

Markets Served



## Location:

Pittsburgh, Pennsylvania

### Segment:

Commercial Construction/Lighting

### Challenge:

Upgrade the lighting with a sustainable system featuring a contemporary style.

### Solution:

Neo-Ray Index light-emitting diode (LED) suspended luminaires from Eaton's Cooper Lighting business.

## **Results:**

Uniform, targeted illumination, while significantly reducing annual energy consumption.

Eaton Helps Duquesne University Increase Energy Efficiency and Improve Lighting Performance at the Gumberg Library

"The first floor feels more vibrant and inviting. You can easily see the difference with the new, neardaylight LED lighting. Some library staff has commented that since the lights were installed, they have noticed an increase in the volume of students studying on the first floor."

Kelley Cotter, Marketing and Electronic

Communications Librarian

## Background

Founded in 1878, Duquesne University is consistently ranked among the nation's top Catholic research universities for its award-winning faculty and tradition of academic excellence. Located in Pittsburgh, Pennsylvania, Duquesne's campus of nearly 10,000 graduate and undergraduate students has been nationally recognized for its academic programs, community service and commitment to sustainability. Duquesne wanted to improve the lighting performance while lowering energy usage on the first floor of its Gumberg Library. The library houses nearly 750,000 print volumes and welcomed more than 510,000 visitors last year.

# Challenge

Duquesne University wanted a sustainable lighting system featuring a lighting product with a contemporary style that also could be pendant-mounted in continuous rows to illuminate the first floor study area and stacks. The lighting fixtures needed to be DesignLights Consortium® (DLC) listed to potentially qualifying the university for a local utility rebate.

The lighting upgrade included replacing a fluorescent system consisting of over 500 fixtures producing 37,160 watts.



#### Solution

Neo-Ray Index direct/indirect light-emitting diode (LED) pendant luminaires were chosen for the first floor upgrade.

The Index luminaire features unique, adjustable optical panels and incorporates patented WaveStream™ LED technology to efficiently improve light quality and reduce total power consumption for indoor ambient applications. The product's adjustable optical panels, available in 15 degrees, zero degrees and minus 15 degrees, allow the luminaire to be tuned precisely to the application and space, providing ultimate lighting control while visually enhancing the library.

Additional Eaton energy-efficient products helping to save energy in this project include the Metalux Encounter<sup>™</sup> LED Series and Portfolio 8-inch LED Recessed Downlights used in offices and hallways.

### Results

Recently completed in 2014, Duquesne University's LED lighting upgrade has improved the lighting performance, providing uniform and targeted illumination to the book stacks and study area.

The new 110 Neo-Ray Index products consume only 5,170 watts, reducing the upgraded floor's energy consumption by more than 235,300 kilowatt hours per year (kWh). The yearly reduction of carbon dioxide emissions associated with this project is equivalent to 357,730 pounds. The long-lasting fixtures will also allow additional maintenance savings with fewer lamp replacements, reducing labor and material costs.

"The first floor feels more vibrant and inviting," says Kelley Cotter, marketing and electronic communications librarian at the Gumberg Library. "You can easily see the difference with the new, near-daylight LED lighting. Some library staff has commented that since the lights were installed, they have noticed an increase in the volume of students studying on the first floor."

The lighting upgrade is just one of the University's awardwinning, ongoing sustainability initiatives, which include an on-site cogeneration plant and ice storage units for most of the campus' heating and cooling needs. "Over many years, Duquesne has solidified its commitment to sustainability, following our strategic plan and the priorities of good stewardship of the environment," said Rod Dobish, executive director of facilities management.

"The Neo-Ray Index pendant is an affordable, efficient alternative to linear fluorescent luminaires," said Mark Eubanks, president, Eaton's Cooper Lighting Division. "The adjustable optical panels can place light exactly where it's most effective for the application. It's an ideal solution for university libraries, grocery store aisles, retail stores, classrooms and as a complete office solution."

"This lighting is softer, giving the effect of a more natural light, which is easier on the eyes but also makes the space look brighter and cleaner."

Tracie Ballock, head of collection management for the library.

## About Eaton's Cooper Lighting

Eaton 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. Eaton lighting solutions serve customers in the commercial, industrial, retail, institutional, residential, utility and other markets.

Eaton's electrical business 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 2014 sales of \$22.6 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.



Before new lighting system



After new lighting system



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