

Jackpot Market LED Lighting Upgrades Case Study



Jackpot Market saves energy and monthly operating costs while improving safety and visibility

Project Description

The Jackpot Market is a convenience store that operates between 20 and 22 hours per day, every day. Marty Liesegang purchased this store about a year ago, aware that it needed a lighting upgrade. Previously in a different convenience store, Liesegang had upgraded the refrigerated case lighting to LED. In that store, the new LED lighting “really made the product jump,” which is a good thing; in retail businesses, bright lighting attracts customers. In the Jackpot Market, the existing first-generation T-8 fluorescent ceiling lighting seemed dim, and a few lamps needed replacement each week. When Gabe Bowersox with Sustainable Energy Management Inc. suggested LED lighting for the ceiling, Liesegang was interested.

The contractor installed some samples of 18 watt LED T-8 tubes in the existing recessed 2’ by 4’ luminaires. With a color rendering index (CRI) of 83 and a correlated color temperature (CCT) of 4100K, the lights and products they illuminated looked crisp and bright. The contractor indicated that the owner could expect energy savings of approximately 54% from replacing the 32 watt fluorescent lamps with LED lamps and removing one lamp from most of the fixtures.

The return on investment for energy savings would be 8% without incentives and 11% with incentives offered through the Columbia River PUD. With a 9.4-year payback after incentives, the owner was persuaded that it would be a good business investment to reduce operating costs while increasing customer appeal by upgrading the store’s appearance. He decided to retrofit the existing three- and four-lamp fluorescent fixtures with the LED product, and also the two-lamp fixtures under the exterior awning. The old lamps were removed and the ballasts were disconnected, and the new lamps with internal drivers were installed. No controls were added because all of the lights are always on.



Results

The owner is very pleased with the outcome of the project. He sees a much brighter space with the whiter and cooler light from the LED lamps. A “definite improvement!” he says. He is not sure if customers have noticed why the store is brighter, but he invites others who are interested in the lighting to come see for themselves. It is too soon to confirm if the expected energy savings of over \$2,000 a year are accurate because this is a very new installation. Mr. Liesegang definitely believes these LED lights are a benefit to a small retail store like his, where brightness counts and lower operating costs help his bottom-line.



Considerations for Purchase

Before purchasing LED lighting:

- Understand warranty coverage and length. Coverage might include various components, field repair, shipping and labor, over 5 to 10 years. Warranty eligibility may require multiple LEDs to fail before replacement.
- Install a sample before committing to a purchase.
- Check your local utility for available incentives.
- Engage a professional to provide lighting that meets your needs, complies with energy code, and is compliant with utility incentive requirements.

Most utility incentives for LED lights use a qualified list:

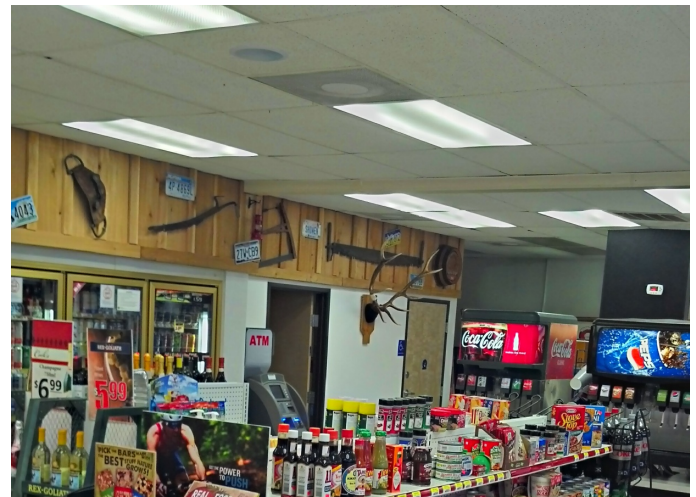
- For light bulbs, look for ENERGY STAR products: http://www.energystar.gov/index.cfm?c=manuf_res.pt_lighting
- For commercial light fixtures, refer to Design Lights Consortium qualified product lists: <http://www.designlights.org>

Additional questions to ask are listed at this U.S. Department of Energy website: <http://www.eere.energy.gov/buildings/ssl/what-to-ask.html>

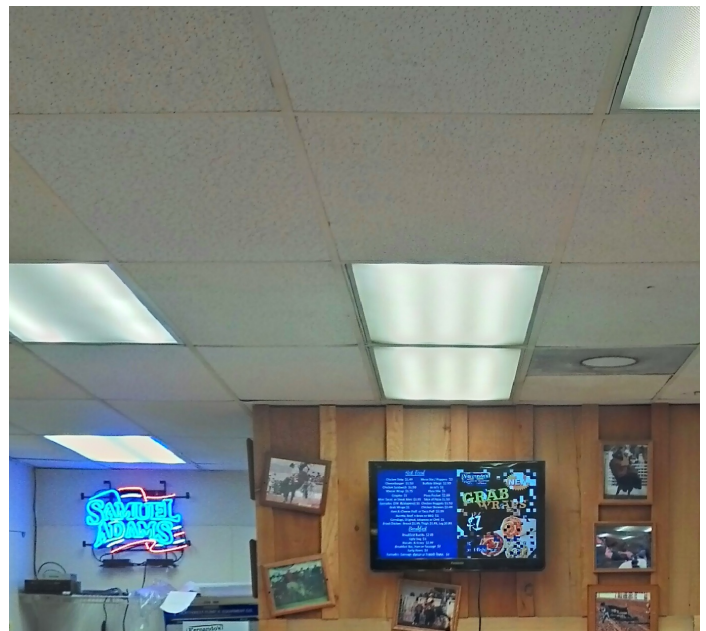
Contractor: Gabe Bowersox
Company: Sustainable Energy Management Inc.
Phone: 971-322-3042
Website: gabe@sustainableenergymgmt.com
Manufacturer: Creative Lighting Solutions,
<http://www.clsnw.com/>
Utility: Columbia River PUD



In the exterior fixtures under the awning, individual LEDs are visible, although not resolved in this photo. This provides an attractive sparkle, like a string of individual Christmas lights.



The LEDs light the space and merchandise well.



A few 3-lamp fixtures in work areas were not delamped, such as shown on the right above the deli display. Because LED's are highly directional, gray stripes are visible between the new lamps, especially on 4-lamp fixtures with 2 center lamps removed, as shown in the top left corner of this photo.