



## Endless Possibilities

LED Industries can retrofit most existing exterior lights. Our design engineers can create a retrofit kit for your exterior lighting, producing equal or better light levels, quality, and color.

## LED Exterior Lighting **Retrofit Kits**

### **Is it possible to retrofit our existing lighting with LED technology?**

While most of the world would like to be green in their exterior lighting, they either do not know how to make it happen, or the solutions they have found are too costly to make sense.

LED INDUSTRIES has worked diligently to resolve this dilemma. Our retrofit kits are 1/2 of the cost of our competitor's solutions. Equally important, the technology inside is unsurpassed; we match or exceed the foot-candles of your current light source without compromising our patented thermal-properties design to insure the longest possible LED life. Safety, quality and value are our foremost concerns.

## Examples of Exterior Lighting We Retrofit



# Light Pollution



Light pollution, dark skies, bio-rhythms, and environmental wildlife impact are concerns often discussed by states, counties and municipalities. While not all have passed ordinances regarding light pollution, many have, and many more are planning to follow. Our lens and reflector technologies allow our engineers to put light where it is wanted and no where else.

Light should shine on the streets and sidewalks, not in the windows of homes and buildings. The adjacent chart illustrates where light should fall from a street light. Notice how the area to be lit includes the walk ways but no spill light enters the windows of the buildings. Our technology will reduce or eliminate the spill light.



## Definitions

**Thermal Technology**—The science to draw heat away from the LED junction to prolong it's life. Usually done through a Heat Sink.

**Dark Sky**—An ordinance in some municipalities that mandates no light leakage above the horizontal plane of the light fixture.

**Watt**—The measurement of the amount of electricity used in one hour.

**Lumen**—The measurement of illumination at the light source.

**Foot Candles**—The measurement of illumination on the intended surface to be lit.

**Green**—Actions that reduce pollution and energy consumption.

**Why is an LED green?** - Toxic and hazardous materials are not used to make the LED, it can be disposed of safely, and it uses less energy than most other sources of light.

## Environmental Responsibility

Sustainability is defined as meeting the needs of the present generation without compromising the ability of future generations. At LED INDUSTRIES we choose to bring the best, most responsible technologies to market that comply with expectations as well as required regulations.

Lamp Type	Hazardous Materials	Special Disposal
Metal Halide	Mercury	Yes
High Pressure Sodium	Mercury, Lead	Yes
Mercury Vapor	Mercury, Lead	Yes
Florescent	Mercury	Yes
Induction	Mercury	Yes
LED	None	No

Every Retrofit Kit from LED INDUSTRIES is green. From manufacturing to disposal, there are no hazardous materials, no special handling and no special disposal requirements.

LED lights are mercury free.

## LED Life

There are numerous claims to the life span of LED lights. The truth is we are not aware of an LED that exists in an exterior fixture prior to 2002 (35,000 hours). The history of LED lights in technology such as computers and electronics boast a very long life of 250,000+ hours.

However, the best testing facilities predict LED use in exterior lighting between 65,000 and 75,000 hours based on computer projections models and depending on proper thermal technology and how "hard" the LED is driven. The standards are developed by IES (Illuminating Engineering Society) which tells us that when a lamp's average lumen output drops below 70 % the appreciable life of the lamp has ended.

The red line on the graph indicates the curve existing LEDs that are still working are presently traveling.

