

Fast Track to Energy Efficiency: How Northeastern University Reduced Energy in 51 Buildings in 50 Days



How does a world-class university save more than a quarter-million dollars a year without sacrificing academic programs or on-campus amenities? By changing its lamps, ballasts and lighting fixtures. Through retrofitting the lighting in 51 campus buildings, Northeastern University has cut its energy costs dramatically and helped the environment. This major overhaul was completed in record time for a project of this magnitude—just 50 days—during a period that included three major holidays and a classic New England blizzard.

Sky-High Energy Bills

Northeastern University (NU) is a private research-oriented university with 20,000 students. Located in Boston, the NU campus is comprised of 41 academic and administrative buildings and 27 residential dormitories. Electricity has been the largest operating expense at the university because of the combination

of skyrocketing fuel costs and the operation of the lights in excess of 16 hours a day. NU has always had a commitment to optimizing its energy efficiency by improving lighting output and quality while at the same time reducing maintenance of the school's lighting systems. NU also wanted to utilize new lighting technologies that save energy and improve light output. And as an added incentive, NSTAR, the university's local utility company, was offering rebates for energy-saving upgrades.

To accomplish these goals, NU and CSG Services, a national company that designs and implements energy-efficiency programs for educational, commercial and industrial facilities, developed a comprehensive action plan. A number of factors were taken into consideration when planning the project, from minimizing disruption to staff and students to disposing of potentially hazardous materials.

In Brief:

Project:

Northeastern University
Campus Retrofit

Location:

Boston, Massachusetts

Products Used:

ULTim8™ high-efficiency ballasts

Number Installed:

33,598

For more information about:

CSG Services

40 Washington Street
Westboro, MA 01581
www.csgrp.com

WESCO Distribution, Inc.

35 Otis Street
Westboro, MA 01581

CSG Services and NU developed a tight construction schedule to maximize productivity during the 50-day retrofit period, from Nov. 2003



to Jan. 2004. Vendors had to assure a steady flow of materials, keeping electricians equipped with a constant supply of parts, including ballasts, lamps, wiring and tools.

Building access had to be scheduled around the clock and over the university's holiday breaks to ensure a seamless and steady workflow. The movement of installation crews throughout the campus had to be closely coordinated with security and employees from plant maintenance. During the course of the retrofit, 45 electricians installed 145,000 parts for 36,360 lighting fixtures and lamps. A total of 75,913 lamps were replaced, along with 33,598 ballasts.

Highly Efficient Lamps and Ballasts

Universal Lighting Technologies' ULTim8™ high-efficiency ballasts were chosen for this retrofit because of the significant energy they save. Installed with Philips Lighting's F32T8/TL835/EW 30-watt lamp,

the ULTim8™ high efficiency ballasts provide up to 13% energy savings over standard low-power electronic ballasts with F32T8 lamps. The ULTim8™ high-efficiency family also offers parallel lamp operation; when one lamp fails, the remaining lamps stay lit and the students are not left in the dark. These high-efficiency ballasts can operate from one to four standard or energy-saving T8 lamps, are available with a .77 or .87 ballast factor, and have a total harmonic distortion (THD) of less than 10%.

A Better Environment

Since the retrofit, energy costs for lighting at NU have decreased by approximately 25% in the 51 buildings that were overhauled. Annual savings to the university are projected at \$270,000 a year.

Light levels in the buildings have increased by 7% and color rendering has improved 13%. From a security standpoint, the buildings are safer because of increased brightness. Safer, more comfortable and brighter buildings are creating higher levels of productivity because of user satisfaction with the improved environment in the retrofitted facilities.

Thanks to a tight, seamless collaboration between NU, CSG Services, NSTAR, Philips Lighting, Universal Lighting Technologies and WESCO Distribution, the retrofit was a huge success. As a result of this project, Northeastern University will enjoy financial and quality-of-life benefits for many years to come.

About Universal Lighting Technologies

Based in Nashville, Tenn., Universal Lighting Technologies has offered the most innovative selection of lighting ballasts for nearly six decades. The company manufactures ballasts for all lighting applications, with a full line of ballasts designed for exceptional performance in lamps ranging from 5 to 2000 watts. These include magnetic, electronic, and compact fluorescent, high intensity discharge, sign and neon. As a major manufacturer of electrical equipment, Universal Lighting Technologies plays a lead role in setting industry standards for quality and energy efficiency. The company actively participates in trade associations and assists in the development of many standards through ANSI, NEMA and IESNA. With operations and distribution worldwide, the products of Universal Lighting Technologies are marketed under the Universal®, Triad® and Signa® brand names.

Want to Know More?

Universal Lighting Technologies is focused on designing, manufacturing and distributing the industry's finest lighting ballasts and transformers. To learn more about the full line of Universal Lighting Technologies' ballasts or to request a catalog, call 1-800-BALLAST, fax your request to 615-316-5162, or visit the Web at www.universalballast.com.



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