

A Meaningful Comparison – LED vs. HID Fixtures

Actual lumen output of MH light fixtures is over 50% less than the MH lamp lumen ratings due to inefficient fixture designs. Of the actual fixture lumen output, 30% loss occurs because of lumen depreciation and an additional 25% is lost as a result of misdirected light.

Neptun's LED luminaires lumen output is certified by an independent laboratory and are rated at the actual lumen output. The result is that over 90% of the LED light output is directed to achieve the light levels needed in each application.

Measured vs. Visible Light - Photopic vs. Scotopic

Neptun's high powered LEDs produce light energy that is more favorable to the scotopic response of the eye allowing a brighter appearance. Lumen output is measured in photopic and scotopic lumens, however, it is the scotopic lumens that enhance the visibility as seen by the human eye. The perceived brightness of the LED lights is the result of two things, CRI and Color Temperature.

CRI stands for Color Rendering Index which is a scale that measures the combined wavelengths of different colors in light. Higher CRI equals increased visibility. In addition to the inherent CRI advantage of LED light over Metal halide, LED also has a color temperature advantage. The perceived brightness of the LED lights is the result of two things, CRI and Color Temperature.

A Brighter Way - LED Replacing MH

Neptun's LED luminaires are highly efficient, produce virtually no glare, have minimum lumen depreciation and provide a light source with improved visibility. These luminaires offer customers a cost effective and high performance replacement lighting for Metal Halide fixtures.

Lumen Depreciation

All high wattage light sources including HPS Metal Halide, Mercury Vapor and even LED are at their brightest when they are new. As they age the lumen output decreases, and some light sources depreciate even faster than others. For example, Metal Halide bulbs lose 40% of their initial lumen output in the first year. LED Lights maintain 70% of their initial lumen output at 50,000 hours.

Efficiency

Neptun Induction lights typically facilitate a 30% to 50% energy saving versus Metal Halide, High Pressure Sodium and Mercury Vapor light sources. However, this is not because LED lights produce more light...It is in the quality of light that allows LED to reduce wattage while still increasing visibility.