

# LED retrofit with integrated controls

## DESCRIPTION

Wireless controls and automated commissioning integrated with LED luminaires offer a flexible option for retrofitting outdated inefficient commercial lighting systems. Typically, commercial lighting retrofits required either or both fixture and control upgrades with hardwired connections between sensors, switches and luminaires. These new products need minimal or no rewiring and can be easily reconfigured to changing spaces. While the fixtures and switches require AC power for operation, a hardwired connection is not needed between them.

Controls include photosensors that allow lighting to be adjusted based on daylight available and occupancy sensors that switch lights off when a room is unoccupied. Setup and commissioning is typically accomplished using a hand-held configuration tool and adjustments can be made easily if needed.

## DEMONSTRATING THE TECHNOLOGY

Offices, outpatient healthcare and education facilities offer good opportunities for retrofitting lighting systems with LEDs with integrated controls. Participants in commercial lighting programs could be good candidates for testing and demonstrating this technology.



Photo courtesy of Cree

CRITERIA	VALUE
Electricity savings	0.89 kWh/ft <sup>2</sup>
Cost savings	\$0.08/ft <sup>2</sup>
Measure life	15 years
2017 simple payback	10 years
Carbon emissions avoided	6.2E-04 MT equivalent CO <sub>2</sub>
How it saves energy	LEDs use less power to generate light (fewer watts to generate lumens) than do incandescent or fluorescent fixtures; integrated controls allow greater savings based on light levels and occupancy.
Non-energy benefits	Increased occupant satisfaction; reduced maintenance costs due to longer life; no mercury; ease of commissioning leads to savings persistence
Barriers to adoption	High first cost; new products being developed at a rapid rate causing hesitation to purchase now when something better might be available next year.

## FOR MORE INFORMATION

Scott Hackel | 608-210-7129 | [seventhwave.org](http://seventhwave.org)  
Hardik Shah | 847-275-1201 | [gastechology.org](http://gastechology.org)

