

Glossary

ANSI (American National Standards Institute): Non-profit organization that generates voluntary product performance standards for many U.S. industries. ANSI Standard C82.11 applies to high frequency fluorescent lamp ballasts.

Arc: Intense luminous discharge formed by the passage of electric current across a space between electrodes.

Auto Reset Shutdown Circuit: Circuit senses lamp end of life and will automatically shut off power to the lamp(s). When a new lamp is inserted in the socket, the ballast resets, and turns on the lamp automatically.

Ballast Efficacy Factor (BEF): Value used to evaluate various lighting systems based on light output and power input. The BEF can only be used to compare systems operating the same type and quantity of lamps.

Ballast Factor (BF): Measure of light output from lamp operated by commercial ballast as compared to a laboratory standard reference ballast. Ballast factor .94 means ballast produces 94% of light produced by ANSI C82.2 reference ballast operating same lamps.

Ballast Luminous Efficiency (BLE): New ballast efficiency metric introduced by DOE. Equal to the ratio of total lamp arc power to ballast input power.

E **Circle E:** Designates a ballast meets or exceeds the requirements of Public Law 100-357 establishing standards of efficiency.

Constant Current LED System: System where the driver provides a constant output current and the modules are designed for that current rating or higher. Modules are constant current rated and have no current limiting.

Constant Voltage LED System: System where the driver provides a constant voltage output and the modules incorporate an integral current control device to regulate the LED current within the module. Drivers and modules must both have the same constant voltage rating and power loading must be compatible.

Crest Factor (Lamp Current Crest Factor): Ratio of peak lamp current to RMS or average lamp operating current.

Efficacy: Lumen output per unit of power supplied to ballast (lumens per watt).

Filament Voltage: Voltage applied to the lamp cathode.

Footcandles: Measure of light level on a surface being illuminated. Defined as one lumen of light per one square foot of surface area.

High Efficiency (Energy Saving) Electromagnetic Ballast: Ballast with Core & Coils, designed to minimize ballast losses compared to the "standard" ballast.

High Intensity Discharge (HID) Lamp: A lamp containing a filled arc tube in which the active element becomes vaporized (a gaseous state) and is discharged into the arc stream to produce light.

High Power Factor: A ballast whose power factor is corrected to 90% or greater by use of a capacitor.

Incandescent Lamp: Lamp in which light is produced by a filament heated by an electric current.

Input Voltage: Power supply voltage required for proper operation of an arc discharge lighting ballast.

Instant Start (IS): Lamp starting method in which lamps are started by high voltage input with no preheating of lamp filaments. Some rapid start lamps are designed so that they may be instant started.

LM-79: The approved method by IES for making photometric measurement of LED light products. LM79 measures total luminous flux, luminous intensity distribution, electrical power, efficacy and color characteristics (like chromaticity, CCT, and CRI).

LM-80: A measurement standard developed by IES which allows user to evaluate and compare the lumen maintenance of LED components from different manufacturers at standard operating condition. LED packages, arrays of LED modules, can be tested at three junction temperatures and the manufacturer specified temperature for 6000 hours. The approved method of measuring lumen maintenance is only for LED light source not for the complete luminaire.

LED: Light Emitting Diode (LED) is a diode that produces light when the electrical current flows through it.

LED Driver: Similar to the function of a fluorescent ballast. It regulates output voltage or current for the LED module.

LED Module: A single component that includes LEDs, electrical connections, mounting plate/housing, optical interface, environmental protection, thermal interface and heat sinking.

Lumens/Watt: A measurement of white light produced by each output watt.

Lumen Depreciation: The luminous flux output lost (expressed as a percentage of the initial output) at any selected elapsed operating time.

Lumen Maintenance: The luminous flux output remaining (expressed as a percentage of the initial output) at any selected elapsed operating time.

Parallel Lamp Operation: Refers to ballasts that employ multiple-output current paths from a single ballast to allow lamps to operate independent of one another, allowing other lamps operated by the ballast to remain lit should companion lamp(s) fail.

Photopic Lumens: A type of light measured in lumens that is generally detected by common light meters and accounts for part of the human eye's perception of brightness.

Programmed Rapid Start (also Programmed Start): lamp starting method which preheats the lamp filaments while not allowing the lamp to ignite and then applies the open circuit voltage (OCV) to start the lamp. This type of starting circuit keeps lamp end blackening to a minimum and improves lamp life performance, especially in applications where the lamps are frequently switched on and off.

Rapid Start (RS): Lamp starting method in which lamp filaments are heated while open circuit voltage (OCV) is applied to facilitate lamp ignition.

Rated Lumen Maintenance Life (Lp): The elapsed operating time over which the LED light source maintains a given percentage of its initial light output. This is expressed as Lp where p is the percentage value. For example: L80 is time to 80% lumen maintenance, in hours.

Series Lamp Operation: Refers to ballasts that employ a single current path passing through all lamps operated by the ballast. If one lamp should fail, companion lamps operated by the same ballasts will also extinguish or dim.

UL (Underwriters' Laboratories, Inc.): Laboratory that sets safety standards for building materials, electrical appliances and other products.

Watts: Measurement of electrical ability to do work

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