

# Making light work of saving energy

THE PERCENTAGE OF A BUSINESS'S ENERGY COSTS REPRESENTED BY LIGHTING RANGE FROM 25-45%. HOWEVER, CHOOSING THE RIGHT LIGHTING SOLUTION CAN RESULT IN A REDUCTION IN ELECTRICITY CONSUMPTION OF AS MUCH AS 70%. SO WITH NEW LEGISLATION ON ELECTRICITY CONSUMPTION INTRODUCED ON 1ST OCTOBER, NOW IS THE TIME TO PUT YOUR LIGHTING IN THE SPOTLIGHT.



**Charles Bishop**  
Chairman,  
Wirefield

The new Building Regulations efficacy standard (in force from 1st October 2010) requires an increase of 10 luminaire lumens/circuit watt, from 45-55 (with an adjustment factor allowance for daylight controls and/or presence detection). This applies to all lighting in new buildings and extensions, in refurbishments requiring structural works, and for any change of use of an internal space. However, whether the regulations apply to your situation or you simply want to save money and reduce your carbon footprint, the new standard represents Best Practice that is worth looking into.

The rising cost of electricity over the past 5-10 years, and the many incremental improvements in lighting technology, mean that if your lighting is 10 years old or more, you could almost certainly make significant energy cost-savings by reviewing your current lighting products and controls. For example, fluorescent lamps now have triphosphor internal coatings for extended lamp life and increased light levels. The

newer T5 type lamps are smaller diameter, which helps to make them up to 10% more efficient than standard fluorescent lamps. And perhaps most significantly of all, there are now lighting control systems available which will not only make you compliant with the new legislation as a matter of course, but will also help you to cut your lighting fuel bills significantly.

Today's lighting controls make turning lights on manually – and remembering to turn them off – a thing of the past. Instead, you can rely on motion sensors to turn lights on only when someone enters a room, and to turn them off again when the room is empty. Used in conjunction with daylight sensor-based controls, which will turn lights on and off according to the amount of daylight in a room, this can result in a 70% cost saving on your lighting energy bills. Even using the simplest of timer controls can result in real, noticeable savings.

Installing new control systems can be one of the most cost-effective ways to achieve

energy savings. However for a new build, or if you also want to improve the working environment with better or brighter lighting, you may want to look at the actual type of luminaire you are currently using.

Changing to LED lamps, for example, can involve considerable initial capital outlay which in turn results in a longer payback period. But in certain environments LEDs can have advantages above and beyond the long-term energy savings, and lower milliamp ratings will increase the lamps efficiency and life, and reduce their cost.

In one recent example, the highly humid atmosphere in a paper mill caused the light fittings to corrode, which led to them loosening and the lens dropping out and falling into the production line. The resulting costly downtime made replacement with LEDs – which did not suffer the same problems and would not cause a repeat stoppage in the future – an economical solution. In a food or beverage production facility where contamination

of the production line would be equally catastrophic, or in a location where access is difficult, swapping fluorescents for LEDs (which require less frequent replacement) can also save money.

However, in less critical applications, the benefits of LEDs struggle to outweigh the cost differential. And there is an alternative which is just as suitable for large interior spaces, is highly effective at reducing energy consumption and electricity costs – and has a much lower capital cost, which results in a far faster payback.

The EyeSolution recessed fluorescent luminaire, with built-in presence detection, is a highly effective alternative not only to LEDs but also to Highbay and Lowbay luminaires in warehouse and industrial applications. Using T5 and PL fluorescent lamps, the EyeSolution is designed and manufactured to comply with EN 60598, and is CE certified. What's more, when used in conjunction with lighting controls it ensures compliance with the latest Building

Regulations efficacy standards, as well as delivering impressive energy savings.

The EyeSolution has a robust steel body, and a Miro 4 polished aluminum reflector. Supplied complete with a T5 or PL lamp, it also features master/slave wiring, enabling a mixture of sensor and non-sensor luminaires to be connected, so that the whole lighting run operates as one, triggered by presence detection even by just one sensor. The distance over which the sensor operates can also be specified, from 3-24m.

With so many lighting options available, so many savings to be made – and so much unnecessary cost involved in getting it wrong – it pays to seek expert advice from a reputable and knowledgeable supplier such as ERIKS, for any sizeable new lighting installation or lighting system overhaul. After all, the last thing you want is to be left in the dark.



## Calculating luminaire lumens/circuit watt (Using 1x35w GRP as an example.)

Lamp Lumens x Luminaire  
LOR / Circuit Watts

$$(3320 \times 0.89 / 39) = 75$$

The adjustment factor for lighting controls can be multiplied by the Circuit Wattage:

### Adjustment factor

0.9	for daylight controls
0.9	for Presence Detection
0.85	for both

So for a GRP135/CF/EYEMDL which has both presence and daylight controls:

$$(3320 \times 0.89) / (39 \times 0.85) = 89$$