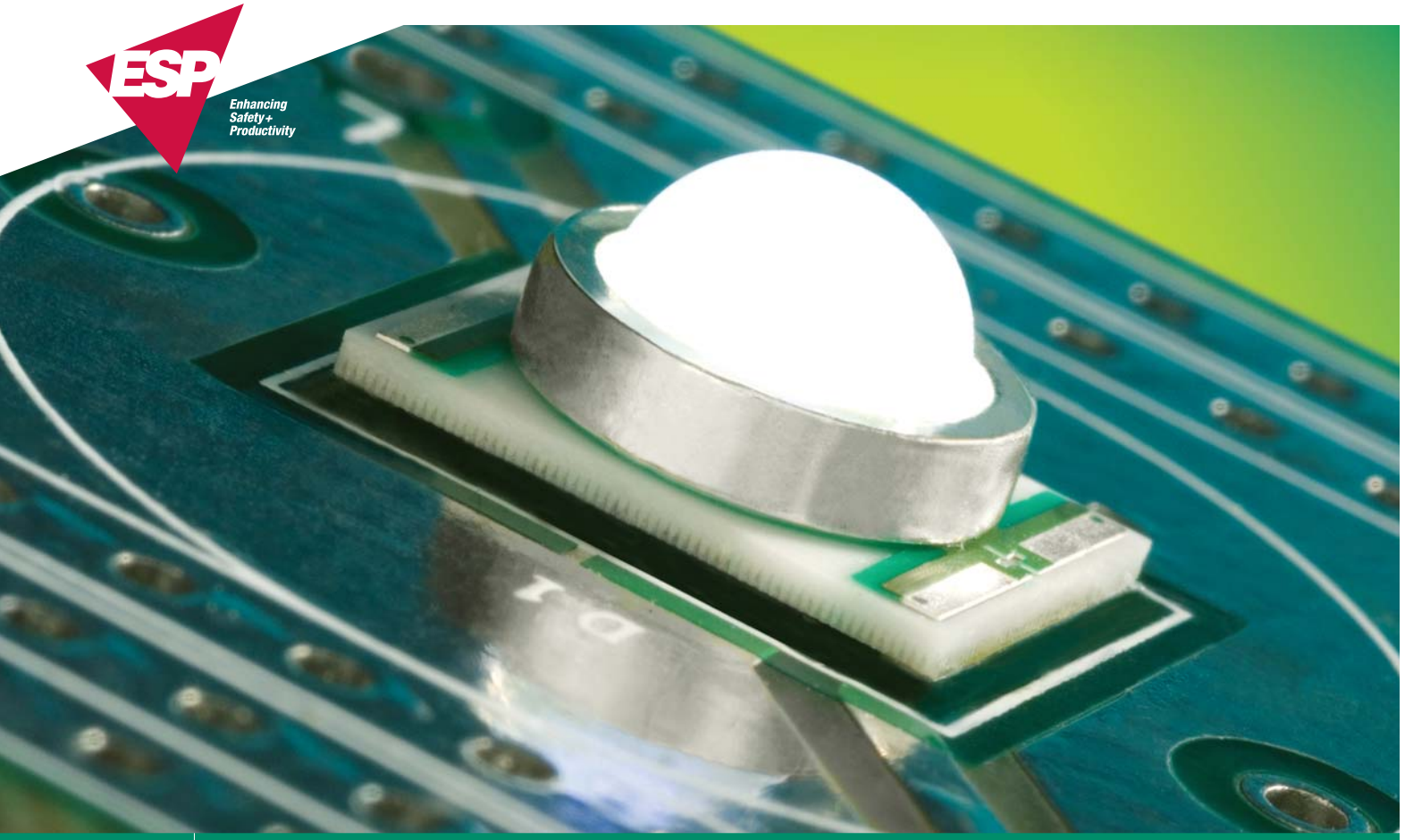
ESP
Enhancing
Safety+
Productivity



LED Luminaires

For Industrial and Hazardous Applications

Improve safety, reliability and energy efficiency

COOPER Crouse-Hinds

The Cooper Crouse-Hinds family of LED luminaires

With LED solutions from Cooper Crouse-Hinds, the future is looking brighter and brighter

Dramatic advances in LED technology have broadened the applicability of this type of illumination, creating an exciting new option for hazardous, industrial and other highly demanding locations. Compared to traditional light sources, LED can deliver longer life, enhanced energy efficiency, greater eco-friendliness, lowered maintenance demands and equal or better quality of light.

Innovative applications for this exciting technology are a natural fit for us, and as you can see from the products featured on these pages, LED lighting solutions have rapidly become an integral part of our vision.

Introducing ESP solutions.

For more than 110 years, Cooper Crouse-Hinds has exceeded customer expectations when it comes to new ideas and technological advancements. Today, as the electrical industry's global leader for hazardous environments, we continue to reach beyond the expected – especially with our commitment to **ESP (Enhancing Safety & Productivity)**.

The problem that never happens. That's the goal behind ESP – smarter, more powerful solutions enhancing safety and productivity in your world.

Champ® VMV LED

NEW

- Cl. I, Div. 2
- Cl. I, Zone 2
- Cl. II
- Cl. III
- NEMA 4X
- UL Listed
- T5 temperature rating

A true wide area illumination LED luminaire for harsh and hazardous areas. Provides the same durability and reliability of our flagship Champ luminaire, coupled with the low cost of ownership and energy efficiency of Cooper Crouse-Hinds LED technology.

EV LED Luminaire

- Cl. I, Div. 1
- Cl. I, Zone 1 & 2
- Cl. II
- Cl. III
- Type 4X, IP66
- UL and cUL Listed
- T6 temperature rating

The first bright white LED Class I, Division 1 luminaire for general illumination. Ideal for lighting loading docks, tunnels, stairways, storage areas, and locations requiring consistent light levels in extreme ambient temperatures.

LED Tasklight

- Cl. I, Div. 2
- cETLus Listed
- Type 4X, IP66

Targeted illumination of equipment and pathways in hazardous locations. 46W tasklight provides as much light as 100W HID and lasts 7 times longer.

Hazard•Gard® LED Lantern

- Cl. I, Div. 1
- Cl. I, Zone 1 & 2
- Cl. II
- Cl. III
- NEMA 4X
- cULus Listed

The industry's only Class I, Division 1 rechargeable LED lantern.

LED Obstruction Lights & Visual Signals

- FAA and ICAO
- Cl. I, Div. 2 available
- ETL Listed

Years of cost-effective, maintenance-free operation for areas requiring signals for warning, notification or identification.

Ex-Lite and CCH UX LED Exit Signs

- Cl. I, Div. 2 (Ex-Lite)
- Cl. I, Zone 1 (Ex-Lite)
- Cl. II, Div. 2 (Ex-Lite)
- cULus Listed (CCH UX)

Long-life and low maintenance exit signs for use in conditions where reliability is crucial.

LED N2LPS Light-Pak™

Coming Soon

- Cl. I, Div. 2
- cULus Listed

Reliable illumination of egress areas during failure or interruption of power to the normal lighting system.

VAPORGARD™ LED

Coming Soon

- Cl. I, Div. 2
- Cl. I, Zone 2
- Cl. II and Cl. III
- Marine, NEMA 4X

Low profile design for utility lighting in tunnels, facility entrances or similar locations where moisture, dirt, chemicals, vibration or rough usage are common.

The advantages of LED lighting are numerous and growing.

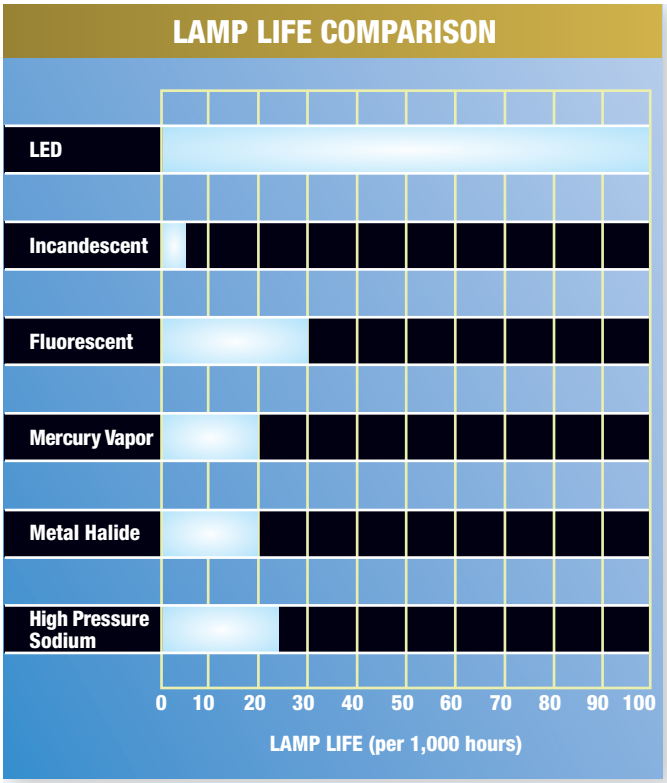
LEDs are currently being specified for a rising number of industrial, commercial, residential and municipal uses. Why? Long life is the most attractive feature, but far from the only advantage. Users also point to lower maintenance costs, enhanced energy efficiency, greater eco-friendliness, and equal or better quality of light. Ongoing advancements – including the fact that white-light LEDs have more than tripled their light output in just the past few years – continue to make LEDs the smart choice for an expanding list of practical applications.

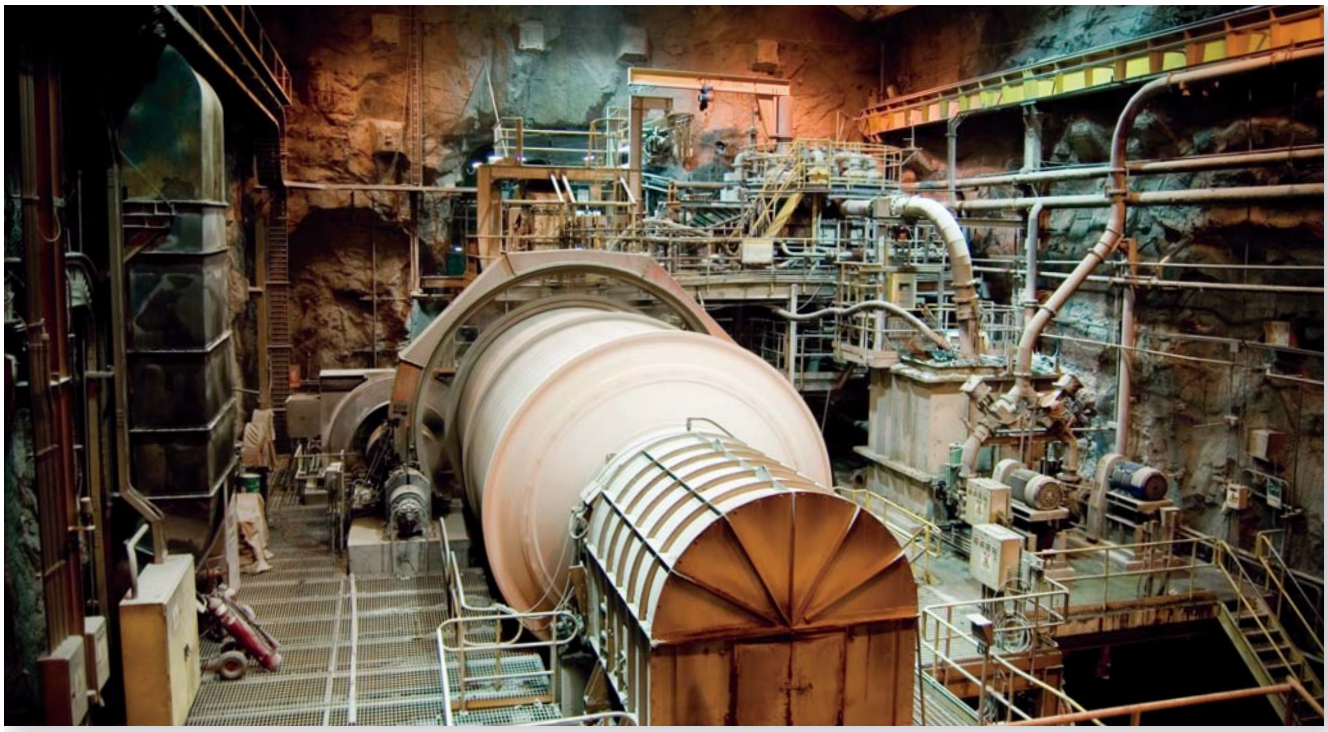
Major Advantage 1:

Extremely Long Operating Life

Expected operating life of an LED typically ranges from 50,000 to more than 100,000 hours. This is a significant upgrade over traditional light sources, whether incandescent, fluorescent or HID lamps. Three key factors – luminaire design, junction temperature and ambient operating temperature – affect the actual lifespan. In all three cases, heat management is the primary consideration.

- Thoughtful luminaire design is essential, as the efficiency of heat removal from the LED has a great impact on its longevity. This consideration is a priority in all Cooper Crouse-Hinds LED luminaire designs.
- The point within the diode where the light is generated is referred to as the junction. Today's LEDs operate with more energy being pushed through this junction, causing an increase in heat which needs to be removed. To optimize operating life, the temperature of this junction must be maintained below the manufacturer's specified limit.
- The ambient temperature where a luminaire is operated also affects LED life. A hotter environment can be expected to shorten the operating life, while, conversely, cooler ambient temperatures can actually result in a longer-than-expected LED lifespan. A well-designed luminaire should compensate for the expected extreme conditions.





LEDs: Improved safety, reliability & performance

Major Advantage 2:

High Source Efficacy

The efficacy of a light source measures how much of the emitted electromagnetic radiation is visible to the human eye. It can be expressed in a ratio of emitted luminous flux to radiant flux. LEDs deliver better lumen maintenance and optical efficiency, as well as higher lumens per watt as compared with many traditional lighting technologies (incandescent, compact fluorescent, HID).

Efficacy also measures the lumens generated per watt of energy used. Higher efficacy generally translates to greater energy efficiency, although other factors also come into play, including driver efficiency, luminaire efficiency and thermal management of the LED system.

Today, properly designed LED luminaires can provide a reliable, high-performance lighting solution with an overall lower cost of ownership than many conventional lighting technologies.

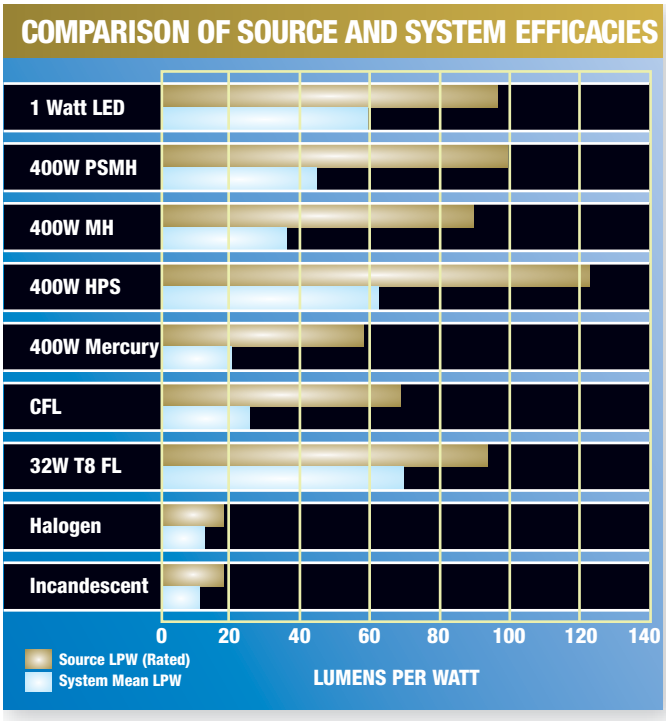
Major Advantage 3:

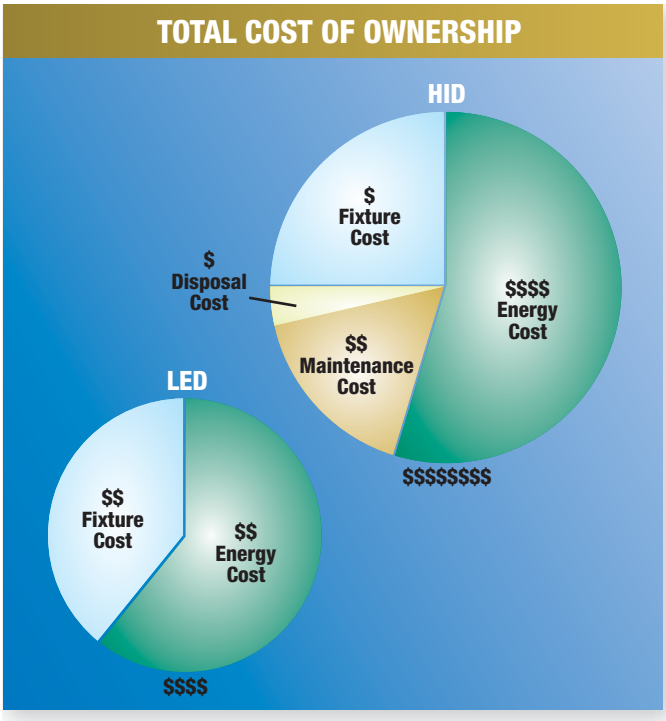
Lowest Total Cost of Ownership

Another crucial advantage LED lighting has over conventional light sources is the potential for a dramatic reduction in overall cost of ownership. High maintenance costs associated with frequent replacement of incandescent, fluorescent or other lamps are virtually eliminated with the installation of long-lasting LED-based luminaires.

Disposal expenses are also reduced with LEDs. LEDs contain no mercury or other hazardous substances, therefore reducing disposal costs and limiting future liability. Energy savings also translate to cost savings, as LEDs operate with greater efficiency than other systems.

Over the long term, ownership costs are clearly reduced with LEDs, which eventually pay for themselves through these maintenance, disposal and energy savings.





Bright lights are just the beginning.

In addition to extreme long life, high efficacy and lower cost of ownership, LEDs also offer these advantages:

- Optical control allows you to place light where it's needed, minimizing light pollution
- Low voltage and current requirements ensure safe operating conditions
- High levels of brightness and intensity
- Low radiated heat improves t-ratings
- Shock- and vibration-resistant solid-state devices have no filaments or glass components that could break – greatly reduces risk of premature failure
- Variety of color temperatures and renditions available with LEDs (see figure above)

Leading the way in LED technology.

The world's most demanding environments need smart new lighting ideas and innovative approaches to enhancing safety. You need lighting that cuts the overall cost of ownership. Lighting that improves energy efficiency and lives up to ever-escalating environmental standards.

You need all of this innovation from a single source. It could only be: Cooper Crouse-Hinds®.

ESP
Enhancing Safety+ Productivity

For more information:

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