

HOW MANY COMPANIES DOES IT TAKE TO CHANGE A LIGHTBULB

First there was fire then the light bulb, Mr. Edison your time is over please stand aside. Mr. Holonyak (the inventor of the LED) please take the stage a new technology is in town it's called the LED (light emitting Diode) and its going to change the world,

The rise of the LED has come simply because the brightness or Lumens is now over 100 and so therefore for the first time they are a comparative replacement for current technology, given their high output but low heat and long life they are set to revolutionize industrial, commercial and very soon domestic lighting use.

The warehouse, cold store , and food manufacturing businesses are typically high cost but relatively low margin industries where market pressure, forces companies in these sectors to not only continually monitor and control operating costs but also are now being regulated into looking at their environmental footprint.

After staff and process materials, energy predominately electricity is a major overhead, and what is not typically recognised is that warehouse and building lighting can be 50% to 75% of that cost. If you take for instance a cold store or chilled environments with high bay halide or SORN lighting this can be over 90%.

Warehouse lighting is usually HID (high intensity discharge either metal halide or SORN – (high pressure sodium)) or Fluorescent Tubes. In relation to current LED lighting these are not only inefficient but extremely energy wasteful. As indicated not only do they account for the majority of electrical costs, but also has inherent operational issues. The HID systems can take up to 10 minutes to fully illuminate so therefore are normally left on and dimming them to a low level or putting them on standby is expensive and problematic. Due to the design of the HID lights their operating life is quite short therefore leading to high levels of maintenance and cost of replacement.

In contrast LED lighting has an operational life of between 80,000 to 100,000 hours over 12 years of maintenance free use. They switch on instantly, can be dimmed connected to PIR and light sensitive switching, can be run on batteries so can form a secondary role of emergency lighting and most of all consume over 80% less energy.

The spectrum of light emitted by SORN or Halide bulbs gives either a oppressive orange glow or a high intensity white causing dim or stark shadowing. In either case this can give great discomfort to operation staff. LED produces a more natural blue light giving a much more distinct brightness

The environmental impact of one 400W HID bulb running 24/7 generates over 1 and half tons of CO2 emissions per year remembering just one warehouse can have 100s of these bulbs glaring away.

In the case of fluorescent tubes although not consuming the same level of energy the useful level of light given is far removed from that produced by Halide SORN or LED. In addition the manufacturing process of tubes makes them a difficult item to just throw away.

In summary, LED Lighting is typically delivering over 80% savings of the lighting costs within a scenario where lighting accounts for 50% to 75% of the electrical costs of that warehouse, typically investment cost can be realised in less than 2 years. This is all at the same time as maintaining or improving light levels, reducing maintenance costs and improving the operators' working conditions.

Summary of Benefits

Long life- How often do you change your lamps? White LED's currently have a usable life of 75,000 to 100,000 hours.. Usable life of solid state lighting is the amount of time passed before a reduction of lumen output is 50% less than initial output.

How long is 100,000 hours?

100,000 hrs running 24/7 365 days a year = 11.2 years.
100,000 hrs running 12 hrs a day 365 days a year = 22.8 years
100,000 hrs running 08 hrs a day 365 days a year = 34.24 years

Durability- Solid state in nature, LED lighting is far more durable than any other type of lighting. No lamps, filaments, or thin glass ensures facilities a ton of savings in breakage and shorter life due to ambient forces like wind, vibration, movement, and human error.

General maintenance: Often a major factor when determining lighting upgrade, the maintenance savings are a major factor in return on investment. However important, many a financial analysis discount or overlook this factor altogether. Total system and total cost must be considered, when choosing high quality solid state lighting payback periods from 2 to 5 years are absolutely possible.