

REDUCED GLARE AND REDUCED ENERGY USE

Wall-pack luminaires are commonly used on buildings of all types. However, they are notorious for poor control of light output, which contributes to sky glow and light trespass problems. Because of the poor optical design, conventional wall-packs have an effective light projection of only 30 feet at 15-foot mounting heights.

The new low-glare wall sconce from Gardco Lighting, model 151 Forward Form Wall Sconce, addresses the shortcomings of the conventional wall-pack. This luminaire effectively projects light up to 45 feet from the base of the building at 15-foot mounting heights. The improved optics give better illumination and reduce light "pollution."

With the higher optical efficiency, designers can specify 33% fewer luminaires per installation, reducing both installed and operating costs. The Gardco luminaire features a ceramic metal halide lamp and a semi-cutoff tilted lens.



Gardco also applied the wall sconce's optics into a pole-mounted perimeter light, model GS04, which will reduce light trespass from parking areas into adjacent spaces.

LOW-GLARE OUTDOOR LUMINAIRE

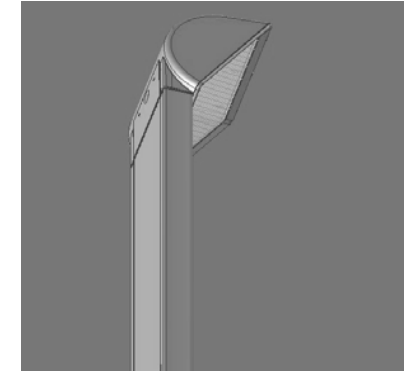
LBNL WORKED WITH GARDCO LIGHTING TO MODEL ADVANCED OPTIC DESIGNS THAT PROVIDE HIGHER AVERAGE ILLUMINATION WITHIN THE LIGHTED ZONE WHILE REDUCING LIGHT POLLUTION BEYOND THE LIGHTED AREA.

THE RESULTS ARE TWO NEW FIXTURES—A WALL SCONCE AND A POLE-MOUNTED FIXTURE—THAT OFFER UP TO 30% ENERGY SAVINGS FOR NEW OR RETROFIT APPLICATIONS.



The new Gardco luminaire will help save energy and provides safety benefits for commercial building owners.

IMPROVE OUTDOOR LIGHTING PERFORMANCE



**The Gardco GS04 Forward Form
Perimeter Light**

Benefits

Gardco's unit with 100- or 150-Watt ceramic metal halide lamp and electronic ballast provides numerous benefits compared to standard wallpacks with 150-Watt high pressure sodium (HPS) lamps:

- 30% energy savings in new or retrofit applications with the 100-Watt unit
- 33% fewer fixtures and 50% more coverage in new installations
- Improved optics using a semi-cutoff design that reduces light pollution
- Whiter light with higher color quality
- Comparable lamp life—20,000 hours
- Potential for significant annual energy savings in California

Building owners will receive more uniform, better quality lighting with less light pollution and reduced energy costs.

INTERESTED?

Commercial and institutional building owners/managers, contractors, and designers, as well as code developers and utility staff will benefit from learning about the new low-glare outdoor luminaires.

Key next steps include:

- Demonstrate the new fixture at different types of buildings.
- Consider code changes to stimulate use of low-glare luminaires.
- Disseminate product information to lighting designers and contractors.
- Educate building managers about low-glare, high-efficiency lighting that can reduce night sky pollution.
- Stimulate other manufacturers to produce similar products.

This product is expected to be commercially available in early 2006.

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.

For more information, visit the following websites:

- PIER contractor site:
www.archenergy.com/lrp/lightingperf_standards/project_5_3.htm
- PIER researcher site:
http://lighting.lbl.gov/l_distribution.html



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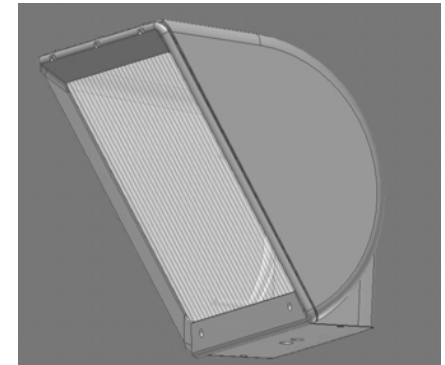
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LOW-GLARE WALL SCONCE



**INCREASED COVERAGE,
LOWER ENERGY USE,
BETTER CONTROL OF
LIGHT POLLUTION**



Public Interest
Energy Research