



Education - Upgrade

# George Mason University

Fairfax, VA

In addition to offering more uniform, targeted illumination, Cree's LED lighting solution provides George Mason University with a highly-efficient exterior lighting system that works toward its long-term sustainability goals.

- Anticipated annual energy cost savings of over \$92,000
- Estimated annual maintenance cost savings of more than \$42,000
- Over 1,951 megawatt-hours annual electrical energy savings



# CREE IDENTIFIED AS BEST RETROFIT SOLUTION

## OPPORTUNITY

George Mason University 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, George Mason University'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 ensure the vertical and horizontal integration of sustainability activities with the entire campus community.

In addition to the ACUPCC, George Mason University 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.

## SOLUTION

In 2009, surveys were conducted to evaluate potential facility improvements across the three George Mason University campuses. The University decided that two campuses — Fairfax and Prince William — would retrofit high pressure sodium exterior lighting with state-of-the-art Cree® LED 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, Cree luminaires are installed in the K lot — George Mason University'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.

## BENEFITS

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 are now redirected to other campus needs.

The Cree LED lighting solution provides George Mason University with a highly-efficient exterior lighting system that works toward its long-term sustainability goals. Additionally, the Cree LED 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 help 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
- Estimated annual maintenance cost savings over \$42,000

The lighting upgrades were identified through detailed surveys of the existing systems. Trial fixtures were installed in multiple locations, giving George Mason University the opportunity to ensure that the lighting system replacements would meet with University standards for outdoor lighting in all applications.



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**Pat Buchanan**, *Energy Manager,*  
*George Mason University*



## IN THIS CASE STUDY

### Cree Edge™ Series

#### PATHWAY

- Minimum 70 CRI
- CCT: 4000K (+/-300K), 5700K (+/-500K)
- Utilizes BetaLED® Technology
- UL wet listed
- Two-Level options
- Multiple heights available



### Cree Edge™ Series

#### AREA

- Minimum 70 CRI
- CCT: 4000K (+/-300K), 5700K (+/-500K)
- Utilizes BetaLED® Technology
- UL wet listed
- Two-Level options
- Linear single light module accommodates 20 to 60 LEDs



Cree BetaLED® Technology uses a total systems approach combining the most advanced LED sources, driver technologies, optics and form into each product. The patented NanoOptic® technology, available in more than 20 distributions, provides a level of optical control and thermal management that traditional light source technology cannot provide. Combined with the DeltaGuard® Finish, the finest industrial-grade finish available, the result is outstanding target illumination, lasting performance and optimum energy efficiency.



## Cree IS LED Lighting

Learn more at: [www.cree.com/lighting](http://www.cree.com/lighting) | [info@cree.com](mailto:info@cree.com) | 800.236.6800

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