



COMMERCIAL ENERGY MANAGEMENT Fact Sheet *Compact Fluorescent Lamps*

The conventional screw-in incandescent light bulb is not only extremely inefficient but it also has a very short life, therefore, must be replaced frequently. When you calculate the true cost, the ordinary light bulb is **not** a bargain.

Clearly, one of the greatest advances in lighting technology is the compact fluorescent lamp (CFL). Developed as a replacement for the common incandescent light bulb, the super energy efficient CFL is just that, a miniature fluorescent tube and ballast. Screw-in CFL's will fit many of the fixtures where you previously used incandescent light bulbs.

So, without changing the fixture itself, compacts make it possible to replace an incandescent (8-16 lumens/watt, 750-2,500 hours life) with a more efficient and long lasting fluorescent lamp (65 lumens/watt, 7,500-10,000 hours life). Efficiency is defined as the lumens of light output for each watt of electricity consumed.

Wattage Comparison

Incandescent	CFL
60-90 watts	15 watts
75-100 watts	18 watts
90-120 watts	23 watts

Although CFL's are considerably more expensive than an incandescent, they will more than pay for themselves with savings in electricity, lamp replacement and labor costs. The payback is shortest when they are installed in fixtures that are used for many hours each day, year round.

CFL's are available in a variety of styles to suit most lighting needs, with reflectors and extenders that can make them work well in a variety of fixtures. They are also available either as one-piece screw-in units that incorporate the ballast, or as modular units where the tube can be separated from the base/ballast when the lamp burns out (one-piece compacts must be discarded, while only the tube needs to be replaced in a modular unit).

Most CFL's have a rated life of 9,000 to 10,000 hours. The ballasts in modular units, available in both magnetic and more efficient electronic versions, last 40,000 to 50,000 hours. In comparison, there are a total of 8,760 hours in one year.

CFL's can also be used outdoors, as long as they are not directly exposed to the elements. However, they have certain cold limitations you will need to consider. They are dimmer for a brief time when they start, until they get up to their running temperature (an enclosed light fixture helps) and may not start at all under very cold conditions. Ask your supplier which would be the best lamp/fixture combination for your outside needs.

Electricity Cost Savings

Kilowatt Hour Rate	\$.06	\$.08
Energy Cost Savings over 10,000 hour lamp life (60w to 15w)	\$27	\$36
Energy Cost Savings over 10,000 hour lamp life (75w to 20w)	\$33	\$44
Energy Cost Savings over 10,000 hour lamp life (100w to 23w)	\$46	\$62