



Education - Upgrade

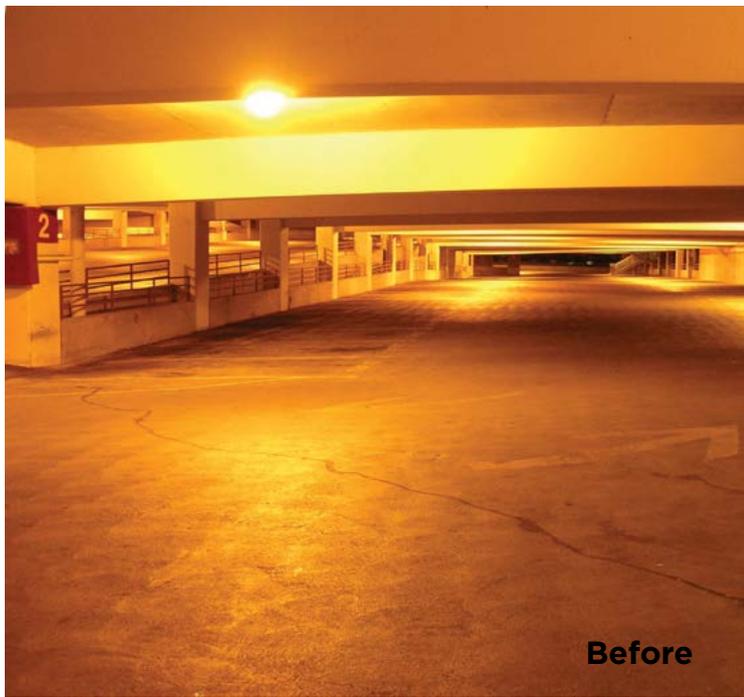
# Sacramento State University

Sacramento, CA

Cree two-level parking structure luminaires were presented to Sacramento State University as an energy-saving solution for the university's parking structures.

- Seventy percent savings compared to high pressure sodium
- Annual savings of 30,000 kWh
- Improved light quality and uniformity ratios result in increased visibility and safety





**Before**



**After**

## Key Stakeholders

California Lighting  
Technology Center

California Energy Commis-  
sion's Public Interest Energy  
Research (PIER)

Sacramento Municipal Utility  
District's (SMUD) Customer  
Advanced Technologies  
Program

## FIRST LED SOLUTION; FIRST GREEN GARAGE

### OPPORTUNITY

Most parking garage structures in commercial and institutional facilities within the United States use high-pressure sodium (HPS) and metal halide (MH) ceiling-mounted fixtures. This particular application at Sacramento State University requires parking areas to be illuminated for long periods of time throughout the day and night.

In order to develop a solution that addresses the savings opportunity, the PIER program backed a demonstration of Cree Edge™ parking structure luminaires that integrate LED technology with occupancy-based dimming controls.

### SOLUTION

Funded by the Sacramento Municipal Utility District's (SMUD) Customer Advanced Technologies program, Sacramento State University installed thirty two-level LED parking garage fixtures on the third level of parking structure I. These parking structure luminaires with 60 LEDs each and integrated occupancy sensors replaced 150-watt HPS fixtures.

### BENEFITS

The high efficiency and light quality delivered by the Cree® luminaires require less energy demand than traditional sources. The two-level control increases the energy savings directly proportional to automatic and pedestrian traffic patterns.

Through the use of an integrated occupancy sensor, the two-level fixture can be dimmed to one-third total power while maintaining 50 percent lumen output. Compared to traditional HID lamps, the two-level system can reduce a facility's annual energy and maintenance budget up to 80 percent.

The high-performance LEDs within the Cree Edge™ luminaires have a color temperature of 6000K and deliver total fixture efficiencies of more than 55 lumens per watt in high mode and more than 90 lumens per watt in low mode with excellent uniformity.

Benefits of the installation include 70 percent energy savings compared to 150W HPS (in low mode), 30,000 kWh savings per year compared to HPS, and reduced greenhouse gas emissions. In addition, improved light quality and uniformity ratios compared to traditional sources resulted in increased visibility and safety. IES recommended minimum luminance and uniformity levels were also achieved in low mode.

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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