Airport - Upgrade

Port Columbus International Airport

Columbus, OH

• Estimated first-year energy savings of $31,000
• Estimated annual maintenance cost savings of $14,000
• Reduced energy use by nearly 60 percent
ENERGY AND MAINTENANCE SAVINGS TAKE FLIGHT WITH CREE

Port Columbus International Airport is the largest passenger airport in the central Ohio region and is the second busiest in the state. Owned and operated by the Columbus Regional Airport Authority (CRAA), Port Columbus is primarily a passenger airport, providing 151 non-stop flights to 34 airports via nine airlines daily. CRAA is comprised of Port Columbus International Airport, cargo-dedicated Rickenbacker International Airport, and general aviation Bolton Field Airport.

In an effort to improve lighting performance and save energy, airport officials recently retrofitted the Port Columbus arrival and departure roadway and pedestrian walkway lighting with Cree 304 Series™ luminaires featuring the latest LED chip package technology.

OPPORTUNITY

In fall 2010, the airport underwent a major customer service initiative that included a curb-front beautification project to make the area cleaner, safer and more welcoming to travelers. CRAA was in search of a 24/7 lighting solution with virtually no maintenance.

As part of the CRAA’s “15 by 15” campaign (CRAA’s energy reduction campaign to reduce energy consumption by 15 percent by the year 2015), the airport replaced nearly 350 metal halide fixtures with Cree® 304 Series™ LED luminaires. The energy-efficient luminaires reduced energy consumption by nearly 60 percent compared to the previous metal halide system. As a result, CRAA was able to exceed its current energy reduction goal as it moves towards its long-term goal of a 15 percent energy reduction by 2015.

Paul Kennedy, manager of energy and environment at the Columbus Regional Airport Authority became aware of Cree luminaires when airport maintenance personnel upgraded 100 watt high pressure sodium (HPS) fixtures in one of the airport’s Sawyer Road tunnels with Cree Edge™ flood wall-mounted luminaires for the purpose of energy and maintenance cost savings.

While conducting research on sustainable approaches for the curb-front project, Kennedy took notice of publicity about Boston’s General Edward Lawrence Logan International Airport and the positive results of the Cree installation. A cost analysis comparing the savings and payback period of a Cree solution to metal halide showed Kennedy that a retrofit with LED luminaires provided the most efficient and highest performing result.

“We sought to install one-for-one replacements that would improve lighting performance and outlast the old HID lighting that was costly to maintain. All things considered, after realizing the short payback timeframe and energy and maintenance savings, the decision was easy to make,” said Kennedy.

BENEFITS

The 344 Cree luminaires installed on two levels of the airport passenger drop-off, arrival and baggage claim area, and a covered pedestrian walkway have significantly reduced energy use. In addition to the substantial energy savings, the new installation will allow the CRAA to realize sizable maintenance savings as well. When combined with an approximate $36,000 rebate from an AEP (American Electric Power) Gridsmart Rebate program from their local utility, CRAA expects to save over $80,000 in the first year alone.

Paul D. Kennedy, A.A.E.,
Manager of Energy and Environment, Columbus Regional Airport Authority
IN THIS CASE STUDY

Cree Edge™ Series
AREA LUMINAIRE
- Minimum 70 CRI
- CCT: 4000K (+/-300K), 5700K (+/-500K)
- Utilizes BetaLED® Technology
- UL wet listed
- Two-level options
- Modular, low profile design

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Cree BetaLED® Technology uses a total systems approach combining the most advanced LED sources, driver technologies, optics and form into each product. The patented NanoOptic® technology, available in more than 20 distributions, provides a level of optical control and thermal management that traditional light source technology cannot provide. Combined with the DeltaGuard® Finish, the finest industrial-grade finish available, the result is outstanding target illumination, lasting performance and optimum energy efficiency.

PARTICIPANTS
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Engineer: Dynamix Engineering LTD, Columbus, OH
Cree Rep Agency: Lighting Unlimited, Inc., Columbus, OH

Cree IS LED Lighting
Learn more at: www.cree.com/lighting | info@cree.com | 800.236.6800

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