



Light Meters

How Light Meters Work

Most meters consist of a body, a photo cell and a readout. The light that falls on the photo cell has energy. This energy is transferred by the photo cell into electric current. The amount of current generated depends on the amount of light striking the cell. The meter then reads the electrical current and calculates the appropriate value of either LUX or foot candles.

A key thing to remember about light is that it is usually made up of many different types (colors) of light a different wavelengths. The reading, therefore, is a result of the combined effects of all the wavelengths. A standard color can be referred to as color temperature, and is expressed in degrees Kelvin. The standard color temperature for calibration of most light meters is 2856 degrees Kelvin, which is more yellow than pure white.

Different types of bulbs burn at different color temperatures. Meters will vary with different light sources of the same intensity. This is why some lights seems “harsher” than others.

Light Meters Units of Measure

Light can be quantified in many ways, i.e., Lux, Lumens, foot-candles, candle power, candelas and so on. The two most popular scales are Lux, which is a European measure and foot-candles, which is the US scale. Lux is a unit of illumination of one square meter, which is one meter away from a uniform light source. 1 candela = 1 Lux. Foot candles are a unit of illumination of one square foot which is one foot away from a uniform light source.

Various Applications

Offices	100 - 300 Lux	General workrooms, corridors, stairs & restrooms
	300 - 700 Lux	Conference and computer rooms
	750 - 1,500 Lux	Technical offices, rooms for drawing & calculating
Factories	300 - 750 Lux	Winding, steel work and welding
	750 - 1,500 Lux	Inspection, welding and heavy machinery operations
	1,500 - 3,000 Lux	Inspection and testing operations, selection areas, machine tool
Schools	75 - 300 Lux	Lecture rooms, assembly halls, corridors, stairs & restrooms
	200 - 750 Lux	Classrooms, demonstration rooms, gymnasiums
	300 - 1,500 Lux	Precision drawing rooms, labs, libraries, and reading rooms
Shops	120 - 500 Lux	Stairs, elevators, restrooms & corridors
	500 - 1,000 Lux	Display windows and sales areas
	4,000 - 8,000 Lux	Jewelers & goldsmiths