



Education – New Construction

# Duke University

Durham, NC

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- Cree® luminaires contribute toward LEED certification
- Backlight control dramatically minimizes light spill outside parking structure perimeter
- Anticipated low energy use and reduced luminaire maintenance





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**Dudley Willis**, *Manager of Projects and Engineering, Duke University*

## FIRST LED SOLUTION; FIRST GREEN GARAGE

### OPPORTUNITY

Duke University's new Sands Parking Garage — the first “green” garage for the campus — opened in January 2010. The structure houses 1,920 vehicles and is an eco-friendly addition to Duke's sustainability program. Construction began in June 2008 on the \$43 million garage at the intersection of Erwin Road and Research Drive.

### SOLUTION

The eco-friendly parking garage is part of Duke's campus-wide initiative to make all buildings sustainable and environmentally friendly. The seven-level structure houses the first outdoor LED installation at the university and was selected by the U.S. Green Building Council as the nation's first single-use, stand-alone LEED-certified parking facility. The installation of 1,074 energy-efficient Cree luminaires contributed to certification credits. The installation included Cree Edge™ direct mount parking structure luminaires, wall-mount security luminaires and area luminaires.

### BENEFITS

Dudley Willis, Duke University's manager of projects and engineering, selected the Cree luminaires for their low energy use, anticipated reduced maintenance costs and sustainable product features that contribute to the university's green initiative.

Walker Parking Consultants/Engineers, Inc. developed the lighting design around Willis' requirements, including the need to eliminate light spill outside the perimeter of the parking structure. The challenge was accomplished by shielding the luminaires with Cree's exclusive NanoOptic® technology with backlight control that provides the required sharp perimeter cutoff.

“We are pleased that the installation went very smoothly. We did not encounter the typical 5 percent fixture failure that we see with other types of technology during the initial burn-in period,” said Willis. “We look forward to reviewing the energy use after the first year and comparing to similar installations around campus. If it turns out to be true that we do not have to spend the usual time and effort in changing burned out lamps, this will contribute significantly to the university's sustainability initiatives. We also liked the aesthetics of the fixtures compared to the look of traditional metal halide, or the industrial look of fluorescents.”

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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