

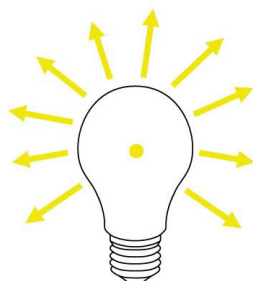
## Units of light

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### Luminous flux (lumen)

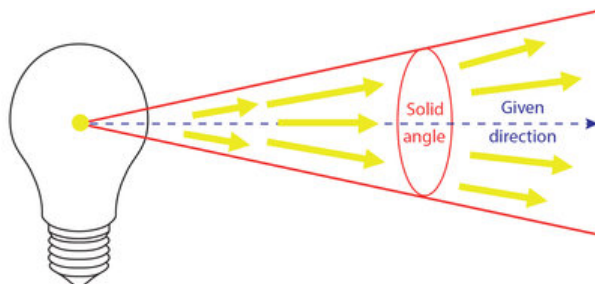


The total amount of light emitted in all directions by a light source. The unit of luminous flux is the lumen (lm).

Here are some typical values:

Candle	12 lm
60W incandescent lamp	750 lm
1W LED	130 lm

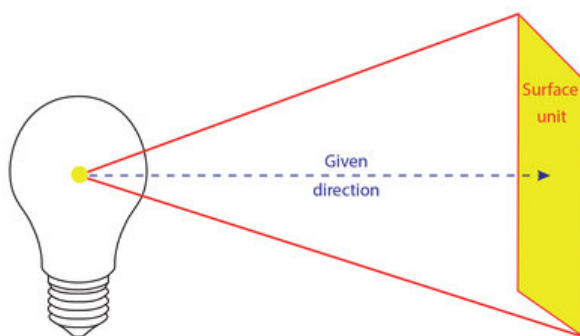
### Luminous intensity (candela)



In any given direction, the luminous intensity is the flux emitted by the entire light source, per unit solid angle. The unit is lumens per steradian, better known as the candela (cd).

The luminous intensity of a candle is 1 candela.

### Illumination (lux)



Amount of light impacting a surface per unit of area.

The unit of illumination is the lumen per square metre: or lux (lux).

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Category:

Lighting techniques

Tags:

candela - LEC - light - light intensity  
- lighting - luminance - luminous flux  
- Lux

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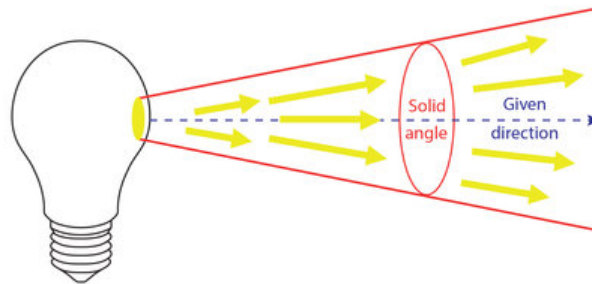
[www.lec-lyon.com](http://www.lec-lyon.com)

Here are typical values:

Full-moon at night	0,5 lux
Outdoor Disability lighting	20 lux
Domestic lighting	100-200 lux
Office lighting	300-500 lux
Sunny day outdoors	100 000 lux

## Units of light

### Luminance (candela per square metre)



In any given direction, luminance is the luminous intensity of the source per unit of visible surface. The unit is the lumen per steradian per square metre. More simply: candela per square metre ( $\text{cd/m}^2$ ).

In the LED world, this value is very important for the human eye, as we perceive objects in the world around us by their luminance. In other

words, the amount of light per unit of object surface, arriving at our eye. LEC takes advantage of the strong luminance, due to a very small emitting surface and directability of LEDs for [wall marker lights](#), in tunnels for example.

Thus, even with tiny power consumption, LED marker lights are visible from a very great distance.

### Dazzle

When luminous intensity in the eye's direction is too strong, our vision is disrupted. Lighting experts call it dazzle.

Due to their very strong luminance, LEDs are very conducive to dazzle.

LEC takes this factor into account for [facade spotlights](#) with a choice of lenses to limit "parasite" (unwanted) light and associated effects, by using "barn doors" (shutters) or honeycomb grilles.