

Glossary



ADI AUTHORIZED DEALER: Installers receive benefits such as extended warranty, preferred pricing, special promotions, and more. ADI partners are required to promote Principal Sloan product, adhere to the Powerline™ installation guidelines, commit to a quota of Powerline purchases and become a "house brand user".

BATWING BEAM ANGLE: Also known as beam angle distribution, helps illuminate a surface isotropically without a central hot spot.

BEAM ANGLE: Also referred to as the directional pattern of an LED light beam, is the degree specifying the width of the light beam. The beam angle also has some control of the LED light intensity. Through the use of optics, view angles can range from 8° to 360°.

CORRELATED COLOR TEMPERATURE (CCT): The measurement of the color appearance of light given off when heated to a certain temperature measured in Kelvin. Terms such as "warm" or "cool" are used to measure a light's appearance. Lights 3200 K and below are considered "warm" and 4000 K and up are considered "cool".

CHANNEL LETTERS: These are usually internally illuminated metal or plastic letters used in exterior signage.

CHIP-ON-BOARD (COB): Chip-On-Board technology is a specialized packaging solution in which one or more LED chips are directly mounted to the PCB and then encapsulated. COB provides better thermal dissipation than packaged LEDs (5 mm, SMD, etc.) and removes the need for this form of intermediate packaging.

CHIP SCALE PACKAGE (CSP): A specialized packaging solution in which a large LED chip is mounted directly to a substrate without the need for additional sub-mount, providing better thermal dissipation, higher current densities, and no wire bonds. The phosphor is also evenly coated across all five sides of the LED chip.

DRIVER: A driver is a power supply that is self-contained which has outputs that are similar to the electric features of a lamp. Drivers are used to illuminate sources and are similar to ballasts.

EFFICACY: The measurement of the consequential output from an input, such as putting watts into an LED and getting light or lumens out. Efficacy measures the amount of light that is put out measured in lumens, produced by the amount of power, measured in watts.

EFFICIENCY: Efficiency refers to lighting fixtures and their ability to reflect light out onto a specific area to be illuminated.

FIELD-EFFECT TRANSISTOR (FET): Field-Effect Transistor amplifies wireless signals or weak signal amplification. The transistor can amplify digital or analog signals. FET is a type of transistor, which is a semiconductor device that strengthens electronic signals and electrical power.

GFI/GFCI: A ground fault circuit interrupter protects people against electric shock from an electrical system. The GFI is a breaker that shuts down the power when it senses currents caused by ground faults, before damage can occur to generating equipment.

HO: High Output is a brighter version than the standard model.

INTENSITY: Intensity is how bright the light is and is correlated with the amount of visible light considering the spectrum and the beam width.

IP RATING: The IP (Ingress Protection) number is made up of two numbers referring to the protection against solids and the other liquids, respectively. The higher the IP number the more protection it offers. It is used to identify the environmental protection of enclosures around electronics. Ratings are determined by certain tests.

IP65: This IP rating means it is protected from dust and low-pressure water jets.

IP66: This IP rating means it is protected from dust and string water jets and waves.

IP67: This IP rating means the product is protected from dust and temporary immersion.

IP68: This IP rating means it is protected against dust and continuous submersion of water.

K: Kelvin Temperature is used to compare the colors of a light source when compared to a theoretical black body.

LAMBERTIAN: Lambertian is light falling on a surface in such a way that it can be seen the same way from different angles. It is measured by the light per unit area.

LED: Light Emitting Diode is composed of two different parts. The first is the p-region that has positive electrical charges while the second, the n-region, contains negative electrical charges. When current flows, the electrons move across the n-region to the p-region. This process releases energy and the distribution of this energy produces photons with visible wavelengths. Through the process of LEDs electrical energy is converted directly into light.

LED PITCH: The center-to-center spacing between LEDs.

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LUMEN (LM): A quantity of light and equals the amount of light spread over a square foot by one candle power when the surface is one foot from the light source.

MAX. RATED TEMPERATURE: Also known as operating temperature, is the temperature where the LED light source is installed and maintained. The maximum rated temperature or operating temperature is not the surface temperature. The lifespan of the LED will be cut short if it is operating beyond its operating temperature.

MILLIAMPERE (MA): A unit of electric current equal to one thousandth of an ampere.

MODULE: A surface-mount LED device that can work independently or can plug into a compatible component. The number of feet in an LED chain is acknowledged by the term "mods per foot".

NANOMETER (NM): A unit of measurement used to determine the wavelength of light. The stronger the light source the lower the wavelength. Longer wavelengths measuring above 600 nm are colorless to our eyes.

ON-CENTER (OC): On-center spacing between multiple rows of LEDs.

OPTIC: A special lens that changes the direction of visible light. This can be done through refraction or reflection.

POWER SUPPLY (PS): Electrical devices that provide power directly to LED light products. They are categorized by their current/ampere load capacity.

RETROFIT: The act of adding an accessory to something that did not have it when it was first made. A lighting retrofit makes lighting more energy-efficient and cost-effective. Typically refers to replacing T-12 fluorescents with a more energy efficient LED replacement utilizing existing fluorescent sockets for mounting.

RGB: Red, green, and blue are the three primary colors that can be added together in numerous ways to produce a wide range of colors. RGB can be pre-programmed in LED strips to automatically change between seven colors or it can be non-adjustable. There are several features that an RGB color changing system can have such as frequency, strobing, and chasing. RGB can also produce white light.

ROOT MEAN SQUARE (RMS): The method of defining the effective voltage or current of an AC wavelength.

SAM: The Sign Accessories Manual (SAM) is a list of recognized components approved for use in the manufacturing of UL Listed signs.

SURFACE MOUNTED DIODE (SMD): A type of LED package that uses surface-mount technology (SMT) to mount the LED directly on the surface of the PCB substrate without the need for through-hole manufacturing.

T-12: This is a 1.5" (38 mm) diameter fluorescent lamp, commonly used in cab signs.

UL LABEL: Underwriters Laboratories (UL) labels come with different reference numbers assigned by UL and allow them to control who the labels are assigned to and for what products. This information is exclusive to UL and the customer who was assigned the UL label numbers.

VOLT (V): The unit of potential difference of the electrical potential between oppositely charged conductors.

WATT (W): Watts is the power used by an electrical device during operation. A light source is more efficient when it has a higher lumen per watt value.

WAVELENGTH: This is the distance between successive crests of a wave. In the visible spectrum, shorter wavelengths emit blue or violet, whereas longer wavelengths emit red light.