



# Eaton Helps Improve Lighting Efficiency and Performance at Denver International Airport

**Location:**

Denver Colorado

**Segment:**

Commercial Construction/Lighting

**Challenge:**

Supply an energy-efficient lighting solution, improving the experience for DIA's parking customers.

**Solution:**

McGraw-Edison™ Valet™ light-emitting diode (LED) Parking Garage Luminaires from Eaton's Cooper Lighting business.

**Results:**

Uniform, targeted illumination and lowered energy consumption, helping the airport to save approximately \$327,000 annually or \$6.5 million over 20 years.

*"By replacing the existing lights with energy-efficient LED lights, we will reduce Denver International Airport's energy consumption and save a substantial amount of money over time. This project will also make the parking garages brighter and more evenly lit, increasing visibility and enhancing safety."*

*Kim Day, Denver's Manager of Aviation*

**Background**

The Denver International Airport (DIA) is the 15th-busiest airport in the world and the fifth-busiest airport in the United States with more than 52 million passengers traveling through the airport each year. DIA is the primary economic engine for the state of Colorado, generating more than \$26 billion for the region annually.

DIA is one of the most environmentally responsible airports in the world and was built with sustainability in mind 19 years ago. This project is part of a package of upgrades aimed at improving the experience for DIA's parking customers. In early 2014, the airport added reserved parking spaces in the East and West parking garages and electric vehicle charge stations were installed in late 2013. This parking garage retrofit project is part of a wider effort to upgrade lights throughout the DIA, including lights on taxiways and pavement fixtures on the airfield.

**Challenge**

The DIA wanted to replace more than 5,400 existing lighting products covering approximately 6.1 million square feet in the East and West parking garages to provide more illumination and better uniformity to increase safety, while also saving energy and the environment at the same time. The new products also needed to be DesignLights Consortium® listed to qualify for a local utility rebate.

The existing lighting fixtures included high press sodium (HPS) products consuming approximately 150-250 watts.



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## Solution

Research was performed on the existing light fixtures and different LED product samples were evaluated. The McGraw-Edison Valet LED luminaire was chosen based on its efficacy (lumens per watt) and uniform distribution.

The installation of more than 4,000 Valet products will consume only 51 watts compared to the existing HPS fixtures consuming 177 watts. Additionally, more than 700 Valet 73-watt fixtures will reduce the wattage used in 250-watt and 150-watt HPS products, and 27-watt Valet products will replace metal halide surface-mounted downlights consuming 115 watts.

Additional Eaton products helping to save energy in the conversion include Lumark™ Crosstour™ LED Wall Pack luminaires and Corelite™ R2™ recessed LED fixtures.

“By replacing the existing lights with energy-efficient LED lights, we will reduce Denver International Airport’s energy consumption and save a substantial amount of money over time” said Kim Day, Denver’s manager of aviation. “This project will also make the parking garages brighter and more evenly lit, increasing visibility and enhancing safety.”

## Results

The conversion will result in a 45 percent energy savings and is estimated to reduce annual energy consumption by more than 3,400,000 kilowatt hours

per year (kWh) or 68,000,000 kWh over the expected 20 year life of the McGraw-Edison Valet products. The yearly carbon reduction associated with the project is equivalent to the electricity used by 548 average Denver residences each year. The long-lasting fixtures will also allow additional maintenance savings with fewer lamp replacements, reducing labor and material costs.

The McGraw-Edison Valet LED lighting fixtures are DLC listed, which qualifies the DIA for a local utility rebate from Xcel Energy’s Lighting Efficiency program. The DLC is a leading resource that distinguishes quality, high-performance LED products for commercial and industrial projects and produces a Qualified Products List to save time and provide peace of mind to lighting specifiers and property owners selecting products to support sustainable design practices. As a result, the airport is anticipating a rebate of approximately \$800,000.

“We are happy our DLC-listed products will help the DIA reach its energy reduction and sustainable goals, while also saving the airport a significant amount of money each year,” said Mark Eubanks, president, Eaton’s Cooper Lighting Division. “Replacing inefficient fixtures with LED alternatives is one of the most practical solutions to save energy, reduce costs and lower carbon dioxide emission, while improving lighting performance.”

## About Eaton’s Cooper Lighting

Eaton’s Cooper Lighting Division delivers a range of innovative and reliable indoor and outdoor lighting solutions, as well as controls products specifically designed to maximize performance, energy efficiency and cost savings. The Lighting business serves customers in the commercial, industrial, retail, institutional, residential, utility and other markets.

Eaton’s Electrical Sector is a global leader with expertise in power distribution and circuit protection; backup power protection; control and automation; lighting and security; structural solutions and wiring devices; solutions

for harsh and hazardous environments; and engineering services. Eaton is positioned through its global solutions to answer today’s most critical electrical power management challenges.

Eaton is a power management company with 2013 sales of \$22.0 billion. Eaton provides energy-efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. Eaton has approximately 102,000 employees and sells products to customers in more than 175 countries. For more information, visit [www.eaton.com](http://www.eaton.com).



Before new lighting system



After new lighting system



Valet™

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