

INDUSTRIAL LED LIGHTING SAFETY BULLETIN

IN HARSH & HAZARDOUS APPLICATIONS, DEPENDABLE LIGHTING IS AN ABSOLUTE NECESSITY

- Poor lighting has been identified as a leading cause of slip, trip, fall, and contact with objects and equipment at industrial workplaces¹
- Over \$250 billion is estimated to be spent each year on job site injuries²
- Risk of accidents causing injuries or death is reduced up to 60% by clear visibility of hazards³

5 KEY SAFETY BENEFITS OF LED LIGHTING

- 1** Industrial LED lighting offers bright, near daylight illumination with more natural color rendering for **clear visibility of hazards** without the need for supplemental lighting such as flashlights.
- 2** Superior vibration resistance, wide operating temperature ranges and long-life because **reliability is critical in harsh and hazardous environments**.
- 3** LED fixtures are instant-on. In event of power loss, other antiquated fixtures can take up to 20 minutes to come back to full brightness **introducing an unnecessary safety risk**.
- 4** The lifespan of industrial LED fixtures is at least 3X longer than HPS or Fluorescent **reducing the risk of injury that frequent maintenance poses**.
- 5** No hazardous material exposure. LED fixtures contain **no mercury or harmful materials** that require special handling.

Traditional lighting technologies such as Metal Halide, Fluorescent and High Pressure Sodium, require significant and frequent maintenance. These older technologies have short lifespans, poor lumen maintenance and contain material harmful to our environment.

When designed properly, LED systems offer superior energy efficiency, reliability, longevity, improved light levels, visual clarity, and ultimately cost savings from reduced or eliminated lighting related maintenance and energy costs.

¹ U.S. Dept. of Labor, Census of Fatal Occupational Injuries Summary, 2016; Occupational Health and Safety Administration, Mine Safety and Health Administration | ² Leigh J.P., "Economic Burden of Occupational Injury and Illness in the United States" | ³ Abdou, "Effects of Luminous Environment on Worker Productivity in Building Spaces"

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INDUSTRIAL LED LIGHTING ENERGY BULLETIN

There are over 144 million industrial light fixtures at 455,000 facilities across the United States.¹ These work sites require safe, efficient illumination, yet the majority still rely on antiquated, less efficient High Intensity Discharge (HID) lighting. Research confirms that industrial LED lighting is the most efficient solution to minimize energy consumption and avoid environmental impacts.

5 KEY ENERGY BENEFITS OF LED LIGHTING

- 1** LED fixtures are the most efficient white light on the market, and can **save up to 90% of energy** use over legacy systems²
- 2** **30-60% more light output** at the source (in lumens per watt), and at least **30% higher delivered light** efficiency since LEDs are directional with lower light loss³
- 3** Up to **50% less usage per day** through dimming and instant on/off capabilities coupled with sensors and smart controls, plus many LED lighting solutions qualify for DLC standard or premium, offering even greater cost savings⁴
- 4** Converting antiquated industrial lighting to highly efficient industrial LED lighting can reduce carbon emissions by **28 million metric tons**, the equivalent annual emissions of 6 million passenger vehicles⁵
- 5** Lower energy consumption, reduced maintenance costs, and long-life performance result in a much lower total cost of ownership (TCO) versus conventional lighting. **Achieving a payback period in as little as 2 years**



With zero mercury content, a lifetime at least 3x longer than HPS, as well as the potential for fewer fixtures thanks to LED optics, LED lighting is a no brainer for the industrial sector.

1 U.S. Dept. of Energy, Lighting Market Characterization, Tables 4-1, 4-22 | 2 GE "ROI of LED" | 3 U.S. Dept. of Energy, "Energy Savings Forecast", p. 67, ECG analysis; Simkar Corp. "Light Loss Factors" | 4 ECG analysis | 5 U.S. Environmental Protection Agency, "Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards"; U.S. Dept. of Energy, "Lighting Market Characterization"; <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle-0>; ECG analysis