Los Angeles International Airport Los Angeles, California

Customer Success Story: Eaton's Cooper Lighting Business

Eaton Solutions Improve Lighting Efficiency and Reduce Energy Usage at Los Angeles International Airport

Customer: Los Angeles International Airport

Location: Los Angeles, CaliforniaSegment: Aviation/Lighting

Challenge: Supply a modern, innovative and energy-efficient roadway lighting solution, improving the experience for travelers at the airport

Solution: Custom LED technology from Eaton's Cooper Lighting business

Results: Uniform, targeted illumination, while cutting energy usage by two-thirds

Background: Serving nearly 66.7 million passengers in 2013, Los Angeles International Airport (LAX) is the sixth busiest airport in the world and third in the United States, offering 692 daily flights to 85 domestic cities and 928 weekly nonstop flights to 67 cities in 34 countries on 64 passenger air carriers. In recent years, Los Angeles World Airports (LAWA), the authority that runs LAX, has proposed a series of enhancements to upgrade the airport's dated facilities, spending approximately $4.11 billion on airport modernization projects over the next five years.

As part of the redevelopment plan, a team from Horton Lees Brogden Lighting Design, of Culver City, California, and architect AECOM, headquartered in Los Angeles, executed the first phase of lighting upgrades to the exterior curbside area outside the Tom Bradley International Terminal. This upgrade included new light poles to illuminate two levels of circulatory roadways.

"Los Angeles is a progressive city that is constantly innovating and in flux. The team sought a design that would be forward-thinking and inspirational but simple enough to be timeless. Eaton's customized LED technology has been pivotal to the success of the design, enabling discrete integration of light and architecture.", said Teal Brogden, Senior Design Principal at Horton Lees Brogden Lighting Design.

Before Curbside Enhancements

After Curbside Enhancements

Challenge:

The LAX curbside enhancements project design team sought a design that would be forward-thinking, inspirational, innovative and timeless. Upgrading the lighting posed the opportunity to reimage the user experience in a progressive gateway rather than a utilitarian roadway project. Sculptural fiberglass poles were envisioned to make use of new form factors enabled by innovative LED technology. In order to meet an aggressive project schedule, readily available components

were necessary; however the uplifted custom pole design, as well as the desire for continuous, slot mounted lines of light, created unique physical and optical challenges.

Solution:

The team search for a product with an asymmetric roadway distribution that existed in a narrow linear form factor. Minimizing the luminaire profile while properly managing heat and wiring required close coordination. Utilizing Eaton's linear LED LightBAR optical technology imbedded in the arms, rotated 180 degrees from its typical deployment, allows for an average of 2.5 footcandles on the roads and 8 footcandles on the sidewalks. The pole's structural system doubles as a heat sink.

Results:

The LightBAR™ LED optical technology met the roadway lighting requirements and provides uniform illumination for both the lower departures level and upper arrivals level at the airport. The 91 highly custom double-arm Y-shaped, contemporary luminaires each consume only 519 watts compared to the existing 800-watt high pressure sodium fixtures. The upgrade will result in a 35 percent reduction in power consumption compared to the previously install HPS fixtures. The new streetlight uses two-thirds less energy (65 percent).

"We're proud our LightBAR™ LED technology has helped to dramatically improve the traveler experience at LAX and that the roadway-approved technology could meet the challenging optical needs for this innovative custom street lighting project." said Mark Eubanks, president, Eaton's Cooper Lighting Division.