

LED APPLICATION: Campus Area Lighting – Retrofit

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— Pat Buchanan
George Mason University
energy manager



LED PRODUCTS



956 BetaLED Area luminaires:

- 461 with Type III optics
- 495 with Type V optics

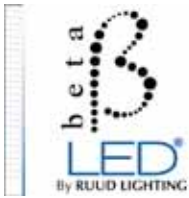


132 BetaLED Area round luminaires with Type V optics

52 BetaLED Bollard luminaires with Type V optics

BENEFITS

- Improved lighting performance
- Over 1,951 megawatt-hours annual electrical energy savings
- Anticipated annual energy cost savings over \$92,000
- Estimated annual maintenance cost savings over \$42,000



PROJECT OVERVIEW

George Mason University — Fairfax, VA

BetaLED identified as best retrofit solution

George Mason University (Mason) is rapidly evolving from its roots as a Northern Virginia regional college into a nationally recognized leader, now globally ranked among the top 200 world universities. The university's development has been marked by rapid growth and innovative planning that includes the revolutionary concept of the "distributed" university with multiple campuses.

In 2007, Mason's President Alan Merten signed the American College and University Presidents Climate Commitment (ACUPCC). Since then, the University developed and began implementing an organizational and decision making structure for sustainability: the **Executive Steering Committee for Sustainability**, the **Sustainability Council**, and **Sustainability Working Groups**. Each of these groups has a different purpose and goals, but together ensures the vertical and horizontal integration of sustainability activities with the entire campus community.

In addition to the ACUPCC, Mason actively pursues creative methods to reduce energy use, requiring all agencies of the Commonwealth to monitor, report and reduce energy costs and consumption for all state-owned facilities through a comprehensive energy plan.

In 2009 surveys were conducted to evaluate potential facility improvements across the three Mason campuses. The University decided that two campuses, Fairfax and Prince William, would retrofit high pressure sodium exterior lighting with state-of-the-art BetaLED luminaires in the roadway, walkway and parking lots.

The main campus, located on 677 acres in Fairfax, Virginia, houses all university administrative offices and includes the Patriot Center, a 113,900-square-foot recreation sports complex. In addition to illuminating the entry area to the Patriot Center, BetaLED luminaires are installed in the K lot, Mason's largest general parking lot across the street from the Center. Area luminaires are also installed along pathways that wind through heavily wooded areas of the campus, which greatly improves visibility and security.

A second installation at the Prince William campus in Manassas, Virginia, includes parking lot and pathway lighting. Between the two locations, the installation of 1,140 area and bollard luminaires provides greatly reduced energy consumption and costs while dramatically improving lighting performance and virtually eliminating maintenance. The time and money saved on re-lamping is now redirected to other campus needs.



The BetaLED lighting solution provides the University with a highly efficient exterior lighting system that works toward its long-term sustainability goals. Additionally, the BetaLED luminaires provide more uniform, targeted illumination that improves nighttime visibility for students and faculty.

"The parking and pathway lights have produced numerous comments on the dramatic improvement," said Pat Buchanan, Mason's energy manager. "Security is very pleased with the increased visibility, true color rendering, and uniform lighting that helps reduce accidents and crime."

And the savings speak for themselves:

- Over 1,951 megawatt-hours annual electrical energy savings
- Anticipated annual energy cost savings over \$92,000
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The lighting upgrades were identified through detailed surveys of the existing systems. Trial fixtures were installed in multiple locations, giving Mason the opportunity to ensure that the lighting system replacements would meet with University standards for outdoor lighting in all applications.