ECA
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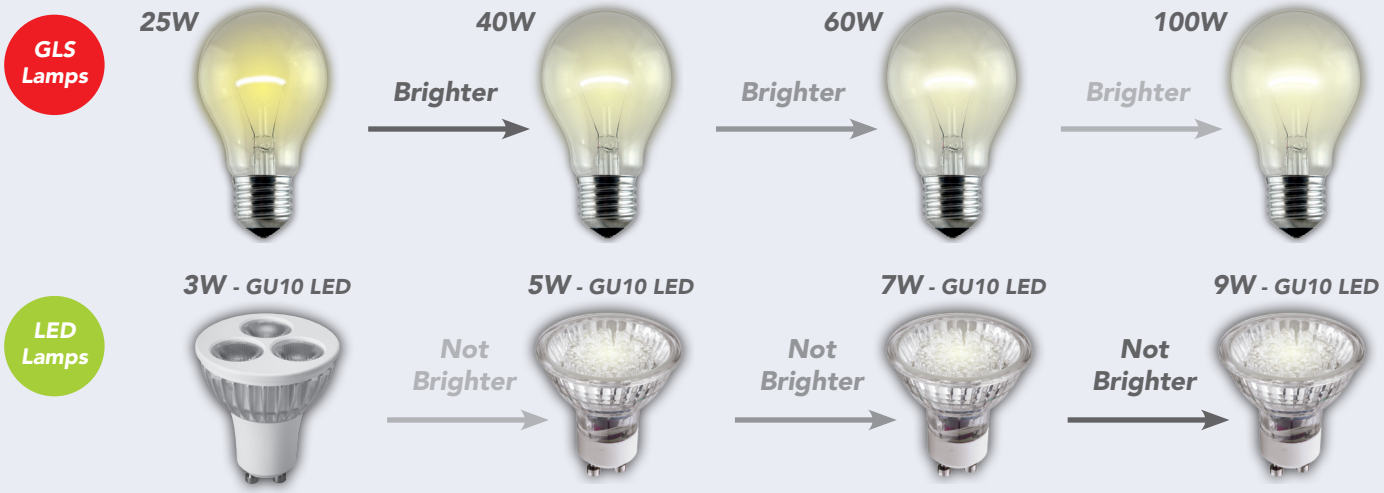
Electrical Contractors' Association

KEY FACTSHEET

Facts about LED lighting

1. Power consumption does not always equate to light output!!!

Many people think the higher the wattage the more light you will get - Maybe with GLS Lamps



2. Important points to consider:

With **LED** you must consider the **Lumen Output** per watt and in total. Not the **wattage consumption** as other factors come into play. For example:

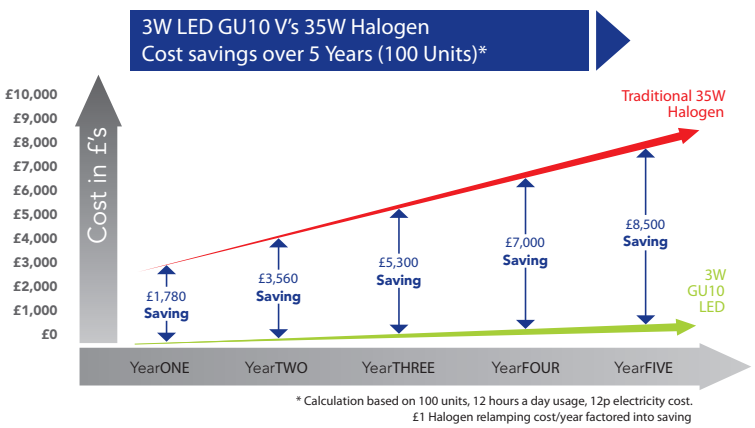
High power **LED MR16 Lamp** - The 3W can actually be brighter than a **4W**, **5W** or even a **7W**!!!

Factors which affect performance are:

- **The chips** used within the product. The actual quality of the high power LED chip will determine performance. Well graded high power chips from a good credible chip manufacturer will determine light output.
- **The lenses** used on top of the LED chip also play a big part in actual light output.
- **Heat dissipation** - The more efficiently the product dissipates heat, the better the unit will perform. Better heat dissipation means more light.

Some LED 3W units give you **35W** mains halogen equivalent output illuminance in **warm white 3000K**

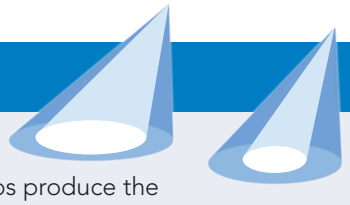
3. Getting it right can save a lot of money:



* Calculation based on 100 units, 12 hours a day usage, 12p electricity cost.
£1 Halogen relamping cost/year factored into saving

This is an extremely efficient lamp. You are getting a tremendous amount of light per watt. Energy saving will be huge with this lamp, as will cost saving. See adjacent example.

4. Comparing like for like:



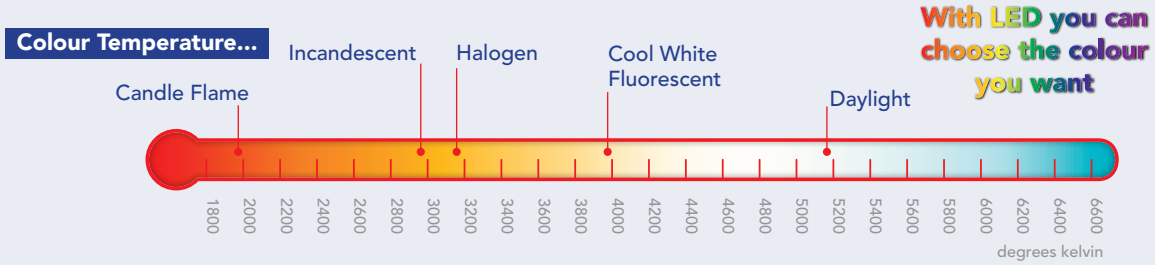
A Note on Part L Compliance:

Standard lighting fittings supplied with low energy lamps with integrated control gear (e.g. BC or ES) are in compliance with Part L.

- When considering light levels, **beam angles** must be taken into account. Claims may be made that two lamps produce the same light, but you must ensure beam angles are the same. All too often comparisons are made between narrow beam LED lamps being equivalent to wider beam high power lamps. They may produce the same light at a single point, but the wider beam lamp is giving a greater spread.

- Generally **lux is a more accurate** comparison of light levels than **lumens** between LED and traditional lighting. Lumens consider all light emitted and don't take into account direction of light. Lux is a measure of directional light. LEDs only emit light downwards where it is needed (i.e. **no wasted light**).

- Ensure light comparisons are made for the same **colour temperatures.** Cool white LEDs produce greater light levels than warm white but you may not like the colour. Claims that an LED unit produces more or equivalent light to a high power alternative may be true but is it **producing the same colour of light?**



- LED lamps should be built to last. However, not all LED lamps on the market are **high quality** and this must be taken into account when making a comparison. There are numerous components that may go into manufacturing an LED lamp and although an LED chip may have a rated life of 25,000 hours or greater, other components may fail long before the chip.

- Suggestions that lamps will last a certain number of years can be very misleading. Most often these calculations are not representative of realistic usage and are usually based on 1 hour per day to inflate the lifespan. When considering **product life** find out the rated hours for a more accurate comparison.

The future is LED

1. **LED lighting** is just emerging as a mainstream viable lighting option.
2. **Lighting levels** now achieved with **LED** are comparable and in some cases **surpass** traditional lighting solutions whilst using even **less energy** than fluorescent.
3. Declining costs of **LED** means that payback periods are continuingly shortening and **cost savings** over the life of a unit can be huge.
4. **LED lighting** does not produce **Ultraviolet Radiation** as opposed to other forms of lighting.

FOR FURTHER INFORMATION CONTACT: Technical Department, Electrical Contractors' Association
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Produced in conjunction with Orlight WWW.ORLIGHT.COM