosted the sales for a while
- Boost in light bulb business
- Keeping customers satisfied.
- Increased sales
- We are able to sell a product at a cheaper price than we'd otherwise be able to.
- Good PR, keeping our customer's satisfied and involved in a program that is energy conscious
- Increased options for our customers therefore increased sales.
- The perception that we offer the products and participate.
- It shows we are energy conscious
- More options for the customers which leads to increased customer satisfaction.
- A wider variety of products for our customers

Retailers Promoting the Program to Customers

After retailers agree to participate in the program, they are free to promote the CFLs as they wish. We asked the retailers how they make their customers aware of the program and the CFLs offered. The responses are below:

Kentucky:

- If they don't see the information and they ask about a normal bulb we show them the CFLs and the program and tell them about it
- Advertise it in local paper and point of sale in the store, lots of signage
- Right at the front door so they can see it when they come in
- Signage, advertisement

Ohio:

- Retailer A:
  - I let the customers know that they can purchase better, longer lasting light bulbs for less money through the program.
  - I make sure our employees are up to date on the program and answer any questions customers may have about it.
  - Inform them verbally and mail things to frequent customers.
- Retailer B:
  - If I am asked a question pertaining to lighting, I inform them about the program. Otherwise I remind my employees to do the same.
  - Promotions and literature, in the store and mailed to customers
  - Eligibility is not an issue, and I simply tell them about the program and the bulbs.
  - My employees and I tell them upon any inquiries.
  - Unless approached, I don't introduce it to customers. I make the employees aware so they can tell the customers; otherwise I believe we mail something out to certain customers.
  - We sell the products that Duke is pushing and we use them in the store as well. We have signs around the store directing people. We mail things directly to the customers or sometimes just promote the visibility of the products.
  - Unless approached, I do very little to introduce the program. I make sure all employees are aware of it and in turn are able to answer customers' questions.
  - Signs and flyers
  - If I am questioned about it or about lighting in general, I briefly mention that such a program exists and tell the customer where to find more information if they so desire.
  - There was a lot of marketing and promotion initially but it has declined since then.
- Retailer C:
  - Explain the products and program.
- Retailer E:
  - They get the mailer so they know about it

- Signage and put them up front
- I tell the customers about the differences between incandescent and compact fluorescent bulbs, the savings they receive instantly as well as that they will save money on their energy bills.
- I inform them the program exists if they ask anything related; otherwise the employees handle their questions.
- Through the mail and through our employees engaging in conversation with them.

The retailers told us about how they market and/or display the CFLs and Energy Star products. Most of the retailers do some kind of special advertising or displays for these products. Ohio Retailer B managers all stated that they do not do any kind of special advertising or displays for these products.

Kentucky:

- Set them aside separate from the other bulbs so it's the first thing they see
- Put up all the signage and make our own signs, put them on endcaps
- Put it right up front in easy line of sight
- We use more direct advertising methods such as radio and newspaper advertising

Ohio:

- Retailer A:
  - Yes, by offering a rebate and grouping them all together so they are more noticeable.
- Retailer C:
  - They are all grouped together and are more noticeable, plus we offer the rebate.
- Retailer E:
  - Energy star logo is on the label for it, occasionally an ad for them but not too often
  - Just put them up front
  - We offer a rebate and make them more noticeable.
  - Yes, the rebate makes them easier to market. Also, we have them all grouped together and close to regular incandescent light bulbs so people can see the difference

All but one of the Kentucky retailers indicated that they would still offer the energy efficient options if the program were discontinued, however, most believe that the program is still needed (Four were not sure). Their reasons they believe the program is still needed are below:

Kentucky:

- As long as the customers feel like they're saving money by buying the bulbs it's still needed.

- It's a good program to help the customer save energy in the long term and we need to save energy in this country. Right for the customer, the country, and business.
- The people won't buy the energy efficient bulbs unless they're close to the price of the other bulbs.
- People come back every year asking when light bulbs are on sale, customers want it.
- Still many people unaware of the need for energy conservation

Ohio:

- I think we need to continue to promote energy awareness and energy conservation on all possible fronts.
- Until people are aware of the good that they can do for them, they need people to show them. Once everyone knows what they are and can do, it won't be necessary
- People are looking for eco options and any way to save money
- Not sure. I don't know if it convinces people to buy the bulbs if they had no original intent to do so.
- It encourages people to buy energy efficient bulbs, which in turn increases their knowledge of energy conservation and may encourage them to look into other means of energy efficiency.
- Energy is still in short supply and every little bit helps
- Most likely, because there is still an energy crisis
- Yes, energy is still in short supply
- It's always beneficial to save energy.
- Yes. It saves energy.

Customer Awareness and Satisfaction

Kentucky retailers estimate that 50-90% (mean=60%) of their customers are aware of the program when they enter the store, and that 40-80% (mean=65%) of them take advantage of the savings offered through the program's coupon.

Ohio retailers estimate that 0-100% (mean=40%) of their customers are aware of the program when they enter the store, and that 60-90% (mean=78%) of them take advantage of the savings offered through the program's coupon.

All retailers stated that the customers are satisfied with the CFLs, with the exception of one stating that there are some concerns over the mercury content.

Retailer Recruitment

The retailers offered suggestions for recruiting more stores to participate in the program. The responses center around increased advertising and more signage that details the benefits of CFLs:

Kentucky:

- Magazine advertising
- Have Duke program staff go out and meet one on one with store managers
- Just ask them

Ohio:

- By making more retailers aware or by offering them some sort of rebate.
- Tell more of them about it
- Offer retailers some sort of incentive
- Contact more of them or offer rebates to the retailers
- With the energy crunch, I think more and more retailers will jump on the wagon.
- Make it more well known
- Increased or improved marketing
- Offer them something in return.
- It will happen as energy savings becomes more public and demand increases
- If they marketed it to more retailers I'm sure they would get more participation
- Maybe get rid of the rebates and just charge less right off the bat

Marketing Materials

All Kentucky retailers indicated that they have and have had enough marketing materials to properly promote the program. Most Ohio retailers agreed, however, when asked a few retailers offered suggestions for other materials that would be helpful. Their responses include:

- We could use more [product information], then I would have less to explain, although that may be a biased answer. Signs or graphics that explain the difference and give an actual idea of money/energy saved over some period of time. (Retailer A)
- We could use a little more [advertising] right on the actual shelf space. (Retailer B)
- Some sort of graphic displaying actual savings would be a good way to show customers tangible savings. (Retailer E)

What Works Well

Retailers were asked to indicate what they thought works well about the CFL/Energy Star promotion. All of the retailers are happy with the program and offered the following responses as to what they thought worked well:

Kentucky:

- The people are getting a good product for their money and getting the point of sale advertising, people are saving money and energy
- So inexpensive and people realize the savings
- Works because it gets people to try it and then they continue using

Ohio:

- Retailer A:

  - People always are enticed to at least consider something with a rebate.
  - It saves money.
- Retailer B:
  - It saves people money as well as helps reduce the burden on energy companies and natural resources
  - The fact that people can purchase several energy saving bulbs cheaper than a regular bulb saves them money instantly as well as on bills.
  - It is an above average product at a below average price.
  - It saves the customers money.
  - It helps people save money and energy and it shows that Duke actually cares about saving energy.
  - Money is offered back on a superior product.
- Retailer C:
  - It offers customers money back on a money saving product.
- Retailer E:
  - They send it to their house, it's a piece of mail all on its own and it's immediate
  - Savings that it gives the customer
  - It offers the customers money back on a money and energy-saving product.
  - It is a step in the right direction concerning energy conservation.
  - The bulbs actually are energy efficient and the fact that there is a rebate is encouraging.

Suggested Changes To the Program

Even though the retailers are generally happy with the program and its offerings, operations, and impact on their business, they did have suggestions for improving the program. Retailers were asked to suggest changes to the program, their responses include:

Kentucky:

- Make the customers aware of how to get replacement bulbs when they're defective before they're supposed to be
- Putting it in a commercial would really help
- More advertising and promotion

Ohio:

- Offer instant rebates. (Retailer B)
- A place to dispose of the bulbs to prevent mercury contamination. (Retailer B)
- Offer different wattages and do it for a longer period of time each year. (Retailer E)

Retailers' Experiences with Duke Energy

All the retailers expressed that their communications with Duke Energy have been satisfactory and none of them could offer any suggestions for improvement.

Limitations of Promotion

The program experienced a minor and limited amount of coupon abuse. For example, a customer can use a self-check-out lane and not hand in the coupon to the cashier. When this occurs the coupon is not bundled and shipped to Duke Energy for updating participant records. If the customer then re-uses the same coupon this can result in the purchase of more bulbs than intended by the program to a single individual. However, the occurrence of this can be documented by comparing the sales records with the participant records. To date this has not been a significant problem for the program and corrective action is not recommended unless this becomes more of an issue.

Items Promoted Through the Program

One change that Duke Energy may want to research is expanding the types of CFLs that they are promoting. At the current time only the standard sized "curly que" are offered. However, specialty lamps may be another part of the market that has potential, such as the LED Christmas lights. Another option is to look into residential CFL fixtures (not bulbs). Any of these new products will have to be evaluated for their cost effectiveness and market potential before the campaigns can be planned and organized.

All of the Kentucky Retailers that were interviewed felt that the proper technologies were being offered through the program, and did not suggest that there were any inappropriate technologies included. However, one did suggest that high efficiency ballasts with high efficient bulbs be included in the program offerings.

Four out of five of the Kentucky retailers reported that they have heard some customer complaints about the program and the CFLs offered. These include:

- Someone buys the bulb and it doesn't last as long as it's supposed to and people don't know what to do to get it replaced
- People questioning on what to do to dispose of the light bulbs
- Some don't like the slight hesitation of the light coming on
- Some bulbs have been dying early, brought back in a couple months

All of the Ohio Retailers that were interviewed felt that the proper technologies were being offered through the program, and did not suggest that there were any inappropriate technologies included. However, two retailers (Retailer C, Retailer E) did suggest that faucet aerators be included in the program offerings. A Retailer E manager suggested that the program expand its CFL offerings and include dimmable bulbs.

Seven out of sixteen of the Ohio retailers reported that they have heard customer complaints about the CFLs offered. These include:

- Retailer B:
  - Some worry about the mercury in the bulbs, but minimally.
  - Some customers have issues with the fact that the CFLs contain mercury
  - The bulbs contain mercury.
  - Mercury in the bulbs.
  - I have heard some customers raise concerns over the mercury in the CFLs
- CFLs contain mercury (Retailer C)
- Some customers are uneasy over the fact that the CFLs contain mercury (Retailer E)

Retrieving Program Information

The interactions between program staff and retailers are working pretty well. However, one program manager suggested that it would be nice if there could be more shared information in real time about the rebate processing. It can be difficult to get information from some of the retailers either because they don't have the technology in place to give real time feedback, or they are not willing to share the data. The national retailers are getting many requests from utility companies; they may have 30-40 utilities asking them to process rebates. While standardization within the retailers about how the rebates need to be processed would be ideal, this does not seem to be a feasible venture for Duke Energy. This is a Duke Energy program that is asking the retailers for implementation assistance. To place additional costs or burdens on the retailer by asking them to adapt to a different standard approach may not be in the best interests of the program.

Program Training

Currently there is no program training mechanism associated with this program. The program's campaigns are planned and negotiated directly with the retailers. The retailers then provide training to their employees on how to process the rebates. Retailer training is not recommended; it would be very time-consuming, costly, and can be met with resistance from the retailers, each of which have their own way of running their stores.

Program Promotion

Duke Energy is working on refining their program targeting by using market information from GE and purchased customer data from the Nielson Group.

Retailer versus Manufacturer Rebate Coupons

The program could be made more efficient if it were possible to have a manufacturer's coupon that worked in any retail store. At the current time retailer's operational issues do not allow for a universal coupon, because each retailer has specific and different barcodes for the purchase transaction, for tracking sales and for stock management, and few, if any, retailers want to handle coupons without their codes used for those transactions.

All of the Kentucky Retailers feel that the coupon levels are appropriate and customers are responding to the program. Each of the retailers was asked questions pertaining to the

level of the rebate and the impact of the coupon on customer choice decisions. The retailer provided the following responses:

- Yes [the coupon amounts are fine] and yes [they change customer behavior]
- Yes, they definitely influences people buying more efficient bulbs
- Yes, it's a no brainer for them [to make this decision]
- Yes they work
- Yes, this makes the sale

All of the Ohio Retailers also feel that the coupon levels are appropriate and customers are responding to the program. They provided the following responses:

- Yes, it's a great deal for them. They are eager to save money, especially on something that will last longer than a regular bulb.
- Yes
- Yes
- Yes. It makes them more willing to try them especially if they are initially skeptical.
- I think so. They encourage them to try the product.
- Yes. Most are willing to try them out at such a cheap price
- Yes. Most buy the CFLs once they hear of the program.
- Yes. I think any rebate encourages customers to buy a product.
- Yes. I imagine they encourage them to buy the energy efficient light bulbs.
- Yes. Rebates are always encouraging.
- I think so, yes. Those initially skeptical are more willing to try something new.
- Yes. They increase the likelihood that they will buy the CFLs.

Section 2: Impact Evaluation of the Wal-Mart CFL Promotion

The savings presented in this section were calculated using Wal-Mart CFL Redeemer Survey Data and Wal-Mart In-Store Purchases Survey Data. The total gross savings based on these two surveys is 221,351 kWh/year. After adjusting for freeridership and free drivers (spillover), the net savings are 200,544 kWh/year. The findings are described below.

Free Riders and Free Drivers

Based on survey responses, 23% of purchases made by those participating in the Wal-Mart In-Store Purchases survey were due to free riders, which are people that intended to purchase CFLs before learning of the program, so they took the "free ride" by using the coupons and saving money, while 13% of purchases were made due to free drivers: purchases made beyond initial plans.

Overall Savings

Customers who returned surveys indicating their participation in the Wal-Mart CFL program (some of whom also participated in the final lighting logger study) were asked to indicate where the CFL bulbs were installed, what wattage of bulb the CFLs replaced, and approximately how many hours the bulbs were used each day. Table 4 below presents the responses from the 583 survey responses obtained from those that redeemed the CFL coupons at Wal-Mart.

Table 4. CFL Redeemer Survey: Location of Purchased Bulbs, n=583

Room	Number of Replacements in This Room	Percent of Respondents Replacing Bulb in This Room	Average Wattage of Bulb Replaced[7]	Average Self-Reported Hours bulb used[8]
Living Room	384	65.9%	70	5.09
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Bathroom	147	25.2%	63	3.19
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Dining Room	65	11.1%	63	4.21
Outside	58	9.9%	67	9.65
Hallway	56	9.6%	64	3.92
Office	43	7.4%	73	4.44
Garage	23	3.9%	79	3.34
Utility Room	14	2.4%	75	2.29
Closet	7	1.2%	66	1.29

Additionally, those participating in the Wal-Mart In-Store Purchases Survey were asked the same questions regarding CFL installation, along with the additional questions regarding their purchases at Wal-Mart.

7 From In-Store Purchase Survey. Median wattage = 60 for all locations.
8 From In-Store Purchase Survey

The total gross savings based on these two results is 207,526 kWh/year. After adjusting for freeridership and free drivers (spillover), the net savings are 188,019 kWh/year.

Gross program savings	207,526
Gross savings per bulb	67.7 kWh/year
Freeridership level	22.6%
Freedriver (spillover) level	13.2%
Net program savings = 207,526*(1-(22.6%-13.2%))	188,019 kWh/year*
Total bulbs in gross and net savings calculations	3,067
Net savings per bulb	61.3 kWh/year
Total bulbs purchased using coupons	234,552
Total program savings	14,378,038 kWh/year

Savings Grouped by Wattage and Bulb Type

Mean kWh/year savings were also calculated based on the Wal-Mart CFL Redeemer and In-Store Purchases survey responses. Based on the eight locations reported from the four wattage categories, the following were the mean energy savings for each category:

Table 5

Mean kWh/year per bulb savings by wattage of bulb replaced and bulb location					
	Wattage of Old Bulb				
Bulb Location	≤ 25	≤ 60	≤ 90	>90	Total
basement	23	52	71	83	66
bathroom	8	33	47	58	37
bedroom		32	42	56	37
dining room	11	50	60	81	54
downstairs		59			59
kitchen	21	82	107	141	94
living room	18	83	102	139	100
other		33		54	43

A more detailed table describing frequency of bulb replacement by location and wattage can be found in Appendix 2.

Characteristics of Wal-Mart CFL Promotion Participants

A logit model analysis was also performed on demographic and usage characteristics of the customers participating in the Wal-Mart CFL promotion. The model compared characteristics of participants in the Wal-Mart CFL promotion to a random sample of equal size. The demographics of these customers are presented later in this report. The demographic variables included in the model were:

1. Head of Household Age
2. Family Income Detector

3. Likelihood Home is Owned or Rented
4. Length of Residence in Years
5. Delivery Unit Size
6. Number of Children
7. Number of Named Adults
8. Sale Price of Home
9. Early Internet Adopter Model
10. Wealthfinder Code
11. Revolver Minimum Payment Model

The usage variables included in the model were:

12-23: Electricity usage from 2007. Jan. to Dec.
24. Total sum of monthly usage
25: Average monthly usage (total usage / 12)
26: Summer total usage: sum of monthly usage from June to Sep.
27. Winter total usage: sum of monthly usage from Nov. to Feb.
28: Average summer usage
29: Average winter usage

The model used a log transformation of the dependent variable (participation in the program), and then an OLS (ordinary least squares) regression was run against the independent variables. Based on this model, nine significant drivers were found to affect the likelihood that a customer will participate in the CFL program, at a p value of .05. The significances are shown in the table below. For the distribution of customer characteristics for the significant variables (below), see Appendix 8.

A more negative estimate means a lower value of the parameter indicates a customer who may be interested in participating, while a more positive parameter means a higher value of the variable indicates a customer who may be interested in participating in the program. For example, "head of household age" has a positive estimate (0.7958) suggesting the older the head of household, the more likely a customer would be interested in participating. Meanwhile, "sale price of home" has a negative estimate (-0.00119), suggesting that the lower the sale price of a customer's home, the more likely they are to be interested in participating. Finally, an estimate closer to zero, such as "family income", suggests that even though this variable is important, higher or lower values do not as strongly indicate a customer's willingness to participate in the program.

Table 6. Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr>ChiSq	Standardized Estimate
Intercept	1	-1.6304	0.1053	239.8614	<.0001	
December Usage	1	0.000098	0.000028	11.8677	0.0006	0.0451
Head of Household Age	1	0.7968	0.0621	164.4861	<.0001	0.2103
Family Income	1	1.63E-06	6.42E-07	6.4581	0.011	0.0487

Own Home	1	0.7533	0.0616	149.2984	<.0001	0.1496
"Permanent" Resident	1	0.1275	0.0475	7.2081	0.0073	0.0326
"New" Resident	1	0.1602	0.0478	11.2301	0.0008	0.0405
Number of Adults	1	0.0984	0.0187	27.8287	<.0001	0.0605
Sale price of home	1	-0.00119	0.000272	19.0643	<.0001	-0.0662
Frequency of Internet Use	1	0.0554	0.0121	20.8766	<.0001	0.0824
Revolves Credit Card Payments	1	0.109	0.0537	4.1125	0.0426	0.03

Customers who were more interested in participating tended to exhibit one or more of the following characteristics:

1. **Higher Usage –** Customers who lived in a household with high usage in December were more likely to be interested in participating.
2. **Head of Household Age greater than 57 -** Customers who were head of household and 57 or older were more likely to be interested in participating.
3. **Higher Family Income -** Customers with higher household incomes tend to be more interested in participating in the program.
4. **Owning a home** – Customers who owned their home tended to be more interested in participating in the program.
5. **Either a permanent resident or a newcomer –** Customers who had been a resident for 6 years or less, or customers who had been a resident for more than 21 years tended to be more interested in participating in the program.
6. **Higher number of adults in household –** The more adults in a customer's home, the more likely the customer would be interested in participating in the program.
7. **Lower sale price of units –** The lower the sale price of the unit, the more likely that the customer was interested in participating in the program. This indicates that energy efficiency is not a main issue for luxury/expensive homes.
8. **Frequent internet user –** Frequent internet users (suggesting users more familiar with technology) tended to be more interested in participating in the program.
9. **Revolves credit card payment –** Customers who tend to revolve credit card payment were more likely to be interested in participating in the program. (Revolving credit card payments involves making the minimum payment rather than paying in full each month. Customers are ranked from 1 (most likely) to 10 (less likely) based on their raw score for revolving monthly payments.)

Based on this information, there are many ways in which customers could be targeted for this program. For example, anyone who has just created a new account with Duke Energy could be sent an invitation to participate in this program with their confirmation of account or their first bill. Second, neighborhoods with lower sale price of units may also be the location of units with high energy usage, and customers in these neighborhoods were found to be more likely to be interested in participating in the program. Similarly, identification of customers who have a higher family income may also identify customers who have a higher number of adults in their household, both of

which were characteristics of customers who tended to be more interested in participating in the program. These are just some of the ways in which customers could be targeted for future CFL programs.

Section 3: Initial Lighting Logger Study

CFL Placement and Wattage of Bulbs Replaced

Over one third (37.5%) of the bulbs logged were GE brand. Most of the bulbs logged were randomly placed in either the bathroom, kitchen, living room, or one bedroom. Almost one third of the fixtures logged were a ceiling fixture (31.3%). Almost all (80%) of the bulbs logged were incandescent. Over one third of the bulbs logged (38.1%) were 60 watts.

Brand of Logged Bulb – 2007

	Count	%
GE	60	37.5%
Unknown	43	26.9%
Sylvania	24	15.0%
WestH	7	4.4%
Phillips	6	3.8%
Marathon	4	2.5%
Nvision	3	1.9%
DuraMax	2	1.3%
Miser	2	1.3%
Niagra	2	1.3%
Comm Serv	1	.6%
Do It	1	.6%
Greenlite	1	.6%
Mini Spiral	1	.6%
Polaroid	1	.6%
Sunbeam	1	.6%
Supreme	1	.6%
Total	160	100.0%

Location of Bulb – 2007

	Count	%
Bathroom	29	18.1%
Kitchen	23	14.4%
Living Room	22	13.8%
Bedroom 1	21	13.1%
Family Room	15	9.4%
Hall	13	8.1%
Basement	9	5.6%
Bedroom 2	6	3.8%
Office	5	3.1%
Dining Room	3	1.9%
Entryway	3	1.9%
Laundry Room	3	1.9%
Bedroom 3	2	1.3%
Bathroom/Basement	1	.6%
Closet	1	.6%
Front Porch	1	.6%
Master Bedroom Closet	1	.6%
Porch	1	.6%
Rear Entry	1	.6%
Entry Way	0	.0%
Total	160	100.0%

Type of Fixture Logged – 2007

	Count	%
Ceiling	50	31.3%
Table lamp	40	25.0%
Wall	25	15.6%
Ceiling Fan	22	13.8%
Floor lamp	9	5.6%
Ceiling Can	7	4.4%
Track	3	1.9%
Can	1	.6%
Chandelier	1	.6%
End Table	1	.6%

Outdoor Wall	1	.6%
Total	160	100.0%

Wattage – 2007

	Count	%
60	61	38.1%
40	27	16.9%
75	21	13.1%
100	12	7.5%
50-100-150	6	3.8%
13	5	3.1%
23	5	3.1%
65	5	3.1%
25	4	2.5%
14	3	1.9%
26	3	1.9%
30-70-100	2	1.3%
Unknown	2	1.3%
15	1	.6%
50	1	.6%
120	1	.6%
50-75-100	1	.6%
Total	160	100.0%

Bulb Type – 2007

	Count	%
Incandescent	128	80.0%
CFL	17	10.6%
Fluorescent	7	4.4%
Flood	7	4.4%
Candle	1	.6%
Total	160	100.0%

Initial Lighting Logger Study – Premeasure Survey

This survey was given to participants in the November 2007 lighting logger study after the loggers were in place. There were 41 participants in the November lighting logger study, and the same number of surveys returned. This survey was given at the very start of the Wal-Mart CFL promotion.

Performance Ratings

Over half (52.5%) of the participants surveyed stated they received coupons in the mail. As is described in Section 1 and Appendix 6, the mailer contains 4 coupons each good for a 3-pack of GE CFL bulbs. Nearly all of the respondents DID NOT purchase any CFLs with the coupon (91.2%), but only 54.8% state they would have purchased 0 CFLs without the coupon. This suggests that some customers were not motivated by the coupon to purchase CFLs, but were planning on purchasing CFLs regardless of receiving the coupon, possibly at another store.

	No	Yes	Total
Did you receive coupons in the mail from Duke/GE/Wal-Mart for CFL bulbs?	19 47.5%	21 52.5%	40 100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
How many CFLs did you purchase with the coupon?	31 91.2%	1 2.9%	0 .0%	1 2.9%	0 .0%	0 .0%	0 .0%	1 2.9%	34 100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
How many bulbs would you have purchased without the coupon?	17 54.8%	2 6.5%	1 3.2%	0 .0%	0 .0%	3 9.7%	4 12.9%	4 12.9%	31 100.0%

Continued purchase of CFLs after the coupon promotion has ended may be dependent on the actual cost of the CFL. Bulb cost seems to significantly decrease a customer's willingness to purchase a CFL if the bulb costs between $1 and $2 more than a standard bulb. Over twice as many customers will not purchase a bulb that is $2 more than a standard bulb than will not purchase a bulb that is $1 more than a standard bulb. Raising the price to $3 more than a standard bulb does not seem to have an additional significant effect. In addition, about ¾ of customers would be willing to purchase one or more CFLs if the bulbs were free with a mail-in rebate.

How many CFLs would you purchase if they were:

	0	1-2	3	4	5	6	7-11	12+	Total
… the same price as a standard	4	3	0	5	1	3	5	14	35

bulb	11.4%	8.6%	.0%	14.3%	2.9%	8.6%	14.3%	40.0%	100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
… $1.00 more than a standard bulb	5	6	0	4	4	4	4	6	33
	15.2%	18.2%	.0%	12.1%	12.1%	12.1%	12.1%	18.2%	100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
… $2.00 more than a standard bulb	11	5	3	2	2	3	2	4	32
	34.4%	15.6%	9.4%	6.3%	6.3%	9.4%	6.3%	12.5%	100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
… $3.00 more than a standard bulb	14	7	2	2	1	2	0	3	31
	45.2%	22.6%	6.5%	6.5%	3.2%	6.5%	.0%	9.7%	100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
… free with mail-in rebate	8	2	1	2	2	4	3	13	35
	22.9%	5.7%	2.9%	5.7%	5.7%	11.4%	8.6%	37.1%	100.0%

Bulb Installation

Of the customers who bought bulbs, almost 40% state that they did not install any of the bulbs they purchased. Over 2/3 of customers (68%) replaced a standard bulb with a CFL. The most frequent wattage of the bulb replaced was 60 watts.

Of the bulbs you bought:

	0	1-2	3	4	5	6	7-11	12+	Total
How many did you install?	11	4	2	2	1	1	4	4	29
	37.9%	13.8%	6.9%	6.9%	3.4%	3.4%	13.8%	13.8%	100.0%

	No	Yes	Total
Did you replace a standard bulb with a CFL?	8	17	25
	32.0%	68.0%	100.0%

	40	60	75	100 or g	Total
What was the typical wattage of the bulb that was replaced?	2	10	8	1	21
	9.5%	47.6%	38.1%	4.8%	100.0%

No customers stated they changed their usage since installing the CFLs, but one customer stated that his or her usage was decreased.

	No	Yes	Total
Did you change the hours of use since installing the CFLs?	22 100.0%	0 .0%	22 100.0%

	Decrease	Increase	Total
If yes – how did your usage change?	1 100.0%	0 .0%	1 100.0%

Over 40% of customers stated that the bulbs they installed get 3 – 4 average hours of use. Almost all (86.4%) customers did not remove the CFLs they installed, but those that did stated equally that they did not like the light, or had some other concern (42.9% each), with one customer noting the bulb was too slow to start. Although customers did not feel brightness was an issue for them, informing customers either through enclosures with the coupon or in-store advertising about the hotter and cooler shades of CFL bulbs available may help customers to choose a type of CFL light that they prefer.

	<1	1-2	3-4	5-9	10-12	13-24	Total
On average, about how many hours do you use each bulb?	2 9.1%	4 18.2%	9 40.9%	5 22.7%	1 4.5%	1 4.5%	22 100.0%

	No	Yes	Total
Did you remove any of the CFLs you installed?	19 86.4%	3 13.6%	22 100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
If yes, how many did you remove?	7 70.0%	3 30.0%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%	10 100.0%

	Did not like the light	Not bright enough	Too slow to start	Other	Total
Why did you remove them?	3 42.9%	0 .0%	1 14.3%	3 42.9%	7 100.0%

Of the bulbs purchased, 57.1% of customers stated that they stored 1-2 bulbs for later use.

	1-2	3	4	5	6	7-11	12+	Total

Of the bulbs purchased, how many did you store for a later time?	8	2	1	0	2	0	1	14
	57.1%	14.3%	7.1%	.0%	14.3%	.0%	7.1%	100.0%

95% of customers have NOT bought additional CFLs at retail price since buying CFLs through the Duke Energy program. This suggests that the coupons were a motivating factor in encouraging customers to purchase the CFLs, which is supported by the previous finding that 54.8% of customers would have purchased 0 bulbs without the coupon. As previously stated, the retail price of the CFL as compared to the standard bulb may have had an effect on the customer's willingness to purchase additional bulbs as well. The single customer that did buy additional bulbs purchased 7-11 bulbs.

	No	Yes	Total
Have you bought any CFLs for retail price after buying these CFLs through the Duke program?	23	1	24
	95.8%	4.2%	100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
If yes, how many did you purchase?	0	0	0	0	0	0	1	0	1
	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	100.0%

	Not at a	Somewhat	Very Sat	Total
Overall, how satisfied are you with the CFLs?	2	7	11	20
	10.0%	35.0%	55.0%	100.0%

Over half (55%) of respondents state that they were very satisfied with the CFLs, and even more respondents (60%) stated that they had CFLs previously in their home. One third (33.3%) of these respondents had 4 CFLs in their home previously.

	No	Yes	Total
Did you have any CFLs in your house before you bought these discounted CFLs?	8	12	20
	40.0%	60.0%	100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
If yes, how many?	0	3	0	4	0	2	1	2	12
	.0%	25.0%	.0%	33.3%	.0%	16.7%	8.3%	16.7%	100.0%

Three quarters of customers (75%) had knowledge of CFLs before receiving the coupon. Over half (55.6%) of customers were planning on buying CFLs before learning of the promotion. A majority of the customers stated that the promotion did not lead them to buy any more CFLs than they were already planning on purchasing.

	No	Yes	Total
Were you aware of CFLs before you received your coupons?	7 25.0%	21 75.0%	28 100.0%

	No	Yes	Total
If yes, were you planning on buying CFLs before you saw the promotion?	12 44.4%	15 55.6%	27 100.0%

	No	Yes	Total
If yes, did the promotion lead you to buy more CFLs than you were planning?	15 65.2%	8 34.8%	23 100.0%

	0	1-2	3	4	5	6	7-11	12+	Total
If yes, how many more did you purchase?	0 .0%	0 .0%	1 25.0%	1 25.0%	0 .0%	1 25.0%	1 25.0%	0 .0%	4 100.0%

General Lighting Characteristics and Usage Estimates

Customers also stated the characteristics of the lighting in their homes, including fixture type, number of fixtures, and hours used. The room lighted most often on average was the kitchen, with an average estimated fixture use of 5.85 hours. The room lighted least often on average was the entryway, with an average estimated fixture use of 1.11 hours.

Descriptive Statistics

	Mean	N	Minimum	Maximum	Std. Deviation
Bathroom Hours	2.78	39	0.5	15	2.64
Bathroom Fixtures	1.75	37	0	6	1.47
Basement Hours	3.20	29	0	13	3.57
Basement Fixtures	3	27	0	8	2.02
Bedroom Hours 1	2.85	41	0.5	10	2.19
Bedroom Fixtures 1	1.79	38	0	4	0.99
Bedroom Hours 2	2.07	28	0	8	2.20
Bedroom Fixtures 2	1.48	25	1	3	0.65
Bedroom Hours 3	2.36	16	0	8	2.43

Bedroom Fixtures 3	1.5	14	1	3	0.76
Bedroom Hours 4	3.63	8	0	12	4.20
Bedroom Fixtures 4	1.5	8	1	3	0.76
Dining Room Hours	3.55	29	0	15	3.50
Dining Room Fixtures	1.19	26	1	3	0.49
Entryway Hours	3.14	30	0	24	4.44
Entryway Fixtures	1.11	28	0	3	0.50
Hall Hours	2.46	31	0	12	3.19
Hall Fixtures	1.54	28	0	6	1.23
Kitchen Hours	5.85	39	1	24	4.32
Kitchen Fixtures	2.35	37	0	10	2.06
Family Room Hours	5.21	28	0	15	3.55
Family Room Fixtures	3.27	26	0	14	2.96
Porch Hours	4.20	27	0	24	5.58
Porch Fixtures	1.15	26	0	4	0.73
Other Hours 1	4.93	7	0	12	5.10
Other Fixtures 1	1.43	7	0	3	0.98
Other Hours 2		0			
Other Fixtures 2		0			

Hours of Use By Room

Customers were asked to "please state below the number of hours, on average, you use your lighting in the following rooms":

Bathroom:

The bathroom was lighted most frequently for 2 hours (30.8%), with just over half of the bathrooms (54.1%) having one fixture.

Bathroom Fixtures		
Hours Used	Count	%
.5	2	5.1%
1	10	25.6%
2	12	30.8%
3	6	15.4%
3.5	1	2.6%
4	4	10.3%
5	1	2.6%
8	2	5.1%
15	1	2.6%
Total	39	100.0%

Bathroom Fixtures		
Number	Count	%
0	1	2.7%
.25	1	2.7%
1	20	54.1%
2	11	29.7%
5	1	2.7%
5.5	1	2.7%
6	2	5.4%
Total	37	100.0%

Basement:
25.9% of customers stated that they use their basement lighting for two hours. Almost a quarter (24.1%) of customers had one fixture in their basement.

Basement Fixtures		
Number	Count	%
0	2	7.4%
1	4	14.8%
2	7	25.9%
3	5	18.5%
4	3	11.1%
5	3	11.1%
6	1	3.7%
7	1	3.7%
8	1	3.7%
Total	27	100.0%

Basement Fixtures		
Hours Used	Count	%
0	3	10.3%
.25	1	3.4%
.5	4	13.8%
1	7	24.1%
2	2	6.9%
3	1	3.4%
4	2	6.9%
4.5	1	3.4%
5	2	6.9%
6	1	3.4%
7	1	3.4%
8	2	6.9%
12	1	3.4%
13	1	3.4%
Total	29	100.0%

Bedroom 1:
Fixtures in the first bedroom listed were utilized for two hours in nearly one quarter of the cases (24.4%). Almost half of customers (47.4%) only have one fixture in their bedroom.

Bedroom 1		
Number	Count	%
0	1	2.6%
1	18	47.4%
2	9	23.7%
3	8	21.1%
4	2	5.3%
Total	38	100.0%

Bedroom 1		
Hours Used	Count	%
.5	3	7.3%
1	8	19.5%
1.5	3	7.3%
2	10	24.4%
3	5	12.2%
3.5	1	2.4%
4	2	4.9%
4.5	1	2.4%
5	3	7.3%
6	2	4.9%
7	1	2.4%
8	1	2.4%
10	1	2.4%
Total	41	100%

Bedroom 2:
Fixtures in the second bedroom listed were utilized for 1 hour in almost one third of the cases (28.6%). Almost two thirds of customers reported having only one fixture in the second bedroom they listed (60.0%)

Bedroom 2		
Hours Used	Count	%
0	5	17.9%
.5	3	10.7%
1	8	28.6%
1.5	1	3.6%
2	2	7.1%
2.5	1	3.6%
3	1	3.6%
3.5	1	3.6%
4	2	7.1%
6	3	10.7%
8	1	3.6%
Total	28	100.0%

Bedroom 2 Fixtures		
Number	Count	%
1	15	60.0%
2	8	32.0%
3	2	8.0%
Total	25	100.0%

Bedroom 3:
The third bedroom listed by customers was used for one hour by nearly one third of customers (31.3%). Almost two thirds of customers also reported having 1 fixture in the third bedroom listed (64.3%).

Bedroom 3 Fixtures		
Hours Used	Count	%
0	2	12.5%
.25	1	6.3%
.5	1	6.3%
1	5	31.3%
2.5	1	6.3%
3	2	12.5%
3.5	1	6.3%
6	2	12.5%
8	1	6.3%
Total	16	100.0%

Bedroom 3 Fixtures		
Number	Count	%
1	9	64.3%
2	3	21.4%
3	2	14.3%
Total	14	100.0%

Bedroom 4:
The fourth bedroom listed by customers typically had one fixture (63.5%), which was not consistently used for any particular length of time (12.5% for all).

Bedroom 4 Fixtures		
Hours Used	Count	%
0	1	12.5%
.5	1	12.5%
1	1	12.5%
2	1	12.5%
2.5	1	12.5%
3	1	12.5%
8	1	12.5%
12	1	12.5%
Total	8	100.0%

Bedroom 4 Fixtures		
Number	Count	%
1	5	62.5%
2	2	25.0%
3	1	12.5%
Total	8	100.0%

Dining Room:
The dining room was reported to be used between .5 and one hour by 34.4% of respondents (17.2% each). Almost all respondents (84.6%) reported having one fixture in the dining room.

Dining Room Fixtures		
Hours Used	Count	%
0	1	3.4%
.5	5	17.2%
1	5	17.2%
1.5	2	6.9%
2	2	6.9%
3	1	3.4%
4	4	13.8%
5	1	3.4%
5.5	1	3.4%
6	3	10.3%
8	2	6.9%
10	1	3.4%
15	1	3.4%
Total	29	100.0%

Dining Room Fixtures		
Number	Count	%
1	22	84.6%
2	3	11.5%
3	1	3.8%
Total	26	100.0%

Entryway:
Almost a quarter of participants (23.3%) reported using their entryway lighting for one hour. Nearly all participants (85.7%) reported having only one fixture in their entryway.

Entryway Fixtures		
Hours Used	Count	%
.17	1	3.3%
.5	3	10.0%
0	2	6.7%
1	7	23.3%
2	4	13.3%
24	1	3.3%
3	3	10.0%
3.5	1	3.3%
4	4	13.3%
5	2	6.7%
7	1	3.3%
8	1	3.3%
Total	30	100.0%

Entryway Fixtures		
Number	Count	%
0	1	3.6%
1	24	85.7%
2	2	7.1%
3	1	3.6%
Total	28	100.0%

Hall:
Approximately one quarter (25.8%) of customers stated that they use their hall fixtures for one half hour, and just over two thirds of customers reported having one fixture in their hall.

Hall Fixtures		
Hours Used	Count	%
0	1	3.2%
.25	3	9.7%
.5	8	25.8%
1	6	19.4%
2	3	9.7%
3	4	12.9%
4	1	3.2%
4.5	1	3.2%
7	1	3.2%
8	1	3.2%
12	2	6.5%
Total	31	100.0%

Hall Fixtures		
Number	Count	%
0	1	3.6%
1	19	67.9%
2	5	17.9%
4	2	7.1%
6	1	3.6%
Total	28	100.0%

Kitchen:

Respondents' use of kitchen fixtures varied, with 35.8% of customers reporting that they use their fixtures for 2 hours or 6 hours (17.9% each). Over one third of respondents (37.8%) report having one fixture in their kitchen, while almost one third of respondents (29.7%) having two fixtures in their kitchen.

Kitchen Fixtures		
Hours Used	Count	%
1	1	2.6%
1.5	1	2.6%
2	7	17.9%
3	4	10.3%
4	4	10.3%
5	2	5.1%
5.5	1	2.6%
6	7	17.9%
7	2	5.1%
8	4	10.3%
9	1	2.6%
10	2	5.1%
12	1	2.6%
15	1	2.6%
24	1	2.6%
Total	39	100.0%

Kitchen Fixtures		
Number	Count	%
0	1	2.7%
1	14	37.8%
10	1	2.7%
2	11	29.7%
3	6	16.2%
4	2	5.4%
7	1	2.7%
8	1	2.7%
Total	37	100.0%

Family Room:
Approximately two thirds of customers reported having two or three fixtures in their family room (30.8% and 34.6% respectively), and over half (60.7%) of customers report using their family room fixtures between 2 and 6 hours.

Family Room Fixtures		
Hours Used	Count	%
.5	1	3.6%
0	1	3.6%
1	1	3.6%
10	1	3.6%
12	1	3.6%
15	1	3.6%
2	3	10.7%
2.5	1	3.6%
3	3	10.7%
4	4	14.3%
5	3	10.7%
6	3	10.7%
7	1	3.6%
8	2	7.1%
9	2	7.1%
Total	28	100.0%

Family Room Fixtures		
Number	Count	%
0	2	7.7%
1	2	7.7%
2	8	30.8%
3	9	34.6%
5	2	7.7%
6	1	3.8%
10	1	3.8%
14	1	3.8%
Total	26	100.0%

Porch:
Almost one fifth (18.5%) of customers report never using their porch fixture, with a similar number of customers (14.8%) reporting one hour of use. A large number of customers (76.9%) have one fixture on their porch.

Porch Fixtures		
Hours Used	Count	%
0	5	18.5%
.25	2	7.4%
.5	2	7.4%
1	4	14.8%
2	3	11.1%
4	2	7.4%
5	1	3.7%
6	1	3.7%
8	3	11.1%
11	1	3.7%
12	2	7.4%
24	1	3.7%
Total	27	100.0%

Porch Fixtures		
Number	Count	%
0	2	7.7%
1	20	76.9%
2	3	11.5%
4	1	3.8%
Total	26	100.0%

Other Fixtures:
Over one fourth of respondents report using other fixtures for 12 hours, and almost half of participants mentioned one other fixture. These fixtures included "table, driveway, backyard, lamp, overhead, table lamp" and one unnamed, unused fixture.

Other Fixtures		
Hours Used	Count	%
0	1	14.3%
.5	1	14.3%
2	1	14.3%
3	1	14.3%
5	1	14.3%
12	2	28.6%
Total	7	100.0%

Other Fixtures		
Number	Count	%
0	1	14.3%
1	3	42.9%
2	2	28.6%
3	1	14.3%
Total	7	100.0%

Customers were also asked to describe the type of lighting fixture in each room. The question was open-ended, so the responses were wide and varied. The most frequent responses are in the table below.

Bathroom Fixture Type	Wall, Ceiling
Basement Fixture Type	Ceiling
Bedroom 1 Fixture Type	Lamps
Bedroom 2 Fixture Type	Ceiling
Bedroom 3 Fixture Type	Ceiling, Lamps
Bedroom 4 Fixture Type	Lamps

Dining Room Fixture Type	Chandelier
Entryway	Ceiling
Hall	Ceiling
Kitchen	Ceiling
Family Room	Lamps
Porch	Sensor, various
Other Fixture 1	Table, various

General Information About Participant Homes

Most of the participants (63.4%) lived in a detached single family home. Over half (55.3%) of the participants' homes were built before 1959. Almost one third of the participants (30.6%) were unsure of the square footage of their home, with the most frequently reported square footage value being less than 1200 square feet (19.4%). Over half (60%) of the participants had one or two people living in their home. Three quarters of the homes (75%) use a central heating system, while almost two thirds of participants' homes (65.9%) use a central cooling system. Three quarters of participants use gas to heat their homes (75%), while even more participants (82.9%) use electric to cool their homes. Finally, almost two thirds (65.9%) of participants stated that they own their home rather than rent.

	Apartment	Condominium	Detached single family	Manufactured home	Townhouse	Total
How would you best describe the type of house in which you live?	7 17.1%	4 9.8%	26 63.4%	2 4.9%	2 4.9%	41 100.0%

	Before 1959	1960-1979	1980-1989	1990-1997	1998 - 2000	2001 or later	Total
In what year was your home built?	21 55.3%	8 21.1%	6 15.8%	1 2.6%	0 .0%	2 5.3%	38 100.0%

	< 1200	1201-1600	1601 - 1900	1901-2400	2401 - 3000	>=3001	Don't know	Total
What is the approximate square footage (heated area) of your home?	7 19.4%	6 16.7%	5 13.9%	4 11.1%	0 .0%	3 8.3%	11 30.6%	36 100.0%

	1	2	3	4	5	6	7	8 or more	Total
How many people live in your home?	12 30.0%	12 30.0%	3 7.5%	6 15.0%	7 17.5%	0 .0%	0 .0%	0 .0%	40 100.0%

	Central	Electric	Geo-thermal	Heat pump	Other	Total
Type of heating system?	30 75.0%	3 7.5%	0 .0%	3 7.5%	4 10.0%	40 100.0%

	Central	Geo-thermal	Heat pump	Window unit	Other	Total
Type of cooling system?	27 65.9%	0 .0%	2 4.9%	10 24.4%	2 4.9%	41 100.0%

	Electric	Gas	Other	Total
Primary heating fuel?	9 22.5%	30 75.0%	1 2.5%	40 100.0%

	Electric	Gas	Other	Total
Primary cooling fuel?	34 82.9%	5 12.2%	2 4.9%	41 100.0%

	Own	Rent	Total
Do you own or rent your home?	27 65.9%	14 34.1%	41 100.0%

Section 4: Wal-Mart CFL Promotion – Redeemer Survey

This survey focused on customers who, according to program tracking records, did redeem Wal-Mart CFL coupons that they received. The survey was mailed out to 1000 customers who redeemed Wal-Mart CFL coupons. 576 surveys were returned, for a 57.6% response rate.

Nearly all customers responding to the survey (99.5%) recall receiving CFL coupons in the mail. Similarly, almost all the customers did not give their coupons away (97.9%), and did use at least one coupon themselves (98.2%).

	Yes	No	Total
Do you recall receiving CFL bulb coupons from Duke Energy, for use in Wal-Mart GE bulbs?	568	3	571
	99.5%	.5%	100.0%

	Yes	No	Total
Did you give all of your coupons to someone else to use?	12	549	561
	2.1%	97.9%	100.0%

	Yes	No	Total
Did you use at least one coupon?	560	10	570
	98.2%	1.8%	100.0%

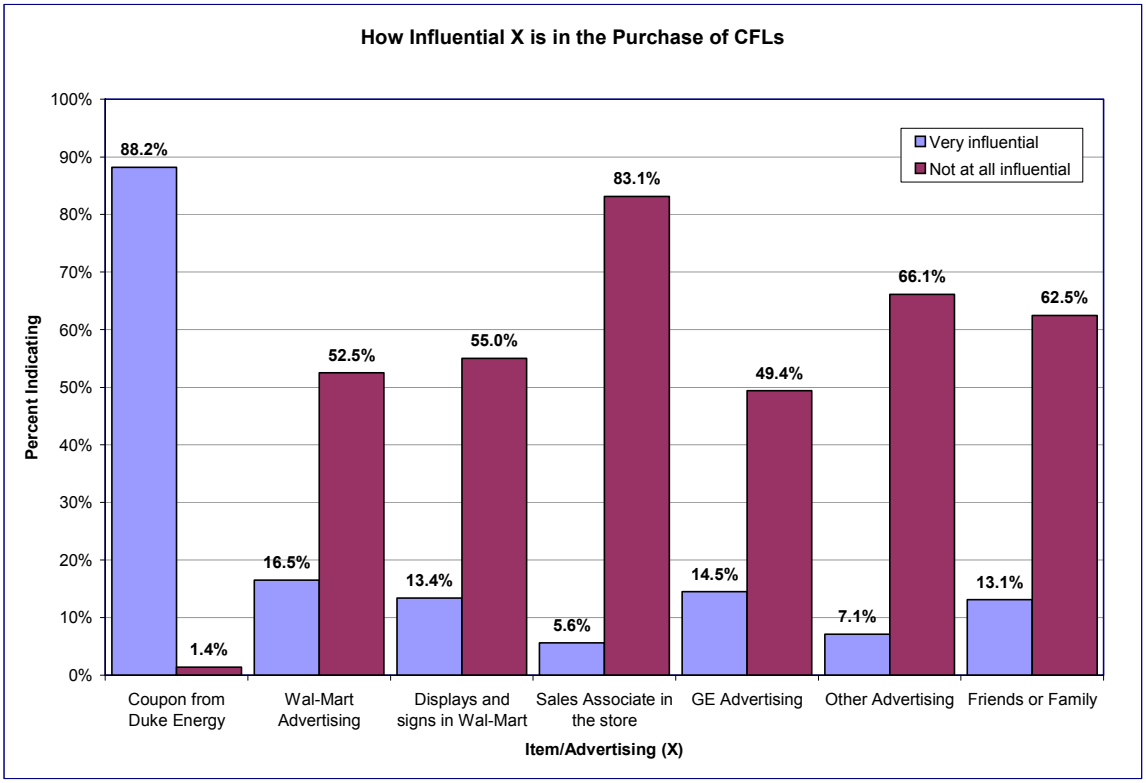
Customers found receiving the coupon from Duke Energy to be the most influential in their decision to purchase CFLs (88.2%). Over half of the customers did not find advertising, including Wal-Mart advertising, in-store advertising, sales associates, GE advertising, other advertising, and the influence of friends/family, to be influential in their decision, and rated these categories as not at all influential. The table below presents the responses, and Figure 1 shows which are not at all influential, and which were very influential in their purchase decisions.

How influential were the following in your decision to purchase CFL(s)?

	Very influential	Somewhat influential	Not at all influential	Total
Coupon from Duke Energy	491	58	8	557
	88.2%	10.4%	1.4%	100.0%
Wal-Mart Advertising	80	151	255	486
	16.5%	31.1%	52.5%	100.0%

Displays and signs in Wal-Mart	64	151	263	478
	13.4%	31.6%	55.0%	100.0%
Sales Associate in the store	26	52	384	462
	5.6%	11.3%	83.1%	100.0%
GE Advertising	68	170	232	470
	14.5%	36.2%	49.4%	100.0%
Other Advertising	33	125	308	466
	7.1%	26.8%	66.1%	100.0%
Friends or Family	62	116	297	475
	13.1%	24.4%	62.5%	100.0%

Figure 1. Influences on the Purchase of CFLs



CFL Installation

Customers purchased between 1 and 4 packs of CFLs, with the most customers stating that they purchased 2 packs (32.0%). With three bulbs in a pack, the majority of customers purchased between 6 and 10 bulbs in total (47.8%). A majority of customers state that they would not have bought any CFLs without the coupon (52.8%), and an even larger number of customers (69.8%) state that they have not purchased any additional CFLs since using the coupon. These two statements corroborate the previous statement made by customers that receiving the coupon in the mail was most influential in a participant's decision to purchase CFLs.

	0	1	2	3	4	5	6-10	11+	Total
How many CFL packs did you purchase with the Duke Energy Coupon?	0	82	180	131	108	7	45	9	562
	.0%	14.6%	32.0%	23.3%	19.2%	1.2%	8.0%	1.6%	100.0%

	0	1	2	3	4	5	6-10	11+	Total
How many CFL bulbs did you purchase in total?	1	8	30	66	40	11	266	134	556
	.2%	1.4%	5.4%	11.9%	7.2%	2.0%	47.8%	24.1%	100.0%

	0	1	2	3	4	5	6-10	11+	Total
How many CFL bulbs would you have bought without the coupon?	292	46	71	60	26	12	33	13	553
	52.8%	8.3%	12.8%	10.8%	4.7%	2.2%	6.0%	2.4%	100.0%

	0	1	2	3	4	5	6-10	11+	Total
How many CFL bulbs have you since purchased without coupons?	392	29	48	22	26	10	25	10	562
	69.8%	5.2%	8.5%	3.9%	4.6%	1.8%	4.4%	1.8%	100.0%

Close to one third of customers (29.7%) state that they currently have 6-10 CFLs installed in their homes. Nearly all customers state that they have not changed their hours of use since installing the CFLs (92.7%). Those that did change their usage state that their usage tended to increase (71.4%). Almost all customers have left their CFLs installed in their home (93.7%), and those that did remove bulbs on average removed 1-2 bulbs (86.7%).

	0	1	2	3	4	5	6-10	11+	Total
How many CFLs are now installed?	25	27	72	92	79	42	166	56	559
	4.5%	4.8%	12.9%	16.5%	14.1%	7.5%	29.7%	10.0%	100.0%

	Yes	No	Total
Did you change the hours of use since installing the CFLs?	37	472	509
	7.3%	92.7%	100.0%

	Increased usage	Decreased usage	Total
If yes, how did your usage change?	25	10	35

	71.4%	28.6%	100.0%

	Yes	No	Total
Have you removed any of the CFLs you installed?	32	474	506
	6.3%	93.7%	100.0%

	1-2	3	4	5	6	7-11	12+	Total
If yes, how many did you remove?	26	2	1	1	0	0	0	30
	86.7%	6.7%	3.3%	3.3%	.0%	.0%	.0%	100.0%

Customers most frequently stated that they removed the CFLs they installed because the light was not bright enough. The second most frequent response was that the bulbs did not work at all or did not work with a particular fixture type. Although customers stated that in-store and other advertising was not influential in their decision to purchase CFLs, these reasons for removing the CFLs suggest that some type of additional education regarding how to choose a CFL that is at the level of brightness that the customer prefers, as well as how to choose a type of CFL that is appropriate for a particular fixture, may encourage these customers to reconsider purchasing CFLs.

Why did you remove them?		Count
	Bulb broke	1
	Light flickered	2
	Burned out replaced	4
	changed 60 to 75 to make brighter	1
	did not like the light it gave off compared to regular light	1
	Bulbs did not work/Bulbs did not work with my type of fixture	7
	Not bright enough	9
	how do i dispose	1
	I plan to remove the basement light because i do not like the type of light	1
	Installed 50 first 2 wouldn't dim so I took them out	1
	removed am radio static	1
	Too bright	1

About half of the customers stated that they had CFLs in their house previously, and half stated that they did not have CFLs in their house previously. Of those that did have CFLs in their home, almost 40% had just 1-2 bulbs, while the rest of the customers were using anywhere from 3 to more than 12 bulbs.

	Yes	No	Total
Did you have any CFLs in your house before you bought these discounted CFLs?	248	271	519

	47.8%	52.2%	100.0%

	1-2	3	4	5	6	7-11	12+	Total
If yes, how many?	94	38	30	17	21	31	16	247
	38.1%	15.4%	12.1%	6.9%	8.5%	12.6%	6.5%	100.0%

Overall, customers are very satisfied with their CFLs (76.4%). Approximately half of the customers had never purchased a CFL before receiving the coupon (49.8%), again suggesting that receiving the coupon in the mail may be a strong motivating factor in the decision to purchase a CFL.

	Very satisfied	Somewhat satisfied	Not at all satisfied	Total
Overall, how satisfied are you with the CFLs?	391	108	13	512
	76.4%	21.1%	2.5%	100.0%

	Never purchased a CFL until now	A year ago	2 to 3 years ago	4 or more years ago	Total
How long have you been using CFL light bulbs?	256	134	82	42	514
	49.8%	26.1%	16.0%	8.2%	100.0%

Energy Star Awareness

Over three quarters of customers state that they do not use the Duke Energy website (76.1%). A similar number of customers (76.4%) state that they have not added any electrical appliances in the past year. 50.6% of respondents state that they are aware of ENERGY STAR, but 50.6% of respondents also state that they do not look for the ENERGY STAR label when purchasing an appliance.

	Often	Sometimes	Never	Total
Do you use the Duke Energy website?	18	106	395	519
	3.5%	20.4%	76.1%	100.0%

	Yes	No	Total
Have you added any electrical appliances to your home in the past year?	121	392	513
	23.6%	76.4%	100.0%

	Yes	No	Total
Are you aware of ENERGY STAR?	256	250	506
	50.6%	49.4%	100.0%

	Yes	No	Total
Do you look for the ENERGY STAR label when purchasing an appliance?	244	250	494
	49.4%	50.6%	100.0%

General Information About Redeemers' Homes

Most customers who used the CFL coupons live in a detached single-family home. These customers also tend to live in homes that were built before 1980 (33.7% before 1959, 29.7% 1960-1979). Customers' home size varied widely, with the fewest number of customers living in a home greater than 3000 square feet (4.3%).

	Detached single-family	Townhouse	Condominium	Duplex/2-family	Apartment	Manufactured home	Multi-Family (3 or more units)	Total
How would you best describe the type of home in which you live?	406	10	43	10	24	16	12	521
	77.9%	1.9%	8.3%	1.9%	4.6%	3.1%	2.3%	100.0%

	Before 1959	1960-1979	1980-1989	1990-1997	1998-2000	After 2001	Total
In what year was your home built?	174	153	66	48	38	37	516
	33.7%	29.7%	12.8%	9.3%	7.4%	7.2%	100.0%

	Less than 1200	1201-1600	1601-1900	1901-2400	2401-3000	Greater than 3000	Don't know	Total
What is the approximate square footage (heated area) of your home?	67	106	69	98	61	22	87	510
	13.1%	20.8%	13.5%	19.2%	12.0%	4.3%	17.1%	100.0%

Participants who purchased CFLs tended to have at least completed high school, with one quarter of customers having graduated college, and about 12% of customers having completed a graduate degree. Almost half of the customers surveyed were 65 years old or older. Over a third of the respondents stated their household income was between $25,000 and $50,000, while approximately one quarter of customers stated their income was over $75,000. Over half of customers had two people living in their home (54.9%), and nearly all of the respondents stated that they own their home (90.1%).

	Some high school	Completed high school	Some college	Graduated college	Some grad school	Grad school degree	Total
Last year of schooling?	25	169	113	130	14	61	512
	4.9%	33.0%	22.1%	25.4%	2.7%	11.9%	100.0%

	18 to 35	36 to 45	46 to 55	56 to 65	65 or over	Total
What range best describes your age group?	39	55	107	118	241	560
	7.0%	9.8%	19.1%	21.1%	43.0%	100.0%

	Less than 25000	25000 to 50000	50000 to 75000	Over 75000	Total
What range best describes your household income?	94	193	97	132	516
	18.2%	37.4%	18.8%	25.6%	100.0%

	1	2	3	4	5	6	7	more than 7	Total
How many people live in your home?	115	306	70	49	12	3	2	0	557
	20.6%	54.9%	12.6%	8.8%	2.2%	.5%	.4%	.0%	100.0%

	Own	Rent	Total
Do you own or rent your home?	500	55	555
	90.1%	9.9%	100.0%

A large number of participants had a central furnace (78.0%) and central air (76.6%). Over half of participants stated that their primary heating fuel was gas (64.0%), while nearly all of the customers (93.5%) use electric as their primary cooling fuel.

	Central furnace	Electric baseboard	Heat pump	Geo-thermal	Other	Total
Type of heating system?	432	15	84	2	21	554
	78.0%	2.7%	15.2%	.4%	3.8%	100.0%

	Central air	Window/Room unit air conditioner	Heat pump	Geo-thermal	Other	No cooling system	Total
Type of cooling system?	430	60	61	2	3	5	561
	76.6%	10.7%	10.9%	.4%	.5%	.9%	100.0%

	Electric	Gas	Other	Total
Primary heating fuel?	142	357	59	558
	25.4%	64.0%	10.6%	100.0%

	Electric	Gas	Other	Total
Primary cooling fuel?	507	26	9	542
	93.5%	4.8%	1.7%	100.0%

Wal-Mart CFL Non-Redeemer Survey

This survey focused on customers who according to program tracking records did not redeem CFL coupons, and was mailed out to 1000 respondents who did not redeem coupons. 302 surveys were returned, for a 30.2% response rate.

Awareness of Advertising

42.3% of respondents do not remember receiving any CFL coupons, and of those who did receive the coupons, 78.0% stated that they did not use any of the coupons. Nearly half of customers stated that they had heard about the CFL program (49.6%). Almost 40% of customers stated that they did not redeem the coupons because they do not shop at Wal-Mart (37.7%). These customers might be interested in participating in a CFL program located at another store.

	YES	NO	Total
Do you recall ever receiving CFL coupon?	169	124	293
	57.7%	42.3%	100.0%

	NO	YES	Total
Did you use any of these coupons?	216	61	277
	78.0%	22.0%	100.0%

	YES	NO	Total
Had you heard anything about the CFL coupons from Duke Energy, for use in Wal-Mart for GE bulbs?	128	130	258
	49.6%	50.4%	100.0%

	Too much hassle	Do not use CFLs	Do not shop at WalMart	Did not understand program	Thought there was a catch	Couldn't be bothered	Other	Total
Why did you decide NOT to use these coupons?	4	10	52	10	6	0	56	138
	2.9%	7.2%	37.7%	7.2%	4.3%	.0%	40.6%	100.0%

Summary of text of "Other" write-in responses Note: some customers included multiple responses.		
	No response	241
	Already had enough bulbs/already had CFLs	17
	CFL seemed to affect grandsons epilepsy condition	1
	Coupons expired	7
	Unable or unwilling to shop at Wal-Mart	3
	Did not receive any coupons/Unaware of program	12
	Do not like fluorescent lighting	1
	Expense/cost/hidden cost	6
	Forgot about the coupons	2
	Lost coupon	4
	Out of stock	3

Risk of Mercury Contamination	2
Unable to go to store/haven't had time to shop	3
Try not to buy merchandise made in China	1
Total	303

Over half of participants stated that the CFL coupons neither increased their awareness of how to save energy using CFLs (50.7%), nor inspired them to purchase CFLs somewhere else without the coupon (65.5%). This reflects the findings of the redeemer survey that the CFL coupon itself, and the associated discount are the most influential factors in a customer's decision to purchase the CFLs. Of those who did purchase bulbs elsewhere, almost one third purchased 4 bulbs (31.6%).

	Yes	NO	Somewhat	Total
Did the CFL coupons increase your awareness of how you could save energy by using CFL bulbs?	45	73	26	144
	31.3%	50.7%	18.1%	100.0%

	NO	YES	Total
Did the CFL bulb coupons inspire you to purchase CFL bulbs without using the coupon somewhere else?	95	50	145
	65.5%	34.5%	100.0%

	1	2	3	4	5	6	More than 6	Total
If yes, how many did you buy without the coupon?	4	3	10	18	4	10	8	57
	7.0%	5.3%	17.5%	31.6%	7.0%	17.5%	14.0%	100.0%

For those respondents who purchased bulbs without the coupon, the coupon from Duke Energy and other advertising were found to be "somewhat influential" (42.2% and 44.9% respectively). Nearly all did not find Wal-Mart advertising or displays/signs in Wal-Mart to be influential (81.3% and 86.1% respectively), possibly because they purchased bulbs at a store other than Wal-Mart. An even greater number did not find the sales associate at the store to be influential (94.9%).

How influential were the following in your decision to purchase CFL(s) without the coupon?

	Very Influential	Somewhat Influential	Not at all Influential	Total
The coupon from Duke Energy	24	38	28	90
	26.7%	42.2%	31.1%	100.0%
Wal-Mart advertising	4	11	65	80
	5.0%	13.8%	81.3%	100.0%
Displays and signs in Wal-Mart	6	5	68	79
	7.6%	6.3%	86.1%	100.0%
Sales Associate at the store	2	2	75	79
	2.5%	2.5%	94.9%	100.0%

GE advertising	10	30	41	81
	12.3%	37.0%	50.6%	100.0%
Other advertising	18	40	31	89
	20.2%	44.9%	34.8%	100.0%
Friends or family	19	31	35	85
	22.4%	36.5%	41.2%	100.0%

Almost 1/3 of respondents stated that they have 0 CFLs in their house (29.1%). Of those who do have CFLs in their house, nearly 20% of customers state that they have 6 to 10 CFLs in their house. The high number of installed bulbs reflects customers' earlier statements that they did not purchase bulbs using the coupons because they already had enough bulbs in their home.

	0	1	2	3	4	5	6-10	11+	Total
How many CFLs are in your house?	76	19	36	22	22	16	52	18	261
	29.1%	7.3%	13.8%	8.4%	8.4%	6.1%	19.9%	6.9%	100.0%

	Very Satisfied	Somewhat Satisfied	Not at all Satisfied	Total
Overall, how satisfied are you with the CFLs?	104	77	16	197
	52.8%	39.1%	8.1%	100.0%

	Never	3-6 months	6-9 months	9-12 months	1-2 years ago	2-3 years ago	More than 3 years ago	Total
How long have you been using CFL light bulbs?	63	72	35	17	31	17	15	250
	25.2%	28.8%	14.0%	6.8%	12.4%	6.8%	6.0%	100.0%

Energy Star Awareness

Almost two thirds of customers (61.1%) have not added any electrical appliances to their homes, but a large number of those that have state that the appliances are energy efficient (85.3%). Over half of respondents state that they are aware of ENERGY STAR (59.2%), and over half of customers look for the ENERGY STAR label when purchasing an appliance (57.9%). Nearly equal numbers of participants state that they have never used the Duke Energy website (70.1%) and do not feel that Duke Energy has influenced them to use energy efficient products (70.0%). The responses to these questions are similar to the responses given in the Wal-Mart CFL Redeemer survey.

	YES	NO	Total
Have you added any electrical appliances to your home in the past year?	103	162	265
	38.9%	61.1%	100.0%

	YES	NO	Total

If yes, are the appliances energy efficient?	87	15	102
	85.3%	14.7%	100.0%

	YES	NO	Total
Are you aware of ENERGY STAR?	157	108	265
	59.2%	40.8%	100.0%

	YES	NO	Total
Do you look for the ENERGY STAR label when purchasing an appliance?	147	107	254
	57.9%	42.1%	100.0%

	Often	Sometimes	Never	Total
Do you use the Duke Energy website?	22	58	188	268
	8.2%	21.6%	70.1%	100.0%

	YES	NO	Total
Has Duke Energy influenced your decision to purchase energy efficient products?	60	140	200
	30.0%	70.0%	100.0%

General Information About Non-Redeemers' Homes

Almost three quarters of respondents (75%) live in a detached single family home. Nearly one third of participants stated that their home was built before 1959 (32.7%). Approximately 20.4% of customers state that their home is between 1500 and 1999 square feet in heated area.

	Detached single-family	Mobile Home	Condo	Duplex/2-family	Multi-Family	Townhouse	Total
How would you describe the type of home in which you live?	200	4	20	17	25	6	272
	73.5%	1.5%	7.4%	6.3%	9.2%	2.2%	100.0%

	Before 1959	1960-1979	1980-1989	1990-1997	1998-2000	2001-2007	Don't know	Total
In what year was your home built?	89	76	24	25	12	25	21	272
	32.7%	27.9%	8.8%	9.2%	4.4%	9.2%	7.7%	100.0%

	Less than 500	500-999	1000-1499	1500-1999	2000-2499	2500-2999	3000-3499	3500-3999	4000 or more	Don't know	Total
What is the approximate square footage (heated area) of your home?	2	25	49	54	37	32	14	7	7	38	265
	.8%	9.4%	18.5%	20.4%	14.0%	12.1%	5.3%	2.6%	2.6%	14.3%	100.0%

70.7% of customers stated that they have completed high school, had some college, and/or graduated college. Nearly one quarter of those surveyed were 65 years old or older. Nearly 40% of participants stated they make over $75,000 in combined household income. Almost one half (44.3%) of participants had two people living in their home, and 83.5% stated that they own their home.

	Some high school	Completed high school	Some College	Graduated college	Some grad school	Grad school degree	Total
Last year of schooling?	13	56	63	72	21	45	270
	4.8%	20.7%	23.3%	26.7%	7.8%	16.7%	100.0%

	18-35	36-45	46-55	56-65	65 or over	Total
What range best describes your age group?	48	46	55	56	67	272
	17.6%	16.9%	20.2%	20.6%	24.6%	100.0%

	Less than 25000	25000-50000	50000-75000	Over 75000	Total
What range best describes your combined household income?	35	65	50	96	246
	14.2%	26.4%	20.3%	39.0%	100.0%

	1	2	3	4	5	6	7	More than 7	Total
How many people live in your home?	62	121	38	29	15	8	0	0	273
	22.7%	44.3%	13.9%	10.6%	5.5%	2.9%	.0%	.0%	100.0%

	Own	Rent	Total
Do you own or rent your home?	228	45	273
	83.5%	16.5%	100.0%

A large number of respondents (71.8%) use a central furnace for heat, and a larger number (76.3%) use central air for cooling. Almost two thirds of participants use gas as their primary heating fuel (60.2%) and a very large number of customers (89.0%) use electric as their primary cooling fuel.

	Central furnace	Electric baseboard	Heat pump	Geo-thermal Heat Pump	Hot water or steam boiler	Other	Total
Type of heating system?	199	18	32	2	19	7	277
	71.8%	6.5%	11.6%	.7%	6.9%	2.5%	100.0%

	Central air	Window/Room unit air conditioner	Heat pump	Geo-thermal Heat Pump	Other	No cooling system	Total
Type of cooling system?	209	33	22	1	1	8	274
	76.3%	12.0%	8.0%	.4%	.4%	2.9%	100.0%

	Electric	Gas	Oil	Propane	Other	Total
Primary heating fuel?	78	157	9	10	7	261

	29.9%	60.2%	3.4%	3.8%	2.7%	100.0%

	Electric	Gas	Other	Total
Primary cooling fuel?	218	24	3	245
	89.0%	9.8%	1.2%	100.0%

Final Lighting Logger Study

CFL Placement and Wattage of Bulbs Replaced

About three quarters (75.4%) of bulbs logged were GE brand. Just over one quarter (27.6%) of the bulbs logged were in table lamps, with one quarter of bulbs installed in a ceiling fixture (25.1%). Nearly one fourth of bulbs were 13 watts (22.6%), and almost equal numbers of CFLs (44.7%) and incandescents (43.7%) were logged. The most frequent locations for logged bulbs were bathroom, kitchen, living room, and family room. The higher frequencies of GE brand bulbs, CFL bulbs, and low-watt bulbs is likely due to the characteristics of the Wal-Mart CFL Promotion, which featured GE brand CFLs.

Brand of Logged Bulb – 2008

	Count	%
GE	150	75.4%
Phillips	21	10.6%
Sylvania	12	6.0%
Unknown	7	3.5%
Nvison	4	2.0%
Lights of America	2	1.0%
Feit	1	.5%
Halco	1	.5%
Satco	1	.5%
Total	199	100.0%

Type of Fixture Logged - 2008

	Count	%
Table Lamp	55	27.6%
Ceiling	50	25.1%
Wall Light	44	22.1%
Ceiling Fan	20	10.1%
Floor	18	9.0%
Under Cabinet	7	3.5%
Can	2	1.0%
Desk Lamp	1	.5%
Torchier	1	.5%
Track	1	.5%
Total	199	100.0%

Wattage of Logged Bulb – 2008

	Count	%
13	45	22.6%
60	31	15.6%
40	27	13.6%
23	15	7.5%
26	13	6.5%
20	11	5.5%
75	11	5.5%
25	10	5.0%
100	10	5.0%
50-100-150	9	4.5%

Bulb Type – 2008

	Count	%
CFL	89	44.7%
Flood	5	2.5%
Fluorescent	18	9.0%
Incandescent	87	43.7%
Total	199	100.0%

15	3	1.5%
30	2	1.0%
50	2	1.0%
150	2	1.0%
12-23-29	2	1.0%
10	1	.5%
14	1	.5%
32	1	.5%
45	1	.5%
120	1	.5%
12-23-32	1	.5%
Total	199	100.0%

Location of Bulb - 2008

	Count	%
Bathroom	46	23.1%
Kitchen	36	18.1%
Living Room	32	16.1%
Family Room	28	14.1%
Bedroom 1	15	7.5%
Dining Room	11	5.5%
Hall	8	4.0%
Laundry Room	8	4.0%
Office/Den	8	4.0%
Basement	2	1.0%
Bedroom 2	2	1.0%
Closet	1	.5%
Play Room	1	.5%
Workout/Gym	1	.5%
Total	199	100.0%

Section 5: Wal-Mart In-Store Purchases Survey

This evaluation is based on surveys conducted with customers who were mailed a Wal-Mart CFL coupon in the mail. According to program tracking records, these customers redeemed Wal-Mart CFL coupons. Customers received $10 for filling out the survey.

The survey was mailed out to 1,000 customers that received the coupons. There were 583 responses received for a 58.3% response rate.

Awareness of Advertising

	Yes	No	Total
Do you recall receiving CFL bulb coupons from Duke Energy, for use in Wal-Mart?	565	7	572
	98.8%	1.2%	

	Yes	No	Total
Did you give all of your coupons to someone else to use?	32	520	552
	5.8%	94.2%	

	Yes	No	Total
Did you use at least one coupon?	552	19	571
	96.7%	3.3%	

Customers found receiving the coupon from Duke Energy to be the most influential in their decision to purchase CFLs (83.2% very influential). This is the same result as was found in both the Wal-Mart CFL Redeemer and Non-Redeemer surveys. More than half of the customers found the other program marketing methods "not influential at all", including advertising, etc., at Wal-Mart, as well as other advertising methods and friends/family.

How influential were the following in your decision to purchase CFL(s)?

	Very influential	Somewhat influential	Not at all influential	Total
The coupon from Duke Energy	454	87	5	546
	83.2%	15.9%	.9%	
Wal-Mart Advertising	85	140	233	458
	18.6%	30.6%	50.9%	

Display and signs in Wal-mart	56	146	250	452
	12.4%	32.3%	55.3%	
Sales Associate at the store	22	33	391	446
	4.9%	7.4%	87.7%	
GE Advertising	70	155	229	454
	15.4%	34.1%	50.4%	
Other Advertising	52	99	297	448
	11.6%	22.1%	66.3%	
Friends or Family	71	107	281	459
	15.5%	23.3%	61.2%	

Additional Purchases from Wal-Mart

Almost all customers (90.6%) who shopped for the CFLs at Wal-Mart already shop at that store, and a slightly lower number (82.9%) shopped there soon after redeeming the coupon, with over half (54.3%) making 1 to 2 visits per month. Overall, the frequency of customers' visits to Wal-Mart before and after participating in the Wal-Mart CFL Light Bulb Program are similar. Most participants (88.1%) bought other items from Wal-Mart while they were shopping for their CFLs, and nearly all of those spent $10 or more.

	Never	1-2	3-4	5 or more	Total
How often did you visit a Wal-Mart store before your recent visit to redeem the CFL coupon?	52	293	128	85	558
	9.3%	52.5%	22.9%	15.2%	

	Yes	No	Total
Did you purchase additional items on your visit to Wal-Mart?	480	65	545
	88.1%	11.9%	

	< $10	$10-25	$26-50	>$50	Total
If yes, What was the estimated amount you spent on those additional items?	36	175	161	121	493
	7.3%	35.5%	32.7%	24.5%	

	Yes	No	Total

Have you returned to Wal-Mart since redeeming the CFL coupon?	344	71	415
	82.9%	17.1%	

	1-2	**3-4**	**5 or more**	**Total**
If yes, How many visits a month?	261	143	77	481
	54.3%	29.7%	16.0%	

Use of CFL packs

Almost half (46.8%) of the participants purchased between 6 and 10 CFLs with the coupon, and a similar number state they would have purchased no bulbs without the coupon. These results coincide with the results of the Wal-Mart CFL Redeemer survey.

	0	**1**	**2**	**3**	**4**	**5**	**6-10**	**11+**	**Total**
How many CFL packs did you purchase with the Duke Energy coupon?	0	85	167	149	109	12	27	9	558
	0%	15.2%	29.9%	26.7%	19.5%	2.2%	4.8%	1.6%	
How many CFL bulbs did you purchase in TOTAL?	1	13	20	65	53	10	260	134	556
	.2%	2.3%	3.6%	11.7%	9.5%	1.8%	46.8%	24.1%	
How many CFL bulbs would you have bought without the coupon?	268	69	72	53	36	6	33	17	554
	48.4%	12.5%	13.0%	9.6%	6.5%	1.1%	6.0%	3.1%	
How many CFL bulbs have you purchased without coupons?	386	34	43	28	26	6	25	10	558
	69.2%	6.1%	7.7%	5.0%	4.7%	1.1%	4.5%	1.8%	

Just over one third of respondents (33.9%) installed between 6 and 10 CFL bulbs, and 90% of participants have not removed the CFLs they installed. Of those who did remove the bulbs they installed, many stated that the type or brightness of light was also a factor. In addition, many customers also experienced some type of defective bulb. Again, some type of education regarding the different types of CFLs as well as the different levels of brightness and types of lighting available may encourage customers to continue to use CFLs in the future.

Of the bulb packs you bought with Duke Energy/Wal-Mart coupons:

	0	**1**	**2**	**3**	**4**	**5**	**6-10**	**11+**	**Total**
How many CFLs are now	17	36	65	77	70	39	189	65	558

installed?	3.0%	6.5%	11.6%	13.8%	12.5%	7.0%	33.9%	11.6%	

	Yes	No	Total
Did you change the hours of use since installing the CFLs?	50	470	520
	9.6%	90.4%	

	Increase	Decrease	Total
If yes, how did your usage change?	35	20	55
	63.6%	36.4%	

	Yes	No	Total
Have you removed any of the CFLs you installed?	52	466	518
	10.0%	90.0%	

	1-2	3	4	5	6	7-11	12+	Total
If yes, How many did you remove?	39	5	4	2	4	2	2	58
	67.2%	8.6%	6.9%	3.4%	6.9%	3.4%	3.4%	

Why did you remove them?

	Frequency
CHANGED READING LAMP	1
DEFECTIVE	1
Flickering and dimming. Not functioning properly.	1
LAMP SHADE WOULD NOT HOLD BULB	1
Less desirable light for reading.	1
Light too bright when looking at it. Also made horrible buzz in ceiling fan fixture.	1
light was too yellow.	1
NOT BRIGHT ENOUGH FOR OLDER PERSON	1
noticed brown stain on light bulb	1
One burnt out the other has low lighting.	1
Replaced 60 with 75 because the 60 was not enough light	1
Stopped working	1
Switched sizes in ceiling fan to shorter length bulbs.	1
They did please me Too long for shades	1
TOO LARGE FOR LIGHT FIXTURE	1
Unsatisfactory	1
Wanted to use dimmer.	1
Would not work/Didn't turn on	2

Burnt Out	10

Just over half of the customers responding stated they did not have any CFLs in their house before they bought these bulbs. Almost three quarters of customers are "very satisfied" with their CFLs (70.5%), and almost half of customers (47.3%) had not been using CFLs before now.

	Yes	No	Total
Did you have any CFLs in your house before you bought these discounted CFLs?	250	281	531
	47.1%	52.9%	

	1-2	3	4	5	6	7-11	12+	Total
If yes, about how many?	96	41	40	17	27	19	15	255
	37.6%	16.1%	15.7%	6.7%	10.6%	7.5%	5.9%	

	Very Satisfied	Somewhat Satisfied	Not at All Satisfied	Total	Mean
Overall, how satisfied are you with the CFLs?	375	146	11	532	2.7
	70.5%	27.4%	2.1%		

	Never before now	A year ago	2-3 years ago	4 or more years ago	Total
How long have you been using CFL light bulbs?	248	141	99	36	524
	47.3%	26.9%	18.9%	6.9%	100.0%

Energy Star Awareness

Almost three quarters of customers stated that they never use the Duke Energy website (71.6%) and have not added any electrical appliances to their home in the past year (72.9%). Over half of the customers are aware of ENERGY STAR (57.8%) and look for the ENERGY STAR label when purchasing an appliance (54.0%). These responses are similar to those given by customers responding to the Wal-Mart CFL Redeemer survey.

	Often	Sometimes	Never	Total
Do you use the Duke Energy Website?	42	114	394	550
	7.6%	20.7%	71.6%	

	Yes	No	Total

Have you added any electrical appliances to your home in the past year?	151 27.1%	406 72.9%	557

	Yes	**No**	**Total**
Are you aware of ENERGY STAR?	319 57.8%	233 42.2%	552

	Yes	**No**	**Total**
Do you look for the ENERGY STAR label when purchasing an appliance?	288 54.0%	245 46.0%	533

General Information about Responders' Homes

Almost all respondents live in a detached single family home (79.2%). Almost two thirds of customers state that their home was built in 1979 or earlier (65.7%). Just over one fifth of customers (22.4%) have a square footage between 1201 and 1600.

How would you best describe the type of home in which you live?

Detached single family	**Townhouse**	**Condo**	**Duplex**	**Apartment**	**Manufactured home**	**Multi family 3 or more units**	**Total**
462	14	27	11	35	27	7	583
79.2%	2.4%	4.6%	1.9%	6.0%	4.6%	1.2%	

In what year was your home built?

Before 1959	**1960-1979**	**1980-1989**	**1990-1997**	**1998-2000**	**After 2001**	**Total**
188	185	59	59	29	48	568
33.1%	32.6%	10.4%	10.4%	5.1%	8.5%	

What is the approximate square footage (heated area) of your home?

Less than 1200	**1201-1600**	**1601-1900**	**1901-2400**	**2401-3000**	**Greater than 3000**	**Don't know**	**Total**
72	127	78	89	61	40	100	567
12.7%	22.4%	13.8%	15.7%	10.8%	7.1%	17.6%	

Nearly three quarters of participants have completed high school, started college, and/or graduated college (74.9%). Over one third of the customers surveyed were 65 years old or over (36.9%). Almost half of customers (48.4%) have two people living in their home, and 90.0% own their home.

Last year of schooling?

Some high school	Completed high school	Some college	Graduated college	Some grad school	Grad school degree	Total
26	164	130	137	33	86	576
4.5%	28.5%	22.6%	23.8%	5.7%	14.9%	

What range best describes your age group?

18-35	36-45	46-55	56-65	65 or over	Total
53	78	114	121	214	580
9.1%	13.4%	19.7%	20.9%	36.9%	

What range best describes your household income?

Less than $25,000	$25,000-50,000	$50,000-75,000	Over $75,000	Total
80	160	117	167	524
15.3%	30.5%	22.3%	31.9%	

How many people live in your home?

1	2	3	4	5	6	7	Total
105	279	84	67	31	9	2	577
18.2%	48.4%	14.6%	11.6%	5.4%	1.6%	.3%	

	Own	Rent	Total
Do you own or rent your home?	521	58	579
	90.0%	10.0%	

Almost all customers have a central furnace (80.4%) and central air (80.9%). Over two thirds of customers use gas as their primary heating fuel (68.3%), while nearly all customers use electric as their primary cooling fuel (88.7%).

Type of Heating System?

Central furnace	Electric baseboard	Heat pump	Geothermal	Other	Total
465	27	64	2	20	578
80.4%	4.7%	11.1%	.3%	3.5%	

Type of Cooling System?

Central air	Window units	Heat pump	Other	No cooling system	Total
469	46	45	2	18	580
80.9%	7.9%	7.8%	.3%	3.1%	

Primary heating fuel?

Electric	Gas	Other	Total
132	395	51	578
22.8%	68.3%	8.8%	

Primary cooling fuel?

Electric	Gas	Other	Total
501	52	12	565
88.7%	9.2%	2.1%	

Section 6: Comparison of Survey Results

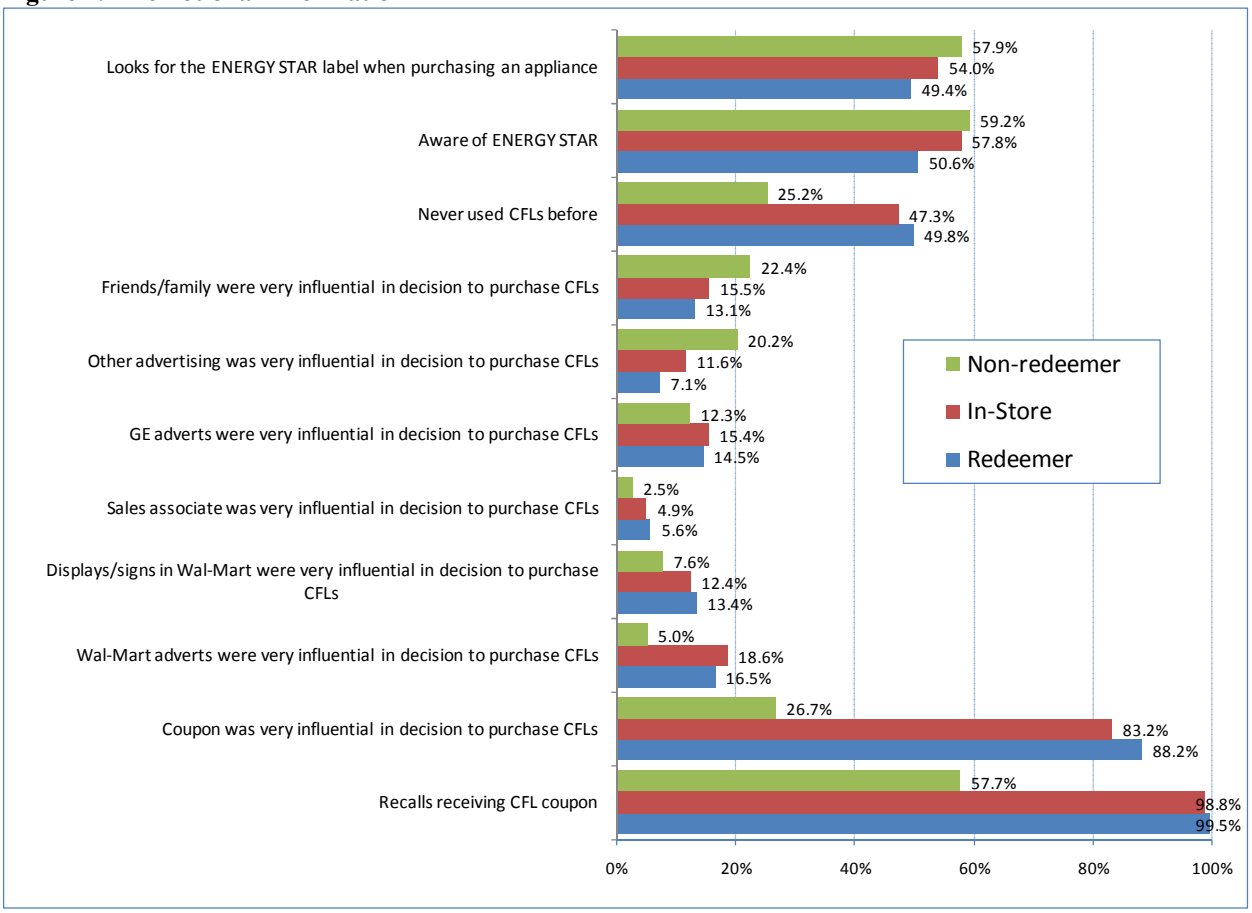
This section of the report presents the results of portions of the surveys that are directly comparable. The following figures show results from those that redeemed the Wal-Mart coupons and those that did not. The "In-Store" responses are part of the redeemer group, but were surveyed in the store.

Promotional Information

Figure 2 below shows the percent of responders that are aware of the Energy Star label, their lack of experience with CFLs, and what promotional materials were "very influential" in their decision to purchase CFLs.

From the survey responses, it is interesting to note that the Non-redeemers are more likely to be aware of Energy Star and to look for the Energy Star label when purchasing an appliance. They are also the least likely to have never used CFLs before. This indicates that the non-redeemers are aware of energy efficiency measures that are available to them, and probably did not have the need to use the CFL coupon that was sent to them through the CFL program.

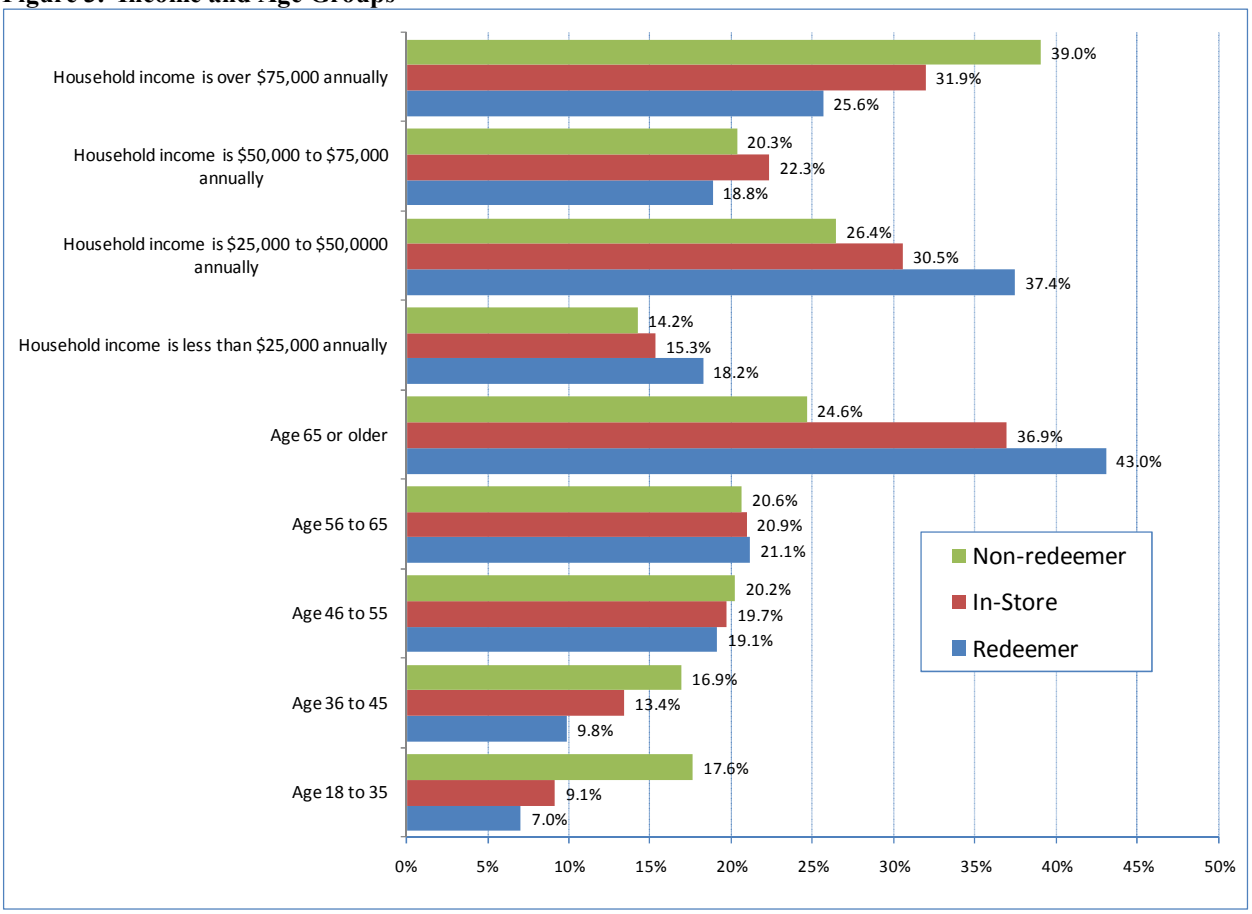
Figure 2. Promotional Information



Income and Age

The Non-Redeemers stand out again in the figure below. The non-redeemers are more likely to have higher incomes (over $75,000 annually) and be younger than those that redeemed the coupons. The largest age group to redeem the coupons are those 65 years of age or older.

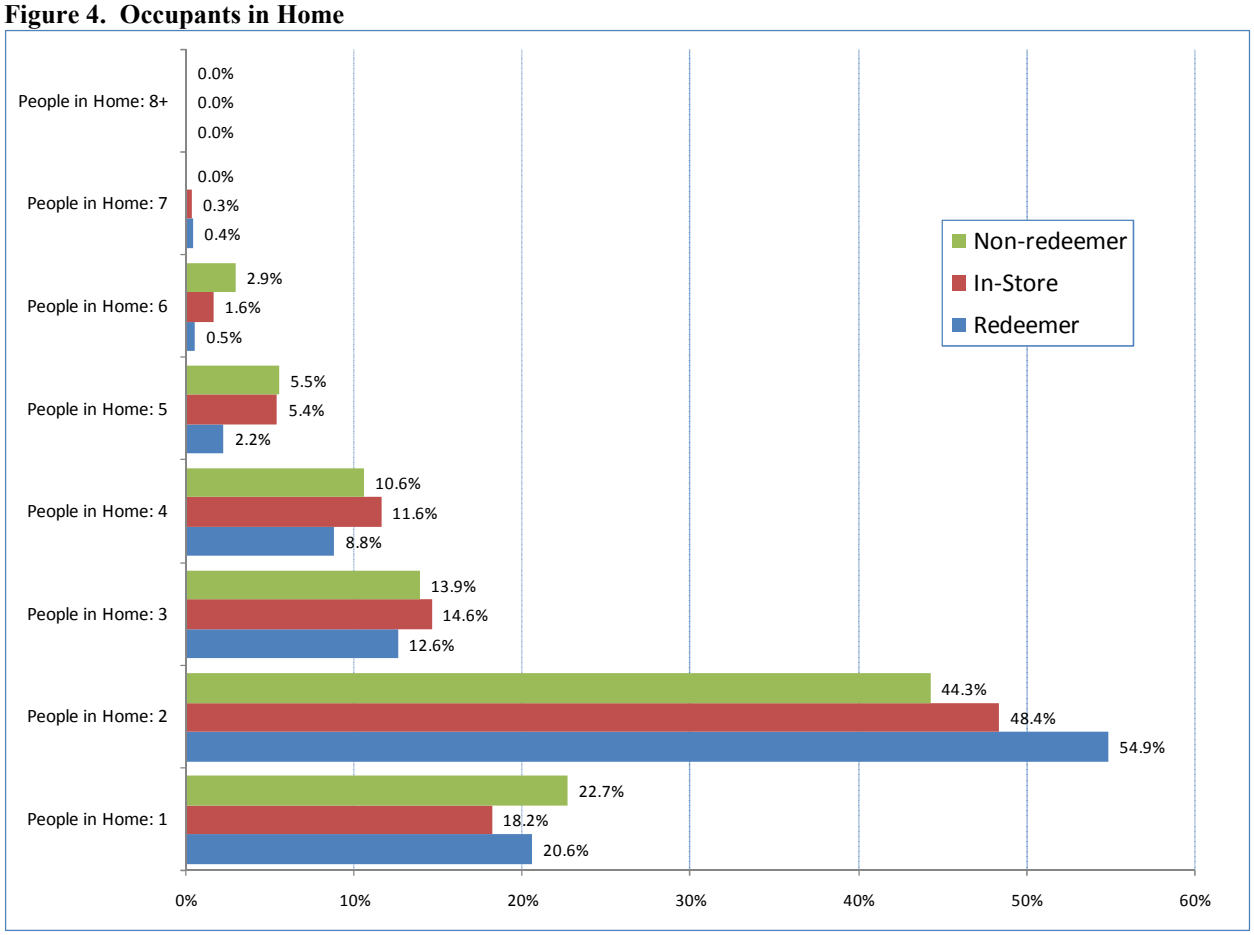
Figure 3. Income and Age Groups



Number of Occupants

The number of occupants in the home doesn't seem to have much of an impact on whether or not the coupons were redeemed.

Figure 4. Occupants in Home



Characteristics of Redeeming Population

Customers who redeemed Wal-Mart CFL coupons were compared to a random population of equal size. A regression model shows that customers over the age of 57, are the head of the household, own a home, and have been a resident in their current home for 6 years or less are the customers who would be more interested in participating in the program.

Other indications a customer was more likely to redeem Wal-Mart CFL Program coupons include if they had a higher income, higher energy usage in December, frequent internet usage, revolved their credit cards, had a higher number of adults in their home, had a lower sale price of their home, or were a long-time resident (21 years or more). More details are in Section 2 of the report.

Section 7: Assessment of Potential Freeriders from Repeat Redemption of CFL Discount Coupons

This analysis was conducted to determine if the distribution of additional Duke Energy CFL Coupons to customers who have already received and redeemed coupons will result in excessive freerider purchases. A freerider is a person who would have purchased the bulb without the coupon, but who took advantage of the coupon to lower the cost. The conclusion of this analysis is that when the retail price of a CFL bulb begins to drop significantly below the $3.00 range, freeridership may begin to erode net energy impacts for the redeemers.

Analysis of the survey results indicates that about 50% of the redeemers are likely to begin buying CFLs on their own when the price reaches $3.00 a bulb and increases to 80% when the price reaches $2.00 or less. This means that in hardware stores, where bulbs are normally $3.00 and above per bulb, the coupons are likely to be more effective. In discount and big box stores, where the bulb prices are beginning to approach $2.00 to $3.00 a bulb, freeridership will begin to potentially erode net savings for the program.

This conclusion is based on customer responses to Duke Energy's CFL Survey conducted in August of 2008.

1. **Coupon users appear to be bargain-hunters:** Redeemers generally appear to be price sensitive and require a lower priced bulb than non-redeemers. They need the coupons to buy bulbs within their price range. From this perspective, the coupons are being used by customers who either need the discount to buy or are free riders. Non-redeemers need to see the per-bulb price below an average of $3.67. Redeemers like to see the price below $2.95. Non-redeemers will, on average, pay $0.76 more per bulb than redeemers. As the price of the CFL drops, more of the redeemers are likely to buy more bulbs without an incentive.

2. **Redeemers want more bulbs:** By almost a 2 to 1 margin redeemers are interested in buying and using CFLs more than non-redeemers, both now and in the future. Redeemers purchase, on average, about 11 CFLs. Non-redeemers purchase a little less than 6 bulbs. Eighty percent of the redeemers still want to buy more bulbs compared to 43.7% of non-redeemers.

3. **Redeemers install and use more bulbs.** Coupon redeemers have already installed 4.9 of the 6.45 bulbs that they said they purchased with their Duke Energy coupons, and 6.4 bulbs that they have obtained via sources other than through the coupon. This totals 11.3 bulbs installed in the homes of the redeemers. Non-redeemers have installed 5.2 bulbs on average, of the 5.7 bulbs that they have purchased through other means.

4. **Both groups want 6 more bulbs this year:** Both redeemers and non-redeemers want more bulbs. Both groups said that they will buy, on average, 6.1 more bulbs over the next 12 months if they can find them at a price below an average of $3.66 for non-redeemers and $2.95 for redeemers.

5. **Discount CFL are available in the market:** Both redeemers and non-redeemers have found ways to buy discounted CFLs. Nine percent of the redeemers have obtained a free bulb compared to 6% of the non-redeemers. This is essentially the same number from a statistical perspective. However, twenty-three percent of the redeemer have purchased CFLs at a discount price compared to most all of the non-redeemers. We do not know what kind of a discount was obtained or the price that was paid.

6. **Both groups use most of the bulbs they buy:** Redeemers have installed the bulbs they have purchased and want more. Redeemers have purchased 10.8 CFLs in the last 12 months, and have installed all of these bulbs in their homes. Likewise, non-redeemers have installed 5.2 of the 5.7 bulbs they have purchased. They also use the bulbs they buy. The very small fraction of the bulbs not used are typically stored for later use.

It is clear in this analysis that redeemers will take advantage of more Duke Energy coupons. If the Duke Energy coupon allows them to buy more bulbs by dropping the price so that it is within their price range, it is likely to be effective at moving these purchases without significantly increasing freeridership.

It is expected that if the redeemers obtain more bulbs, they will install them. However, because they have already installed the bulbs they have purchased, the remaining bulbs may go into lower hours-of-use sockets, or moved into storage. However, at this time they essentially have no CFL storage and they are looking for more bulbs to install. If Duke Energy is interested in achieving high savings quickly, it would be better to get the coupons in the hands of new future coupon redeemers who have not already redeemed the Duke Energy Coupons. New coupons to past coupon redeemers would achieve savings as well, but will eventually saturate these homes.

The following table reflects the results of the Duke Energy CFL survey that was used in the above analysis.

Table 1. Survey Responses

Valid number used for analysis	Have Used Duke Coupon	# CFLs Purchaed in last 12 months	Purchased with coupon	How many Duke bulbs installed	Bought more because of Duke	Non-Duke bulbs installed	At what price do CFLs become too expensive	If priced this way, now many would you buy next 12 months	Interested in buying more if below this cost
44	Yes	10.85	6.45	4.9	36.40%	6.4	$2.95	6.1	80%
16	No	5.7	N/A	N/A	N/A	5.2	$3.66	6.1	43.70%

Table 2. Redeemer Price Sensitivity

Percent of users who will buy a CFL at this price.	Coupon Users	Percent of users who will buy a CFL at this price.	Coupon Users	Percent of users who will buy a CFL at this price.	Coupon Users	Percent of users who will buy a CFL at this price.	Coupon Users
4%	$ 7.00	29%	$ 4.00	54%	$ 2.50	79%	$ 2.00
7%	$ 6.00	32%	$ 3.50	57%	$ 2.00	82%	$ 1.50
11%	$ 5.00	36%	$ 3.00	61%	$ 2.00	86%	$ 1.50
14%	$ 5.00	39%	$ 3.00	64%	$ 2.00	89%	$ 1.00
18%	$ 5.00	43%	$ 3.00	68%	$ 2.00	93%	$ 1.00
21%	$ 5.00	46%	$ 3.00	71%	$ 2.00	96%	$ 1.00
25%	$ 4.00	50%	$ 3.00	75%	$ 2.00	100%	$ 0.50

In future freerider assessments it will be very important to consider the influence of the coupon discount to the specific purchase and use conditions, including purchase intent relative to price sensitivity and the installation and bulb use conditions. Redeemers already have a pre-existing intent to buy. However, for this group, the intent to buy is controlled by price sensitivity, among possibly other conditions. Redeemers are looking for discounts to the retail price. If Duke Energy provides that incentive, then Duke Energy would be the primary cause of that purchase decision.

Ceasing or decreasing the incentive jeopardizes the program. However Duke Energy should initiate new customer offers that tap into non-price motivators or barriers (e.g. point of purchase displays, neighborhood handouts, school boosters). In addition, the program should consider targeting coupons more to non-box retailers, as well as offering non-price promotions to non-box retailers. The program should also consider limiting or decreasing incentives slightly for box retailers.

Appendix 1 – Detailed kWh Savings by Location and Wattage from Wal-Mart CFL Redeemer Survey.

Mean Savings kWh per Year By Wattage of Old Bulb and Bulb Location – Wal-Mart CFL Redeemer Survey																
Bulb Location	Wattage of Old Bulb															
	10.00	20.00	25.00	30.00	40.00	50.00	60.00	65.00	70.00	75.00	80.00	90.00	100.00	120.00	150.00	Total
attic													648.24			648.24
basement	1051.20				1033.68		907.24			1182.60		1121.28	1269.58			1139.07
bathroom		219.00		170.82	1053.56		1303.69			1426.87		560.64	1692.63	779.64		1258.01
bedroom				227.76	1367.04	893.52	1099.93		1314.00	1426.66	946.08	1681.92	1928.10			1262.90
ceiling											1892.16					1892.16
cellar										963.60						963.60
closet							770.88			662.48			3889.44			1254.51
den				170.82		1191.36	1841.55			2615.49			3025.12			2158.09
dining room					2440.63		1647.45		1314.00	2208.25			4472.86			2114.70
downstairs					1033.68		1541.76									1414.74
dressing room					1808.94		770.88									1549.43
entryway							1349.04	788.40								1268.95
family room				1024.92	1744.34		2489.02			2134.74			3154.77		4730.40	2627.60
game room							578.16						648.24			613.20
garage							2201.05			505.89			1592.00			1621.68
great room							1541.76						3241.20			2674.72
hallway					1389.01		2312.64			541.76	946.08		1742.15			1882.38
kitchen	1051.20		766.50	341.64	931.39		2129.40	1419.12	2628.00	3034.04			3489.77	1559.28		2292.99
lamp							1830.84						3241.20			2112.91
laundry					387.63		546.04			843.15			1379.83			919.08
living room	175.20	109.50		1195.74	1046.60	1787.04	1854.93		3504.00	2450.90			3693.18		3311.28	2386.62
loft													3889.44			3889.44
office					516.84		1498.93			1124.20			3270.67			2025.68
other							1614.03									1614.03
outside					2953.37		4951.42			883.30			6536.42		3784.32	4356.49
parlor					1162.89								324.12			743.51
porch				85.41	1593.59		3533.20			2409.00			3565.32			3154.43
shed							0.00									0.00
stairway							2505.36			1686.30			2592.96			2195.26
sunroom					1292.10		1734.48									1587.02
tv room					1550.52		2042.83			2890.80			3306.02			2435.28

Mean kWh per Year By Wattage of Old Bulb and Bulb Location continued – Wal-Mart CFL Redeemer Survey																
Bulb Location	Wattage of Old Bulb															
	10.00	20.00	25.00	30.00	40.00	50.00	60.00	65.00	70.00	75.00	80.00	90.00	100.00	120.00	150.00	Total
utility							1284.80			120.45						1118.46
vanity					1808.94											1808.94
wall light							2312.64									2312.64
Total	759.20	175.20	766.50	504.70	1383.16	1489.20	1754.03	1314.00	2190.00	1856.74	1261.44	981.12	2731.30	1039.52	3784.32	1941.97

Appendix 2 – Program Surveys

Initial Lighting Logger Study – Premeasure Survey

Name: _____

_____

Address: _____

_____

Acct. # _____

PLEASE ANSWER THE QUESTIONS BELOW RELATED TO THE FALL 2007 LIGHTING LOGGER STUDY.
FILL IN THE CIRCLES COMPLETELY USING BLUE OR BLACK INK.

General Information About Your Home

To be able to group your responses, please respond to the following categories.

How would you best describe the type of home in which you live?

○ Detached single-family ○ Townhouse ○ Condominium
○ Apartment ○ Manufactured home

In what year was your home built?

○ Before 1959 ○ 1960 - 1979 ○ 1980 - 1989
○ 1990 - 1997 ○ 1998 – 2000 ○ >=2001

What is the approximate square footage (heated area) of your home?

○ <1,200 ○ 1,201 – 1,600 ○ 1,601 – 1,900
○ 1,901 – 2,400 ○ 2,401 – 3,000 ○ >=3,001
○ Don't know

How many people live in your home?

○ 1 ○ 2 ○ 3 ○ 4
○ 5 ○ 6 ○ 7 ○ >=8

Type of heating system? ○ Central furnace ○ Electric baseboard ○ Heat pump ○ Geo-thermal ○ Other

Type of cooling system? ○ Central air ○ Window unit air conditioner ○ Heat pump ○ Geo-thermal ○ Other

Primary heating fuel? ○ Electric ○ Gas ○ Other

Primary cooling fuel? ○ Electric ○ Gas ○ Other

Do you own or rent your home? ○ Own ○ Rent

Please state below the **number of hours**, on average, you use your lighting in the following rooms.

	# of Hours	# of Fixtures	Type of Fixtures in Room (table lamp, torchiere, chandelier, sensor, etc.)
Bathroom	_____	_____	_____
Basement	_____	_____	_____
Bedroom 1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
Dining Room	_____	_____	_____
Entryway	_____	_____	_____
Hall	_____	_____	_____
Kitchen	_____	_____	_____
Family Room	_____	_____	_____
Porch	_____	_____	_____
Other	_____	_____	_____
Other	_____	_____	_____

Performance Ratings

In this section of the survey, we would like to understand how you have used Compact Flourescent Lightbulbs (CFL) you have purchased

	0	**1-2**	**3**	**4**	**5**	**6**	**7-11**	**12+**
Did you receive coupons in the mail from Duke/GE/Wal-Mart for CFL bulbs?	○ Yes		○ No					
How many CFLs did you purchase with the coupons received? 1 package = 3 bulbs	○	○	○	○	○	○	○	○
How many bulbs would you have purchased without the coupon?	○	○	○	○	○	○	○	○

How many CFL bulbs would you purchase if…

	0	**1-2**	**3**	**4**	**5**	**6**	**7-11**	**12+**
They were the same price as a standard bulb?	○	○	○	○	○	○	○	○

They were $1.00 more than standard bulbs?	○	○	○	○	○	○	○	○
They were $2.00 more than standard bulbs?	○	○	○	○	○	○	○	○
They were $3.00 more than standard bulbs?	○	○	○	○	○	○	○	○
They were free but you had to mail in a rebate form to get your money back?	○	○	○	○	○	○	○	○

Bulb installation

Of the bulbs you bought…

	0	**1-2**	**3**	**4**	**5**	**6**	**7-11**	**12+**
How many did you install?	○	○	○	○	○	○	○	○

Did you replace a standard bulb with a CFL? ○ Yes ○ No ○ No, replaced a CFL

For each of those bulbs that you installed, what was the typical wattage of the bulb that was replaced?

○ 25 ○ 40 ○ 60 ○ 75 ○ 100 or greater

Did you change the hours of use since installing the CFLs? ○ Yes ○ No

If you answered yes, how did your usage change ? ○ Increased usage ○ Decreased usage

	<1	**1-2**	**3-4**	**5-9**	**10-12**	**13-24**
On average, about how many hours do you use each bulb?	○	○	○	○	○	○

Did you remove any of the CFLs you installed? ○ Yes ○ No

	0	**1-2**	**3**	**4**	**5**	**6**	**7-11**	**12+**
If yes, how many did you remove?	○	○	○	○	○	○	○	○

Why did you remove them?

○ Not bright enough ○ Did not like the light ○ Too slow to start ○ Other

More on Back ☞

	1-2	**3**	**4**	**5**	**6**	**7-11**	**12+**
Of the CFLs that you purchased, how many did you store for a later time?	○	○	○	○	○	○	○

Have you bought any CFLs for retail price after buying these CFLs through the Duke program?

○ Yes ○ No

	1-2	3	4	5	6	7-11	12+
If yes, how many did you purchase?	○	○	○	○	○	○	○

	Not at all Satisfied		Very Satisfied		Somewhat Satisfied	
Overall, how satisfied are you with the CFLs?	○		○		○	

Did you have any CFLs in your house before you bought these discounted CFLs?

○ Yes ○ No

	1-2	3	4	5	6	7-11	12+
If yes, how many?	○	○	○	○	○	○	○

Were you aware of CFLs before you received your coupons?

○ Yes ○ No

If yes…

Were you planning to buy CFLs before you saw the promotion?

○ Yes ○ No

If yes…

Did the promotion lead you to buy more CFLs than you were planning?

○ Yes ○ No

	1-2	3	4	5	6	7-11	12+
If yes, how many more did you purchase?	○	○	○	○	○	○	○

THANK YOU FOR YOUR RESPONSES

Wal-Mart CFL Redeemer Survey

Dear Customer,

Duke Energy is continuously trying to improve ou services for you. To help us improve the **Compac Fluorescent Light bulb** program, we would like your input. Please let us know what you think abo the compact fluorescent light bulbs (CFLs) you purchased through our coupon promotion. If you have any questions, please contact Amanda Goins 513-287-3177.

You will receive a check for $10 for your participation.

WE WOULD LIKE YOUR OPINION ABOUT OUR LIGHTBULB COUPON PROGRAM FOR COMPACT FLOURESCENT LIGHTBULBS (CFLs). FILL IN THE CIRCLES COMPLETELY USING BLUE OR BLACK INK.

Do you recall receiving Compact Fluorescent Light bulb coupons from Duke Energy, for use in Wal-Mart for GE bulbs ? ○ Yes ○ No

Did you give all of your coupons to someone else to use? ○ Yes ○ No

Did you use at least one coupon? ○ Yes – Continue this survey ○ No – Thank you. Please return survey.

How influential were the following in your decision to purchase CFL(s)?

	Very Influential		Somewhat Influential		Not at all Influential
The Coupon from Duke Energy	○	○	○		
Wal-Mart Advertising	○	○	○		
Displays and signs in Wal-Mart	○	○	○		
Sales Associate at the store	○	○		○	
GE Advertising	○	○	○		
Other Advertising	○	○	○		
Friends or Family	○	○	○		

In this section of the survey, we would like to understand how you have used the CFL packs you purchased with the coupon?

	0 6-10	1 11+	2	3	4	5
How many CFL packs did you purchase with the Duke Energy coupon? ○○	○	○	○	○	○	○
How many CFL bulbs did you purchase in TOTAL? ○ ○	○	○	○	○	○	○

How many CFL bulbs would you have bought without the coupon?	○	○	○	○	○	○	○	○
How many CFL bulbs have you since purchased without coupons ?	○	○	○	○	○	○	○	○

Of the bulb packs you bought with Duke Energy/ Wal-Mart coupons:

	0	1	2	3	4	5	6-10	11+
How many CFLs are now installed?	○	○	○	○	○	○	○	○

Please write in WHERE the CFL went, WHAT it replaced, and HOW MUCH you use that light.

	WHERE	WHAT WAS REPLACED	HOW MUCH ITS USED (Each Day)
Example	Living Room	60W Floor Lamp	6 Hours Per Day (average)
Bulb 1	_____	_____	_____
Bulb 2	_____	_____	_____
Bulb 3	_____	_____	_____
\ Bulb 4	_____	_____	_____
Bulb 5	_____	_____	_____
Bulb 6	_____	_____	_____

Any More? Please summarize briefly below.

Did you change the hours of use since installing the CFLs? ○ Yes ○ No

If you answered yes, how did your usage change? ○ Increased usage ○ Decreased usage

Have you removed any of the CFLs you installed? ○ Yes ○ No

	1-2	3	4	5	6	7-11	12+
If yes, how many did you remove?	○	○	○	○	○	○	○

Why did you remove them?_____

Did you have any CFLs in your house before you bought these discounted CFLs? ○ Yes ○ No

	1-2	3	4	5	6	7-11	12+
If yes, about how many?	○	○	○	○	○	○	○

	Very Satisfied	Somewhat Satisfied	Not at all Satisfied
Overall, how satisfied are you with the CFLs?	○	○	○

How long have you been using CFL light bulbs ? ○ Never purchased a CFL until now ○ A year ago ○ 2 to 3 years ago ○ 4 or more years

	Often	Sometimes	Never
Do you use the Duke Energy Website?	○	○	○

Have you added any electrical appliances to your home in the past year? ○ Yes ○ No

Are you aware of ENERGY STAR? ○ Yes ○ No

Do you look for the ENERGY STAR label when purchasing an appliance? ○ Yes ○ No

General Information About Your Home

How would you best describe the type of home in which you live?

○ Detached single-family ○ Townhouse ○ Condominium ○ Duplex/2-family

○ Apartment ○ Manufactured home ○ Multi-Family (3 or more units)

In what year was your home built?

○ Before 1959 ○ 1960 - 1979 ○ 1980 - 1989

○ 1990 - 1997 ○ 1998 – 2000 ○ After 2001

What is the approximate square footage (heated area) of your home?

○ Less than 1,200 ○ 1,201 – 1,600 ○ 1,601 – 1,900

○ 1,901 – 2,400 ○ 2,401 – 3,000 ○ Greater than 3,000

○ Don't know

Last year of schooling?

○ Some high school ○ Completed high school ○ Some college

○ Graduated college ○ Some grad school ○ Grad School degree

What range best describes your age group?

○ 18 to 35 ○ 36 to 45 ○ 46 to 55

○ 56 to 65 ○ 65 or over

What range best describes your household income?

○ Less than $25,000 ○ $25,000 to $50,000

○ $50,000 to $75,000 ○ Over $75,000

How many people live in your home?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ more than 7

Do you own or rent your home?

○ Own ○ Rent

Type of heating system?

○ Central furnace ○ Electric baseboard ○ Heat pump ○ Geo-thermal
○ Other

Type of cooling system?

○ Central air ○ Window/Room ○ Heat pump ○ Geo-thermal ○ Other
unit air conditioner
○ No cooling system

Primary heating fuel? ○ Electric ○ Gas ○ Other

Primary cooling fuel? ○ Electric ○ Gas ○ Other

Thank you for your help with this study. Your $10.00 incentive check will be mailed within 6 – 8 weeks. Please verify your address on the front page of this survey.

○ Yes, my address on the front page of this survey is correct

○ No, please mail my check to:

_____

_____

_____

HAVE A CHANCE TO PARTICIPATE IN THE DUKE ENERGY LIGHTING STUDY

Would you be interested in participating in a lighting study in January, 2008? A Duke Energy representative would place small lighting monitors on 4 or 5 light fixtures and will remain in place for 2 to 3 weeks. The monitors are smaller than the size of a bar of soap and help us measure how often lights are turned on and off during the week. The first 100 returned surveys indicating interest will be selected. Eligible customers that are selected will receive $50 for participating.

○ Yes ○ No

If yes, you may receive a follow-up phone call about this lighting study in early January.

THANK YOU FOR YOUR RESPONSES

Wal-Mart CFL Non-Redeemer Survey

Dear Customer,

Duke Energy is continuously trying to improve our services for you. To help us improve the **Compact Fluorescent Light bulb** program, also known as **CFL**, we would like your input. Please let us know what you think about the compact fluorescent light bulbs (CFLs). If you have any questions, please contact Amanda Goins, 513-287-3177.

You will receive a check for $10 for your participation.

WE WOULD LIKE YOUR OPINION ABOUT OUR LIGHTBULB COUPON PROGRAM AND COMPACT FLOURESCENT LIGHTBULBS (CFLs). FILL IN THE CIRCLES COMPLETELY USING BLUE OR BLACK INK.

Do you recall ever receiving Compact Fluorescent Light bulb coupons from Duke Energy, for use in Wal-Mart for GE bulbs ? ○ Yes ○ No

Did you use any of these coupons? ○ No – Continue this survey ○ **Yes – Thank you. Please return survey.**

Had you heard anything about the Compact Fluorescent Light bulb coupons from Duke Energy, for use in Wal-Mart for GE bulbs ? ○ **Yes** ○ **No – skip to section 2**

Why did you decide NOT to use these coupons?

○ Too much hassle ○ Do not use CFLs ○ Do not shop at Wal-Mart

○ Did not understand program ○ Thought there was a catch ○ Couldn't be bothered

○ Other _____

Did the Compact Fluorescent Light bulb **coupons increase your awareness** of how you could save energy by using compact fluorescent light bulbs

○ Yes ○ No - I was aware of the energy savings already

○ Somewhat- I was already aware, but it did help me understand their benefits better

Did the Compact Fluorescent Light bulb coupons inspire you to purchase compact fluorescent light bulbs **without** using the coupon somewhere else?

○ No ○ Yes

If Yes, How many did you buy without the coupon? 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ More than 6 ○

How influential were the following in your decision to purchase CFL(s) without the coupon?

	Very Influential	Somewhat Influential	Not at all Influential
The Coupon from Duke Energy	○	○	○
Wal-Mart Advertising	○	○	○
Displays and signs in Wal-Mart	○	○	○
Sales Associate at the store	○	○	○
GE Advertising	○	○	○
Other Advertising	○	○	○
Friends or Family	○	○	○

Section 2:

In this section of the survey, we would like to understand how you use CFLs and other energy efficiency appliances?

	0	1	2	3	4	5	6-10	11+
How many CFLs are in use in your house?	○	○	○	○	○	○	○	○

	Very Satisfied	Somewhat Satisfied	Not at all Satisfied
Overall, how satisfied are you with the CFLs?	○	○	○

How long have you been using CFL light bulbs ? ○ Never ○ 3 – 6 months ○ 6 – 9 months ○ 9 – 12 months ○ 1 – 2 years ago ○ 2 – 3 years ago ○ More than 3 years ago

Have you added any electrical appliances to your home in the past year? ○ Yes ○ No

If Yes, is the appliance energy efficient? ○ Yes ○ No

Are you aware of ENERGY STAR? ○ Yes ○ No

Do you look for the ENERGY STAR label when purchasing an appliance? ○ Yes ○ No

	Often	Sometimes	Never
Do you use the Duke Energy Website?	○	○	○

More on Back☞

Litho

Has Duke Energy influenced your decision to purchase energy efficient products? ○ Yes ○ No

Section 3: General Information About Your Home

How would you best describe the type of home in which you live?

○ Detached single-family ○ Mobile Home ○ Condominium ○ Duplex/2-family

○ Multi-Family (3 or more units) ○ Townhouse

In what year was your home built?

○ Before 1959 ○ 1960 - 1979 ○ 1980 – 1989 ○ 1990 - 1997

○ 1998 – 2000 ○ 2001-2007 ○ Don't know

What is the approximate square footage (heated area) of your home?

○ Less than 500 ○ 500-999 ○ 1,000-1,499 ○ 1,500 – 1,999 ○

2,000 – 2,499 ○ 2,500-2,999 ○ 3,000-3,499 ○ 3,500-3,999 ○

4,000 or more ○ Don't know

Last year of schooling?

○ Some high school ○ Completed high school ○ Some college

○ Graduated college ○ Some grad school ○ Grad School degree

What range best describes your age group?

○ 18 to 35 ○ 36 to 45 ○ 46 to 55

○ 56 to 65 ○ 65 or over

What range best describes your combined household income?

○ Less than $25,000 ○ $25,000 to $50,000

○ $50,000 to $75,000 ○ Over $75,000

How many people live in your home?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ more than 7

Do you own or rent your home?

○ Own ○ Rent

Type of heating system?

○ Central furnace ○ Electric baseboard ○ Heat pump ○ Geo-thermal Heat Pump

○ Hot water or steam boiler ○ Other

Type of cooling system?

○ Central air ○ Window/Room ○ Heat pump unit air conditioner ○ Geo-thermal Heat Pump ○ Other
○ No cooling system

Primary heating fuel? ○ Electric ○ Gas ○ Oil ○ Propane ○ Other

Primary cooling fuel? ○ Electric ○ Gas ○ Other

Thank you for your help with this study. Your $10.00 incentive check will be mailed within 6 – 8 weeks. Please verify your address on the front page of this survey.

○ Yes, my address on the front page of this survey is correct

○ No, please mail my check to:

_____

_____

_____

THANK YOU FOR YOUR RESPONSES

Wal-Mart In-Store Purchases Survey

Dear Customer,

Duke Energy is continuously trying to deliver improved services to you, our customer. We would like your input on the company's recent Wal-Mart **Compact Fluorescent Light bulb** coupon promotion. If you have any questions, please contact Amanda Goins, 513-287-3177.

You will receive a check for $10 for your participation.

WE WOULD LIKE YOUR OPINION ABOUT OUR COUPON PROGRAM FOR COMPACT FLOURESCENT LIGHTBULBS (CFLs). FILL IN THE CIRCLES COMPLETELY USING BLUE OR BLACK INK.

Section I Awareness of Advertising

Do you recall receiving Compact Fluorescent Light bulb coupons from Duke Energy, for use in Wal-Mart ? ○ Yes ○ No

Did you use at least one coupon? ○ Yes – Continue this survey ○ No – Please skip to section IV on the back ☞

How influential were the following in your decision to purchase CFL(s)?

	Very Influential	Somewhat Influential	Not at all Influential
The Coupon from Duke Energy	○	○	○
Wal-Mart Advertising	○	○	○
Displays and signs in Wal-Mart	○	○	○
Sales Associate at the store	○	○	○
GE Advertising	○	○	○
Other Advertising	○	○	○

Friends or Family ○ ○
○

Section II Additional Purchases From Walmart

How often did you visit a Wal-Mart store before your recent visit to redeem the CFL coupon ?

○ Never ○ 1-2 visits a month ○ 3-4 visits a month ○ 5 or more visits a month

Did you purchase additional items on your visit to Wal-Mart ? ○ Yes ○ No

If yes, What was the estimated amount you spent on those additional items?

○ < $10.00 ○ $10.00-25.00 ○ $26.00-50.00 ○ >$50.00

Have you returned to Wal-Mart since redeeming the CFL coupon? ○ Yes ○ No

If yes, How often? ○ 1-2 visits a month ○ 3-4 visits a month ○ 5 or more visits a month

Section III Use of CFL Packs

In this section of the survey, we would like to understand how you have used the CFL packs you purchased with the coupon?

	0	1	2	3	4	5	6-10	11+
How many CFL packs did you purchase with the Duke Energy coupon?	○	○	○	○	○	○	○	○
How many CFL bulbs did you purchase in TOTAL?	○	○	○	○	○	○	○	○
How many CFL bulbs would you have bought without the coupon?	○	○	○	○	○	○	○	○
How many CFL bulbs have you since purchased without coupons ?	○	○	○	○	○	○	○	○

Of the bulb packs you bought with Duke Energy/ Wal-Mart coupons:

	0	1	2	3	4	5	6-10	11+
How many CFLs are now installed?	○	○	○	○	○	○	○	○

More on the back ☞

Please write in WHERE the CFL went, WHAT it replaced, and HOW MUCH you use that light.

	WHERE	WHAT WAS REPLACED	HOW MUCH ITS USED (Each Day)
Example	Living Room	60W Floor Lamp	6 Hours Per Day (average)
Bulb 1	_____	_____	_____
Bulb 2	_____	_____	_____
Bulb 3	_____	_____	_____
\ Bulb 4	_____	_____	_____
Bulb 5	_____	_____	_____
Bulb 6	_____	_____	_____

Any More? Please summarize briefly below.

Did you change the hours of use since installing the CFLs? ○ Yes ○ No

If you answered yes, how did your usage change? ○ Increased usage ○ Decreased usage

Have you removed any of the CFLs you installed? ○ Yes ○ No

	1-2	3	4	5	6	7-11	12+
If yes, how many did you remove?	○	○	○	○	○	○	○

Why did you remove them?_____

Did you have any CFLs in your house before you bought these discounted CFLs? ○ Yes ○ No

	1-2	3	4	5	6	7-11	12+

If yes, about how many? ○ ○ ○ ○ ○ ○ ○

	Very Satisfied	Somewhat Satisfied	Not at all Satisfied
Overall, how satisfied are you with the CFLs?	○	○	○

How long have you been using CFL light bulbs ?
○ Never purchased a CFL until now ○ A year ago
○ 2 to 3 years ago ○ 4 or more years

Section IV Energy Star Awareness

Did you give all of your coupons to someone else to use**?** ○ Yes ○ No

	Often	Sometimes	Never
Do you use the Duke Energy Website?	○	○	○

Have you added any electrical appliances to your home in the past year? ○ Yes ○ No

Are you aware of ENERGY STAR? ○ Yes ○ No

Do you look for the ENERGY STAR label when purchasing an appliance? ○ Yes ○ No

Section V General Information About Your Home

How would you best describe the type of home in which you live?

○ Detached single-family ○ Townhouse ○ Condominium ○ Duplex/2-family

○ Apartment ○ Manufactured home ○ Multi-Family (3 or more units)

In what year was your home built?

○ Before 1959 ○ 1960 - 1979 ○ 1980 - 1989

○ 1990 - 1997 ○ 1998 – 2000 ○ After 2001

What is the approximate square footage (heated area) of your home?

○ Less than 1,200 ○ 1,201 – 1,600 ○ 1,601 – 1,900

○ 1,901 – 2,400 ○ 2,401 – 3,000 ○ Greater than 3,000

○ Don't know

Last year of schooling?

○ Some high school ○ Completed high school ○ Some college

○ Graduated college ○ Some grad school ○ Grad School degree

What range best describes your age group?

○ 18 to 35 ○ 36 to 45 ○ 46 to 55

○ 56 to 65 ○ 65 or over

What range best describes your household income?

○ Less than $25,000 ○ $25,000 to $50,000

○ $50,000 to $75,000 ○ Over $75,000

How many people live in your home?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ more than 7

Do you own or rent your home?

○ Own ○ Rent

Type of heating system?

○ Central furnace ○ Electric baseboard ○ Heat pump ○ Geo-thermal ○ Other

Type of cooling system?

○ Central air ○ Window/Room ○ Heat pump unit air conditioner ○ Geo-thermal
○ Other
○ No cooling system

Primary heating fuel? ○ Electric ○ Gas ○ Other

Primary cooling fuel? ○ Electric ○ Gas ○ Other

Thank you for your help with this study. Your $10.00 incentive check will be mailed within 6 – 8 weeks. Please verify your address on the front page of this survey.

○ Yes, my address on the front page of this survey is correct

○ No, please mail my check to:

_____

_____

_____

THANK YOU FOR YOUR RESPONSES

Appendix 3 – Logged Bulb Characteristics Overview (Initial and Final Studies)

Bulb Characteristics Summary – Initial Lighting Logger Study

Bulb Type	Brand	Wattage	Location	Fixture	Table %
Candle	GE	60	Bathroom	Wall	0.60%
CFL	GE	13	Bedroom 1	Table lamp	0.60%
		26	Family Room	Table lamp	1.30%
			Living Room	Floor lamp	0.60%
	Greenlite	14	Family Room	Table lamp	0.60%
	Marathon	13	Bathroom	Wall	0.60%
			Bedroom 1	Ceiling	0.60%
			Hall	Ceiling	0.60%
		23	Family Room	Table lamp	0.60%
	Mini Spiral	13	Living Room	Table lamp	0.60%
	Miser	15	Office	Ceiling	0.60%
	Niagra	23	Bedroom 3	End Table	0.60%
			Living Room	Table lamp	0.60%
	Nvision	14	Kitchen	Ceiling	0.60%
			Living Room	Table lamp	0.60%
		23	Office	Ceiling	0.60%
	WestH	23	Office	Table lamp	0.60%
Flourescent	GE	40	Kitchen	Ceiling	1.30%
			Laundry Room	Ceiling	0.60%
	Unknown	Unknown	Bathroom	Ceiling	0.60%
		40	Basement	Ceiling	1.30%
			Laundry Room	Ceiling	0.60%
Incandescent	Comm Serv	60	Family Room	Ceiling Fan	0.60%
	Do It	60	Bathroom	Wall	0.60%
	DuraMax	60	Family Room	Ceiling Fan	0.60%
		75	Kitchen	Ceiling	0.60%
	GE	100	Basement	Table lamp	0.60%
			Closet	Ceiling	0.60%
			Family Room	Table lamp	0.60%
			Front Porch	Ceiling	0.60%
			Kitchen	Ceiling Fan	0.60%
				Ceiling	0.60%
		30-70-100	Family Room	Table lamp	0.60%
		40	Basement	Ceiling Fan	0.60%
			Bathroom	Wall	1.90%
			Hall	Ceiling	0.60%
		50-100-150	Bedroom 1	Table lamp	1.30%
			Family Room	Table lamp	0.60%
			Living Room	Table lamp	0.60%
		50-75-100	Living Room	Table lamp	0.60%

		60	Bathroom	Wall	1.90%
			Bedroom 1	Ceiling	1.30%
				Table lamp	1.90%
			Bedroom 2	Table lamp	0.60%
			Dining Room	Ceiling Can	0.60%
			Entryway	Ceiling	0.60%
			Family Room	Table lamp	0.60%
			Hall	Ceiling	1.90%
			Kitchen	Ceiling Fan	1.30%
				Ceiling	1.90%
			Living Room	Table lamp	3.10%
			Office	Ceiling	0.60%
		75	Bedroom 1	Floor lamp	0.60%
				Table lamp	0.60%
			Family Room	Ceiling	0.60%
			Hall	Ceiling	1.30%
			Kitchen	Ceiling	0.60%
			Living Room	Floor lamp	0.60%
	Phillips	40	Bathroom	Wall	0.60%
			Kitchen	Ceiling Fan	0.60%
		60	Bathroom	Wall	0.60%
			Bedroom 1	Ceiling Fan	0.60%
			Kitchen	Ceiling Fan	0.60%
		65	Bathroom	Ceiling Can	0.60%
	Polaroid	60	Bedroom 2	Ceiling Fan	0.60%
	Sunbeam	60	Bedroom 1	Ceiling Fan	0.60%
	Supreme	60	Hall	Ceiling	0.60%
	Sylvania	100	Bathroom	Wall	0.60%
			Bedroom 1	Ceiling	0.60%
			Bedroom 2	Ceiling Fan	0.60%
		30-70-100	Bedroom 1	Table lamp	0.60%
		40	Bathroom	Wall	0.60%
			Hall	Ceiling	0.60%
			Living Room	Floor lamp	0.60%
		60	Bathroom	Wall	1.90%
			Bedroom 1	Ceiling Fan	0.60%
				Ceiling	0.60%
				Table lamp	0.60%
			Dining Room	Chandelier	0.60%
			Hall	Ceiling	0.60%
			Living Room	Table lamp	0.60%
		75	Basement	Ceiling	0.60%
			Family Room	Floor lamp	0.60%
			Kitchen	Ceiling	0.60%
			Living Room	Table lamp	1.90%
	Unknown	Unknown	Dining Room	Ceiling	0.60%
		100	Living Room	Floor lamp	0.60%
		25	Bathroom	Ceiling	0.60%
				Wall	1.30%
			Rear Entry	Ceiling	0.60%

		40	Bathroom	Wall	2.50%
			Bedroom 1	Ceiling Fan	0.60%
			Family Room	Floor lamp	0.60%
			Hall	Ceiling	0.60%
			Kitchen	Ceiling Fan	1.30%
			Living Room	Ceiling Fan	0.60%
		50-100-150	Bedroom 3	Floor lamp	0.60%
			Family Room	Table lamp	0.60%
		50	Entryway	Track	0.60%
		60	Basement	Can	0.60%
			Bathroom	Wall	0.60%
			Bathroom/Basement	Wall	0.60%
			Bedroom 1	Table lamp	1.30%
			Bedroom 2	Ceiling Fan	0.60%
			Kitchen	Ceiling Fan	0.60%
				Ceiling	1.30%
			Laundry Room	Ceiling	0.60%
			Living Room	Table lamp	0.60%
			Office	Ceiling Fan	0.60%
			Porch	Outdoor Wall	0.60%
		75	Bathroom	Wall	0.60%
			Entryway	Ceiling	0.60%
			Hall	Ceiling	0.60%
			Kitchen	Ceiling	0.60%
			Master Bedroom Closet	Ceiling	0.60%
	WestH	100	Bedroom 2	Track	0.60%
			Family Room	Floor lamp	0.60%
		40	Living Room	Table lamp	0.60%
		60	Bedroom 2	Ceiling Fan	0.60%
			Kitchen	Ceiling Fan	0.60%
			Living Room	Table lamp	0.60%
Flood	GE	65	Basement	Track	0.60%
		75	Bathroom	Ceiling	0.60%
	Miser	65	Basement	Ceiling Can	0.60%
	Sylvania	120	Kitchen	Ceiling Can	0.60%
		65	Basement	Ceiling Can	0.60%
	Unknown	65	Bathroom	Ceiling Can	0.60%
		75	Hall	Ceiling Can	0.60%

Bulb Characteristics Summary – Final Lighting Logger Study

Bulb Type	Brand	Wattage	Location	Fixture	Table %
CFL	GE	10	Bathroom	Wall Light	.5%
		12-23-29	Family Room	Table Lamp	.5%
			Living Room	Table Lamp	.5%
		12-23-32	Living Room	Table Lamp	.5%
		13	Basement	Ceiling	.5%
			Bathroom	Ceiling	1.0%
				Wall Light	1.5%
			Bedroom 1	Ceiling Fan	1.0%
				Table Lamp	1.5%
			Bedroom 2	Ceiling Fan	.5%
			Closet	Ceiling	.5%
			Dining Room	Ceiling Fan	1.0%
				Ceiling	.5%
				Desk Lamp	.5%
			Family Room	Ceiling	.5%
				Floor	1.0%
				Table Lamp	2.0%
			Hall	Ceiling	.5%
			Kitchen	Ceiling Fan	1.5%
				Ceiling	2.5%
				Table Lamp	.5%
			Laundry Room	Ceiling	.5%
			Living Room	Floor	1.0%
				Table Lamp	2.0%
		15	Living Room	Can	.5%
		20	Basement	Ceiling	.5%
			Bathroom	Wall Light	.5%
			Family Room	Table Lamp	1.0%
			Kitchen	Ceiling	.5%
				Under Cabinet	.5%
			Living Room	Table Lamp	.5%
		23	Bedroom 1	Floor	1.0%
				Table Lamp	.5%
			Family Room	Table Lamp	1.5%
			Kitchen	Ceiling	1.0%
			Living Room	Floor	1.0%
				Table Lamp	.5%
		26	Bathroom	Wall Light	1.0%
			Bedroom 1	Ceiling Fan	.5%
			Family Room	Floor	.5%
				Wall Light	1.0%

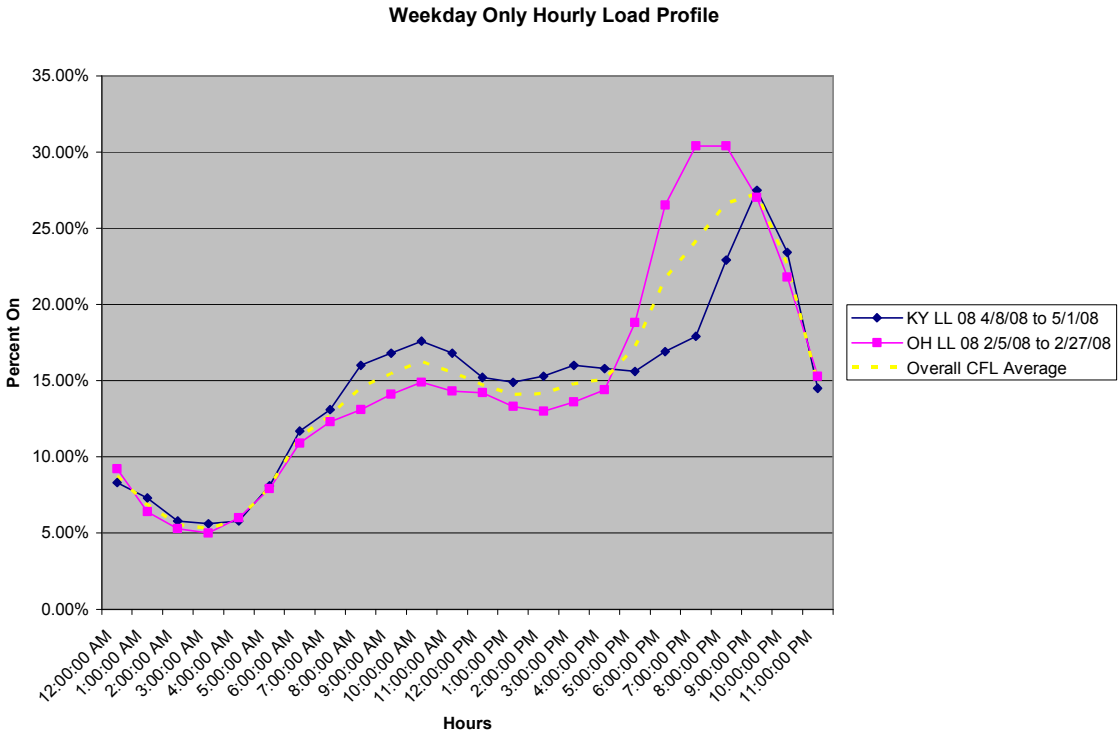
			Kitchen	Ceiling Fan	1.0%
			Living Room	Floor	1.5%
				Table Lamp	.5%
			Office/Den	Table Lamp	.5%
		30	Bedroom 1	Torchier	.5%
		45	Living Room	Table Lamp	.5%
	Lights of America	25	Family Room	Table Lamp	.5%
	Nvison	14	Living Room	Table Lamp	.5%
		23	Family Room	Table Lamp	.5%
			Living Room	Table Lamp	.5%
			Play Room	Ceiling	.5%
	Sylvania	13	Hall	Table Lamp	.5%
			Kitchen	Ceiling Fan	.5%
		23	Bedroom 1	Table Lamp	.5%
	Unknown	13	Dining Room	Table Lamp	.5%
			Family Room	Table Lamp	.5%
Flood	Feit	60	Kitchen	Can	.5%
	GE	120	Kitchen	Ceiling	.5%
		75	Kitchen	Ceiling	.5%
	Sylvania	75	Family Room	Ceiling	.5%
	Unknown	50	Office/Den	Table Lamp	.5%
Fluorescent	GE	20	Kitchen	Under Cabinet	.5%
		40	Bathroom	Ceiling	.5%
	Lights of America	25	Kitchen	Ceiling	.5%
	Phillips	15	Bathroom	Wall Light	.5%
		20	Kitchen	Under Cabinet	1.5%
		40	Bathroom	Ceiling	1.0%
			Kitchen	Ceiling	.5%
				Under Cabinet	1.0%
			Laundry Room	Ceiling	.5%
			Workout/Gym	Ceiling	.5%
	Sylvania	30	Laundry Room	Ceiling	.5%
		32	Kitchen	Ceiling	.5%
	Unknown	15	Kitchen	Table Lamp	.5%
		60	Laundry Room	Ceiling	.5%
Incandescent	GE	100	Bathroom	Wall Light	.5%
			Bedroom 1	Table Lamp	.5%
			Dining Room	Ceiling Fan	.5%
			Family Room	Floor	.5%
			Hall	Ceiling	1.0%
			Kitchen	Ceiling Fan	.5%
				Ceiling	.5%
			Office/Den	Table Lamp	.5%
		150	Living Room	Table Lamp	1.0%
		25	Bathroom	Ceiling	.5%

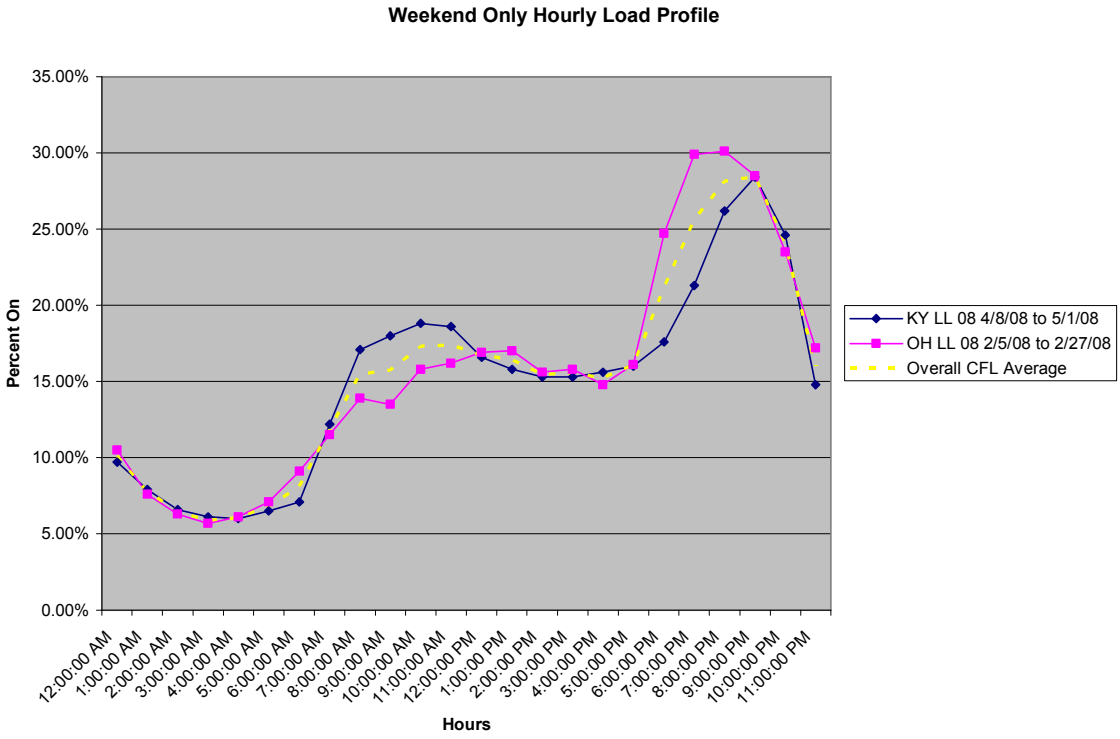
				Wall Light	2.0%
			Dining Room	Ceiling Fan	.5%
			Hall	Ceiling	.5%
			Kitchen	Table Lamp	.5%
		40	Bathroom	Track	.5%
				Wall Light	5.0%
			Bedroom 1	Wall Light	.5%
			Dining Room	Ceiling Fan	.5%
			Kitchen	Wall Light	.5%
		50-100-150	Bedroom 2	Table Lamp	.5%
			Family Room	Table Lamp	1.5%
			Living Room	Floor	.5%
				Table Lamp	.5%
				Wall Light	.5%
			Office/Den	Table Lamp	.5%
				Wall Light	.5%
		50	Bathroom	Wall Light	.5%
		60	Bathroom	Ceiling	.5%
				Wall Light	3.0%
			Bedroom 1	Ceiling	.5%
				Table Lamp	.5%
			Dining Room	Ceiling Fan	1.0%
			Family Room	Table Lamp	.5%
			Hall	Ceiling	.5%
			Laundry Room	Ceiling	.5%
			Living Room	Floor	.5%
				Table Lamp	.5%
			Office/Den	Table Lamp	.5%
		75	Bathroom	Wall Light	.5%
			Family Room	Table Lamp	.5%
			Kitchen	Ceiling Fan	.5%
			Living Room	Floor	.5%
				Table Lamp	1.0%
			Office/Den	Ceiling	.5%
	Halco	60	Bathroom	Wall Light	.5%
	Phillips	100	Kitchen	Ceiling	.5%
		40	Bathroom	Wall Light	.5%
			Hall	Ceiling	.5%
			Laundry Room	Ceiling	.5%
		60	Dining Room	Ceiling	.5%
			Hall	Ceiling	.5%
			Laundry Room	Ceiling	.5%
			Living Room	Wall Light	.5%
		75	Bathroom	Ceiling	.5%
			Laundry Room	Ceiling	.5%

	Satco	60	Bathroom	Wall Light	.5%
	Sylvania	40	Bathroom	Wall Light	.5%
		60	Bathroom	Wall Light	.5%
			Family Room	Floor	.5%
				Table Lamp	.5%
			Kitchen	Ceiling	.5%
			Living Room	Floor	.5%
	Unknown	40	Bathroom	Wall Light	.5%
		60	Office/Den	Ceiling Fan	.5%

Appendix 4 – OH and KY Hourly Lighting Logger Data

Lighting logger data from the OH study described in this report (the "final" lighting logger study) and a KY lighting logger study are compared in the graphs below. The graphs depict lighting logger data from 2/5/08 to 2/27/08 for Ohio, and from 4/6/08 to 5/1/08 for Kentucky. The average of the two data sets is also presented. Overall, for weekdays as well as weekends, the usage of Ohio and Kentucky customers has a similar load shape, with Kentucky customers having slightly more usage in the morning hours, and Ohio customers having more usage in the evening hours. Overall, customers have the least usage in the early morning hours, around 3:00am or 4:00am, and the most usage in the late evening hours, around 8:00pm or 9:00pm.




Weekend Only Hourly Load Profile
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Percent On
12:00:00 AM
1:00:00 AM
2:00:00 AM
3:00:00 AM
4:00:00 AM
5:00:00 AM
6:00:00 AM
7:00:00 AM
8:00:00 AM
9:00:00 AM
10:00:00 AM
11:00:00 AM
12:00:00 PM
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6:00:00 PM
7:00:00 PM
8:00:00 PM
9:00:00 PM
10:00:00 PM
11:00:00 PM
Hours
KY LL 08 4/8/08 to 5/1/08
OH LL 08 2/5/08 to 2/27/08
Overall CFL Average

Appendix 5: Distributions of Initial and Final Populations

These findings are supported by a Kolmogorov-Smirnov Z test of the survey responses of the two logger study populations, which compared the responses of each population to similar questions on the surveys to determine whether the two populations are similar to one another, that is, come from similar distributions. Because participants self-select into the survey responses and logger studies, it is important to confirm that the samples are similar. The absolute, positive, and negative statistics display the largest differences between distributions in each sample. The "Asymp. Sig." values state whether this difference is significant. If the significance, or P values, are greater than .01, then we cannot reject the statement that the populations come from the same distribution.

Tables 7 and 8 show the first test, comparing the initial and final lighting logger study populations. The P values for this test are above .01, meaning that we cannot reject the statement that the populations come from the same distribution. P values for questions 8 through 11 are affected by the fact that the surveys were given before and after the implementation of the CFL program. Questions 8 through 11 also have the largest absolute difference values.

Table 7. K-S Z test for Initial and Final Lighting Logger Study Populations

		1	2	3	4	5	6	7	8
		What is the approximate square footage (heated area) of your home?	How many people live in your home?	Type of heating system?	Type of cooling system?	Primary heating fuel?	Primary cooling fuel?	Do you own or rent your home?	Do you recall receiving CFL bulb coupons from Duke Energy, for use in Wal-Mart GE bulbs?
Most Extreme Differences	Absolute	.249	.238	.108	.124	.084	.082	.341	.475
	Positive	.249	.238	.013	.124	.000	.082	.341	.475
	Negative	-.125	-.148	-.108	-.033	-.084	.000	.000	.000
Kolmogorov-Smirnov Z		1.104	1.101	.498	.578	.387	.379	1.590	2.197
Asymp. Sig. (2-tailed)		.175	.177	.965	.892	.998	.999	.013	.000

Table 8. K-S Z test for Initial and Final Lighting Logger Study Populations continued

		9	10	11	12	13	14	15	16	17	18
		How many CFL bulbs did you purcha se in total?	How many CFL bulbs would you have bought without the coupon?	How many CFLs are now installed?	Did you change the hours of use since installing the CFLs?	How many of the CFLs you installed have you removed?	How many CFL bulbs have you since purchased without coupons?	Overall, how satisfied are you with the CFLs?	How many CFLs did you have in your house before you bought these discounted CFLS?	In what year was your home built?	How would you best describe the type of home in which you live?
Most Extreme Differences	Absolute	.970	.306	.716	.070	.229	.203	.241	.248	.243	.110
	Positive	.000	.000	.000	.070	.229	.000	.241	.031	.000	.110
	Negative	-.970	-.306	-.716	.000	.000	-.203	.000	-.248	-.243	-.091
Kolmogorov-Smirnov Z		4.211	1.253	2.869	.266	.650	.802	.889	.884	1.086	.504
Asymp. Sig. (2-tailed)		.000	.086	.000	1.000	.793	.540	.408	.416	.189	.961

Tables 9 and 10 show a K-S Z test comparing the entire survey population for each survey (not just the lighting logger participants). The results of this test show similar results to the first K-S Z test comparing the logger study participants only. Again, the P values are above .01, meaning we cannot reject the statement that the two populations are similar. The largest absolute differences between the populations are from questions 8 through 11.

Table 9. K-S Z test for Initial and Final CFL Program Survey Populations

		What is the approximate square footage (heated area) of your home?	How many people live in your home?	Type of heating system?	Type of cooling system?	Primary heating fuel?	Primary cooling fuel?	Do you own or rent your home?	Do you recall receiving CFL bulb coupons from Duke Energy, for use in Wal-Mart GE bulbs?
Most Extreme Differences	Absolute	.175	.207	.062	.108	.081	.106	.242	.470
	Positive	.175	.207	.062	.108	.029	.106	.242	.470
	Negative	-.063	-.094	-.018	-.029	-.081	.000	.000	.000
Kolmogorov-Smirnov Z		1.016	1.262	.379	.667	.493	.655	1.498	2.872
Asymp. Sig. (2-tailed)		.254	.083	.999	.765	.968	.784	.023	.000

Table 10. K-S Z test for Initial and Final CFL Program Survey Populations continued

		How many CFL bulbs did you purchase in total?	How many CFL bulbs would you have bought without the coupon?	How many CFLs are now installed?	Did you change the hours of use since installing the CFLs?	How many of the CFLs you installed have you removed?	How many CFL bulbs have you since purchased without coupons?	Overall, how satisfied are you with the CFLs?	How many CFLs did you have in your house before you bought these discounted CFLS?	In what year was your home built?	How would you best describe the type of home in which you live?
Most Extreme Differences	Absolute	.968	.324	.715	.073	.240	.261	.214	.169	.215	.145
	Positive	.000	.028	.000	.073	.240	.000	.214	.169	.000	.145
	Negative	-.968	-.324	-.715	.000	-.008	-.261	.000	-.144	-.215	-.023
Kolmogorov-Smirnov Z		5.402	1.643	3.499	.334	.753	1.251	.937	.706	1.282	.895
Asymp. Sig. (2-tailed)		.000	.009	.000	1.000	.622	.087	.343	.701	.075	.400

These findings are also supported by a K-S Z test of the lighting logger data for each population, which finds that we cannot reject the null hypothesis that the two populations come from the same distribution based on the p value greater than .05 (95% confidence).

Table 11. K-S Z test for Initial and Final Lighting Logger Study Populations

		average hours per day
Most Extreme Differences	Absolute	.135
	Positive	.026
	Negative	-.135
Kolmogorov-Smirnov Z		1.245
Asymp. Sig. (2-tailed)		.090

Appendix 6: Wal-Mart CFL Coupon Mailer

Black boxes mark placement of address labels and barcodes.

SAVE TODAY AND TOMORROW WITH ENERGY SAVING LIGHT BULBS.

Duke Energy Celebrates Earth Month with Wal-Mart and GE
Duke Energy is proud to offer our customers special savings on the purchase of GE Energy Smart™ compact fluorescent light bulbs (CFLs). Today's CFLs produce high-quality, soft white light, are smaller than the CFLs of the past, and can be used in a variety of fixtures.

Save Money on Energy...
Now That's a Bright Idea
When you use CFL bulbs throughout your home, your savings will quickly add up and you'll be helping to conserve valuable energy resources. When you purchase and install a 3-pack of CFLs, you will:

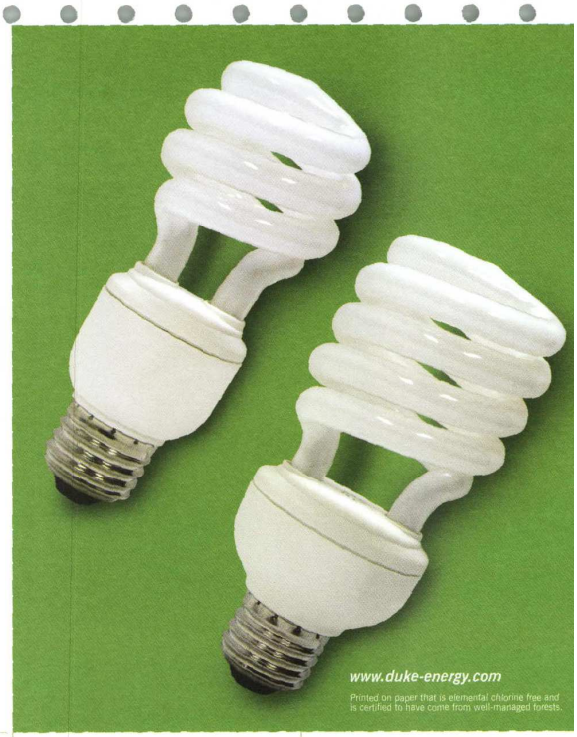
- Save $47 to $74 on energy bills over the rated life of each bulb
- Use up to 75% less energy
- Change bulbs less frequently because CFLs last up to 10 times longer

See package for specific product ratings. Energy savings based on 10¢ per kWh.

Experience Savings Now With These Valuable Coupons
Visit Wal-Mart today and select a three-pack of GE Energy Smart™ light bulbs and start saving.

Duke Energy. WAL★MART

Duke Energy Ohio may offer additional energy saving programs to customers using these coupons.



MANUFACTURER'S COUPON • EXPIRES 06.30.08
$3 OFF
ONE GE Energy Smart™ 13 Watt CFL 3-Pack
Redeemable at Wal-Mart ONLY

Consumer: Coupon valid only on your purchase of one (1) GE Energy Smart™ 13 watt 3-pack compact fluorescent light bulbs at Wal-Mart. You pay sales tax. Coupon may not be reproduced or combined with another offer and is non-transferable. Void if transferred, exchanged, sold or reproduced. Offer limited to one purchase at a Wal-Mart store.
Wal-Mart: GE will reimburse Wal-Mart the lesser of (a) the retail price, and (b) $3, plus 8¢ handling, for one (1) GE Energy Smart™ 13 watt 3-pack compact fluorescent light bulbs provided Wal-Mart accepted this coupon in accordance with GE's Coupon Redemption Policy. Void where prohibited. Cash value 1/100 of 1¢. For a copy of the policy and/or coupon redemption mail to: GE Consumer & Industrial Lighting Products, P.O. Box 880650, El Paso, TX 88588-0650.

MANUFACTURER'S COUPON • EXPIRES 06.30.08
$3 OFF
ONE GE Energy Smart™ 13 Watt CFL 3-Pack
Redeemable at Wal-Mart ONLY

Consumer: Coupon valid only on your purchase of one (1) GE Energy Smart™ 13 watt 3-pack compact fluorescent light bulbs at Wal-Mart. You pay sales tax. Coupon may not be reproduced or combined with another offer and is non-transferable. Void if transferred, exchanged, sold or reproduced. Offer limited to one purchase at a Wal-Mart store.
Wal-Mart: GE will reimburse Wal-Mart the lesser of (a) the retail price, and (b) $3, plus 8¢ handling, for one (1) GE Energy Smart™ 13 watt 3-pack compact fluorescent light bulbs provided Wal-Mart accepted this coupon in accordance with GE's Coupon Redemption Policy. Void where prohibited. Cash value 1/100 of 1¢. For a copy of the policy and/or coupon redemption mail to: GE Consumer & Industrial Lighting Products, P.O. Box 880650, El Paso, TX 88588-0650.

MANUFACTURER'S COUPON • EXPIRES 06.30.08
$3 OFF
ONE GE Energy Smart™ 20 Watt CFL 3-Pack
Redeemable at Wal-Mart ONLY

Consumer: Coupon valid only on your purchase of one (1) GE Energy Smart™ 20 watt 3-pack compact fluorescent light bulbs at Wal-Mart. You pay sales tax. Coupon may not be reproduced or combined with another offer and is non-transferable. Void if transferred, exchanged, sold or reproduced. Offer limited to one purchase at a Wal-Mart store.
Wal-Mart: GE will reimburse Wal-Mart the lesser of (a) the retail price, and (b) $3, plus 8¢ handling, for one (1) GE Energy Smart™ 20 watt 3-pack compact fluorescent light bulbs provided Wal-Mart accepted this coupon in accordance with GE's Coupon Redemption Policy. Void where prohibited. Cash value 1/100 of 1¢. For a copy of the policy and/or coupon redemption mail to: GE Consumer & Industrial Lighting Products, P.O. Box 880650, El Paso, TX 88588-0650.

MANUFACTURER'S COUPON • EXPIRES 06.30.08
$3 OFF
ONE GE Energy Smart™ 26 Watt CFL 3-Pack
Redeemable at Wal-Mart ONLY

Consumer: Coupon valid only on your purchase of one (1) GE Energy Smart™ 26 watt 3-pack compact fluorescent light bulbs at Wal-Mart. You pay sales tax. Coupon may not be reproduced or combined with another offer and is non-transferable. Void if transferred, exchanged, sold or reproduced. Offer limited to one purchase at a Wal-Mart store.
Wal-Mart: GE will reimburse Wal-Mart the lesser of (a) the retail price, and (b) $3, plus 8¢ handling, for one (1) GE Energy Smart™ 26 watt 3-pack compact fluorescent light bulbs provided Wal-Mart accepted this coupon in accordance with GE's Coupon Redemption Policy. Void where prohibited. Cash value 1/100 of 1¢. For a copy of the policy and/or coupon redemption mail to: GE Consumer & Industrial Lighting Products, P.O. Box 880650, El Paso, TX 88588-0650.

Appendix 7: CFL Program Interactions with Retailers

This is a chart of the interactions between the various campaigns and stores that a CFL promotion has occurred in so far (including and in addition to Wal-Mart).

A letter represents a distributor, and a number represents a subset of that distributor (web, other, mail, etc.).

Interactions	Number of customers
A1	275
B1	1683
B1 & A1	1
C1	326
C1 & A1	1
C1 & B1	9
D1 & B1	4573
D1 & A1	12
D1 & B1	47
D1 & C1	1
A2	101
A2 & B1	1
A2 & C1	2
A2 & D1	6
A3	36
A3 & B1	1
A3 & D1	1
A3 & A2 & D1	1
E1	6172
E1 & A1	27
E1 & B1	71
E1 & B1 & A1	2
E1 & C1	29
E1 & C1 & B1	3
E1 & D1	26
E1 & D1 & A1	2
E1 & D1 & B1	1
E1 & D1 & C1	2
D2	29528
D2 & A1	46
D2 & B1	162
D2 & B1 & A1	2
D2 & D1	120
D2 & A2	21
D2 & A3	10
D2 & E1	1870
D2 & E1 & A1	13

D2 & E1 & B1	28
D2 & E1 & B1 & A1	1
D2 & E1 & D1	27
D2 & E1 & D1 & B1	2
Total	45242

Appendix 8: Tables of Customer Characteristics Model Data

The following tables describe the customer characteristics that were appended to customer data for the Customer Characteristics model in Section 1. As previously stated, the model compared equal populations of CFL redeemers and other customers to determine the characteristics of customers more likely to participate in the promotion. The tables show the distribution of responses. In some cases, customer responses were grouped into ranges. Where applicable, the ranges are based on the characteristics of customers more likely to participate in the program (for example, "Age of head of household" is grouped into customers younger than 57 and customers 57 or older, with customers 57 or older more likely to participate). The tables included are for the 9 variables that were found to be significant in the model.

	0	1-750	751-1500	1501-2250	2251-3000	3001-3750	3751-4500	4501-5250	5251-6000	6001 and greater	Total
December Usage (Redeemers)	12	2581	2649	926	381	122	44	18	4	5	6742
	.2%	38.3%	39.3%	13.7%	5.7%	1.8%	.7%	.3%	.1%	.1%	100.0%

	0	1-750	751-1500	1501-2250	2251-3000	3001-3750	3751-4500	4501-5250	5251-6000	6001 and greater	Total
December Usage (All)	50	5439	5097	1773	707	259	95	38	15	11	13484
	.4%	40.3%	37.8%	13.1%	5.2%	1.9%	.7%	.3%	.1%	.1%	100.0%

	< 57	> = 57	Total
Age of head of household (Redeemers)	2762	3980	6742
	41.0%	59.0%	100.0%

	< 57	> = 57	Total
Age of head of household (All)	7443	6041	13484
	55.2%	44.8%	100.0%

	< 25,000	25,000 to 49,999	50,000 to 74,999	75,000 to 100,000	Over 100,000	Total
Family income (Redeemers)	887	1944	1537	1035	1339	6742
	13.2%	28.8%	22.8%	15.4%	19.9%	100.0%

	< 25,000	25,000 to 49,999	50,000 to 74,999	75,000 to 100,000	Over 100,000	Total
Family income (All)	2052	3764	2884	1956	2828	13484
	15.2%	27.9%	21.4%	14.5%	21.0%	100.0%

	Most likely to rent	Likely to rent	Least likely to rent	Likely homeowner	Most likely homeowner	Self reported homeowner	Total
Owner or renter probability (Redeemers)	76	470	94	198	333	5571	6742
	1.1%	7.0%	1.4%	2.9%	4.9%	82.6%	100.0%

	Most likely to rent	Likely to rent	Least likely to rent	Likely homeowner	Most likely homeowner	Self reported homeowner	Total
Owner or renter probability (All)	293	1548	238	385	548	10472	13484
	2.2%	11.5%	1.8%	2.9%	4.1%	77.7%	100.0%

	< = 6 years	Between 7 and 21	> 21 years	Total
Length of residence (Redeemers)	1651	2444	2647	6742
	24.5%	36.3%	39.3%	100.0%

	< = 6 years	Between 7 and 21	> 21 years	Total
Length of residence (All)	4051	5204	4229	13484
	30.0%	38.6%	31.4%	100.0%

	0	1	2	2	3	4	5	6	7	Total
Number of adults in household (Redeemer)	7	1225	1	2941	1495	687	271	89	26	6742
	.1%	18.2%	.0%	43.6%	22.2%	10.2%	4.0%	1.3%	.4%	100.0%

	0	1	2	2	3	4	5	6	7	8	Total
Number of adults in household (All)	16	3171	2	5930	2557	1174	453	144	34	3	13484
	.1%	23.5%	.0%	44.0%	19.0%	8.7%	3.4%	1.1%	.3%	.0%	100.0%

	0	< = 50,000	51,000 to 100,000	101,000 to 250,000	251,000 to 500,000	501,000 to 750,000	751,000 to 1 million	> 1 million	Total
Sales price of home (Redeemer)	2250	1063	1334	1789	273	30	1	2	6742
	33.4%	15.8%	19.8%	26.5%	4.0%	.4%	.0%	.0%	100.0%

	0	< = 50,000	51,000 to 100,000	101,000 to 250,000	251,000 to 500,000	501,000 to 750,000	751,000 to 1 million	> 1 million	Total
Sales price of home (All)	4645	2012	2570	3576	591	71	10	9	13484
	34.4%	14.9%	19.1%	26.5%	4.4%	.5%	.1%	.1%	100.0%

	1 = Most likely	2	3	4	5	6	7	8	9	10 = Least likely	Total
Internet Adoption score (Redeemer)	566	497	546	547	857	738	819	862	746	564	6742
	8.4%	7.4%	8.1%	8.1%	12.7%	10.9%	12.1%	12.8%	11.1%	8.4%	100.0%

	1 = Most likely	2	3	4	5	6	7	8	9	10 = Least likely	Total
Internet Adoption score (All)	1379	1195	1250	1251	1820	1578	1546	1440	1129	896	13484
	10.2%	8.9%	9.3%	9.3%	13.5%	11.7%	11.5%	10.7%	8.4%	6.6%	100.0%

	1 = Most likely	2	3	4	5	5	6	7	8	9	10 = Least likely	Total
Probability of revolving monthly payments (Redeemers)	562	813	624	610	1	586	657	676	684	819	710	6742
	8.3%	12.1%	9.3%	9.0%	.0%	8.7%	9.7%	10.0%	10.1%	12.1%	10.5%	100.0%

	1 = Most likely	2	3	4	5	5	6	7	8	9	10 = Least likely	Total
Probability of revolving monthly payments (All)	1601	1858	1502	1380	3	1219	1293	1217	1160	1200	1051	13484
	11.9%	13.8%	11.1%	10.2%	.0%	9.0%	9.6%	9.0%	8.6%	8.9%	7.8%	100.0%

Summary: Text Appendix N of Status Report electronically filed by Anita M Schafer on behalf of Watts, Elizabeth H. Ms.