

## Take High-Bay Lighting to the Next Level

In high-bay applications, high-intensity discharge (HID) lamps, such as high-pressure sodium and metal halide, have long towered over other lighting technologies. This is changing, however, with the emergence of high-performance alternatives that offer lower operating costs and improved light quality.

### Advantages and disadvantages of HID lamps

Although HID lighting designs may require fewer fixtures than other light sources, HID lamps have a number of drawbacks:

- ❖ **Poor light quality.** High-pressure sodium lamps provide low light quality, meaning they render colors poorly. This reduces visibility, which can lead to safety issues and lower productivity.
- ❖ **Slow startup and restrike time.** HID lamps typically require several minutes to reach full illumination after startup. After they are turned off, they require a cooling-off period of up to 15 minutes before they can be restarted.
- ❖ **Dimming problems.** While HID lamps can be dimmed, it generally results in further loss of light quality.
- ❖ **Loss of light output.** Metal halide lamps typically have a significant drop in light output over their service life, losing as much as 45 percent of their initial lighting capacity.



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### Take lighting to the next level

High-bay lighting technologies, such as LEDs, high-performance fluorescent and induction, can solve many of these problems and make your facility more efficient, safer and productive.

**LEDs.** Light-emitting diodes are the latest advance in energy-efficient lighting and LED fixtures for high-bay lighting are growing in popularity because of the many benefits they offer:

- ❖ High energy efficiency
- ❖ Long rated life of 50,000 to 100,000 hours
- ❖ Inherently dimmable
- ❖ Instant startup and restrike

The dimming and instant startup capabilities of LEDs make them compatible with daylighting and occupancy controls, which can increase savings. Their long operating life can also reduce maintenance and replacement costs.

**Fluorescent lamps.** High-output fluorescent tube lamps and fixtures are a good replacement option for HID lamps in a variety of applications. They offer a number potential advantages:

- ❖ Improved energy efficiency
- ❖ Higher lumen maintenance
- ❖ Longer operating life
- ❖ Better light quality

**Induction lighting.** Induction lamps are not as efficient as fluorescents or LEDs, but they provide excellent light quality and the longest operating life at up to 100,000 hours. That is a big advantage in high-bay applications where maintenance and replacement is difficult and expensive.

### Success story

A Mitsubishi-Caterpillar assembly plant replaced their older, metal halide lighting system with new, high-output, T5 fluorescent lamps. As a result, the company saved \$115,000 per year by reducing lighting and air-conditioning costs.

Planning a lighting upgrade? Use the [Lighting Calculator](#) to estimate your savings and potential return on investment.



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