

Raw lumens v effective lumens - Do you know the difference?

In the world of LED lighting, light output from an LED lamp is quoted in 'lumens'. Generally speaking, any lamp could quote raw lumens or effective lumens, and the values of which can differ by a huge amount. So what's the difference?

RAW LUMENS

The raw lumen value is true only for the LED itself, not an assembled lamp. It is calculated by multiplying the theoretical rated output of an LED, at the given drive current, by the number of LEDs in the lamp. This figure is almost always obtained from the LED manufacturer's data-sheet.

8 LEDs rated at 100 lumens at 350mA
8 x 100 = 800 Raw Lumens

EFFECTIVE LUMENS

This value is the important one as it takes into account all of the losses that occur with an assembled and working lamp; the thermal and optical efficiencies, and manufacturing tolerances. Optical losses occur as light is scattered at every material interface it passes through and can be bounced around within the material and reflected back into the lamp.

Raw lumens = 800
 Thermal, optical & manufacturing losses =
 40% (of Raw Lumens)
800-320 = 480 Effective Lumens

To ascertain the effective or resultant lumens of a particular lamp the manufacturer would have to have the lamp analysed within an Integrating Sphere, which is an expensive process. It is for this reason that many manufacturers will not quote effective lumens and therefore the lamps should be evaluated and compared by means of measuring lux levels in their intended application.

Labcraft routinely conduct field and in-house light tests and provide full reports to show the customer exactly which lamp performs best in their application. **Labcraft** have a reputation for using innovative methods to maximise heat transfer whilst minimising optical losses, and for this reason consistently outperform other LED products on the market.

'MEGALUX ENVIRO' : 40% BRIGHTER FOR 2015



- 480 effective lumens
- >260 lux @ 1 metre
- Low profile surface and recessed
- Waterproof to IP66
- PIR option available
- E-type approved
- Available from 1st July 2015

For more information contact our sales team on 01799 513434 or email sales@labcraft.co.uk