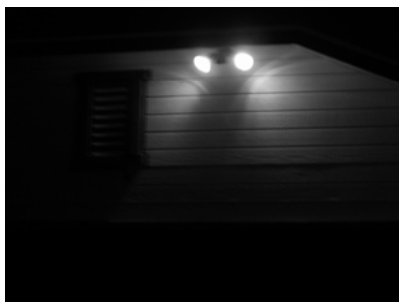


## OCCUPANCY SENSOR SECURITY LAMPS CAN BE OFF WHEN NEEDED

Many exterior entry lights in residential and commercial applications use two-lamp incandescent flood lamps with occupancy sensors because they are small and inexpensive. However, they don't provide continuous illumination, causing some people to opt for continuous operating fixtures.

Operating incandescent lamps continuously is expensive and requires frequent lamp replacement. Alternatively, compact fluorescent lamps (CFLs) have lower operating cost than incandescents but are more expensive to install and replacement lamps are not widely stocked.

The Light Emitting Diode (LED) Hybrid Security Fixture combines cutting-edge LED technology with an occupancy sensor and incandescent flood lamps to reduce operating costs below those of continuously-operating incandescent lamps and even CFL fixtures.



*Standard flood lamps are dark until motion is detected*

## LED HYBRID SECURITY FIXTURE

*A PHOTOCELL CONTROLS A 5-WATT AMBER LED ARRAY FOR CONTINUOUS NIGHTTIME OPERATION, PROVIDING PLEASANT, LOW LEVEL AMBIENT LIGHT. AN OCCUPANCY SENSOR TURNS ON THE INCANDESCENT FLOOD LAMPS WHEN MOTION IS DETECTED, FLOODING THE AREA WITH BRIGHT LIGHT. AFTER A FEW MINUTES THE OCCUPANCY SENSOR TURNS OFF THE INCANDESCENT LAMP WHILE THE LED ARRAY CONTINUES TO ILLUMINATE THE AREA.*



*The 5-Watt LED array provides continuous illumination*

## ENVIRONMENTALLY SOUND & ENERGY EFFICIENT

This fixture is expected to cut operating costs 50–90% compared to fixtures operating continuously, depending on occupancy. Equally important, the fixture gives building owners and occupants peace of mind that the long-life LEDs will provide illumination all night long for years to come.



*Motion sensor activates flood lamps*

### Benefits

- Continuous LED lighting offers low-level illumination compared with standard security fixtures that are dark unless motion is detected.
- The unit is only slightly more expensive than standard units.
- The combination of LED, incandescent, and occupancy sensor uses less energy than continuously operating incandescents or CFLs.
- LEDs with 10–15 year life provide light when incandescent lamps burn out.
- LEDs are expected to meet the California Energy Commission's new Title 24 requirement of 40 lumens/watt by the program's October 2005 start date.

## INTERESTED?

Hotel/motel staff, apartment managers, lighting specifiers, code developers, contractors, and utility staff can use the information on this system.

Key next steps include:

- *Building Owners/Managers and Lighting Specifiers*—Specify the LED Hybrid Security Fixture.
- *Utility Staff*—Educate audiences on the technology's benefits and offer incentives for this product category.
- *Code Developers/Implementers*—Accept the technology within new and existing codes.

Contact The Watt Stopper, Inc. to purchase this product ([www.wattstopper.com](http://www.wattstopper.com)).

Shaper Lighting ([www.shaperlighting.com](http://www.shaperlighting.com)) is developing a similar unit—a wall- or post-mounted fixture using an incandescent lamp, an occupancy sensor, and an LED that operates all night long. It is available now.

This project was part of the PIER Lighting Research Program. To view the project results, as well as other current research activities, visit [www.energy.ca.gov/pier](http://www.energy.ca.gov/pier).

Additional information about this technology can be found on the following web sites:

- PIER contractor site:  
[www.archenergy.com/lrp/products/ledhybrid.htm](http://www.archenergy.com/lrp/products/ledhybrid.htm)
- PIER researcher site:  
[www.cltc.ucdavis.edu](http://www.cltc.ucdavis.edu) (under projects)



Funded by the  
California Energy Commission  
Public Interest Energy Research Program

### Contact information:

California Energy Commission  
[www.energy.ca.gov/pier](http://www.energy.ca.gov/pier)  
Michael Seaman  
[mseaman@energy.state.ca.us](mailto:mseaman@energy.state.ca.us)

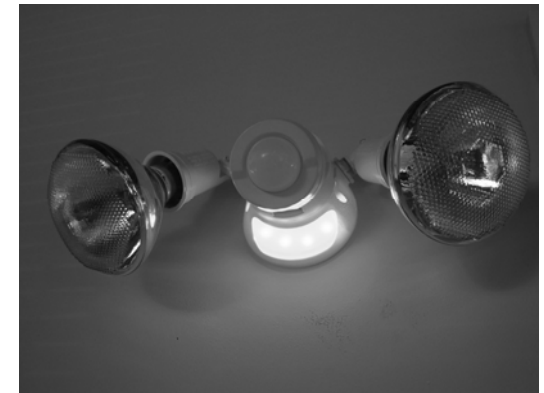
Architectural Energy Corporation  
[www.archenergy.com/lrp](http://www.archenergy.com/lrp)  
Judie Porter  
[jporter@archenergy.com](mailto:jporter@archenergy.com)

California Lighting Technology Center  
[www.cltc.ucdavis.edu](http://www.cltc.ucdavis.edu)  
Kevin Gauna  
[kwauna@ucdavis.edu](mailto:kwauna@ucdavis.edu)



Arnold Schwarzenegger, *Governor*  
California Energy Commission  
*Chairman:* Joe Desmond  
*Commissioners:* Arthur H. Rosenfeld, James D. Boyd,  
John L. Geesman, Jackalyne Pfannenstiel

# LIGHT EMITTING DIODE (LED) HYBRID SECURITY FIXTURE



PROVIDING SECURITY  
AND ENERGY  
EFFICIENCY TO  
OUTDOOR LIGHTING



Public Interest  
Energy Research