L PRIZE® FIELD TESTING:

Progress Energy Test Locations in Florida

How would the Philips 60W LED replacement stand up to the rigors of a hospital environment? To find out, Progress Energy engaged the Florida Hospital East Orlando as one of several test locations.

Hospitals impose unique demands on lighting, with their 24/7 operations and controlled environmental conditions. L Prize partner Progress Energy (operating in Florida, North Carolina, and South Carolina) chose the Florida Hospital East Orlando as one of several field test locations to see how reliably Philips Lighting North America's 60-watt LED replacement lamp would perform.

At the hospital, 37 samples were tested in various locations, including an elevator hallway, hospital chapel, CT scanner and control room, and two physician break rooms, replacing both incandescent and CFL bulbs. Assessment results indicate the lamps met all expectations. The hospital's engineering director noted,

Locations of field tests included this doctors' lounge at Florida Hospital East Orlando. *Photo courtesy of Progress Energy.*

L Prize partner Progress Energy conducted field testing in this Florida hospital. In this elevator hallway, the Philips 10W LED sample lamps are in ceiling tiles on the left, 65W incandescent bulbs are on the right. *Photo courtesy of Progress Energy.*

"I was impressed with the performance of the LED lamps. . . . I look forward to these lamps being on the market and the energy savings that Florida Hospital can enjoy." Indeed, the cost savings could be significant. Estimates from field testing suggest that by replacing merely 26 incandescent and 14 CFL bulbs with the L Prize LED lamps, the hospital could save $2,026 each year on energy costs alone. Additional savings would be realized from reduced maintenance and replacement costs, thanks to the 25,000-hour life of the lamp.

Reliability and Applicability

Progress Energy installed an additional 48 samples in other field test locations, including a sports bar restaurant, a hotel restaurant, and both a multi- and single-family home. Fixture types for the field tests included, for commercial use: recessed reflector floods and porcelain down sockets; and for residential use: pendants, table lamps, vanity strips, ceiling fan lamps, stand lamps, chandelier lamps, and recessed can reflectors. Nearly all of the commercially tested bulbs were used 24 hours a day, while the residential usage varied for each fixture and location.

Surveying users at its wide-ranging test locations was a central part of Progress Energy's field assessments. A total of 38 users at the sites responded to survey questions addressing brightness, light color, impact on the space, whether the user would recommend the lighting to others, and any problems experienced with the lights. Survey results are summarized on the back page.

> With the L Prize LED lamp, lighting that looks warm doesn't actually need to feel warm.

A notable observation at the Legacy Sports Bar & Grill Restaurant at Orange Lake Resort was that the lamps were considerably cooler in operation than the previous incandescent bulbs (90W). Cooler operation means less energy spent cooling facilities warmed up by light bulbs. Users reported the LEDs as "warm" and "perfect lighting for dining." With the L Prize LED lamp, though, lighting that looks warm doesn't actually need to feel warm.

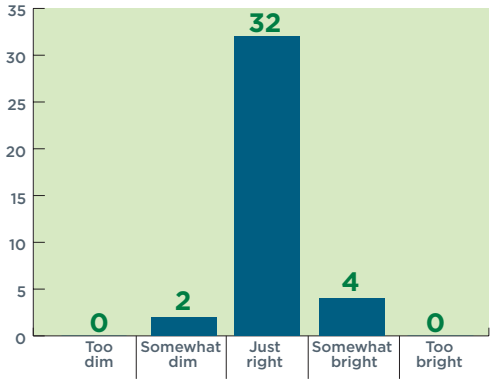
Elsewhere, at the Hyatt Grand Cypress Hotel's White Horse Dining Restaurant and the two residential homes, survey remarks expressed similar positive feedback about the samples. Only three of the 38 users surveyed reporting a problem with the light, noting flickering and a yellow or green color upon dimming. (Philips has corrected the dimming issues in the L Prize-winning product to be marketed by the company.)

Real Potential for Savings

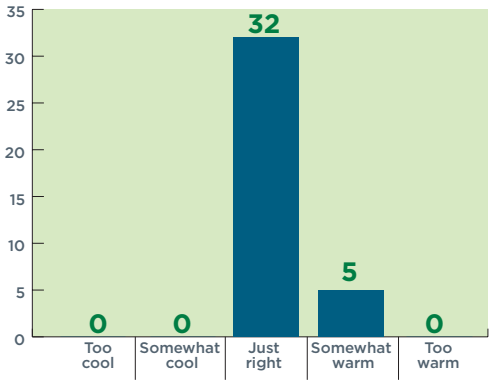
Overall, 92 percent of users surveyed by Progress Energy would recommend or highly recommend the L Prize replacement to others. Judging by the successful field tests, "the energy-saving potential is real," said Javier Lira, Progress Energy's L Prize project manager responsible for the design, implementation, and analysis of the study. "It's one thing to read about the amount of energy we could save with LEDs," Lira continued, "but it's something entirely different to put this technology to work in our own backyard. The technology is evolving at such a pace that customers could begin benefiting from LEDs on a larger scale sooner rather than later."

A total of 38 users at five locations reported a satisfactory experience with the Philips 60-watt replacement LED lamp.

Is the lighting too dim? Too bright? Just right?

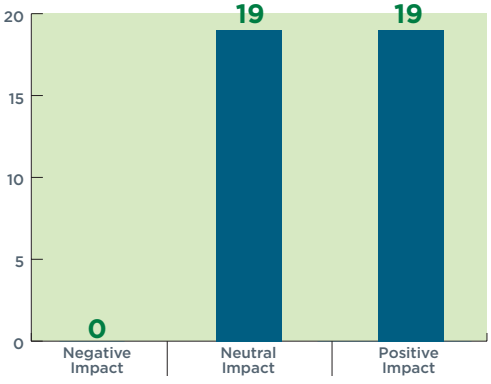


Is the color of the lighting too cool (blue) or too warm (yellow)?

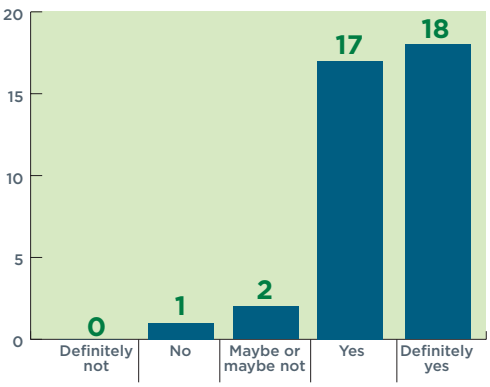


One not responding

Does the lighting have a positive, negative, or neutral impact on your ability to see clearly in this space?



Would you recommend this type of lighting to others?



Lighting that looks warm doesn't actually need to be warm. Field testing at Legacy Sports Bar & Grill, Orange Lake Resort, Orlando, Florida, showed the L Prize-winning 60-watt replacement bulb (top) operates at significantly lower temperatures than its incandescent counterpart (bottom). *Photos courtesy of Progress Energy.*

L PRIZE®

U.S. Department of Energy

No light bulb in history has endured more extensive public testing than the winning L Prize entry from Philips Lighting North America. A highly energy-efficient replacement for the 60-watt incandescent bulb, the Philips lamp stood up to rigorous assessments in the laboratory and in the field.

For More Information

For more information about the L Prize competition, sponsored by DOE's Solid-State Lighting program, see lightingprize.org.

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

March 2012

Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 10% post-consumer waste.