



SERVICE SHEET

LED STREET LIGHTING

Reduce Energy Use by 60% or More with LED Lighting.

LED, or light-emitting diode, is a highly efficient, solid-state lighting (SSL) technology in which nearly all the energy used produces light rather than waste heat. In addition to being inherently more efficient than high pressure sodium (HPS) and other traditional light sources, LED technology has characteristics that enable higher wattage HPS fixtures to be replaced with lower wattage LED fixtures.

Replace higher wattage HPS fixtures with more efficient, lower wattage LED fixtures.

- **Optical Control** – LED lighting provides uniform light distribution, while traditional light sources direct most of their light output to a small area directly under the fixture.
- **Lumen Depreciation** – LED lighting sustains light output for most of its long life, while traditional light sources rapidly depreciate, requiring higher-wattage fixtures to maintain minimum light levels.
- **Adaptability** – LED lighting can be field adjusted for different applications, in contrast to HPS lighting which is offered only in fixed wattages. It can also be easily controlled (dimmed) to save additional energy.
- **Utility Cost Reduction** – LED street lights represent an opportunity for real energy savings. Converting existing street and area lighting to LED reduces energy use by 60% or more, depending on the application. Additional savings can be achieved by dimming when traffic volume or other factors justify lower light levels. In parking garages, LED lights can be combined with controls and motion sensors, so they dim automatically at times of day when activity is low, then instantly return to full illumination when activity is detected.

LED Benefits

LED Lighting Reduces Maintenance Costs

LED street lights are virtually maintenance free. There is no required maintenance or consumables such as lamps or ballasts to replace at regular intervals.

In contrast to LED lighting, HPS and other traditional types of area lighting require ongoing maintenance to replace failed lamps and ballasts (HPS lamps last 4-5 years, ballasts 8-10 years). The associated maintenance costs are substantial, with 20% or more of the lights in a traditional streetlight system requiring a visit from a bucket truck crew each year. Most LED street lights require little-to-no maintenance over the course of their long, useful life.



LED Lighting Provides Better Illumination

LED lighting produces full-spectrum white light, offering superior visual acuity and color rendering compared to the yellow cast of HPS lighting. The improved optical control afforded by LED lighting results in more uniform light distribution and reduced glare. Add this to the long life and high reliability of LED technology, and it's clear that LED lighting is an excellent choice for public safety.

LED Lighting is Adaptable

By using networked monitoring and control systems, the output of LED lights can be reduced to achieve additional savings. For street lights these strategies range from dusk and dawn trimming (raising or lowering light output gradually in concert with ambient light) to reducing light levels during times of day when levels of traffic volume, pedestrian conflict, or other factors justify it. The U.S. Department of Transportation's publication "Guidelines for the Implementation of Reduced Lighting on Roadways," provides a methodology to identify applications of adaptive lighting on roadways while maintaining the optimal level of safety.

Improvements in Field and Condition Information

Through our initial auditing process, we can obtain detailed street light inventory information including pole location, luminaire, electric feed and other characteristics.

CONTACT US

Ameresco's team of energy experts can assist you in identifying the solution that fits your needs. For more information about Ameresco and our full-range of energy efficiency and renewable energy solutions, please call **1-866-AMERESCO** or visit **ameresco.com**