

# If You Build It, They Will Come: Lessons Learned in Creating an Interactive Lighting Display

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## Introduction

This poster presents the trials and tribulations encountered by the authors when they set out to build an interactive lighting display to showcase current compact fluorescent lamp (CFL) technologies. In creating this display, the authors had two main goals: obtain up to 10 lamp styles, and within each of these, obtain lamps of the same wattage from variety of manufacturers to demonstrate variations in color temperature, light output [lumens], and other characteristics by manufacturer. The authors assumed the task of acquiring lamps would be relatively simple, but soon learned that the bulbs required for the display would be difficult to obtain and, once obtained, pose challenges in implementing the display.

## Challenges

The authors encountered several unanticipated obstacles their search for CFLs:

1. Availability and product diversity: To acquire the 30 lamps ultimately used in the display, CFLs were purchased from five brick-and-mortar stores and five online outlets. The former generally offered a limited variety of lamp styles from one or two manufacturers, and the latter often provided inconsistent information from one manufacturer to the next (and also from one website to the next).
2. Inconsistent packaging claims: CFL packaging often provided inconsistent and potentially inaccurate information. For example, the authors purchased three different 23-Watt Energy Star® compact fluorescent flood lamps. The packaging information for each of these three bulbs was inconsistent, including different claims for energy cost savings, lifetime, and incandescent wattage equivalencies.
3. Lack of information on light output for incandescent lamps: The industry has shifted away from educating consumers about CFL-to-incandescent wattage equivalence and moved toward looking for equivalent light output (lumens). Most of the CFL packages mentioned lumens, but none of the incandescent lamp packages we examined made any similar statement to enable comparison.
4. Product performance: Of the bulbs acquired from websites, approximately 20 percent arrived broken. Once installed in the CFL lighting display, several bulbs failed, experienced delays in start-up, produced flickering light, and/or performed poorly when integrated with the wireless control system.

## Conclusions

The process confirmed findings from other research that suggest there are many lingering challenges associated with wider-spread adoption of CFLs – which has implications for energy-efficiency program design. Small twister-style CFLs are widely available and inexpensive, but finding other styles still poses a challenge. Program designers should consider providing energy-efficiency program incentives for a diverse array of high-quality CFLs – in a range of styles and wattages – as one strategy for overcoming the market barriers of CFL product availability, diversity, and performance. A focus on consumer education will also

continue to be important, particularly if no substantial improvements are made in the accuracy and consistency of product packaging.