

# Is There Room for Traditional HID Lighting in this High-tech World?

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Light Emitting Diodes (LED) changed our industry. The developments in solid state electronics science put LEDs on the forefront of the new era in lighting because of their exceptional efficiency potential in transforming electrical energy into light.

It's well documented that the main advantages of LED lighting are the 30 to 50 percent less electrical energy usage and ability of the LED drivers to dim, color-change or color-sequence, providing good light output control in response to either pre-set commands or occupancy presence.

While LED technology has penetrated much of the lighting market, as well as captured much of the attention, it does, however, come with several disadvantages, most notably its upfront installation costs. Additionally, efficiency of LED decreases as temperatures increase, voiding much of its inherent energy efficiency. LED lights cannot operate at high temperatures.

In many industries and applications, high-intensity discharge (HID) lighting is fundamentally the optimum choice for many lighting customers. In the past, the spotlight shown on HID lights, showcasing its innovations including its blanket of high visibility light and high efficiency—something its predecessors were unable to do.

HIDs lamps are a type of electrical gas-discharge lamps that produce light by transmitting an electric arc between tungsten electrodes housed inside a translucent or transparent-fused quartz or fused alumina arc tube. Main forms of HIDs are mercury, high-pressure sodium and metal halide.

Today, even with the advent of LED lighting, HID lights are ideal for a broad range of applications and offer customers in specific applications superior performance when high and intensive levels of light are required over a large area.

Coliseums, stadiums, parking lots and indoor and outdoor sporting activity areas are the most practical applications for the high-lumen output of HID lighting. Additionally, many of these arenas are operated by sporting authorities or school districts where upfront LED retrofitting is cost prohibitive. HID is also more sensible at arenas and stadiums where the full-light output is required just once or twice a week over a short period of about three hours.

HID lighting is also especially practical in always-on applications such as roadways, parking lots and parking structures, where security demands intense lighting. Occupancy sensors can't always be used in these situations.

Other prevalent HID applications include such a wide variety of applications as indoor greenhouses, high bays and warehouses, where controlled dimming or light sequencing is not only not required, it's never needed.

Consider low-cost HID lighting if your customers are in these segments:

- High-temperature manufacturing
- Warehouse
- Convention, trade show floor space and meeting facilities
- Grocery stores
- Indoor and outdoor public places
- Large lobby atriums
- Medical centers, hospitals, and emergency medical and surgical services
- Retail, strip malls and shopping centers
- Furniture wholesalers and showrooms, where true color is important

Not only is the always-on, high-intensity light most beneficial in certain applications, there are also financial considerations where retrofitting may not be possible. If ballasts and fixtures are in good shape, it may be in the best interest of the customer to recommend HID lighting, as retrofitting can be quite expensive to recoup.

Consider data from the 2017 Department of Energy (DOE) report "Adoption of Light-Emitting Diodes in Common Lighting Applications" that examined percentage of LED and HID installations. 2018 projections are mine, however this table indicates there is quite a substantial HID market available and the cost per kilolumen of light is substantial in comparison.

Customers who need to light large areas of their building exterior may find better suitability with traditional HID lighting than experiencing an expensive retrofit to LED.

Application	2016 LED installed (%)	Est. 2018 LED installed (%)	2016 HID installed (%)	Est. 2018 HID installed (%)	LED Luminaire cost per kilolumen of light (2018 est.)	HID Lamp cost per kilolumen of light (2018 est.)
Low/High Bay	9%	23%	27%	14%	\$10/klm	\$1.6/klm
Street/Roadway	22%	50%	77%	50%	\$28/klm	\$1.6/klm
Parking Lot	26%	55%	74%	45%	\$22/klm	\$1.6/klm
Parking Garage	33%	55%	40%	20%	\$20/klm	\$1.6/klm
Building Exterior	31%	38%	19%	12%	\$41/klm	\$1.6/klm
Total Outdoor	30%	55%	67%	43%		

Like fluorescent lamps, HID lamps use ballasts to operate, start and control current to the lamp. Universal offers both electronic and Magnetic HID ballasts for wattages ranging from 35 to 1,500 watts, depending on customer needs for pulse start and probe start.

Electronic ballasts lead the way to electronic solutions for HID lighting. Microprocessor-controlled intelligence offers superior lamp performance and flexibility while providing optimal lamp performance and maximum energy savings.

Magnetic HID Distributor Ballasts work for all MH and HPS applications and have made an impression within the industry for faster warm-ups, better excellent cold starting, cooler operation and reduced color shifts. Customers typically look for magnetic HID Ballast replacements for metal halide and high-pressure sodium applications with greater efficiency, as well as OEM customers look for energy efficient HID ballasts that comply with newly adopted by DOE high efficiency requirements.

While Universal Lighting Technologies is very forward thinking, it's also exceptionally customer-centric, working to offer a huge array of lighting solutions to fit nearly every lighting need. While LED provides individual control and energy efficiency, sometimes it's best to recommend and install traditional HID lighting for its practical, always-on, high-intensity energy and cost-efficient behaviors.



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