

INDUSTRIAL HIGH-BAY LIGHTING



POWER FORWARD TIP SHEET

WHAT'S HIGH-BAY LIGHTING?

Generally located in warehouses or manufacturing floors, “high-bay” ceilings are 15 feet or greater in height. Many of these structures were originally lit with metal halide and high-pressure sodium fixtures. Today, these inefficient fixtures are being replaced with fluorescent and light emitting diode (LED) alternatives that drastically reduce energy use and improve lighting quality. The benefits of new high-bay lighting add up fast when you consider PSO rebates, reduced electricity costs and an improved workplace atmosphere.

High-efficiency T5HO and High-performance T8 (HPT8) lighting are workhorse solutions for replacing outdated HID high-bay fixtures. Both systems have the added benefit of instant restrike time, so incorporating occupancy sensors to turn unneeded fixtures off is now practical. In damp or dusty facilities, fluorescent fixtures typically utilize an enclosure to eliminate contamination.

Where longevity and ease of access are of concern, many facilities are considering high-bay fixtures containing LEDs. LED systems provide excellent energy savings and perform extremely well in cold temperature environments such as freezer cases. Their long lifespan makes them virtually maintenance-free. Additionally, LED systems can be controlled with occupancy sensors and dimming systems for even greater savings!

PSO OFFERS REBATES FOR THE FOLLOWING LIGHTING IMPROVEMENTS:

- LAMP AND BALLAST RETROFITS
- PERMANENT DELAMPING OF OFFICES, RESTROOMS AND OTHER FACILITIES
- FLUORESCENT HIGH-BAY FIXTURES TO REPLACE EXISTING HID FIXTURES
- CUSTOM INCENTIVES FOR LED HIGH-BAY FIXTURES
- LIGHTING CONTROLS SUCH AS OCCUPANCY SENSORS

CONTINUES ON BACK

Several high-bay retrofit options are compared in the chart below. The 400w metal halide system is the most common existing fixture type installed in high-bay environments. Typically, PSO customers looking to upgrade these inefficient systems consider either T5HO or HPT8 fluorescent fixtures. When taking energy savings into account, fluorescent high-bay systems are the clear winner.

METAL HALIDE VS. FLUORESCENT HIGH-BAY

FIXTURE TYPE	INITIAL LAMP LUMENS	MEAN/DESIGN LAMP LUMENS	FIXTURE EFFICIENCY	MEAN FIXTURE LUMENS	FIXTURE INPUT WATTS	LUMENS PER WATT
400w Metal Halide High-Bay	36000	24000	75%	18000	458	39
4 Lamp T5HO High-Bay	20000	4650	93%	17298	234	74
6 Lamp T5HO High-Bay	30000	4650	93%	25947	351	74
6 Lamp T5HO High-Bay	18600	2945	92%	16256	218	75

COST-SAVING OPPORTUNITIES:

Lighting upgrades have a relatively short payback period and are one of the easiest energy-efficiency projects for industrial facilities to implement. The upgraded features will typically provide greater illumination and consume less power. They also reduce operating costs while improving safety and productivity. Studies indicate that bright, well-lit environments not only improve visual perception, they're perceived as more pleasant, satisfying, relaxed, harmonious and beautiful by employees.¹

¹ Illuminating Engineering Society. Interim Study of Procedures for Investigating the Effect of Light on Impression and Behavior.

<http://www.ies.org/PDF/100Papers/040.pdf>

