Dialight

Case Study: Milwaukee Airport, AR

Dialight's DuroSite® Series Low Bay LED Fixtures

Milwaukee Airport Reduces Fixture Count by 60%, Expects Payback in Under 2 Years with Upgrade to Dialight LED Fixtures

Frustrated by ongoing maintenance and the need to stockpile hundreds of replacement bulbs and ballasts for its existing metal halide and high pressure sodium fixtures, the Milwaukee County Mitchell Airport recently upgraded its concourse lighting to state-of-the-art LED Low Bay fixtures by Dialight. The retrofit not only slashed electric consumption and cost by more than half for each fixture, but also cut the number of fixtures required to light the same space by 60%, for a total maintenance and energy savings that promises an ROI in less than 2 years

Dialight LED Low Bay fixture based on their industry leading energy and maintenance performance

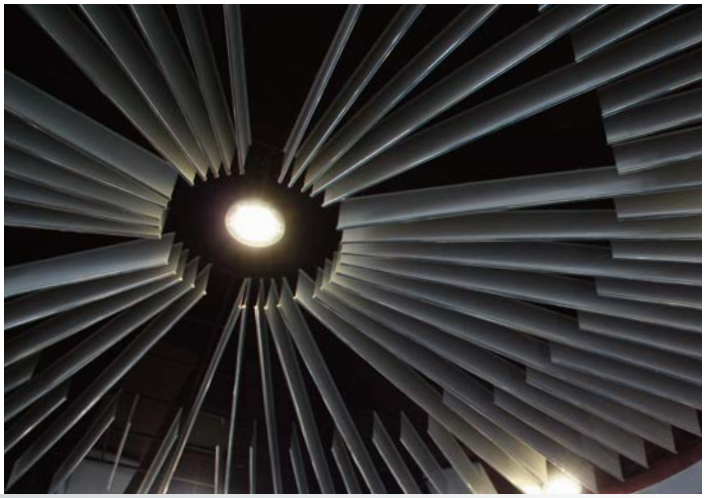
Constructed in five phases over its nearly 90 year history, Milwaukee's General Mitchell international Airport serves more than 7.5 million passengers a year, in addition to roughly 160 million pounds of freight and airmail traffic serving the Midwest. Its three concourses handle all major airlines, including United, American, Southwest, US Airways and Delta, with a festive, welcoming atmosphere complete with mosaic medallions embedded in the terrazzo floor and colorful artwork overhead

Installation Snapshot

- Milwaukee's Mitchell Airport Terminal & Concourse E
- 171 Dialight 80W LED Low Bays
- Full replacement of 471 conventional fixtures, including 175W MH and 150W HPS units
- Reduced fixture count by 60%
- Cut energy use and consumption by more than 50%

Growing Demand Drives Lighting Maintenance Overload

Plagued by nearly incessant lighting maintenance in its main terminal and concourse areas, the facility was replacing burned out bulbs and lamps on average about once every 2 to 2.5 years, just shy of the HID average lamp life of 25,000 hours operational 24/7. As a result, airport engineers conservatively estimate an average annual maintenance spend of $3,600, not including the cost of renting a lift or other specialized equipment to replace the bulbs. Adding to the headache and cost, the maintenance staff was required to separate old HID lamps from other airport trash, which tacked on a premium for hazardous disposal cost to the total bill.

417 existing 175W Metal Halide and 150W High Pressure Sodium fixtures were replaced

With 419 lamps, each requiring about 30 minutes changeout time each at $50 per hour, the cost could grow even higher for the replacement of ballasts, given the unique "cell" style configuration and wiring. Each pod had to be disassembled and reassembled to change the ballast as needed, a process that required repeating every few months. The fact that the light pods were positioned above high-traffic public areas meant the maintenance staff was forced to schedule these jobs around peak traffic—which often added overtime costs to the total expense.

Shedding New Light on Massive Savings

Aiming to reduce the maintenance demand and implement a more sustainable, energy-efficient lighting solution, the airport consulted with Hein Electric Sales to suggest a more modern approach. After trying several other LED lighting solutions—each with significant failure issues—the airport ultimately chose the Dialight LED Low Bay fixture based on their industry leading energy and maintenance performance, as well as the quality of light and aesthetic design of the fixture itself.

Even better, facility engineers also discovered through their own internal ROI and energy analysis that the superior output and optics design of the Dialight fixtures would actually enable them to significantly reduce the total number of fixtures while still dramatically improve the quality of light. In all, 417 existing 175W Metal Halide and 150W High Pressure Sodium fixtures were replaced in the Terminal and Concourse D by just 171 Dialight 80W LED Low Bays, for a total reduction in fixture count by 246 units (nearly 60%). For example, in one cell alone, just 5 Dialight Low Bays were able to replace 25 MH and HPS fixtures.

Saving Time, Money and Space

"The Dialight fixtures were very easy to install and both our staff and visitors have noticed a big improvement in the quality of light in our facility. It just feels brighter and cleaner," said Mary Turner, EE, PE, in the Mitchell Airport Engineering Department. "Perhaps just as valuable as the maintenance and energy savings is the fact that, because we won't have to touch these new Dialight lights for the next five or ten years, we've been able to eliminate our massive stockpile of lamps and ballasts, freeing up a huge amount of indoor storage space for other equipment. That's a tremendous benefit for us given that storage space is at such a premium here."

Based on conservative estimates for relamping and energy costs, the Mitchell Airport is expecting a full payback on the retrofit project in less than two years, which could be accelerated by a possible local utility rebate incentive the facility is pursuing with Dialight's assistance.

"This project has been such a success, it is just the first phase in what we hope will be a complete a facility-wide LED retrofit," Turner said. "We're already looking to upgrade a 3,500+ fixture parking garage, as well as other interior and exterior areas with LED, and we've been very pleased with the performance we've seen from the Dialight product so far."