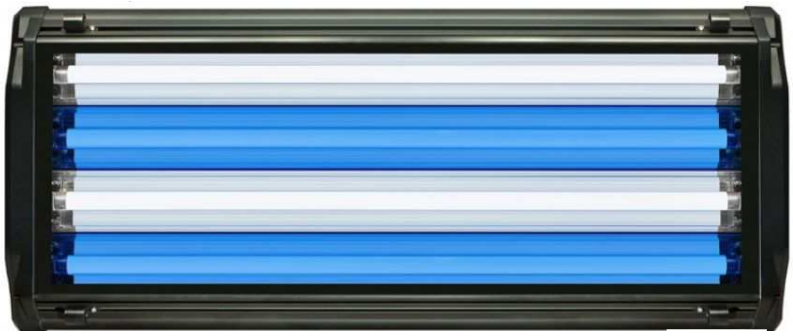
20. Efficient light fittings

The efficiency of light sources is measured in lumens/watt. An efficient source is typically one with 80 lumens/ watt or more of light output. However, most lamps require some form of driver or transformer which accounts to some electrical loss that needs to be included. After this is taken into consideration, the comparison is 6-15 lumens/watt for standard domestic tungsten bulbs, 15-25 lumens/watt for most halogen lamps and 40-60 lumens/watt for many standard fluorescent products. Only the most efficient fluorescent lamps are up above the 80 watt threshold.

These are mainly linear T5HE (not T5HO) fluorescent lamps in 14, 28 and 35w when running close to their optimum ambient temperature of 35°C.



20.1

Some high wattage CFL lamps, such as 55w TCL/PLL from Osram/Philips can also make the grade. Most fluorescent lamps fall significantly short.

The best metal halide lamps can achieve the threshold, but only when run off the more expensive HF ballasts.

The LEDs are improving efficiency rapidly and are expected to reach this level in a year or so, but they are expensive as of now. Despite the claims of various LED products based on laboratory performance, this level of efficiency from a reasonably powered LED product is currently rare.

20.2

The ballasts or drivers of most low energy light fittings are not compatible with ordinary dimmer switches. If dimming systems are available they will be expensive, difficult to source and may be prone to malfunction. A better approach is to incorporate a variety of lighting into a room. Different combinations of ceiling lights, wall lights and plug in floor or table lamps allow for a choice of ambience.