



Flood Lighting

E-Guide



Definition

What is an outdoor LED Flood Light application?

Outdoor LED Flood Lighting is a term used to describe the exterior lighting that is commonly mounted on buildings or poles to provide directional illumination to a variety of space types. This type of lighting is often used to provide light to areas for security, vehicle and pedestrian use, building wall washing, as well as for spaces used for sports activities and other large areas in need of general outdoor illumination.

Below are a few image examples of industrial and commercial outdoor Flood Light fixtures.



Most existing outdoor flood light applications utilize High Intensity Discharge (HID) lamps such as Metal Halide, High Pressure Sodium, and if they are very old, Mercury Vapor Lamps. Compact Fluorescent Lamps (CFL) can also be found in non-LED Flood Light fixtures as well.

Below are some comparison articles you can read to learn about the differences among the HID Lamp types.

- [LED vs. High Intensity Discharge](#)
- [LED vs. Metal Halide](#)
- [LED vs. High Pressure Sodium](#)

Common Issues

What are some common issues with HID Flood Lighting?

Energy Costs

Common (HID) Lamp wattages used for commercial and industrial Flood Light fixtures range from 100 Watts to 1000 Watts. The higher the wattage the higher the light output. The function of the area being illuminated, combined with the quantity, spacing, and mounting height of the poles and fixtures plays a role in the existing wattages that are utilized. A 400w or 1000w HID Fixture (very common wattages for exterior Flood Light fixtures) can cost up to **\$209 and \$525 per year** to operate per lamp, in electricity alone.

Maintenance Costs

Maintenance costs are often a big concern for outdoor lighting applications such as HID Flood Light fixtures. In addition to the potential **lamp lifetime** concerns, Flood Lighting, being commonly mounted at heights above 15ft, often require the use of a bucket truck or lift to change out a lamp or a Ballast (can't forget about those ballasts!). Many buildings and facilities do not own a bucket truck or lift and as a result have to hire an outside contractor to maintain these fixtures, these are expenses that can really add up over the course of a few years. It can easily cost up to **\$1,200 in labor and material** to maintain a single exterior Flood Light fixture over the course of 3 years.

Lighting Performance

Depending on the type of HID Lamp your facility utilizes, the performance characteristics of your Parking and Area Lighting can vary significantly. For example, if you are using Metal Halide lamps you may see light that is "**Whiter**" but these types of lamps tend to have accelerated lumen degradation, meaning the light output of the lamps decrease quickly after initial install, and as a result the overall lifetime of the lamp decreases (we have all seen those Flood Light fixtures that have "pink" lamps that are barely providing any illumination on the ground). If you are using High Pressure Sodium you may see longer "useful" life as these lamps see less lumen degradation than Metal Halide, but their fuel structure produces a very "Orange" light with a very low **Color Rendering Index**. So basically you trade a longer life for a poorer quality light, in regards to visual perspective with HPS.

Benefits of LED

What are the benefits of outdoor LED Flood Lights?

Outdoor LED Lighting, such as commercial LED Flood Lights provide some excellent benefits for exterior areas requiring illumination because of how they **GENERATE** light and how they **DISTRIBUTE** light. **Light Emitting Diodes** generate light via a semiconductor, as opposed to the consumption of a “fuel source” like in HID lamps. In regards to “distributing” light, LED fixtures commonly utilize “Multi-Point” sources, meaning the fixtures have Multiple Diodes with individual optics. When you compare this to the way most HID fixtures distributor light (with a single bulb and reflectors within the fixture), the result is light that is more **EVENLY** “distributed’ across a given area.



Benefits of LED

The three most common benefits of outdoor LED Flood Lights.

Energy Savings

Common wattages for commercial outdoor led flood light fixtures can range from 40 Watts to 600 Watts, often resulting in a **40%-60% reduction** in energy consumption, and can result in savings of up to **\$300 per fixture per year** in electricity costs.

Maintenance Cost Reduction

Again, due to the way LEDs generate light, the way they progress through their functional life is much different. Instead of ceasing to function properly once a fuel source is significantly reduced, LED generated light output degrades **VERY SLOWLY** over time. As a result the functional life, often in excess of **100,000 hours**, of an LED fixture can be significantly longer than that of an **HID Lamp**, which in turn drastically reduces the costs for maintaining exterior flood light fixtures over a longer period of time.

Lighting Performance

As a result of the Multi-Point design, LED outdoor lighting fixtures for Flood Light applications often provide a very **EVENLY** distributed light pattern. What this means is that light levels across a given surface will vary less as the distance from the pole or fixture changes. Compared to HID fixtures, which often product a "bright spot" directly underneath the fixture with light levels decreasing drastically as the distance from the pole increases. The result, in regards to LED vs HID, is a more even foot candle distribution from the LED conversion. In addition to the even distribution of light, LEDs are available in a **range of color** temperatures, and as a result provide a range of options to increase the visual perception of "**brightness**".

Next Steps

How do I determine the next steps to improve my outdoor Flood Light application?

The first step is to speak with a LED lighting solutions provider that is manufacturer neutral. Why this approach as opposed to the company you may have used for the past several years? Unless that company has a focus on providing LED solutions, it is unlikely that will have the performance focused mentality that is required to obtain the desired results of an Exterior LED Lighting project for your municipal, campus, industrial and commercial Flood Light applications.

A crucial step in any LED project is understanding that **LED Lighting is NOT a commodity**.

Prior decades consisted of building facility managers and building owners evaluating product options purely on cost, assuming that all of the options in consideration were equal in quality. This is not case with exterior LED Lighting.

A solution focused supplier should ask you about your project objectives.

Do you have...

- **Budget constraints?**
- **Return On Investment Criteria?**
- **Energy reduction targets?**
- **Lighting performance requirements?**

The appropriate partner will want to get an understanding of your desired outcome, not just what specific products they can sell you. **Not all LED products are created equal**. There are different levels of value from different manufacturers for different applications, and by working with a company that has the product expertise to recommend a solution that meets your project priorities, you will ultimately achieve the best results. We'd love to know more about your **upcoming lighting project**, or **contact us** and we'll get in touch with you.