

LIGHTING TERMS

Accent Lighting

Directional light that is used to emphasize or highlight a particular object.

Ampere (Amp)

The standard unit of measurement for electric current that is equal to one coulomb*, per second. It defines the quantity of electrons moving past a given point in a circuit during a specific period.

*Coulomb - A unit of electrical charge, is defined as the amount of electric charge transported by a current of 1 ampere in 1 second.

Bayonet Cap Base

A type of lamp base with a pin on either side which locks the lamp into place when placed in the lamp socket.

Beam Angle

The degree of width that light emanates from a light source.

Bollard

An outdoor light fitting that which is a very sturdy vertical post with the light source located at or near the top. Bollards are typically used to light up walkways in commercial areas.

Brick Lights

A light fitting that can be recessed in a brick wall, in order to light up a walkway, step a landing or a pathway.

Bulb

Another term for a lamp.

Colour Rendering Index (CRI)

Colour Rendering Index also known as CRI, is a measure of the ability of a light source to reproduce the colour of various objects faithfully in comparison with an ideal or natural light source. The CRI simply rates the colour rendering out of 100, the higher the index the better the colour rendering.

Colour Temperature:

Colour temperature is a measure of how warm or cool the light given off by a lamp appears. 'Warm' colours appear tinged with yellow and generally feel soft and cosy. 'Cool' colours are tinged with blue and appear whiter, making them a more 'honest' and unforgiving light more suitable for working environments than relaxing. The way to measure light is through the Kelvin Temperature scale.

Cove Lighting

Cove lighting is a form of indirect lighting built into ledges, recesses, or valences in a ceiling or high on the walls of a room.

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Diffuser

A translucent piece of glass or plastic sheet which shields the light source in a fixture. The light transmitted throughout the diffuser will be redirected and scattered.

Dimmer

A device in an electrical circuit used for varying the brightness of lamp in a lighting installation.

Direct Current (DC)

A Direct Current also known as DC, is an electric current that has no alterations.

Downlights

A light fixture which is usually completely recessed into the ceiling that concentrates most of the light in a downward direction. It may feature an open reflector and/or a shielding device.

Edison Screw Base

A lamp base that screws into its matching socket when rotated clockwise.

Efficacy

A metric used to compare light output to energy consumption. Efficacy is measured in lumens per watt.

Emergency Lighting

Lighting used when the normal lights fail, such as exit lights.

Flicker

Variation in light intensity due to 50 Hz operation. Can cause eye strain and fatigue due to stroboscopic effects.

Floodlight

A broad-beamed, high intensity, artificial light source generally used for industrial and commercial applications.

Footcandle

The English unit of measurement of the illuminance (or light level) on a surface. One footcandle is equal to one lumen per square foot.

Frequency

The number of times per second that an alternating current system reverses from positive to negative and back to positive, expressed in cycles per second or hertz (Hz).

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Glare

Direct glare is caused by light coming directly to the eye from a light source. Indirect glare is light reflected from a surface in the direction of the eye. Both can harm vision and cause visual discomfort, annoyance or loss of visual performance.

GU10 Lamp

These lamps have a turn-and-lock base, so they cannot be accidentally interchanged with low-voltage lamps. Their filaments are finer and they are much more fragile than those used in low-voltage lamps and have a far less lumen output than the low voltage lamps. LED lamps have been developed as GU10 to be operated directly on mains voltage, but unlike Halogen types, they perform the same as low voltage lamps. They can house electronic drivers direct off the mains power and can perform more efficiently and can also be made dimmable using standard residential phase cut dimmers.

High-Bay

Lighting used in Industrial applications where the ceiling height is greater than 20 feet.

Illuminance

The amount of light arriving at a surface, expressed in lumens per unit area; 1 lumen per square foot equals 1 footcandle, while 1 lumen per square metre equals 1 lux.

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Ingress Protection (IP) Ratings

Ingress Protection ratings, also known as IP ratings, are used to specify protection from the environment.

First IP Number – Protection against Solid Objects

0	No special protection
1	Protected against solid objects up to 50mm, eg. Accidental touch by person hands.
2	Protected against objects up to 12mm, eg. Persons fingers
3	Protected against solid objects over 2.5mm (tools and wires).
4	Protected against solid object over 1mm (tools, wires and small wires).
5	Protected against dust limited ingress (no harmful deposit).
6	Totally protected against dust

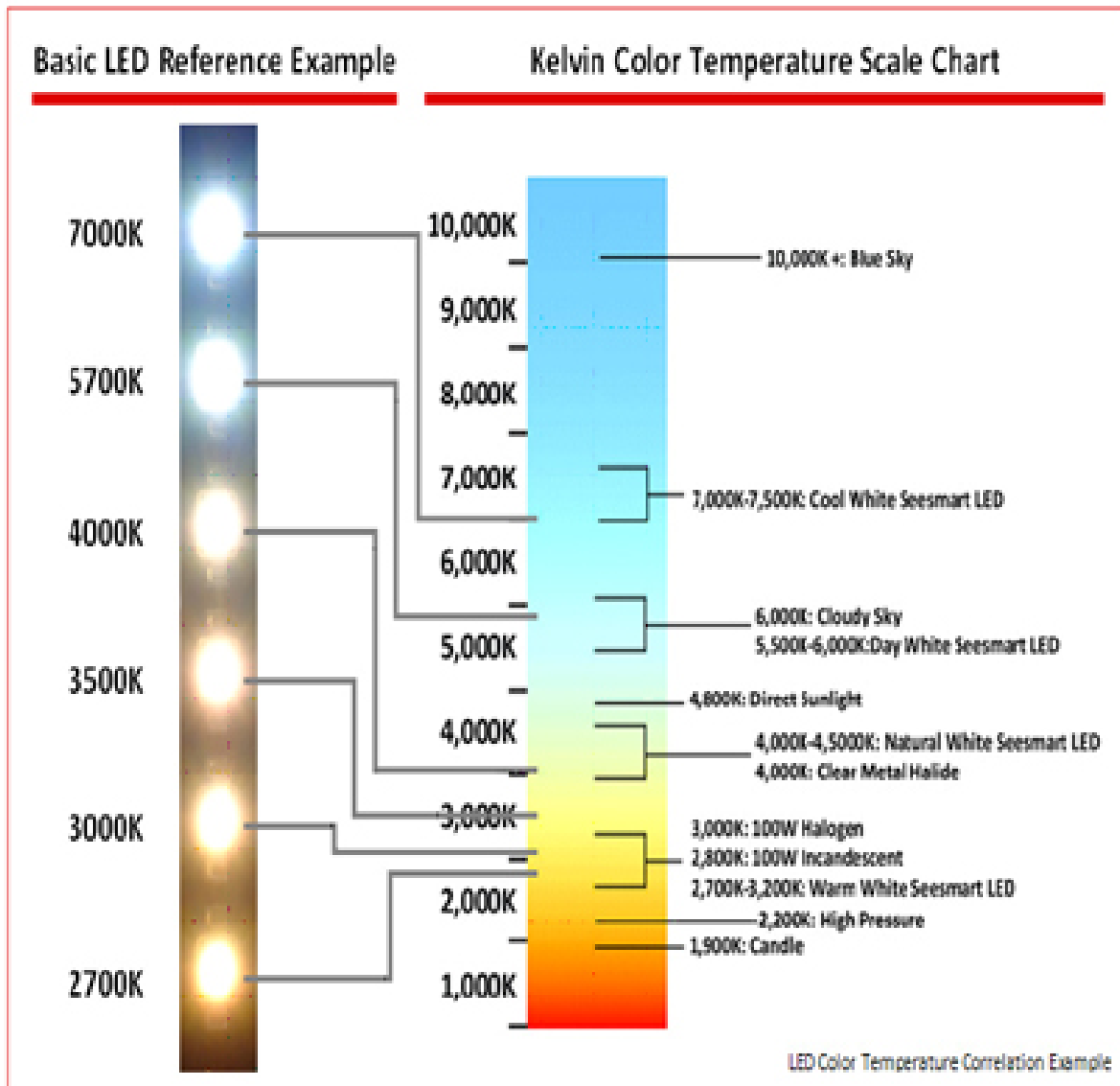
Second IP Number – Protection against Liquid

0	No protection.
1	Protected against vertically falling drops of water.
2	Protection against direct sprays of water up to 15° from the vertical.
3	Protected against direct sprays of water up to 60° from the vertical.
4	Protected against water sprayed from all directions – limited ingress permitted.
5	Protected against low pressure jets of water from all directions – limited ingress permitted.
6	Protected against temporary flooding of water, eg. For use on ship decks – limited ingress permitted.
7	Protected against the effect of immersion between 15cm and 100cm.
8	Protected against long periods of immersion under pressure.

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Kelvin Temperature scale

The way we measure light is through the Kelvin Temperature scale. This standardised colour scale is created by heating a theoretical black body, starting out at zero degrees Kelvin (Absolute zero) as the body heats up, it glows, like any other object would. As the heat increases the colour changes, appearing first dark red then yellow, moving through the visible colours of the spectrum until it reaches blue and violet.



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Light Emitting Diode (LED)

Light Emitting Diode, also known as LED, a small electronic device that lights up when electricity is passed through it. LED's have a very long life and come in a variety of colours, the most common are Warm White, Cool White, Red, Green and Blue.

Low Voltage Lamp

Low voltage lighting systems usually operate on 12 volts and 24 volts. Low voltage lighting systems uses a transformer (electronic or magnetic) to transform the "incoming" voltage (usually 240 volts) to 12 or 24 volts.

Lumen

A unit of light flow. The lumen rating of a lamp is a measure of the total light output of the lamp.

Light Output	LEDs	CFLs	Incandescents
Lumens	Wattage	Wattage	Wattage
450	4 - 5	8 - 12	40
300 - 900	6 - 8	13 - 18	60
1100 - 1300	9 - 13	18 - 22	75 - 100
1600 - 1800	16 - 20	23 - 30	100
2600 - 2800	25 - 28	30 - 55	150

* Please note that these lumen values are approximate, for reference only, they may vary due to different manufacturers.

Lux

The metric unit of measurement for illuminance of a surface. One lux is equal to one lumen per square metre.

MR16 Lamp

MR16 lamps contain single-ended quartz halogen filament capsules with a multifaceted reflector (MR); a pressed glass reflector with the inside surface composed of facets and covered by a reflective coating. These facets provide optical control by gathering the light from the filament to create a concentrated beam of light. The reflective coating can be either Dichroic or Aluminium. Most MR16 lamps are operated using voltages lower than 120 volts, typically 12V. MR16 lamps can be dimmed through commercially available dimmers for low voltage loads.

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Pendant Lighting

Pendant Lights can provide both task and general lighting, equipped with shades or globes to avoid glare. They are suspended from the ceiling over dinette tables, kitchen counters or other work areas.

Power

The rate at which energy is taken from an electrical system or dissipated by a load, expressed in watts (W); power that is generated by a utility is typically expressed in volt-amperes (V-A).

Reflector

A device used to redirect the light by the process of reflection.

Transformer

An electrical device that transforms the line voltage of a facility into the voltage that a low voltage lighting system requires.

Vandal Resistant

Fixtures with rugged housing, break resistant type shielding and tamper-proof screws.

Volt

A volt is the potential difference that will cause 1 ampere to flow through one ohm resistance.

Voltage

The standard metric unit of measurement for electrical potential. It defines the force or pressure of electricity.

Watt

Watt is the unit for measuring electrical power. It defines the rate of energy consumption by an electrical device when it's in operation. It is defined by the current voltage. The energy cost of operating an electrical device is calculated as its wattage times by the hours of use.

NON-GREEN LIGHTING TERMS

Ballast

A device which is used to supply sufficient voltage to start and operate Fluorescent and HID lamps, while limiting and regulating the lamps current during operation.

Cathode

An electrode that emits electrons*. A fluorescent lamp cathode emits or discharges electrons to the cathode at the other end of the lamp.

*Electrons - An electron is a negatively charged component of an atom.

Compact Fluorescent Lamp (CFL)

Compact Fluorescent lamp also known as CFL are often used as an alternative to incandescent lighting. They have a high colour rendering and a lamp life of about 5 times longer than incandescent lamps.

Electronic Ballast

A ballast that uses semiconductor components to increase the frequency of fluorescent lamp operation.

Fluorescent Lamp

A light source consisting of a tube filled with argon, along with krypton or other inert gas. A phosphor coating on the inside of the glass tubing transforms some of the ultraviolet energy created inside the lamp into visible light when electrical current is applied.

Halogen Lamp

A type of incandescent lamp that contains halogen gases, which slow down the evaporation of the tungsten filament.

High Intensity Discharge (HID) Lamp

High Intensity Discharge lamp, also known as HID, is a generic group of lamps consisting of mercury, metal halide and high pressure sodium lamps.

Mercury Vapour Lamp

A type of high intensity discharge (HID) lamp that uses mercury in an excited state to produce light, most of which is produced by radiation from mercury vapour.

Metal Halide Lamp

A HID lamp that produces light by radiation from certain metallic vapours when supplied with electricity from a ballast.

Starter

A device used with a ballast to start and preheat fluorescent lamps.