

# 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.



**Canadian Energy Standards:** Indicates ballast complies with Canadian Energy Standards and meets the requirements of CAN/CSA-C654-M91.



**Canadian Standards Association (CSA):** Association that generates product performance and safety standards for many Canadian industries.



**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).

**EMI (Electromagnetic Interference):** Electrical interference (noise) generated by electrical and electronic devices. Levels generated by high frequency electronic devices are subject to regulation by Federal Communications Commission (FCC).

**Filament Voltage:** Voltage applied to the lamp cathode.

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

**Harmonic:** An integral multiple of the fundamental frequency (60 Hz) that becomes a component of the current (see "Harmonic Distortion").

**Harmonic Distortion:** Distortion of an AC waveform caused by multiples of the fundamental frequency (harmonics). Odd triplet harmonics (thirds, ninths, etc.) may result in large currents on the neutral line in a four-wire Wye three-phase system.

**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.

**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.

**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.

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

**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.

**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.

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**Trigger Start:** A term used for electromagnetic ballasts which operate pre-heat start lamps in a rapid start manner. They supply higher filament voltages to heat the electrodes to start the pre-heat lamps, to simulate the rapid start system. A grounded reflector close to the lamp, together with a grounded line circuit, is required to provide a capacitive starting aid effect between lamps and fixture and assist ionization in the starting process.

**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