

Figure 4. Customer Profile Page

As the site went live and visitor traffic built up, it became apparent that customers were having difficulty moving beyond the profile page to the EFI store due to technical data handing issues. As a result, visitors received an error message indicating “token already in use.” This error caused confusion and at least temporarily hindered thousands of people from reaching the Savings Store. The problem was diagnosed and ultimately resolved, not by merely fixing the technical glitch, but rather by eliminating the entire step in the login process. Instead the profile page was removed and the terms and conditions were moved to the end of the shopping cart buying process. This move also addressed customer objections to the need to review and agree to terms and conditions before they knew what the program was offering. TecMarket Works commends Duke Energy on this decision since it eliminated a barrier to entry for customers, allowing more people to browse the Savings Store and ensuring that only those people who intended to make a purchase needed to review their address on file and agree to the terms and conditions.

Duke Energy Savings Store Website

Once the authentication process is completed, visitors are automatically redirected from the authentication pop-up windows to the Duke Energy Savings Store home page. The primary elements of Savings Store website are all reviewed in this section, including navigation, customer education, products, and the shopping process. Numerous screen capture images from the website are shown in this section of the evaluation. Additional images can be seen in *Appendix F: Website Screen Images*.

Website Navigation

The Savings Store home page is arranged in a traditional grid layout with a large central column surrounded by smaller left and right columns to the sides and a footer below (Figure 5). In the central space a 50-second welcome video automatically launches when the page is first loaded. The video shows an actress who orients the visitor to the site’s shopping assistance tools and

other helpful resources. She also mentions current special promotions, such as discounts on shipping. The left hand column of the home page is devoted to website navigation. The bottom of the page consists of a series of three boxes: a promotion for discounted shipping, featured bulbs for sale, and a special offer for energy efficient holiday lighting. The right hand column contains four boxes: 1) the Help Resources tool referenced in the welcome video; 2) a separate lighthearted video that shows CFLs installing themselves around the house; 3) a video explaining why Duke Energy wants its customers to save energy; and 4) a box showing the most popular bulb sold at the Savings Store. As visitors move beyond the home page and further into the Savings Store, the right hand column also displays products in the shopping cart and an itemized order history.

DUKE ENERGY **Savings Store**
energy-saving discounts for Duke Energy residential customers

order questions/support
click or call for assistance
phone: 656.849.9704

efi

Home Logoff | My Account | Cart | Checkout

SEARCH
Advanced Search

BRANDS
Please Select...

ITEMS
Candelabra
Capsules
Globes
Reflectors
Spirals
Additional Items

SUPPORT
FAQs
Shipping & Returns
Privacy Notice
Contact Us
Package Tracking

When it comes to the best deals on energy-saving bulbs, we deliver.

Candelabra
Capsule
Globe
Reflector
Spiral

NEED HELP?
Lighting Benefits
Go green, save green
More Resources

Let your energy-saving bulbs do what they were born to do.
Watch the video

Why save energy?
Watch the video

Most Popular
TCP G25 Globe
\$3.00
\$1.30

Get free shipping on orders over \$25 or \$5 flat rate shipping on small orders through December 15, 2014

This Philips LED capsule
Now only \$4.95
That's more than 50% off retail.
Buy this bulb

Stay merry and bright with 70-bulb LED light strings
Available in white or multi-color.
Order while supplies last

Tuesday 11 November, 2014 © Energy Federation Incorporated

Figure 5. Duke Energy Savings Store Home Page

As a result of the well-considered layout and the various tools provided, website navigation is straightforward and self-explanatory. The left side navigation column remains constant for virtually all pages on the site. It provides visitors with a useful set of tools for finding what they are looking for, including: a search feature; a pull down menu listing bulb manufacturers; a list of quick access links for bulb types; and a separate set of links for support features, such as

FAQs, shipping and returns, privacy notice, contact us, and package tracking. Throughout the website, in-text links are colored blue, and they display an underline when visitors mouse over them.

In addition to these standard navigational elements, a thin horizontal navigation strip at the top of each page displays breadcrumbs to indicate where the visitor is within the website. For instance, when a visitor is looking at a MaxLite A21 bulb the breadcrumbs show the following: *Home » Capsules » CFL Capsules » MaxLite A21*. The navigation strip also permanently displays links for: *Logoff | My Account | Cart | Checkout*, making these features readily accessible at all times. TecMarket Works considers the addition of this navigation strip to be a best practice for utility web design.

Website Search Function

The Savings Store offers two levels of search functionality: basic and advanced (Figure 6). The basic feature searches for key words entered. The advanced search function allows visitors to refine their searches by bulb category (candelabra, capsule, etc.), manufacturer, price, and date. When we tested both the basic and advanced search functions the results were mixed. Some keyword searches yielded results consistent with the website inventory, while others did not. Specific findings are shown in the list below Figure 6.

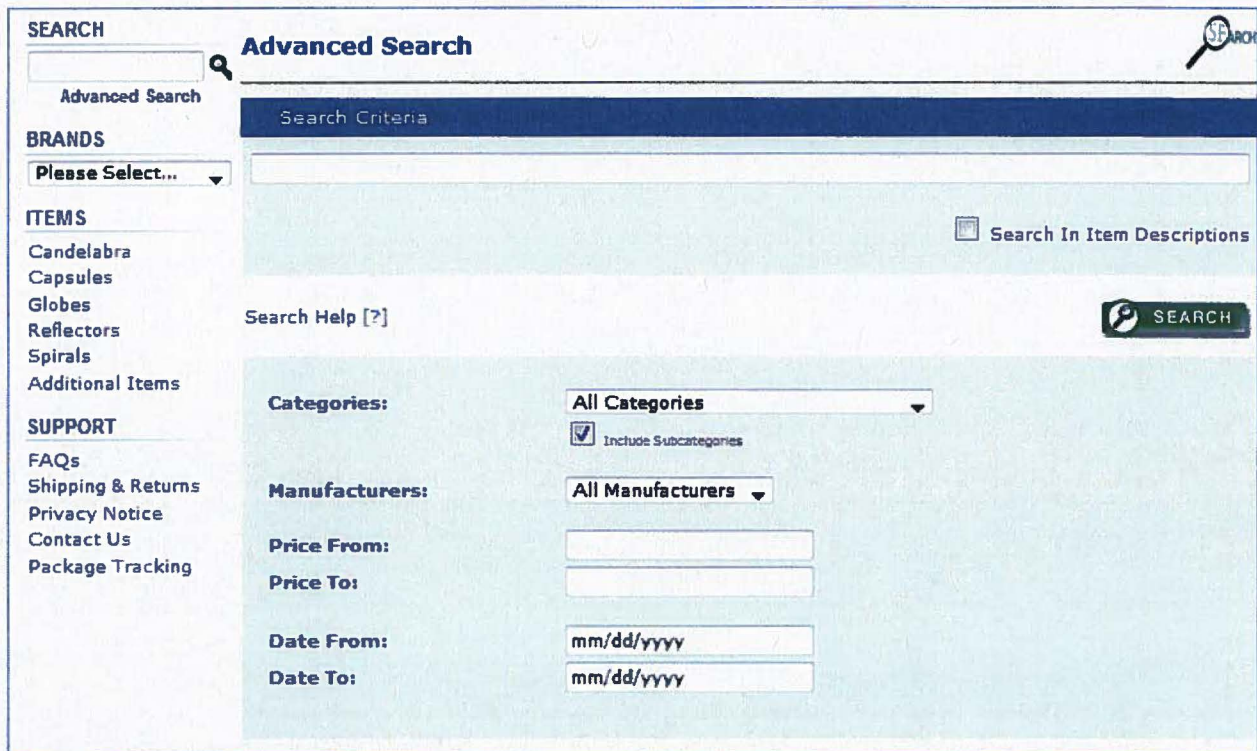


Figure 6. Website Search Function

Bulb Type Search Issues

- “Spiral” showed one result for a non-incended normal 13 W spiral and three results for three-way spirals (incended and non-incended), but it did not find dimmable spirals, which are sold at the Savings Store.
- While “spiral” showed four results, “spirals” yielded zero items. Likewise “candelabra” resulted in 12 items, but “candelabras” resulted in zero. Since customers may enter singular or plural terms, both terms should be coded into the search function.
- “Capsule” and “capsules” both resulted in no items found. This prominent category of bulbs should be coded in.
- “Globe” and “globes” both showed eight items found. No issues were noted.
- “Reflector” resulted in 28 products, including both CFLs and LEDs. But when “CFL reflector” and “LED reflector” were searched they each returned just two items respectively. Search terms should be broadened to reveal all bulbs that fit these descriptions.
- “Three way” found four items, yet “3 way” resulted in eight items. Since customers may enter either phrase, the results should be coded so that all items are found with both terms.
- “Dimmable” resulted in 31 products found, but “dimmables” yielded none. “Dimmable lighting” yielded 16 hits. We recommend that search coding be extended to accommodate plurals and possible word combinations containing the bulb type name, as well as commonly associated words such as light, lighting, bulb, bulbs, and light bulb, and alternative spellings such as lightbulb.

Application Type Search Issues

- “Ceiling” yielded six candelabra products, but failed to list other bulb types such as spirals and capsules which may also be used in ceiling fixtures.
- “Table lamp” found 88 products, but “floor lamp,” “pendant,” “mounted ceiling,” and “vanity” resulted in no bulbs, despite the fact that these words are prominently mentioned alongside table lamps as application types.
- “Recessed” and “recessed light” yielded 28 items, but “recessed lighting” found only 22.
- “Sconce” and “wall sconce” both found six items.
- “Track,” “track light,” and “track lighting” all yielded 14 results.

At the time of this evaluation TecMarket Works considers the Savings Store’s search functionality to be in need of the changes noted above, as well as other improvements along the lines of the examples provided. However, we do note that some of these search issues may be resolved in the process of making currently planned website upgrades, since EFI indicates that product filtering will be considerably enhanced under its pending ecommerce platform replacement, which is scheduled for the first quarter of 2015.

Customer Education and Shopping Assistance

Perhaps one of the most distinguishing features of the Duke Energy Savings Store is its set of resources for providing visitors with shopping assistance. Duke Energy considers customer education to be a significant mission of the Savings Store. “One of the big advantages of buying from a retail store is that people can take their old bulb in with them and compare to the ones on the shelf so they get the right replacement. But that means they’re likely to buy the same kind of

inefficient bulb they used before,” said the Duke Energy Product Manager. “We wanted to build tools that mimic looking at what’s on the store shelf, but also go beyond that so that customers really understand their options and know they are buying the right thing. That way they will not have to worry about returning it because it was wrong.”

Pop-Up Shopping Guides

To this end, Duke Energy hired a third-party firm, Capstrat, to help develop a series of online resource modules to help with customer education. Those educational resources are clustered in the upper right hand column of the website where an array of links lead to informative pop-up boxes designed to assist customers in identifying the kinds of bulbs they need by application (track lighting, recessed lights, table and floor lamps, pendant lights, wall sconces, mounted ceiling lights, and vanity light), and by bulb type (reflector, globe, candelabra, spiral, capsule). Each pop-up tab provides a brief text description, accompanying photograph, and quick access links to enable customers to shop for that type of bulb. Other pop-up boxes explain the benefits of energy efficient lighting and discuss how to recycle the bulbs safely. The resource modules also contain a section that clarifies the difference between watts and lumens. This includes a text explanation, an online video called *Energy 101: Lumens* made by the U.S. Department of Energy, and a comparison/conversion chart so customers can look up the old incandescent bulbs they are familiar with and find CFLs with similar lumen levels.

Savings Calculator

Another educational feature on the site is an interactive savings calculator that allows customers to see how much money and carbon they will save by replacing their old bulbs with more efficient CFLs (Figure 7). A drop-down menu enables the user to select the approximate square footage of their home. Then the number of bulbs of each type can be entered into the calculator. With each change the calculator displays the amount of money to be saved on the purchase, as well as the total financial savings on the customer’s Duke Energy electric bill over the course of a year. Calculations are based upon bulb type, average hours of use, presumed wattage of the old bulbs, and the Duke Energy rate factor for that state. The calculator also shows the total number of pounds of carbon saved per year and the equivalent of how many trees would have to be planted in order to offset that same amount of carbon. Although the calculator shows these savings in aggregate, it is possible to enter one bulb at time to see the individual savings per bulb.

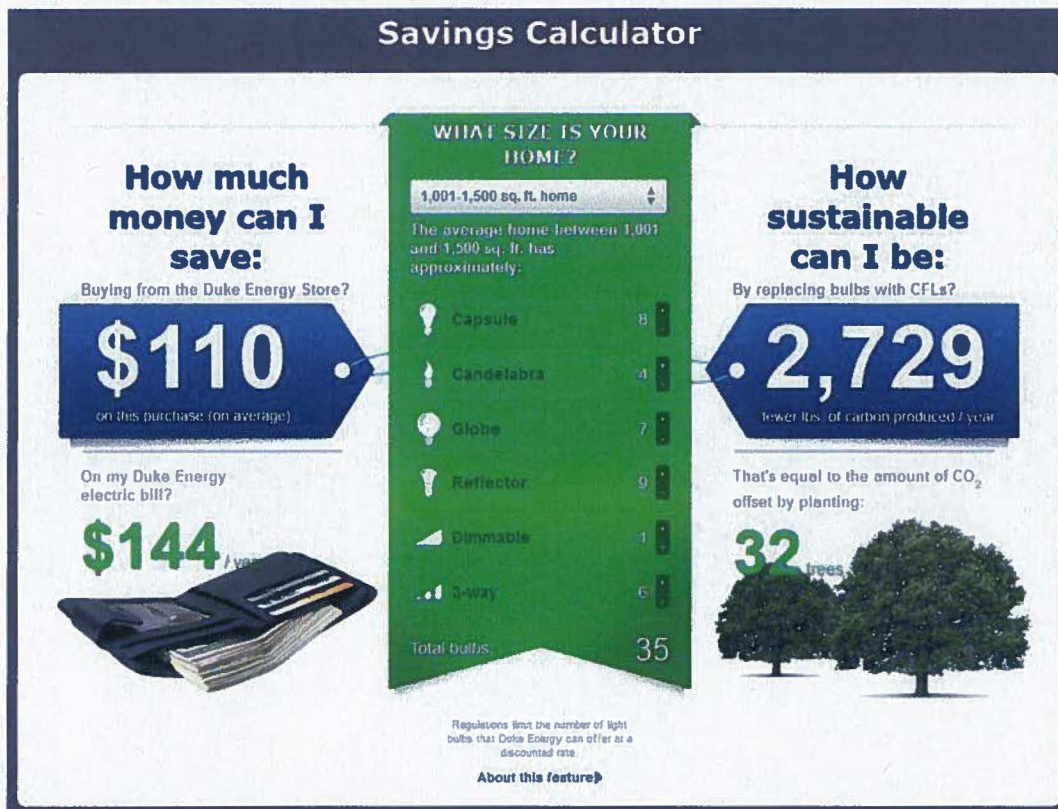


Figure 7. Savings Calculator

According to the “About this feature” link on the calculator, its programming uses inputs and assumptions from the [2010 U.S. Lighting Market Characterization report](#) released by the U.S. Department of Energy; ENERGY STAR reports on lifetime [savings in electricity costs](#) of CFLs and savings in [pounds of carbon dioxide](#) per average CFL bulb; as well as the [Environmental Protection Agency \(EPA\) Greenhouse Gas Equivalencies Calculator](#).

A similar looking savings calculator is shown on the program’s public web page on the residential Duke Energy website. However, that version of the calculator does not have the interactive features that are available on the Savings Store version. Instead it displays pre-programmed bulb counts and their associated savings as a single fixed example. While interactive functionality may not be necessary on the public website, TecMarket Works suggests that Duke Energy investigate the feasibility of upgrading the public calculator since its interactive functionality would encourage more customers to see how much they can save before making the effort to log on to the Store.

TecMarket Works considers this interactive calculator to be a worthy feature at the Duke Energy Savings Store because the meaningful information provided by the calculator helps to shift customer buying decisions from a short-term focus on the immediate financial savings at the time of purchase to the broader considerations of the overall value obtained during the lifetime of bulb use. This additional context demonstrates one of the key benefits of online shopping given that retailers are unlikely to reproduce this feature in retail stores.

One minor change we recommend regarding the energy savings calculator is to ensure that it has continuous placement or mention on the Store's home page. We mention this because while prominent placement was the case for much of 2014, the savings calculator box had been supplanted by a promotion for holiday lighting during the time of our website evaluation visit in November of 2014.

Frequently Asked Questions

Answers to frequently asked questions can be found via the FAQ link on the left hand navigation column. Common questions and answers cover a wide range of topics including: why Duke Energy is providing energy saving products, incentive limits, shipping options and delivery times, payment and warranty information, and who and how to call for further assistance. Rather than being displayed as a traditional HTML webpage, the FAQs are shown as an online PDF so that they can be readily downloaded to the visitor's computer or mobile device.

Summary

While all of the above mentioned information, pop-up shopping guides, video, savings calculator, and FAQs can all be rightly called customer education tools, none appear to be presented as separate education components. Instead they are all well-integrated website elements to help Duke Energy's customers to make better purchasing decisions and have a more complete user experience. TecMarket Works commends Duke Energy for its exemplary efforts in creating a user-friendly online shopping experience.

Product Display and Pricing

As discussed above, customers can access individual product pages in a variety of ways, including direct search-term entry, search by brand, and navigation by following links for bulb types. This last method guides customers through a sequence of web pages that begin with photographs showing one or more common uses for a bulb type, such as floor and table lamps, and a paragraph-long description of the overall bulb category. For example, capsule bulbs are described as follows:

These bulbs, which are also known as "A" lamps, most closely resemble traditional incandescents although capsules are slightly larger in size. These encapsulated style light bulbs are especially suitable for use in open fixtures in which the bulb will be visible.

After this brief description, customers see a sentence telling them the purchase limits for incandescent bulbs in that category. Links to CFL or LED bulb types are also shown. The next page in the sequence displays product summaries of the bulbs within the category (Figure 8). Summaries include an image of the bulb, bulb name and model number, wattage, lumens, bulb life, and a price breakdown showing the discounts offered. More details are available one level deeper by clicking on the bulb name link.

| | | |
|--|--|--|
|  |  |  |
| MaxLite R40 FloodMax | TCP BR30 Reflector | TCP R20 Reflector |
| Watts: 23 Lumens: 1100 Life: 10,000 hours | Watts: 14 Lumens: 645 Life: 8,000 hours | Watts: 14 Lumens: 495 Life: 8,000 hours |
| PRICE BREAKDOWN | PRICE BREAKDOWN | PRICE BREAKDOWN |
| Retail: \$8.30 Savings Store: \$6.75 Duke Incentive: \$2.52 You Pay: \$4.23 | Retail: \$6.00 Savings Store: \$3.35 Duke Incentive: \$2.52 You Pay: \$0.83 | Retail: \$6.00 Savings Store: \$3.00 Duke Incentive: \$2.52 You Pay: \$0.48 |
| \$6.75 \$4.23 | \$3.35 \$0.83 | \$3.00 \$0.48 |

Figure 8. Initial Multiple Product Display

While these summary pages are adequate to the role they fill within the website, TecMarket Works offers several suggestions that may help to improve the customer experience. We mention these as suggestions rather than program recommendations. We do this in order to encourage Duke Energy and EFI to review the Savings Store's Google Analytics or other web traffic analysis software to assess website traffic flow and then to experiment and test the effectiveness of our suggestions. For instance, split testing software can be used to compare our suggestions against other alternative versions of the same web page with slightly wording, images, and/or links in order to determine which version works best. Our suggestions are summarized in Figure 9 on page 39.

Website Links

CSS style sheets on the website denote in-text links with a subtle blue coloring. While many online shoppers can be assumed to be generally aware that colored text indicates a link to more information, not every site visitor may be aware of this. As a result, some percentage of online customers may not be clicking links to get additional information. This may cause customer confusion and lost sales. Changing link text to a more distinct color or adding underlines may make links more prominent. Another way to help customers to realize more information is available would be to include a "more information" button on the product summary page (see Figure 9 for example). We suggest that Duke Energy and EFI explore which options work best with the website platform.

Bulb Wattage and Brightness

Although the customer education section of the website does an admirable job of explaining to customers the similarities and differences between traditional incandescent bulbs and newer CFLs and LEDs, those comparative features are not carried over to the product display pages. This can present challenges for customers who are accustomed to years of identifying light bulbs

based upon their incandescent wattage. As a result, when site visitors view product descriptions listing watts, lumens, and bulb life they must either 1) draw upon prior knowledge of product comparisons; 2) find their way to the “About Brightness” table (this is two clicks away if they know where it is); or 3) continue without the extra information. This trio of choices can be improved by either including a line of text citing the most similar incandescent bulb in terms of wattage (see Figure 9 for an example), and/or by providing a link directly to the “About Brightness” table, which is already programmed to appear as a pop-up window on top of the existing page so customers do not lose their place on the product page. Improvements such as these will make mental comparisons easier for the customer and may increase sales since it will increase customer knowledge and comfort with idea of buying an “unknown” bulb online.

Bulb Pricing

In order for customers to appreciate the discount pricing that Duke Energy is providing, the website shows a breakdown of various incentives applied to each bulb. Pricing begins with a retail price that is set based on EFI market analysis. After this initial retail figure, price reductions are shown in sequence, including the base EFI store price, the Duke Energy incentive amount, and the final price. TecMarket Works considers showing customers the discounts to be a good idea because it reminds them of the prices they would likely be paying elsewhere and it reinforces the savings that the customer is receiving as a result of visiting the Savings Store. However, we also note the potential for customer confusion arising from the display of so many different amounts. The potential confusion seems possible given that the phrases “Savings Store” and “Duke Incentive” may not be clear to some people. One way to mitigate potential confusion and to further reinforce the amount savings being offered would be to present the math for customers so that they see the difference between the original and final prices. See Figure 9 for an example.

Add to Cart

Currently the initial bulb summary page does not include a button to add the item to the shopping cart. In order to actually purchase the bulb the customer must first access the detailed information page by clicking the blue text link associated with the bulb product name. This step, and any associated loss in the sales funnel, could be eliminated if an “add to cart” button is inserted below the item description as shown in the suggestion in Figure 9. TecMarket Works offers this suggestion while recognizing that such a change would be necessarily dependent upon a combination of web design and underlying web coding details that would still allow for customers to purchase quantities of bulbs at multi-pack discount prices.




| | |
|--|---|
|  <p>TCP BR30 Reflector</p> <p>Watts: 14 Lumens: 645 Life: 8,000 hours</p> <hr/> <p>PRICE BREAKDOWN</p> <p>Retail: \$6.00 Savings Store: \$3.35 Duke Incentive: \$2.52 You Pay: \$0.83</p> <p>\$3.25 \$0.83</p> |  <p>TCP BR30 Reflector</p> <p>Watts: 14 Lumens: 645 Life: 8,000 hours Incandescent Equivalent: 50 Watts</p> <hr/> <p>PRICE BREAKDOWN</p> <p>Retail: \$6.00 Savings Store: \$3.35 Duke Incentive: \$2.52 You Pay: \$0.83 You Save \$5.17 off retail</p> <div> <p>1</p> <p>add to cart</p> <p>more info</p> </div> |
| <p>Original</p> | <p>Suggested changes are shown here in red</p> |

Figure 9. Suggested Changes for Multiple Product Display

Once customers click beyond the product summary pages they are taken to product specific pages that contain a description and picture of the bulb (Figure 10). Below this basic information the visitor sees four tabs: program pricing, estimated savings, product specifications, and installation instructions. The page defaults to the pricing tab.

Above each tabbed page is a product image of the specialty bulb (Figure 10). In some cases there is a link directly below the picture of the bulb that reads "Click to Enlarge." Clicking on the link brings up a separate pop-up window with a larger image of the bulb. This feature is inconsistently implemented throughout the website. For instance, it is available for candelabras, globes, and capsules, but not available for spirals and reflectors. At a minimum, we recommend that the feature be consistently implemented throughout. For extra measure, we suggest adding more product images taken from different angles or, if possible, adding viewing software that allows the visitor to pivot and turn the image to see different points of view. This could help increase sales by increasing customer confidence that the new specialty bulb is similar to the bulb they already have.



This TCP 23 watt Dimmable SpringLamp® is designed for general use around the home. This bulb is a suitable replacement for a 100 watt incandescent light bulb. This lamp is dimmable down to 20%, and UL approved for enclosed fixtures. Intelligent circuit design automatically turns bulb off at a preset position to avoid low-end flicker. End-of-life circuit design meets EURO IEC and UL standards, shutting the bulb off automatically if it senses any lamp starting issues or end of life conditions.

Program Pricing **Estimated Savings** **Product Specifications** **Installation Instructions**

Retail: \$8.30
Savings Store: \$6.75
Duke Incentive: \$4.40
You Pay: \$2.35

Displaying 1 to 2 (of 2 products) Result Pages: 1


| PART # | ITEM NAME | PRICE | AVAILABLE | |
|------------|---|-----------------------------|-----------|---|
| R1100.7701 |  TCP 23 watt Dimmable SpringLamp 1-Pack (incented) | \$6.75 \$2.35 | 6826 | <input type="text" value="1"/> add to cart |

Figure 10. Individual Product Display (webpage excerpt)

Program Pricing Tab

The Pricing tab shows a product table that includes part number, bulb image, item name, price, available, and an “Add to cart” button with a quantity box. The available column shows the number of bulbs in stock or the date of expected availability if the item is currently out of stock. Our suggestions for this tab are duplicative of those discussed for the price summary page.

Estimated Savings Tab

The Estimated Savings tab displays a tab that compares old technology with that of the new bulb. This includes: electric demand in Watts, utilization (hours per day), and annual use (kWh). For the new bulb, the table also shows annual electricity savings (kWh), annual carbon savings (pounds), annual dollar savings, and expected product life. Units of measure are explained in a paragraph below the table. These comparison tables are well considered. However, they might be more helpful if they also included additional information such as lumens and color temperatures, given that these bulb characteristics determine the brightness and color of the light, which are often key criteria in customer decision making.

Product Specifications Tab

The Product Specification tab shows manufacturer specifications for their bulbs. Because this information is not standardized across manufacturers, the level of information provided and its order of presentation vary considerably, as shown in Table 10. This lack of standardization makes product comparisons difficult. Moreover, without a primer for clarification, some specification terms listed, such as “Color Rendering: 84 CRI” and “Base Type: E26” may be confusing to those customers who are unfamiliar with them.

Table 10. Non-Standard Product Specifications

| Bulb 1 | Bulb 2 |
|---|---|
| <ul style="list-style-type: none"> • Dimensions: Width 2.4 inches (61 mm), Length 4.4 inches (112 mm) • Light Output: 700 lumens • Color Temperature: 2,700 degrees Kelvin • Color Rendering: 84 CRI • Rated Lifetime: 8,000 hours • Minimum Start Temperature: -20 degrees Fahrenheit • Maximum Operating Temperature: 160 degrees Fahrenheit • Power Specifications: 120 volts AC, 60 Hz, 0.21A, 14w • Base Type: E26 • Manufacturer Warranty: 1 Year | <ul style="list-style-type: none"> • Light Output: 1,100 lumens (60 to 75 watt incandescent equivalent) • Electrical Specifications: 120 volts, 60 Hz, 18 watts • Dimensions: 2.6 inch diameter, 5.1 inch length • Color Temperature: 2,700 degrees Kelvin • Rated Life: 8,000 hours • Certifications: UL • Manufacturer Warranty: Two Year |

While TecMarket Works is quick to point out that these same issues apply to all companies that sell light bulbs at wholesale or retail, we also note that the web pages on the Duke Energy Savings Store provide the opportunity to customize information in a way that is difficult for those who sell products on store shelves. Since Duke Energy indicates that it seeks to provide a web-based shopping experience that is above and beyond the retail experience, we suggest that the utility and EFI consider standardizing and explaining the product specifications for the 22 items listed for sale on the Duke Energy Savings Store.

Installation Tab

The Installation Instructions tab provides the same set of directions for every bulb.

Prior to installing this light bulb, turn power off to the socket at the switch. If it had previously been on allow the existing light bulb to cool. Unscrew the existing light bulb by turning counter clockwise. Install this new light bulb by turning it clockwise until it is secure in the socket. Do not over-tighten.

While screwing in a light bulb is so basic that it is the subject of countless jokes, we commend Duke Energy and EFI for the thoroughness with which they have considered their customers’ experiences. However, we note that while basic screw-in installation instructions apply to virtually all the bulbs, we found that installation directions had not been edited for bulbs that use a GU10 base such as MR16s. Because MR16 bulbs use metal pins instead of a screw-in base, they are the one type of bulb sold at the Savings Store that customers may be unsure how to

install. We recommend a minor edit to the instructions for any bulbs lacking a screw in base in order to explain any differences.

New Feature Suggestions

Current website functionality allows visitors to simultaneously view bulbs of the same type, such as two different models of CFL capsules. This enables them to compare summary information including watts, lumens, bulb life, and price. But visitors cannot compare bulbs of different types, such as CFL vs LED capsules. This limitation requires visitors to click back and forth and thus hinders their ability to compare different technologies. Furthermore, the current website functionality also does not allow for detailed comparisons between bulbs, such as simultaneously viewing estimated savings and product specifications. TecMarket Works considers these functional limitations to be high priority improvements in order to enhance the customer experience. Duke Energy and EFI have already indicated that they agree with this assessment and report that they are in the process of making system upgrades that will enable these features by the first quarter of 2015.

One important website visitor challenge that did not yet appear to be planned is the ability for customers to compare their old bulbs with the new bulbs sold on the website. As mentioned earlier in this evaluation, one of the advantages of retail sales is that customers can bring their old bulbs into the store and look through the items on store shelves until they find a match for the bulb's shape and base. This visual confirmation generates confidence in the purchase. While making physical comparisons is impossible through a website, providing a collection of photographs or drawings to help identify old bulbs would be fairly easy. An excellent example with images of bulb shapes and base-types can be found on the light bulb buyers guide page of Amazon.com.⁸ Furthermore, clicking on the image or shape for the old bulb could bring up a list of possible replacements. TecMarket Works offers this suggestion as an additional way to address Duke Energy's mission to encourage as many of its customers to swap out old bulbs as possible.

On a related note, we also offer the following suggestions. As discussed above, those customers who are new to CFLs and LEDs tend to associate the brightness of light bulbs based upon on their wattage. This lack of familiarity with lumens and light colors makes it challenging for them to find suitable replacements for their older technologies, and thus may be inhibiting purchase behaviors. For this reason, we suggest that Duke Energy consider adding a Brightness Comparison tab to its list of other product tabs. This tab could display light bulb fact boxes developed by Energy Star, as well as the lumen to watts comparison graphic shown in the Lumens 101 video or a bar chart similar to that on Amazon.com. Examples are shown in Figure 11.


8

http://www.amazon.com/gp/feature.html/ref=amb_link_356841462_1?ie=UTF8&docId=1002234061&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=product-alert&pf_rd_r=1XK8CAY99M4TXE02YDH5&pf_rd_t=201&pf_rd_p=1740479022&pf_rd_i=B002NH5TTA

Lighting Facts Per Bulb

Brightness **800 lumens**

Estimated Yearly Energy Cost \$1.57
Based on 3 hrs/day, 11¢/kWh
Cost depends on rates and use



Life **9 years**
Based on 3 hrs/day

Light Appearance

Warm Cool

2700 K

Energy Used **13 watts**

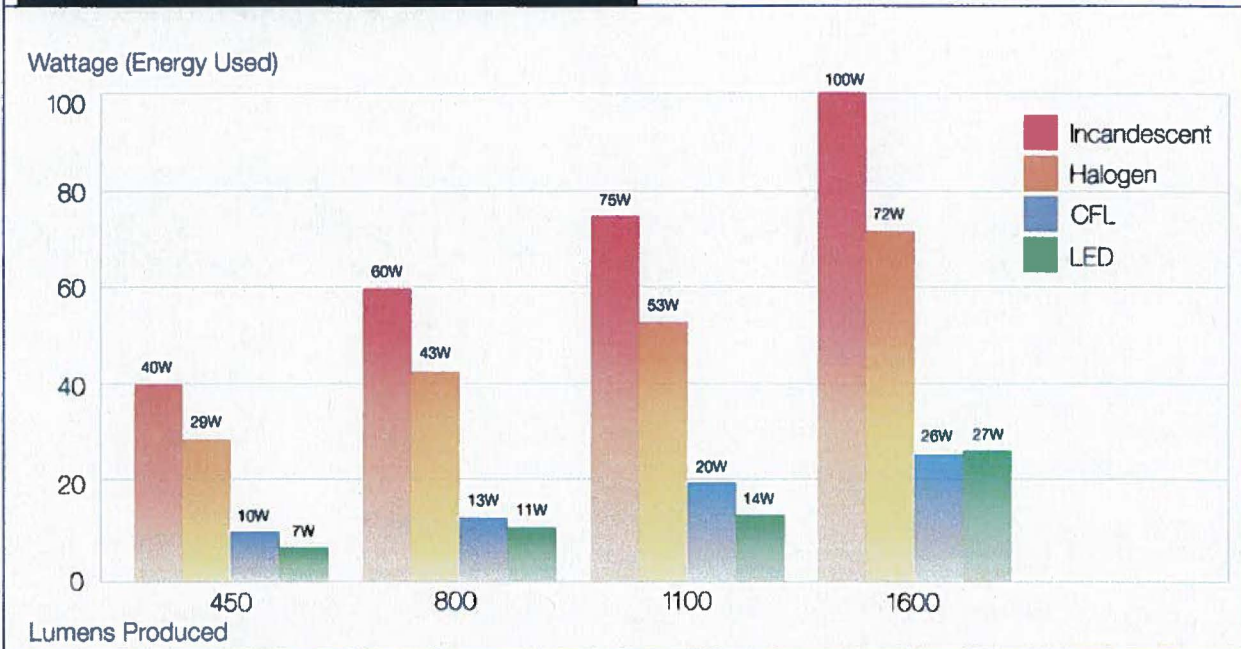
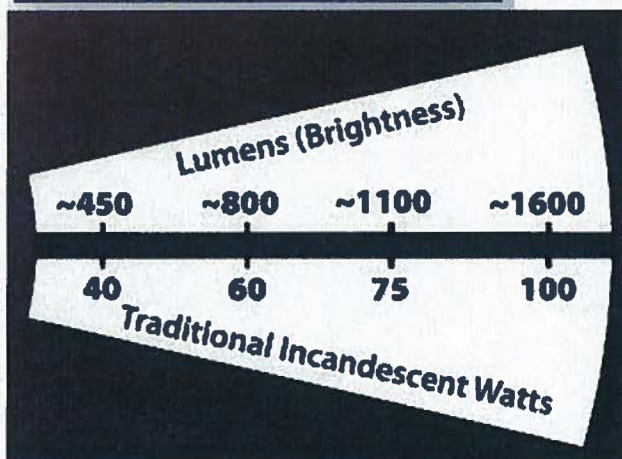


Figure 11. Light Bulb Facts

Lighting appearance is another area where many customers may require assistance. For this reason it may also be helpful to provide an information resources tab with explanations and visual images to educate customers about how light temperatures affect light color and influence mood. The Energy Star website provides a ready example at http://www.energystar.gov/index.cfm?c=cfls.pr_cfls_color. TecMarket Works considers this particular suggestion to be of lesser importance given the limited number of bulb types offered through the Savings Store.

Shopping Cart and Purchase Process

Shopping Cart Functionality

The Duke Energy Savings Store’s shopping cart functionality meets the conventional standards for e-commerce. Product descriptions include a field for entering item quantity and an “Add to Cart” button. The cart can be accessed at any time via the navigation ribbon along the top of the page. The cart displays part numbers, item descriptions and prices (Figure 12). If an item is out of stock, then an expected-available date is prominently displayed in red text. Items in the cart can be easily removed and quantities can be edited. Subtotals can be updated with a click of a button.

| Remove | Qty. | Part # | Item(s) | Total |
|------------|--------------------------------|-----------|--|---------|
| | <input type="text" value="2"/> | R1160.312 | MaxLite R40 FloodMax 1-Pack (incented) | \$8.46 |
| | <input type="text" value="3"/> | R1100.149 | Feit 7w Flame Tip 1-Pack (Incented) | \$5.52 |
| | <input type="text" value="1"/> | R1100.296 | Cree 6w A19 LED (incented) (Available: Jan-14-15) | \$2.97 |
| Sub-Total: | | | | \$16.95 |

Any item marked '(Available: "Date")' is presently unavailable, but is expected to be available again by the date noted. If you choose to leave this item in your cart, you will be notified if there are further delays or changes to its status.

Figure 12. Shopping Cart

Visitors can print a record of items in their carts and save the cart contents so that their bulb selections will be available the next time they visit the site (Figure 13). While the save function is helpful, there is no link for the feature shown within the cart itself as there is for printing. Instead the save feature is displayed in the right-hand column of the website below the permanently displayed Resources and CFL video boxes, which means that on small screens it may not be noticeable since it will appear below the fold. This less than prominent placement makes the save feature less likely to be used. Because this feature is already available and useful for customers, TecMarket Works suggests that, if feasible, Duke Energy add a “Save Cart” button to the list of buttons displayed in the cart, or otherwise move the display box to make the function more obvious for site visitors.

Special website functionality also allows customers to use more than one shopping cart at a time (Figure 13). While this feature was primarily designed to aid business customers who may have multiple departments making purchases, the feature is available to residential customers as well.



Figure 13. Saved Shopping Carts

Exceeding Incentive Limits and Buying Non-Incented Bulbs

The Duke Energy Savings Store permits customers to order more bulbs than are allowed by the incentive limits, but doing so triggers a message at the bottom of their shopping cart. A representative message is shown below:

The purchase limit for incented CFL capsules is 15 per account. Please adjust the quantity in your cart to proceed. Note that you may still order more of these products beyond the limit through the non-incident portion of this online store. [Click here to purchase additional products without purchase limits.](#)

Customers cannot move further into the checkout process unless the quantity of bulbs is reduced to within limits. This must be done manually by deleting the original quantity and entering a lower number. Having done this, customers can click the link which redirects them to a different section of the website that stocks identical bulbs at higher costs since they are priced without the incentive amounts offered by Duke Energy. This approach makes it possible for customers to order as many bulbs as they want without exceeding Duke Energy's preset incentive limits. Duke Energy tracks these non-incident bulb purchases separately.

The Savings Store's non-incident bulb inventory can be accessed directly via the Additional Items link in the left side navigation list or via the website search function. While these additional methods of accessing non-incident bulbs are admirable from an ease of navigation point of view, TecMarket Works found them to be potentially problematic from a customer savings perspective, since visitors can mistakenly purchase non-incident bulbs when they are eligible to receive the incentive discount.

As shown in Figure 14 below, the first few items consistently shown in the search results are the non-incident bulbs. Incident items appear lower down on the list, although they are shown at a lower price. As presented, the search results require visitors to first notice that the same bulbs are

offered at two different prices and then to select the lower price option. Unless visitors do so, they will end up purchasing non-incented bulbs when they are eligible for incented bulbs. In addition to causing a potential customer equity problem, this may also lead to lower customer satisfaction when customers discover their error.

SEARCH
spiral
Advanced Search

BRANDS
Please Select...

ITEMS
Candelabra
Capsules
Globes
Reflectors
Spirals
Additional Items

SUPPORT
FAQs
Shipping & Returns
Privacy Notice
Contact Us
Package Tracking

Items meeting the search criteria

Displaying 1 to 4 (of 4 products) Result Pages: 1

| Part # | Item Name | Unit Price | Available | |
|-------------|-------------------------------------|------------------------------|-----------|------------------|
| 1100.128 | TCP 13w Eco\$ave SpringLight 1ES13 | \$1.85 | 239074 | 1 add to cart |
| 1100.828 | Maxlite 30w 3-Way SKS30EA3WW | \$7.45 | 11155 | 1 add to cart |
| R1100.828 | Maxlite 30w 3-Way 1-Pack (incented) | \$7.45 \$3.78 | 11130 | 1 add to cart |
| R1100.828_2 | Maxlite 30w 3-Way 2-Pack (incented) | \$14.75 \$7.41 | 5550 | 1 add to cart |

Displaying 1 to 4 (of 4 products) Result Pages: 1

Figure 14. Website Search Results

Presenting the incented bulbs first would seem to be a simple improvement to help reduce the likelihood of these potential problems. Other potential options could include not showing non-incented bulbs in the search results, or only allowing customers to see non-incented bulbs if they have reached their incentive limits. TecMarket Works recognizes that any such improvements may require significant programming changes. So rather than prescribing a specific solution we encourage Duke Energy and EFI to take necessary steps to make it explicit to website visitors that the same bulbs can be purchased at a lower price.

The Checkout Process

The checkout process occurs across four separate webpages. The first page provides customers the opportunity to enter a shipping address and select a delivery method. The second page collects credit card payment information and requires customers to accept the terms and conditions of the program, including that the bulbs cannot be resold and that they must be installed on a property associated with the Duke Energy account. The third page offers a final chance to confirm the order. The fourth page indicates the customer has successfully completed the transaction. TecMarket Works considers the addition of a confirmation page to be a best practice for web transactions, particularly for those of a financial nature.

Customers can also opt to pay by check or money order. If customers choose to pay by mail, they must complete the checkout process and then mail payment (payable to Energy Federation) along with a printed copy of their order to EFI. Orders are shipped upon receipt of payment. While this feature makes Duke Energy's discounted bulbs available to customers who may not

possess credit cards, EFI representatives told us that very few customers availed themselves of the option.

Inventory Management

The Duke Energy Savings Store sells approximately two dozen different kinds of specialty bulbs. The number of bulb types continues to change slightly as the program team refines the product mix and adjusts to shifts in the marketplace, such as Energy Star specification changes, technology improvements, price reductions, and bulb adoption rates. Nevertheless, the program has consistently provided one or more product offerings in the following bulb types: dimmables, three-ways, reflectors, capsules, candelabras, and globes; in many cases in both CFL and LED varieties. In 2013 and 2014 the program stocked and sold far more CFLs than LEDs, but the planned 2015 product mix will more include greater numbers and types of LEDs, including LED outdoor reflectors, LED globes, and LED candelabras.

Although Duke Energy's relatively limited selection of bulbs represents a tiny fraction of the more than 1,500 different SKU items that EFI stocks for its various customers, the overall volume of bulbs sold each month by Duke Energy places the utility among EFI's largest clients. To help ensure that inventories for Duke Energy remain intact, EFI sets aside products stocked for the utility so that they are not inadvertently pulled for other clients. EFI constantly monitors its inventories, while the Duke Energy Product Manager reviews inventory on a weekly basis.

EFI has a strong track record of maintaining inventories. However, they can run out of stock due to: 1) forecasting mistakes when marketing response rates are higher than expected; 2) manufacturing issues; or 3) shipping delays, such as those caused by weather. If an item is placed on back order, the Savings Store website is updated with an anticipated available date. The date shown is typically one week longer than the actual expected date, in order to better manage customer expectations.

EFI has a service level agreement that at least 95% of orders each month will ship complete. Only twice, in June of 2013 and January of 2014, did performance dip slightly below the mark due to manufacturer product discontinuations and weather-related inventory shipment delays, both of which were beyond EFI's control. In all other months performance for this metric has varied between 98% and 100%. If inventory issues do happen to cause EFI to send a partial shipment, there is no charge to the customer for the second delivery, which is sent via the same delivery method as originally selected.

Shipping and Delivery

Customer bulb purchases are typically fulfilled within two business days of the order being received, which represents a best practice in this field. Bulb delivery dates depend upon the type and speed of shipping selected by the customer. The program allows customers to choose between shipping via the U.S. Post Office or United Parcel Service. Application programming interfaces (API's) from these shippers allow shipping costs and times to be automatically calculated on the website based on delivery speed, zip code, and weight of the order. Discounted shipping rates are also shown during times when Duke Energy is offering additional customer incentives, such as \$5 flat rate shipping or free shipping on orders of \$25 or more.

A webpage on the Savings Store enables customers to track UPS packages using the order number or the UPS tracking number. Packages sent via the post office are not trackable from the Store website, but a phone number for the post office is provided.

During checkout customers can add new mail delivery addresses. While the majority of customers have the same service and delivery address, Duke Energy recognized that some customers may wish to have their bulbs delivered elsewhere, such as a place of business or a second home. Customers can enter delivery addresses anywhere in the United States, as well as any overseas U.S. military installation. TecMarket Works acknowledges this gesture toward customer convenience, but we also point out the potential to degrade energy savings by allowing incandescent bulbs to be shipped, and presumably installed, outside of Duke Energy's service territory. This has the potential to reduce the energy savings that Duke Energy can claim as a result of the programs' operations.

With this in mind, we reviewed the records of customer sales to determine how prevalent out of state shipping was. At the time this review was conducted on November 1, 2014, of the 5,933 unique customer orders (36,406 bulbs) for Kentucky, 19 orders (350 bulbs) were sent out of state. This represents 0.4% of Kentucky sales. The detail provided in the records did not allow us to conclusively determine if any out of state addresses were within Duke Energy service territories in other states. Nor was it possible to determine if customers chose to have bulbs shipped to an out-of-state location such as a work address and then personally brought their purchased bulbs home to their residences within Kentucky.

Call Center

EFI provides 17 customer service representatives (CSRs) who are trained to handle Duke Energy's program. Each state Store has its own unique phone number for residential customers, and the EFI phone system automatically indicates where the call is originating.

According to the Duke Energy and EFI spokespeople that we interviewed, overall call center operations have run smoothly. Between the program's inception in April 26, 2013 and October 31, 2014 the call center has met all of its service level requirements, including answering at least 70% of calls within 30 seconds. In most cases, greater than 85% were answered within that time.

From the point of view of customer service, the primary challenge for the program had nothing to do with CSR performance or website functionality. Instead it revolved around the fact that for the first 15 months of the program CSRs could not take phone orders for Duke Energy customers. The limitation arose from the customized authentication process that requires all website visitors to enter their residential account number or phone number and the last four digits of their social security number into Duke Energy's system in order to verify eligibility.

Because orders can only be placed by authenticated customers, the CSRs were required to talk Duke Energy customers through the log in process and then coach them as they navigated the Store website to order bulbs. "Our people were very familiar with the website, but they couldn't access it themselves," explained EFI's call center manager. "So we built a mockup of the website so we could click along in parallel with the customers. But we couldn't actually see what

customers were seeing. In most cases that was fine, but once in a while it could be a challenge if a customer wasn't particularly computer savvy."

The solution for serving customers who do not have computer access and customers who prefer not to use a computer was to enable the EFI CSRs to accept telephone orders for Duke Energy customers, just as they do for other utility clients. The challenge was to do so in a way that works with the authentication system. In other words, this meant that in order to place bulb orders on behalf of customers, the CSRs would need to log into the system as if they were the customers and then enter the customer's Duke Energy account number and the last four digits of the social security number associated with the account. Thus the issue—and the resulting 15 month timeframe for resolving it—was not due to technical limitations per se, but rather due to concerns about maintaining privacy regarding customer data.

Eventually the utility and EFI developed protocols and processes by which they could inform customers of the need to enter this information and allow customers to decide whether to provide that information or not. The solution involved adding a brief interactive call intercept system on each state's toll free phone line that informs customers about their option to order bulbs by phone and plays a recording that informs them of the terms and conditions to do so. Below is a flowchart illustrating the new call handling process.

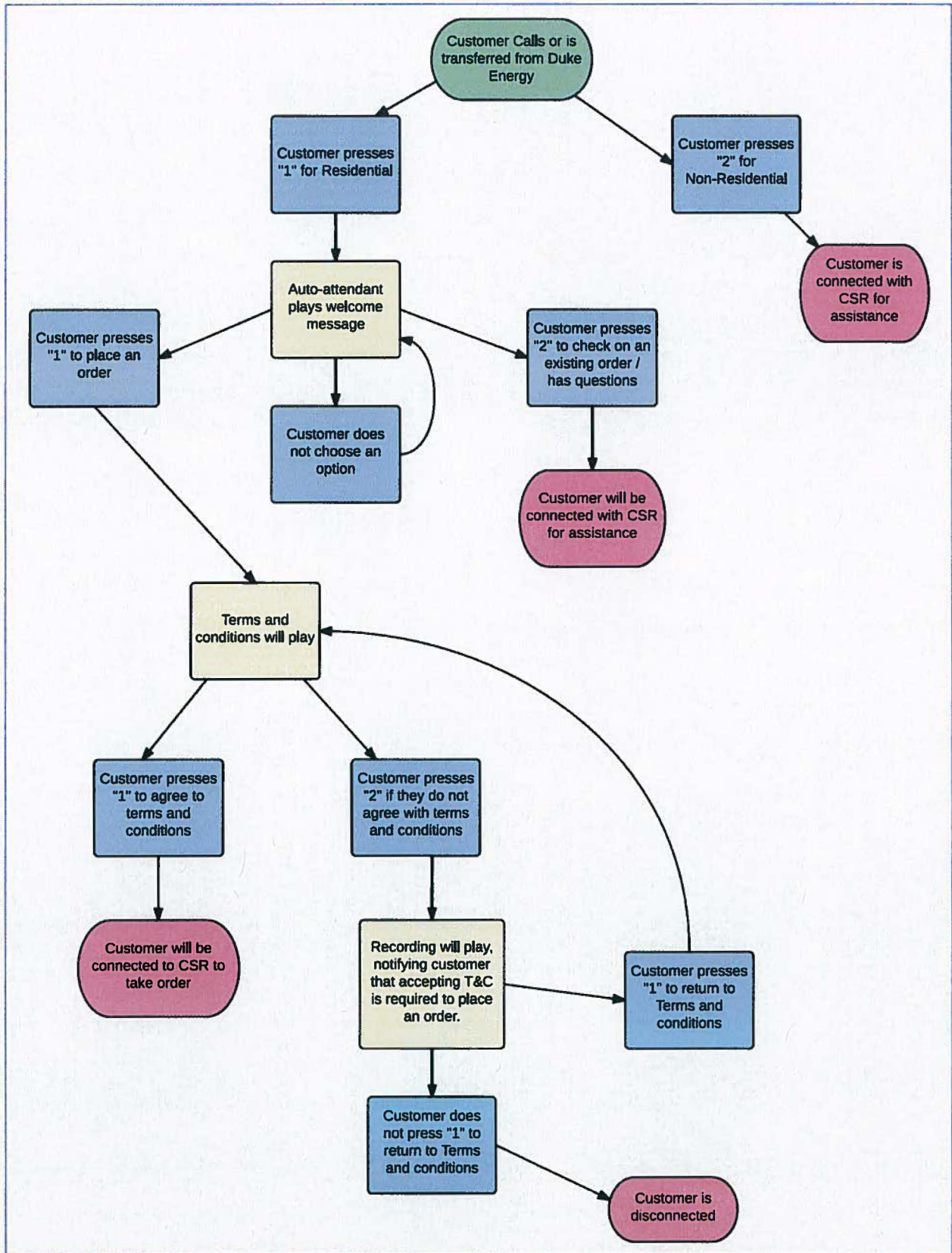


Figure 15. Process for Taking Phone Orders

To accompany the new call intercept system, Duke Energy developed an updated training manual for EFI's CSRs, providing specific instructions that describe how to log in to a customer's account and how to place an order on behalf of a customer, as well as information about how to respond to issues such as customers being ineligible for the program and not knowing the last four digits of the social security number on file.

To date the actual number of phone orders received from Kentucky customers has been modest with only 15 customers requesting phone purchases between July 31 and October 31, 2014. This represents 2.2% of Kentucky sales volume compared to a total of 673 unique invoices generated during the same period. Nonetheless, TecMarket Works commends Duke Energy on this improvement since enabling CSRs to take phone orders has specifically helped Duke Energy to broaden the program's ability to better serve customers who are unable or disinclined to shop online.

According to EFI's call center manager, when phone calls for all reasons are tallied, Duke Energy's Specialty Bulb Program received a combined average of 10 calls per day from customer callers in OH, KY, IN, NC and SC in 2013. In 2014 call volumes rose to an average of 15 calls per day. During the midst of a marketing campaign call volume can rise to 40 calls per day. Kentucky call volumes represent a minor percentage of this total volume, averaging 0.12 calls per day in 2013 and 0.35 calls per day in 2014. TecMarket Works considers this to be a low call volume given the number of sales generated. The low call volume is the direct result of a well-designed web platform and the self-service nature of purchasing the bulbs online.

During 2013 the average call lasted three minutes. In 2014 that average rose to five minutes, primarily as a result of the extra time it takes to handle phone order requests. Duke Energy and EFI consider this increased call handling time to be worth the effort since the new capability has improved customer service.

While customers can and do contact the call center directly, the call center manager indicated that a percentage of the calls received for the Savings Store also come as transfers from Duke Energy's customer service call center. Regardless of whether the call originates from Duke Energy or directly from the customer, EFI CSRs are trained to answer calls as official Duke Energy representatives in order to facilitate consistent customer service. This same warm transfer approach also applies in reverse. When EFI CSRs receive customer requests for their free CFLs, which are offered through a separate efficiency program, the CSRs transfer the callers back to Duke Energy rather than simply providing a phone number.

CSR training begins with classroom lessons and then progresses into side-by-side training with a trainer. Initially the trainee observes as the trainer handles the calls. Then the roles reverse with the trainer monitoring as the CSR handles the calls. On average it takes four to eight weeks before the CSR is working independently. Training topics include operational tasks such as using the phone system and software, soft skills such as customer service etiquette, and inventory familiarization. Then the CSRs begin to learn about utility specific programs. In Duke Energy's case, that specialized training includes such things as: basic guidelines for identifying the utility's program, incentive limits, and protocols for transferring calls back and forth with the Duke Energy customer service call center. The training also necessarily covered how to use the

mockups to guide callers through the Duke Energy Store, and since July of 2014 it includes the new process for logging in to the Savings Store in order to place an order on a customer's behalf.

Whereas some call centers script virtually all possible customer interactions, EFI's approach favors informed conversation over canned answers. *"Customers get turned off when somebody is reading off a script, so we don't use lot of that. Instead we hire people who can talk on the phone and generate rapport,"* explained EFI's call center manager. *"We aggregate all the program information and put it in a program guide so our people can bring up a page with all the information they need to answer questions."*

During 2013 the most commonly asked questions involved:

1. Assistance placing orders on the website
2. Product inquiries about bulbs and applications (such as the difference between directional bulbs versus spotlights)
3. Status of orders
4. Replacement requests for damaged or defective products
5. Requests for free CFLs (a separate Duke Energy program)
6. Other: including questions regarding billing, misdirected calls, etc.

As of November 2014, the most commonly asked raised topics were:

1. Requests to place phone orders
2. Assistance placing orders on the website
3. Product inquiries about bulbs and applications
4. Status of orders
5. Other: including questions regarding billing, misdirected calls, etc.
6. Replacement requests for damaged or defective products

All incoming calls are recorded and monitored for training and quality assurance. CSRs receive monthly coaching with a call center supervisor, during which time they review calls, discuss areas for improvement, and share best practices. Although Duke Energy retains the option to review the recordings, the EFI call center manager indicated that thus far the utility had not done so.

Quality Assurance

Quality assurance for the program is addressed on several levels. EFI's order assembly process maintains redundant systems that allow it to double check every customer order for accuracy. EFI also conducts regular inspections of all physical inventory and the vendor regularly audits its on-floor operational processes to ensure that its fulfillment processes operate as smoothly and as accurately as possible.

All specialty bulbs sold through the Duke Energy Savings Store are warranted by EFI for one year. Beyond that time, the manufacturers' warranties apply. If a bulb arrives damaged; if it burns out; or if it otherwise becomes defective within the first twelve months, customers can call EFI's call center to request a replacement. EFI provides new bulbs and covers the shipping costs

with no proof required. Broken and defective bulb replacements are noted and coded into daily quality assurance tracking. Summary reports are provided monthly. Customers can also arrange to return working bulbs if they do not like them or if the wrong item was ordered. These returns and exchanges are also recorded daily and reported monthly.

According to program tracking reports, out of the 36,839 bulbs shipped to Kentucky customers between April 26, 2013 and November 15, 2014, only 13 customers reported a total of 46 broken or defective bulbs. Of these, 39 bulbs were defective and 7 arrived broken. This represents one tenth of one percent of bulbs sold.

EFI closely monitors all product QA reports for the Duke Energy program, as well as QA reporting for its other clients. EFI adjusts its suppliers and inventory as necessary to maintain consistently high quality for every item it sells. For instance, in one incident, a bulb manufacturer announced backorder delays of three weeks due to a plant closure in Southeast Asia. In response, EFI immediately removed the supplier's bulbs from the Store website to curtail new orders; insisted on delivery of bulbs to meet existing orders within seven days; and rapidly replaced the supplier's bulb item with one from a firm with a reputation for providing consistent supply. The plant closure caused some customer orders to ship as partial completes for a few days, but thanks to these fast actions it did not have lingering effect on customer orders.

EFI and Duke Energy cited no notable issues with service level agreements regarding product quality, shipping breakage, or returns. Nor have any quality assurances issues arisen with any other aspect of the program.

Data Tracking and Reporting

Duke Energy and EFI take full advantage of the tracking and reporting opportunities made possible through online metrics and customer tracking. That tracking begins with OLS intercept reports that indicate which customers saw promotions for the Savings Store when they accessed their accounts online. Reviewing which customers clicked through to the Store helps Duke Energy to further refine its targeting and marketing messaging. As shown in Table 11, since program launch Duke Energy has presented Kentucky customers with 141,086 OLS intercept messages while they accessed their online accounts. Four percent (4.1%) of customers who saw the OLS messages clicked through to shop at the Store, and of the customers who clicked through, 11.5% placed orders. TecMarket Works considers this to be a noteworthy and cost effective way for Duke Energy to be generating specialty bulb sales.

Table 11. OLS Tracking Data

| Kentucky | OLS Intercepts | Shop Now | Take Rate | Orders | Bulbs | Avg/Bulb | Conversion Rate |
|-----------------------|----------------|----------|-----------|--------|-------|----------|-----------------|
| Apr 26 – Dec 31, 2013 | 50,409 | 2,787 | 5.5% | 96 | 1,345 | 14.0 | 3.4% |
| Jan 1 – Nov 15, 2014 | 90,677 | 2,939 | 3.2% | 562 | 6,030 | 10.7 | 19.1% |
| Total | 141,086 | 5,726 | 4.1% | 658 | 7375 | 11.2 | 11.5% |

The program team also tracks the success rate of customers who are authenticating and passing through to the Savings Store. Once on the Store itself, EFI systems track virtually every click the

customer makes. Website traffic flow analysis reveals the most frequently followed links, the amount of time spent on each page, and the relative popularity of webpage elements such as images, videos, and online resources and tools. "These analytics are great for identifying trends and patterns, but web tracking also has its limitations," explained EFI's Vice President of Strategic Development, "So we've also created scorecards profiling the number of products sold, average order size, the most popular items being purchased, frequency, and other shopping details to give Duke greater richness around the web metrics."

These and other details are made available for Duke Energy through a suite of online tools that can be used 24/7 to obtain daily updates for the following reports:

- Participation Upload
- Customer List
- Order Detail
- Order Summary (by Order Number)
- Order Summary (by Invoice Number)
- Invoice Summary by Measure ID
- Customer Cart
- Open Orders
- Shipped Summary
- Shipping Cost
- Returns
- Replacement Returns

These self-service reports are supplemented with EFI's monthly reports that summarize program activities and measure performance against the program's service level agreements. No concerns or issues were reported in regard to the reporting tools.

Management Coordination and Communication

Team members from Duke Energy and EFI report positive working relationships, with each side providing experiences and insights that complement and strengthen the other firm. For instance, the Savings Store represents Duke Energy's first foray into the online retail arena. As such, the utility has drawn upon EFI's expertise in e-commerce and product distribution. In turn, Duke Energy's authentication and other technical requirements required a new level of sophistication from EFI's web programmers.

Duke Energy representatives characterized the EFI team members as "knowledgeable," "highly responsive and reliable," and "cooperative and easy to work with." In turn, the EFI team spoke highly of their Duke Energy colleagues, describing them as "our strongest e-commerce client," "excellent marketers," and "highly customer focused." Interestingly, numerous representatives from both firms chose to describe the other business partner as "highly professional" and "a pleasure to work with."

Team members from Duke Energy and EFI meet semi-monthly to discuss marketing strategy. They also meet monthly to reconcile accounting, review program performance, as well as to plan

improvements and changes. In addition to these regular phone conferences, the team meets in person quarterly. These regularly scheduled meetings are supplemented by daily phone and email exchanges as necessary to address program operations and implement any upgrades and fixes.

No communication or relationship challenges or issues were reported by any party.

Planned Improvements and Desired Program Changes

The team responsible for Duke Energy Savings Store takes a proactive approach to program improvements. They have a steady list of planned feature upgrades to the Savings Store, as well as other enhancements intended to improve the customer experience and make program management easier. The most significant change will be a complete replacement of EFI's ecommerce system with a new platform called Magento, which is owned (and used) by eBay. The new platform will enable the following improvements.

- Native support for mobile devices
- Visitor-selectable product filtering
- Visitor-selectable product comparisons by feature or specification
- Dynamic presentation of associated savings information (\$, kWh, etc.)
- Product review/rating functionality
- Customized shopping experience, allowing products to be recommended based on visitor behavior
- Dynamic price presentation based on program rules
- Additional promotion models (e.g. buy X and automatically get Y for free)
- Support for additional shipping calculation methodologies and discount options
- Support for additional payment methods (such as Google Wallet, PayPal)
- Integration with social media apps
- Embedded customer sales support
- More flexible site structure, allowing store elements to be easily repositioned and custom designed
- Improved video functionality
- More complete integration with Google Analytics

The transition to the Magento platform was expected to be completed sometime during the first quarter of 2015.

Another program improvement that is underway but as yet unfinished is the development of an automated customer survey system that sends email messages requesting feedback about the Store, its product offerings, and any issues needing correction. The initial plan for the survey is to include a feedback request and a web link along with the order-confirmation email that is automatically generated by EFI. This approach offers the advantage of requesting feedback from every customer, but the timing makes it less useful for collecting customer thoughts regarding shipping, physical products, and post-sale follow up support. For this reason, Duke Energy indicated that it is considering the possibility of changing the timing or sending a separate request after product delivery.

Evaluation and Recommendations

Key Findings

- The program website, called the Duke Energy Savings Store, was launched in April of 2013. It can only be accessed by Duke Energy customers (verified via account number) whose bulb purchases are individually tracked so that personal incentive limits can be enforced.
 - See section titled *Program History and Development* on page 20.
- The program sells three-way bulbs, dimmable bulbs, outdoor bulbs, reflectors (recessed), candelabras, capsules (A-Line), and globes in both CFL and LED varieties. CFL indoor reflectors and globes were the most popular bulb types, followed by LED capsules and CFL candelabras.
 - See section titled *Program Goals and Performance* on page 20.
- Between program inception on April 26, 2013 and December 31, 2013, a total of 670 Kentucky customers purchased 10,158 specialty bulbs. Between January 1, 2014 and November 14, 2014, an additional unique 1,701 customers purchased 26,681 bulbs. Combined program participation shows a total of 2,312 unique Kentucky customers who purchased at total of 36,839 specialty bulbs over the 19 month period.
 - See section titled *Program Goals and Performance* on page 20.
- Duke Energy effectively combines low cost marketing vehicles such as email, website promotions and intercepts, and direct mail with sophisticated targeting techniques to ensure high conversion rates at low acquisition costs.
 - See section titled *Program Marketing* on page 24.
- Overall, the website functions well and is deliberately designed for visitor usability, but it still presents opportunities for improvement, which are detailed in this report.
 - See section titled *Duke Energy Savings Store Website* on page 29.
- The program has no significant issues with quality assurance. Nor does it have any notable customer service issues or challenges.
 - See section titled *Quality Assurance* on page 52.
- All members of the Duke Energy and EFI teams report positive working relations.
 - See section titled *Management Coordination and Communication* on page 54.

Evaluation

- Overall Duke Energy's Specialty Bulb program is well-designed and well-run. The Duke Energy Savings Store website is successfully educating customers and encouraging them to save energy by making it fast and easy to replace their old, inefficient specialty bulbs with new, affordable energy efficient models.

- Program participation is strong. Between program launch on April 26, 2013 and November 15, 2014, the Duke Energy Savings Store for Kentucky served 2,313 unique customers who placed a combined total of 2,582 orders for 23,565 bulbs. This equates to averages of 15.5 bulbs per customer, 14.3 bulbs per order, and 4.5 orders per day. When year to year comparisons are made, the program's growth appears quite robust with a 254% increase in unique customers placing orders.
- Duke Energy approaches marketing for the Specialty Bulb Program in a systematic manner that reaches out to its residential customers with free and low cost vehicles, such as online promotions and bill inserts, while simultaneously deploying sophisticated segmentation techniques that target those customers who are most likely to make purchases online and take advantage of the program's incentives. Conversion rates are tracked step-by-step for every customer for every campaign, starting with initial responses for each marketing vehicle, through authentication and website visits, to the final individual items purchased at the Savings Store. This combination of low cost yet highly sophisticated approaches helps to ensure healthy participation rates while keeping the program's overall customer acquisition costs down.
- The Duke Energy Savings Store website is well designed for easy visitor usability, although the site still presents some opportunities for continued fine-tuning, as discussed in the recommendations section below. The planned upgrade of the website's entire e-commerce platform in the winter of 2015 should bring significantly increased functionality.
- In terms of the variety of specialty bulbs offered by the program, the product inventory appears to be well chosen and deliberately limited so that a wide range of bulb applications are met with a small number of bulb types. This stocking strategy facilitates easier decision making for customers, and it helps to simplify inventory management. EFI demonstrates consistently strong performance with its inventory maintenance, as well as with shipping and delivery. The program also has no significant issues with quality assurance.
- The program has no customer service issues or challenges.
- When phone calls for all reasons are tallied, Duke Energy's Specialty Bulb Program received a combined average of 10 calls per day from customer callers in OH, KY, IN, NC and SC in 2013. In 2014 call volumes rose to an average of 15 calls per day, both as a result of increasing numbers of customers served and due to the addition of new capability to take phone orders. Kentucky call volumes represent a minor percentage of this total volume, averaging 0.12 calls per day in 2013 and 0.35 calls per day in 2014.
- All parties agree that the Duke Energy and EFI teams work well together, sharing common goals and working collaboratively to ensure the program is as effective as possible.

- In summary, TecMarket Works considers this to be a robust energy efficiency program that well serves the customers in Duke Energy's Ohio service territory. Moreover, the success of the program promises well for the potential expansion of inventory to include non-lighting energy savings devices as well.

Recommendations

1. **If feasible, consider upgrading the energy savings calculator on the Duke Energy public website** at <http://www.duke-energy.com/residential-savings-store> so that the public version of the calculator features the same interactive functionality as the version installed on the Savings Store website. Doing so will enable more customers to see how much they can save with specialty bulbs prior to requiring them to log on to the Store itself.
2. **Test and improve the Savings Store's search features.** Because web search functionality yielded inconsistent results or failed to find items using key words commonly found on the website, the Savings Store's search features should be tested and improved to accurately reflect store inventories using the Store's names for bulb types and application types. The search function should also yield accurate results when visitors include associated terms such as lighting, bulb, and other common words and phrases. Likewise the search feature should yield accurate results for entries with singular and plural spelling, such as spiral and spirals.
3. **Test the suggested website usability improvements.** Although the program team plans to update the Savings Store's e-commerce platform during the first quarter of 2015, the Store's overall website design should be continually refined and optimized as well. With that mind, we offer the following suggestions to help improve customer education, streamline site visitor usability, and increase sales.
 - Changing link text to a more distinct color or adding underlines may make links more prominent.
 - Adding a "more information" button on the product summary page may help customers to realize additional information is available.
 - Customer bulb comparison with older incandescent bulbs may be eased by including text citing the most similar incandescent bulb in terms of wattage and lumens, or by inserting a link to the "About Brightness" table.
 - Including an "Add to Cart" button on the initial bulb summary page will eliminate the need for customers to make additional clicks before buying the item they want.
 - Creating a Brightness comparison tab or otherwise providing additional information such as lumens and color temperature with the other information in the Estimated Savings tab area may facilitate easier customer decision making. Including an Energy Star-style light bulb facts and lumen comparison chart will also be helpful to customers. The [Energy Star website](http://www.energystar.gov/index.cfm?c=cfls.pr_cfls_color)⁹ provides an example.

⁹ http://www.energystar.gov/index.cfm?c=cfls.pr_cfls_color

- Provide the consistent ability for visitors to see larger images of the bulbs they want to buy and show the bulbs from multiple points of view. This will make it easier for customers to assure themselves they are buying a bulb comparable to the old one they currently have.
 - Consider standardizing and explaining the product specifications provided for the items listed for sale on the Duke Energy Savings Store.
 - Make a minor edit to the installation instructions for MR16 bulbs and other bulb types that do not comply with the standard “screw-in” instructions.
 - Enable a feature that allows customers to select and compare CFL and LED bulbs at a detailed level, including watts, lumens, bulb life, price, estimated savings and product specifications.
 - Showing photographs or drawings of bulb types and shapes will make it easier for customers to compare their old bulbs with the new bulbs offered for sale on the website. An excellent example of this approach can be found on the light bulb buyers guide page of [Amazon.com](http://www.amazon.com).¹⁰ Furthermore, clicking on the image or shape for the old bulb could bring up a list of possible replacements.
 - Insert a “Save Cart” button into the list of buttons displayed in the shopping cart, or otherwise move the display box to make the save function more obvious for site visitors.
4. TecMarket Works considers the above mentioned bullet list of ideas to be suggestions rather than formal recommendations. We do however formally recommend that Duke Energy and EFI use some form of systematic testing measures, such as A/B Split Testing, to determine if more customers take action with or without the above mentioned suggestions. For example, split testing can be measured using the Content Experiment feature of Google Analytics, which enables simultaneous testing of two or more versions of the same web page to see which versions of page content and designs are most effective. We recognize that other testing techniques may be more applicable to the program’s website platform and encourage Duke Energy and EFI to explore the most appropriate options.
5. Despite the fact that the number of out of state bulb shipments is low, **we encourage Duke Energy to consider limiting the customer’s ability to purchase and ship specialty bulbs to addresses located outside its service territory.** While the ability to do so represents proactive customer service and may therefore help to increase customer satisfaction, it also fosters the opportunity for incented bulbs to be installed in locations where Duke Energy cannot appropriately claim savings while adding costs to Duke Energy’s customers.
6. Because this program involves incentives paid to customers for items sold elsewhere at retail prices, we encourage Duke Energy to **carefully watch the marketplace for technology and pricing changes and to adjust incentive levels accordingly,**

10

http://www.amazon.com/gp/feature.html/ref=amb_link_356841462_1?ie=UTF8&docId=1002234061&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=product-alert&pf_rd_r=1XK8CAY99M4TXE02YDH5&pf_rd_t=201&pf_rd_p=1740479022&pf_rd_i=B002NH5TTA

particularly as LED prices continue to drop. As retail store pricing becomes more competitive with Savings Store pricing, the need for incentives will shift or diminish.

7. Finally, we suggest that Duke Energy **consider the possibility of expanding the program to promote the adoption of additional specialty bulb types**, as well as smart devices for home automation, and other efficiency measures, such as those for saving water or tightening building envelopes.

Participant Surveys

This section of the report presents survey results and analysis from surveys conducted with both Duke Energy Ohio and Duke Energy Kentucky customers.

Awareness and Participation in the Program

All surveyed participants are aware of their participation in this program (100% of 206), and 98.5% confirmed that they purchased the same type and quantity of bulbs as shown in program records (only three customers reported purchasing a different number or type of bulbs than program records).

Overall, a majority of surveyed program participants in the Midwest (62.1% of 206) first learned about the Savings Store from letters and brochures they received in the mail, as seen in Figure 16. More than one participant in four mentioned learning about the Savings Store from messaging at the Duke Energy website (27.7%) and roughly one participant in ten mentioned emails from Duke Energy (11.7%). There are no significant differences between customers in Ohio and Kentucky.

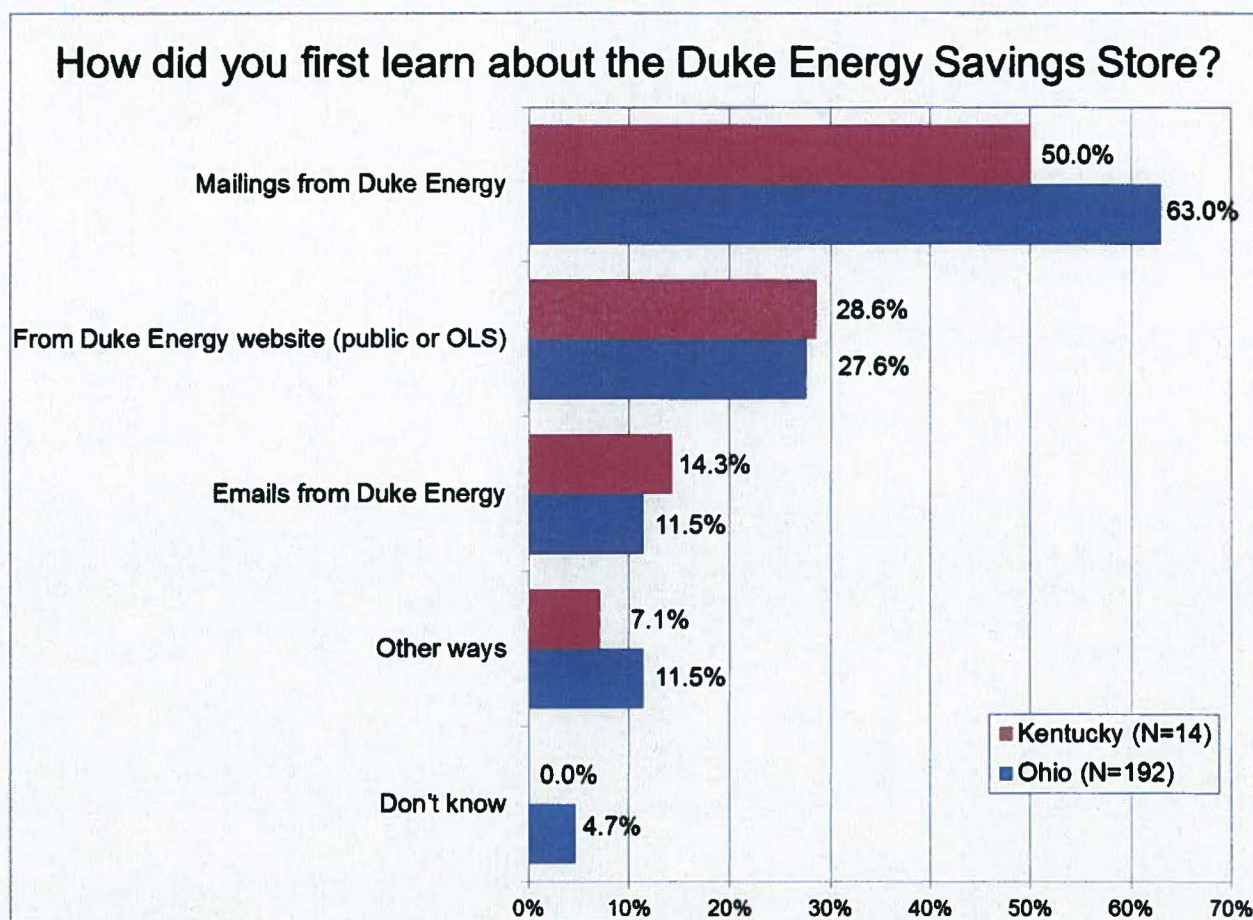


Figure 16. Source of Awareness for Duke Energy's Savings Store (N=206)

Percentages total to more than 100% because participants could name multiple sources of awareness.

Breaking these results down further, among participants who recalled mailings from Duke Energy 40.6% (52 out of 128) mentioned bill inserts, 49.2% mentioned mailings that did not come with bills and 10.2% say they received both types of mailings. Among participants who mentioned messaging from the Duke Energy website 80.7% (46 out of 57) said they saw a message while accessing their account online, 15.8% saw a message on the public section of the site and 3.5% mentioned seeing both of these types of online messaging. Among customers who first became aware through emails, 33.3% (8 out of 24) specified a paperless billing email while 62.5% described this contact as “an email from Duke Energy or a Duke Energy employee” and 4.2% received both of these types of email contact.

Twenty-three surveyed participants named “other” sources of awareness of the program, which are summarized below (these responses add to more than 23 because participants could mention multiple sources).

- Recommendation of a friend / family / neighbor / co-worker (n=10)
- Flyer in box with free CFLs from Duke Energy (n=5)
- Through participation in other Duke Energy programs (n=4)
 - My Home Energy Report (n=2)
 - Home Energy House Call
 - *“In the past, Duke offered the free CFLs so I was able to get used to them.”*
- Media reports: TV, radio, newspaper (n=3)
- Through school / children in school (n=2)

Factors Motivating Participation

Participants were asked to list all of the reasons that they purchased light bulbs from the Savings Store, including the main reason for their participation; these results are shown in Figure 17. The most frequently mentioned reason is to save money on light bulb purchases, which is the main reason for participation for a majority of customers (59.7%) and a secondary reason for another 21.4%, and is thus mentioned as a reason for participation by 81.1% of surveyed participants overall. The second most-mentioned reason for buying bulbs from the Savings Store is to save energy, mentioned by about a third of surveyed customers overall (30.6%), while a quarter of participants mention the ease and convenience of purchasing bulbs from the Savings Store (24.8%).

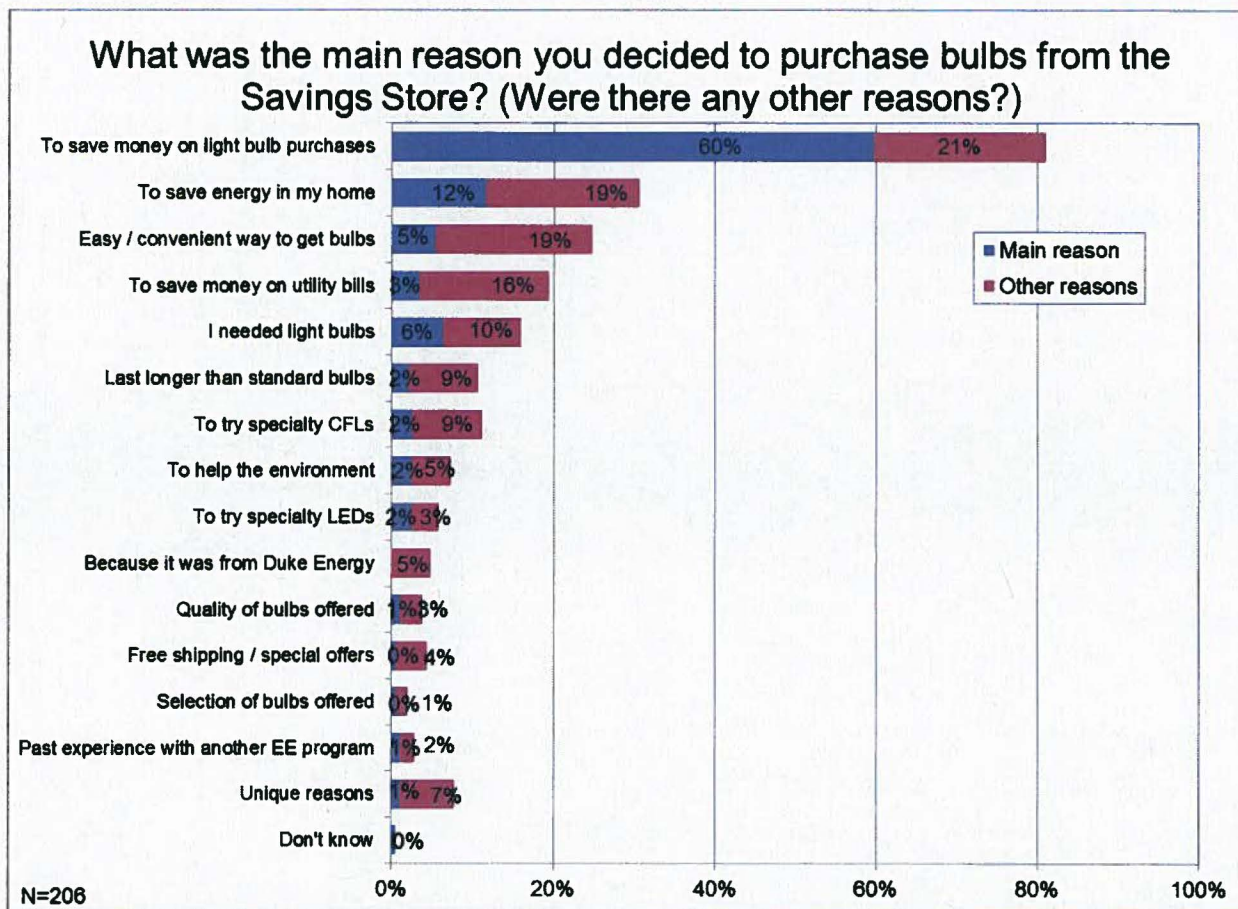


Figure 17. Factors Motivating Light Bulb Purchases from the Savings Store (N=206)

“Other reason” percentages total to more than 100% because participants could name multiple “other” reasons. “Main reason” percentages total to 100% because participants could only name one “main” reason.

Sixteen participants gave unique reasons for purchasing bulbs from the Savings Store; these include wanting efficient bulbs in high-usage sockets, wanting to replace “ugly” CFLs, wanting lighting that generates less heat, wanting consistent lighting (all the same brands and colors in a room), a desire for a specific brand, the phasing out of incandescent bulbs (EISA) and a general preference for purchasing items in large quantities.

Six participants mentioned their experience with other energy efficiency programs: three specified past participation in free CFL programs and one mentioned Duke Energy’s My Home Energy Report (the other two respondents did not specify which programs).

Participants were also asked *“Why do you think that Duke Energy is providing discounted specialty bulbs to their customers?”* Figure 18 shows that the top explanations given by customers are that Duke Energy wants to save energy for environmental reasons (33.5%), for economic reasons (33.0%) and because Duke Energy wants to save their customers money (21.4%). Only 11.2% of participants surveyed could not offer an explanation for Duke Energy’s motives (“don’t know.”)

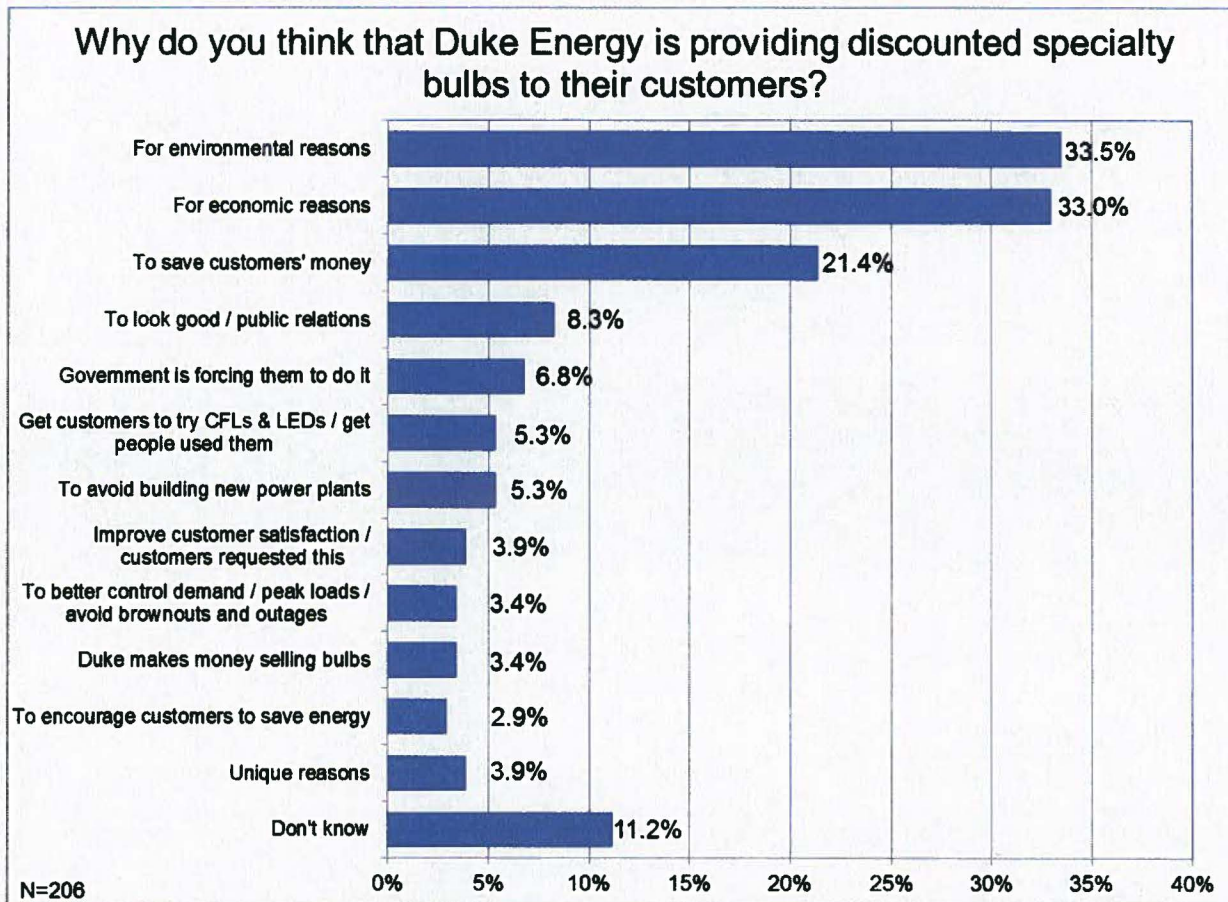


Figure 18. Why Participants Believe Duke Energy is Offering the Program (N=206)
Percentages total to more than 100% because participants can give multiple responses.

Eight surveyed customers gave unique explanations as to why they think Duke Energy is offering this program: two suggested that this program will allow Duke Energy to increase the rates they charge customers, while other explanations include that Duke Energy wants to increase the number of services they offer, to increase the number of customers they serve, to take advantage of a “government grant” and to encourage the use of light bulbs with greater longevity.

Savings Store Website Information and Tools

As seen in Table 12, only about a quarter (25.7%) of surveyed customers recalled the information resources at the Savings Store website, and only about one in six customers (17.0%) recalled something that stood out as useful or important to them.

Table 12. Recalling Useful and Important Information from the Savings Store Site (N=206)

| | Midwest (count) | Midwest (percent) |
|--|--------------------|----------------------|
| <i>The website provides a number of resources designed to provide additional information, including written explanations and videos about bulb types and uses, brightness, and bulb recycling and safety. Do you recall any of these informational resources?</i> | | |
| Yes, recall information resources and something specific stood out as useful or important | 35 | 17.0% |
| Yes, recall information resources but nothing stood out as useful or important (including can't recall anything that stood out) | 18 | 8.7% |
| No, do not recall information resources | 136 | 66.0% |
| Don't know / can't recall | 17 | 8.3% |

The 35 customers who recalled something useful or important were asked what it was; these responses are categorized below (more than 35 responses are listed because respondents could recall more than one category of information).

- Comparative information about light bulbs: dimensions, shapes, features, wattages and common uses for different bulb types (n=15)
- Watched informational videos (n=6)
- Information about lumens and brightness (n=5)
- Information about light colors (soft white, daylight, etc.) (n=4)
- Energy savings for efficient bulbs versus incandescent bulbs (n=4)
- Recycling, disposal and safety (n=2)

As seen in Table 13, less than a third of surveyed customers (29.1%) recall that there is an Energy Savings Calculator tool at the Savings Store website, and only about one in seven customers (13.6%) actually recall viewing this tool. However among customers who viewed the tool, most (75.0% of 28) were aware that it is an interactive feature.

Table 13. Recalling the Energy Savings Calculator Tool from the Savings Store Site (N=206)

| | Midwest (count) | Midwest (percent) |
|---|--------------------|----------------------|
| <i>The Duke Energy Savings Store features an Energy Savings Calculator that you can use to calculate the amount of money you'll save on bulb purchases and on your Duke Energy bill. It also shows how much CO2 you'll offset by using more energy efficient bulbs. Do you recall the Energy Savings Calculator?</i> | | |
| Yes, recall calculator tool: viewed it, and was aware that the tool is interactive | 21 | 10.2% |
| Yes, recall calculator tool: viewed it, but was not aware that the tool is interactive | 7 | 3.4% |
| Yes, recall calculator tool but did not view it (including can't recall if tool was viewed) | 32 | 15.5% |
| No, do not recall calculator tool | 131 | 63.6% |
| Don't know / can't recall | 15 | 7.3% |

Number of Visits to the Savings Store and Number of Purchases

Participants were asked how they accessed the Savings Store website. As seen in Table 14, about a third (35.0%) entered the URL directly into their browser and nearly as many (30.6%) used a link from their Online Services (OLS) accounts; another 15.5% visited the store via the public portion of the Duke Energy website and about one participant in six (15.5%) could not recall the method they used to visit the Savings Store. Three participants (1.5%) placed their orders by telephone.¹¹

Table 14. Accessing the Savings Store Website (N=206)

| | Midwest (count) | Midwest (percent) |
|--|--------------------|----------------------|
| Entered URL directly into browser | 72 | 35.0% |
| Via a link in my Online Services account (OLS) | 63 | 30.6% |
| Via a link on the Duke Energy public website | 32 | 15.5% |
| Used an online link received via email, social media, etc. | 11 | 5.3% |
| Used a web browser favorite / bookmark | 4 | 1.9% |
| Ordered by telephone (not online) | 3 | 1.5% |
| Friend or relative placed the order online for me | 2 | 1.0% |
| Internet search engine (Google) | 1 | 0.5% |
| Don't know / can't recall | 32 | 15.5% |

Responses total to more than 100% because respondents could give multiple responses.

Participants were asked how many times they visited the Savings Store website before they made a purchase. Table 15 indicates that nearly five out of six participants (82.5%) purchased light bulbs on their first or second visit to the Savings Store, though 15.0% visited three or more times before purchasing. The largest reported number of visits before making a purchase is “*twelve times.*”

Table 15. Number of Visits to Savings Store Before Purchasing Light Bulbs (N=206)

| | Midwest (count) | Midwest (percent) |
|---|--------------------|----------------------|
| Made purchase during first visit to the Savings Store | 83 | 40.3% |
| Made purchase during second visit | 87 | 42.2% |
| Made purchase during third visit | 26 | 12.6% |
| Made purchase on fourth visit or later | 5 | 2.4% |
| Don't know / can't recall | 5 | 2.4% |

Participants were also asked how many times they have visited the Store in total, and how many times they have made purchases in total. On average, surveyed participants visited the Savings Store site 2.4 times apiece (with 62.1% visiting two or more times); the median number of visits per participant is two, and the maximum reported number of times visiting the site is 30. Most survey participants (84.5%) have only purchased bulbs from the Savings Store one time, though 14.6% of participants report having made two purchases and 1.0% report three purchases (none report more than three purchases). Overall, most participants (54.4%) have visited the Savings

¹¹ EFI began placing orders on behalf of customer via telephone on July 31, 2014. Prior to that time customers who phoned in were guided through the buying process by customer service representatives as the customer placed their own orders via the Store website.

Store more times than they have made purchases from the Store, while a minority of 43.7% have made a purchase every time they visited the Store and the other 1.9% of participants either were not sure or did not answer all of the questions.

Participants who visited the Savings Store website more times than they made purchases from the site were asked for the reasons why they visited the Savings Store without making a purchase. Table 16 shows that more than half of these participants (56.3%) said they were “just looking to see what was there” while another 38.4% were “just checking the prices.” However, nearly a quarter of participants (22.3%) were making comparisons between Savings Store offerings and those of other retailers.

Table 16. Reasons for Visiting the Savings Store without Making a Purchase (N=112)

| Base: 112 customers who visited the Savings Store more times than they have made purchases from the Savings Store | Midwest (count) | Midwest (percent) |
|--|------------------------|--------------------------|
| Just looking to see what was there | 63 | 56.3% |
| Just checking the prices | 43 | 38.4% |
| Making comparisons with other retailers | 25 | 22.3% |
| Looking for specific information about bulbs | 10 | 8.9% |
| Could not decide which bulbs to buy | 10 | 8.9% |
| Was not ready to make a purchase | 7 | 6.3% |
| Too busy to complete order / ran out of time | 6 | 5.4% |
| Had to determine the number and type of bulbs I needed | 5 | 4.5% |
| Wanted to see physical products instead of images online | 4 | 3.6% |
| Had unanswered questions | 2 | 1.8% |
| Could not complete transaction due to technical issues | 2 | 1.8% |
| Unique reasons, listed below | 10 | 8.9% |
| Don't know / can't recall | 3 | 2.7% |

Responses total to more than 100% because respondents could give multiple responses.

Twenty-five participants reported that they visited the Savings Store to make comparisons with other retailers; these retailers are listed below (this list totals to more than 25 because respondents could mention multiple retailers).

- Home Depot (n=15)
- Lowe's (n=10)
- Walmart (n=5)
- Target (n=3)
- Amazon.com (n=3)
- Menards (n=2)
- Kroger (n=2)
- One mention apiece: Sam's Club, Dollar General, Meijer, “online lighting stores”

Ten participants reported that they were looking for specific information about the bulbs available at the Store; most of the information sought had to do with ensuring that the bulbs they were considering would function and fit in their intended sockets. Many of these participants seem to know what they were looking for (a dimmable bulb or bulb of a particular wattage) and

were verifying that the store bulbs met their needs, though a few participants were “*looking at new products*” or “*becoming familiar with what’s available.*”

Ten participants reported that they visited the Savings Store without making a purchase because they “could not decide which bulbs to buy”; virtually all of these participants explained that there was something they needed to verify about the bulbs they needed (size, shape, quantity, etc.) One participant specified that they were seeking LED outdoor reflector bulbs and could not find these at the Savings Store, while another participant said they were trying to decide between purchasing CFLs and LEDs.

Seven participants reported that they visited the Savings Store without making a purchase because they “were not ready” to do so; most of these customers reported that they had to verify something about their order (bulb size, type or quantity needed) or else consult with another member of their household before making a final purchase decision.

Two participants reported that they visited the Savings Store without making a purchase because they “had unanswered questions”; their questions are listed below.

- *I didn't know whether the bulbs fit in my fixtures, what color of light it was: whether it was blue, white, or yellow. I didn't know whether the bulbs would stick out above the lampshade or whether they'd fit in my fixtures.*
- *I wanted to see how the bulbs available from the website would be used in their intended lighting setting. I wanted to see the bulbs installed in the fixtures they were most likely intended for, like how the candelabra bulbs would look in a fixture.*

Two participants reported that they visited the Savings Store without making a purchase because of “technical issues”; their issues are described below.

- *I got all the way to the last page and I could not complete my purchase. After the third attempt at putting everything in again, I called Duke and they said they were having technical difficulty with the website. I tried for a fourth time the following month and was successful.*
- *I visited the website but became confused between the Savings Store and the free CFL Program.*

Ten participants reported unique reasons for visiting the Savings Store without making a purchase; these include not having credit card information ready, wanting to call the customer service number for more information, wanting to do more research, altering an order and returning an item. One participant believed they were not eligible for the program during one of their visits to the Savings Store, though this customer confirms purchasing bulbs from the Store.

Ordering and Shipping Light Bulbs from the Savings Store

Table 17 shows that customers overwhelmingly used credit cards (96.1%) to pay for their orders from the Savings Store; only two customers (1.0%) reported paying by check or money order. However, more than one customer in ten (13.6%) would have preferred another method of

buying their light bulbs other than ordering them online from the Savings Store; the largest number of these customers stated a preference for shopping in stores to ordering online (5.3%) or would have preferred to order over the telephone (3.9%).

Table 17. Methods of Paying for Savings Store Purchases (N=206)

| | Midwest (count) | Midwest (percent) |
|--|--------------------|----------------------|
| Paid for Savings Store order by credit card | 198 | 96.1% |
| Paid for Savings Store order by check / money order | 2 | 1.0% |
| Don't recall how Savings Store order was paid for | 6 | 2.9% |
| Would have preferred another method for purchasing bulbs: | | |
| Prefer purchasing bulbs at a local store | 11 | 5.3% |
| Would prefer to order by telephone | 8 | 3.9% |
| Would prefer mail order | 3 | 1.5% |
| Prefer using coupons at local stores | 2 | 1.0% |
| Would prefer having bulb charges added to utility bill | 2 | 1.0% |
| Would prefer unique methods, listed below | 3 | 1.5% |
| Would not have preferred using another method | 178 | 86.4% |

Responses to preferred methods for purchasing bulbs total to more than 100% because respondents could suggest multiple alternate methods.

Three participants offered unique suggestions when asked how they would have preferred to purchase their Savings Store bulbs: one participant would have preferred “*receiving these bulbs for free*”, one would prefer not to use a computer at all “*because I am not good with them,*” and the third suggested that Duke Energy could schedule a truck to visit different neighborhoods so that customers could see the bulbs in person.

The two customers who paid for their light bulbs by check or money order were asked how long they waited from the day they mailed their payment to the day they received their bulbs: one customer reported “*less than two weeks*” and the other said “*I’m not sure but they arrived quickly.*”

As seen in Table 18, a little more than half of surveyed customers could not recall what method they used for shipping (54.9% “don’t know”). Among those who could recall, the most common shipping methods are U.S. Post (28.2%) and UPS (18.4%). Most customers (58.7%) are aware that there is a feature for tracking the shipping status of their orders, though only about one participant in ten (9.7%) actually used the tracking feature. There are no statistically significant differences in awareness or use of the order tracking feature between customers who shipped by UPS and U.S. Post.

Table 18. Shipping and Tracking Orders from the Savings Store (N=206)

| | Midwest (count) | Midwest (percent) |
|---|--------------------|----------------------|
| Order shipped by U.S. Postal Service | 58 | 28.2% |
| Order shipped by UPS | 38 | 18.4% |
| "Whatever was cheapest" or "standard shipping" | 6 | 2.9% |
| Can't recall how order was shipped | 113 | 54.9% |
| Aware of order tracking feature and used it | 20 | 9.7% |
| Aware of order tracking feature and did not use it | 97 | 47.1% |
| Aware of order tracking feature and can't recall if used it | 4 | 1.9% |
| Not aware of order tracking feature | 85 | 41.3% |

The 20 customers who used the order tracking feature were asked how they accessed this feature. According to Table 19, the most common method was using the package tracking links at the Savings Store website (55.0%) followed by logging on through Duke Energy online accounts (25.0%).

Table 19. Accessing Order Tracking (N=20)

| <i>Base: 17 customers who used the order tracking feature</i> | Midwest (count) | Midwest (percent) |
|---|--------------------|----------------------|
| Savings Store package tracking links | 11 | 55.0% |
| Through "My Account" at Duke Energy website | 5 | 25.0% |
| UPS web tracking feature | 1 | 5.0% |
| Link in confirmation email | 1 | 5.0% |
| Calling the phone number to check on post office delivery | 0 | 0.0% |
| Don't know / can't recall | 2 | 10.0% |

Defective Bulbs and Return Policies

Although 6.3% of surveyed participants reported that they received at least one damaged or defective bulb, only 3.4% have actually returned light bulbs that they ordered from the Savings Store, as seen in Table 20. All seven of the customers who returned merchandise received new light bulbs and none took a refund. Another one in six participants (16.5%) reports that they have had Savings Store bulbs burn out or become defective since installation.

Table 20. Damaged and Defective Bulbs and Returning Bulbs (N=206)

| | Midwest (count) | Midwest (percent) |
|---|--------------------|----------------------|
| Bulbs arrived damaged or defective | 13 | 6.3% |
| Bulbs became defective or burned out since installation | 34 | 16.5% |
| Returned bulbs for any reason | 7 | 3.4% |
| Returned bulbs and received a replacement | 7 | 3.4% |
| Returned bulbs and received a refund | 0 | 0.0% |

The seven customers who returned light bulbs were asked how many bulbs of what types were returned and why they returned them; these responses are listed below (one participant received the wrong bulbs, four participants received obviously defective bulbs, and two participants had bulbs burn out very quickly after installation). These customers were also asked to rate their satisfaction with the return process on a ten-point scale where "10" is highest: six gave their

experience with returning merchandise the highest possible “10 out of 10” rating while the seventh participant did not provide a rating.

- *I returned six reflector bulbs; I was sent the wrong bulbs. I sent them back and the correct ones were sent.*
- *I had a capsule bulb replaced, though Duke did not ask me to return the bad one. The bulb arrived rattling and obviously broken.*
- *I sent back two globe bulbs that rattled when I shook them. I was given replacements.*
- *I received one defective outdoor reflector that wouldn't light up.*
- *I returned three dimmable spirals that were flickering and not dimming properly.*
- *Two candelabras burned out right away.*
- *I returned three indoor reflector LEDs that burned out within minutes of installation.*

Participants who returned bulbs were also asked if they had tried installing these bulbs before returning them and if so what type of bulb is currently installed in the socket where they had intended to put the returned bulbs. Four of these seven participants (57.1%) did try installing their returned Savings Store bulbs, and all four of these participants currently have efficient bulbs in these sockets (three installed CFLs and one installed an LED).

Customer Support

Table 21 shows that customers who need assistance are more likely to use telephone support (6.8%) than the Contact Us feature at the Savings Store website (1.5%). Large majorities of participants are aware of these contact methods but did not need to contact customer support (78.6% for telephone and 84.0% for web support).

Table 21. Contacting Customer Support (N=206)

| | Midwest (count) | Midwest (percent) |
|--|--------------------|----------------------|
| <i>Duke Energy has a support telephone number for assistance with the Savings Store website. Did you call the phone number at any point?</i> | | |
| Yes, called support | 14 | 6.8% |
| No, did not call support | 162 | 78.6% |
| Not aware of the phone number / don't know | 30 | 14.6% |
| <i>The website also has a Contact Us feature that can be used to email questions to the Savings Store's support team. Did you use the Contact Us feature?</i> | | |
| Yes, used Contact Us feature | 3 | 1.5% |
| No, did use Contact Us feature | 173 | 84.0% |
| Not aware of Contact Us feature / don't know | 30 | 14.6% |

The few customers who did use customer support gave high ratings of satisfaction: on a ten-point scale where “10” is most satisfied, the 14 customers who used phone support gave an average satisfaction rating of 9.50 and the three customers who used the Contact Us feature all rated their satisfaction at “10 out of 10”. One participant rated their satisfaction with the telephone support at “5 out of 10” and explained that this could be improved if “*phone support could have customer order tracking information.*”

Recommending the Program

Surveyed participants were asked if they told any of their friends, neighbors or relatives about the Savings Store, and if so to how many people they told. Nearly two-thirds of participants (65.0%) reported that they did recommend the Savings Store to others, and the range of reported recommendations per participant ranges from one to “3,003 Facebook friends” (the second-largest number of recommendations made by a participant is 38). Not including the outlier value of 3,003, the average number of recommendations made is 4.6 per customer making recommendations, and the median is three recommendations.

Most of the people who participants told about the Savings Store are either family members (34.9% of recommendations) or friends (31.6%), followed by co-workers (17.4%) and neighbors (12.4%). As indicated by Table 22, virtually all communications between participants and people they told about the program were face-to-face “word of mouth” communications (98.5%).

Table 22. Methods of Telling Others about the Savings Store (N=134)

| Base: 134 customers who told others about the Savings Store | Midwest (count) | Midwest (percent) |
|--|------------------------|--------------------------|
| Word of mouth (in person) | 132 | 98.5% |
| Email | 3 | 2.2% |
| Facebook | 1 | 0.7% |
| Twitter | 0 | 0.0% |
| Web site forum | 0 | 0.0% |
| Community meeting | 1 | 0.7% |
| Don't know / can't recall | 0 | 0.0% |

Responses total to more than 100% because respondents could give multiple responses.

Participant Satisfaction

Participants were asked to rate various aspects of the program on a ten-point scale, with “1” being the lowest possible rating and “10” being the highest. Table 23 shows the respondents’ mean satisfaction scores with various aspects of the program and for the Savings Store overall.

The Savings Store gets a high overall satisfaction rating from program participants, with a mean of 9.22 on a ten-point scale where “10” means most satisfied. The most popular aspects of the program involve the mechanics of online shopping: the ease of using the shopping cart function (mean rating 9.26), ease of completing purchases (9.30), delivery time for receiving the bulbs (9.19) and ease of logging on to the website (9.29). The mean ratings for store return practices, order tracking and customer support are also very high (mean ratings 9.35 up to 10.0), though these aspects of the program only applied to small numbers of participants (most customers did not need to return merchandise or contact support and thus did not rate these aspects of the program).

The price of the light bulbs is a key factor driving participation (see Figure 17), and participants rate their satisfaction with Savings Store prices very high at 9.41 on a ten-point scale. These high satisfaction scores with the mechanical aspects of online shopping indicate that EFI is doing an excellent job at providing the e-commerce platform for Duke Energy’s Savings Store. TecMarket Works notes that these scores are higher than most satisfaction scores seen within the energy efficiency program evaluation field, including satisfaction scores for programs that do not

require customers to pay a portion of the cost for their own measures out-of-pocket as this one does.

The least popular aspects of the program are the helpfulness of the energy savings calculator tool (mean rating 7.89) and the helpfulness of information resources at the web site (6.99), though only a minority of participants rated these aspects of the program (because most customers did not use the energy savings calculator or recall any of the informational resources at the website). Two other aspects of the program having to do with the information presented at the website also received somewhat lower ratings: the helpfulness of the energy savings estimate per bulb (8.65) and the helpfulness of the bulb descriptions (8.55).

Table 23. Mean Satisfaction Ratings for the Savings Store and Aspects of the Specialty Bulbs Program (N=206)

| | Average Rating | Valid N (not including don't know) | Percentage of ratings at "7 out of 10" or lower |
|---|-----------------------|---|--|
| Satisfaction with the Savings Store overall | 9.22 | 206 | 8.3% |
| Satisfaction with store return practices | 10.00 | 6 | 0.0% |
| Satisfaction with "Contact Us" feature provided for store | 10.00 | 3 | 0.0% |
| Ease of completing purchase online | 9.30 | 195 | 4.6% |
| Satisfaction with order tracking feature | 9.35 | 20 | 5.0% |
| Ease of logging on to website | 9.29 | 194 | 5.2% |
| Ease of using the shopping cart function at the web site | 9.26 | 189 | 6.3% |
| Satisfaction with phone support provided for store | 9.50 | 14 | 7.1% |
| Satisfaction with price of bulbs | 9.41 | 205 | 7.8% |
| Ease of navigating website | 8.94 | 194 | 9.3% |
| Satisfaction with delivery time for bulb order | 9.19 | 198 | 9.6% |
| Ease of finding the items you were looking for | 8.70 | 191 | 15.7% |
| Helpfulness of energy savings estimate per bulb | 8.65 | 154 | 16.2% |
| Helpfulness of bulb descriptions | 8.55 | 191 | 20.9% |
| Helpfulness of the energy savings calculator | 7.89 | 27 | 37.0% |
| Helpfulness of informational resources at web site | 6.99 | 85 | 37.6% |

Customers who gave ratings of "7" or lower on a ten-point scale were asked the reason for their relatively low ratings. These responses are summarized below, with suggestions relating to overall program satisfaction listed first followed by issues with specific programs areas in order from those with the most suggestions to those with the fewest (respondents could give multiple reasons for their ratings, so in some cases there are more responses listed than respondents.)

Satisfaction with the Savings Store overall (n=17)

- Improve the variety of bulbs for sale / provide more options per type / more LED options (n=4)
- Provide more or clearer information about bulb qualities (lumens, wattage, color, etc.) (n=3)

- Make it easier to directly compare different bulbs side-by-side / improve website functionality (n=3)
- The Savings Store is fine but the CFLs I bought take too long to warm up (n=2)
- Allow a larger quantity of bulbs to be purchased at the fully-incented price (n=2)
- I would not have bought the candelabra bulbs that I ordered if I had seen a photo of them first
- Provide more or clearer information about bulb dimensions and threading
- Making my purchase took too much time
- Lower the cost of shipping
- Decrease delivery time
- I would like additional suggestions for lowering my energy bill
- I wish there was an option to order by phone¹²
- I had technical problems connecting to the site but otherwise everything was fine
- No suggestions / don't know (n=2)

Helpfulness of bulb descriptions (n=40)

- Need more information about where bulbs can be used (indoor/outdoor, dimensions, threading, etc.) (n=17)
- Bulb descriptions need improvement / more or clearer information / easier to find information (n=12)
- Bulb photos need improvement / photos look too similar (n=5)
- The bulbs I ordered were not what I expected (wrong size, too bright, etc.) (n=5)
- I had to go to another website to confirm which bulbs what I wanted (n=3)
- Website needs to make it easier to compare different bulbs (n=3)
- I was not sure if I had ordered the right bulbs based on the descriptions at the site (n=2)
- I did not understand the terminology used (n=2)
- I knew what I was looking for so the descriptions were not important to me (n=2)
- I was not sure about some bulb types so I ended up ordering more than I needed
- I had to call customer service to confirm which bulbs I wanted
- Include customer reviews at the site
- Create interactive tool to help customer determine how many bulbs and what wattage they need based on the size of a room
- The bulb choices are too limited
- No suggestions / don't know (n=3)

Helpfulness of informational resources at web site (n=32)

- Did not need this information / I knew what I was looking for (n=16)
- Informational resources were easy to overlook / not visible enough / I did not notice anything (n=6)
- Need more detailed information about lumens, wattage, color, bulb uses (n=4)
- I had to go to another website to confirm which bulbs what I wanted

¹² The Savings Store does provide an option for ordering light bulbs over the telephone. This was not an option when the program was first launched, however the participant making this comment made their purchase in June 2014, whereas phone order capability commenced on July 31, 2014.

- Need better filtering tools / make it easier to compare different bulbs on the same page
- Include information about local recycling options
- I did not learn anything that I did not already know / information is too basic
- No suggestions / don't know (n=3)

Ease of finding the items you were looking for (n=31)

- Bulb descriptions need improvement / more or clearer information / easier to find information (n=10)
- Need better filtering tools / make it easier to compare different bulbs on the same page (n=8)
- Bulb photos need improvement / photos look too similar (n=4)
- I had difficulty finding a particular bulb I was looking for (n=3)
- Bulbs should be organized by usage and not separated by CFL and LED (n=3)
- Took too long for me to find what I wanted / I had to log on multiple times (n=3)
- The website is fine but I am not very good with computers (n=2)
- I was not sure about some bulb types so I ended up ordering more than I needed
- No suggestions / don't know

Helpfulness of energy savings estimate per bulb (n=25)

- I already knew what energy savings to expect / did not need this information (n=7)
- Estimates are not clear to me / not sure what numbers mean / not sure they are accurate (n=4)
- I did not purchase these bulbs because of the energy savings (n=2)
- Estimates should compare all bulb types (not just a comparison with incandescent bulbs) (n=2)
- The bulbs I ordered were not what I expected (wrong size, too bright, etc.)
- *Lower energy consumption entices you to leave lights on all day long, like my outdoor bulbs. I've changed my practices when it comes to outdoor light fixtures; I leave them on all day now.*
- No suggestions / don't know (n=9)

Satisfaction with delivery time for bulb order (n=19)

- Delivery time should be no more than three days (n=2)
- Delivery time should be no more than about a week (n=8)
- Delivery should be quicker in general (n=4)
- Part of my order was delayed (backordered items)
- No suggestions / don't know

Ease of navigating website (n=18)

- The organization of the site made it hard for me to find what I was looking for / too much clicking around (n=9)
- Make it easier for people who are not as proficient with computers (n=3)
- I am proficient with computers and I found this site difficult to navigate
- Allow me to bookmark the items I am interested in