

## What are the advantages of LEDs in g[ BU YUbXdisplay lighting?

Extensive research over the past 3 years has made a strong case for the use of LED display lighting - here are 5 of the key financial and convenience arguments:

### Saving money and increasing impact with LED display lighting.

Since becoming generally available in 2002 there has been a massive growth in LED lighting. In fact it is predicted that by the year 2010 over 25% of signage and display lighting will be LED based. Since being launched onto the commercial market there have been impressive strides in the power LEDs deliver for the price they cost to manufacture. They now offer an excellent product at a very reasonable price. Here are 5 good reasons why .....

#### 1. Reliability:

##### Long Lifespan.

LEDs just **last longer** than other forms of lighting - typically 8 - 10 years before their light output has dropped to 50% of its former brightness. A 12 V halogen dichroic lamp has a typical average lifespan of 4000 hours compared to the 50 000 hours of the LED. When the dichroic lamp is finished it produces no light whereas the LED just loses intensity gradually over time – giving plenty of warning.



##### Better appearance of buildings



The appearance of the outside of a illuminated building can go quickly down hill if a number of bulbs are not working. The 'broken teeth' effect can easily lead to loss of sales through deterioration

of the quality of signage and displays – until the lights are replaced.

##### Wasted time

Of course if you wanted to avoid the problems of missing bulbs, the alternative is to replace them. This can be a time consuming and potentially hazardous activity which requires somebody to



be employed to change lights that have blown. LEDs don't just "go out" - their light intensity decreases gradually over a very long period and it would be up to you to decide when to replace them.

#### 2. Energy and the environment

LEDs used in signage have 2 main environmental and energy consumption advantages over conventional lighting. First of all they utilise far less energy than that consumed by conventional lighting. For example, independent tests show that LED highlighting uses about 80% less electricity to operate than Neon. They also use far less energy to manufacture.



##### LED vs. Fluorescents

Whilst the amount of energy consumed by LED display lighting is now of the same order as that of a fluorescent tube, around 60% of the light emitted from a fluorescent source is wasted. Fluorescent lighting throws its light in all directions whereas LEDs throw light only in the forward direction and can even be focussed using optics. All the light emitted from an LED is usefully applied to the display, which is a more efficient use of the light available. LED display lighting is more cost effective per watt of energy input.



#### 3. Reduced Heat

LEDs produce much less heat than equivalent lamps making it easy to incorporate them in enclosed spaces to illuminate delicate items.

They project very much **less IR** radiation than halogen or Fluorescent lamps and much **less UV** radiation than fluorescent and HID lamps

#### 4. Style

Because of the miniature scale of LEDs they can be used in situations where normal incandescent, fluorescent or halogen lighting cannot be used.



LED lighting can be focussed precisely where you want it and the power can be adjusted to ensure the correct intensity is achieved.

LEDs also come in pure colours – all the other forms of display lighting come in filtered shades of white – this makes LEDs ideal for display lighting where intense and vibrant colours can be produced.

#### 5. Safety

All LEDs today operate at low voltages and use direct current.

LEDs are solid state devices and they have low toxicity by virtue of their construction.

**Low fire hazard:** As LEDs contain no filaments and also because of the low temperature at which they operate, they tend to have a greatly reduced fire risk compared with halogens and filament lamps which operate at very much greater temperatures.

**Toxicity:** LEDs, by virtue of their construction and encapsulation are virtually non-toxic which is not the case with fluorescent lighting. This



uses a phosphor coating on the inner surface of the glass tubing which can be very toxic if the tube is broken or incorrectly handled.

With such persuasive price, environmental, convenience and cost advantages, it's clear to see why LED Lighting will become an increasing part of our lives in the coming years.

Brillianz Ltd is at the forefront of developing this technology in affordable, practical uses for the signage and display industry as well as for lighting uses generally.

*For more information on the range of Brillianz LED lighting products please call marketing on 01702-299192  
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