



Education - Upgrade

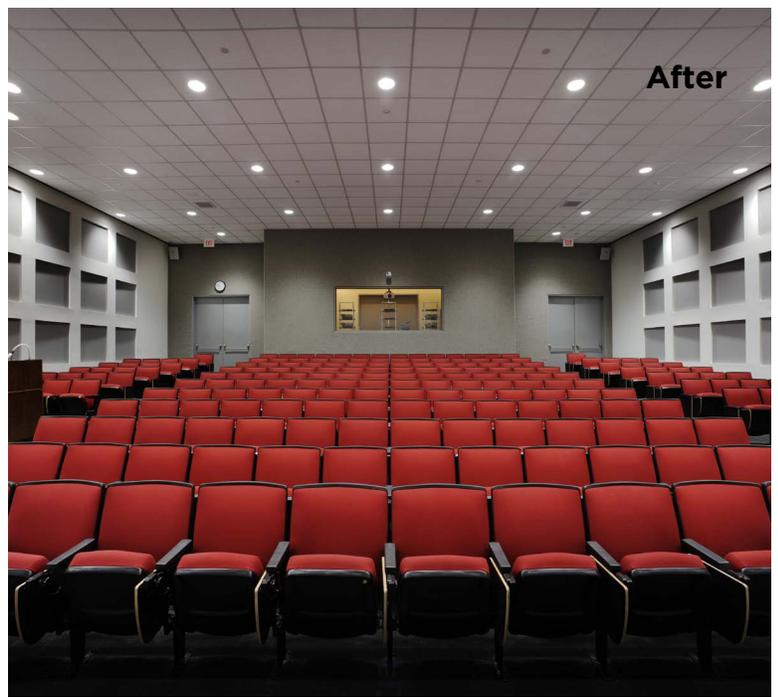
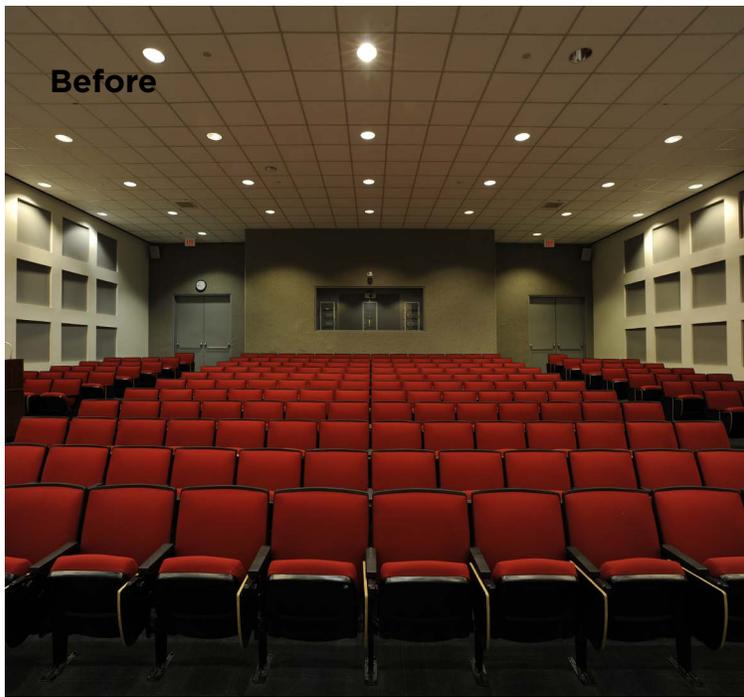
# University of Houston

Houston, TX

As the University of Houston embraces sustainability, Cree® LED luminaires are just the answer for retrofitting the Gerald D. Hines College of Architecture lecture hall.

- Dramatically increased visibility
- More than \$7,500 annual energy savings
- Annual maintenance cost savings of \$21,000

**CREE** 



## Project Participants

**End User:** University of Houston

**Project Agency:** PDG Architects, Houston, TX

**Cree Rep Agency:** First Electric, Inc., Houston, TX

## CREE DOWNLIGHTS GET MORE THAN A PASSING GRADE

### OPPORTUNITY

The University of Houston, a major public research and teaching institution that serves more than 38,500 students annually, has a formal campus sustainability policy as well as a sustainability task force comprised of students, faculty, staff and administrators. Sustainability training is incorporated in all employee orientations, and a green departmental certification program has been approved by the task force.

Within the past few years, the University of Houston has made more than \$220 million in campus improvements. The most recent project is an LED luminaire retrofit in the 222-seat Gerald D. Hines College of Architecture lecture hall. The previous lighting consisted of 34 two-lamp 42-watt compact fluorescent downlights with dimming ballasts which required continuous maintenance.

Ken Oliver, University of Houston construction manager, knew that the lecture hall needed significant improvements to address the poor lighting quality and maintenance issues. The lecture hall had only 30 average footcandles of illumination and problematic dimming that reduced uniformity. In addition, maintenance was a major concern since changing and servicing the lamps was very difficult and laborious in the stepped auditorium with immovable stadium-style seating. Since the University of Houston has embraced sustainability, Oliver and project architect Ginger McFadden from Houston-based PDG Architects knew that LED technology would be just the answer for this lecture hall.

### SOLUTION

The recently installed Cree lighting system includes 28 ESA Series recessed downlights that were installed in 8 foot x 8 foot centers providing an average 67 footcandles of illumination over the lecture hall seating area, which was more than twice the average of the fluorescent system it replaced. Additionally, one narrow distribution luminaire mounted over the teaching podium adds to the general illumination by providing 134 footcandles on the podium reading surface.

The new ESA system includes a standard 0 to 10 volt dimming driver, allowing the front of the lecture hall to be at a lower lighting level than the back, and the lighting over each row can be individually dimmed. Additionally, the podium luminaire is on a separate dimming control so the presenter may be illuminated at a preferred lighting level.

### BENEFITS

The University of Houston's sustainable design with Cree ESA Series downlights is expected to provide over 50,000 hours of near maintenance-free illumination. It will also provide an education on the word "reliability" as it relates to lighting technology systems.



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