

U.S. Department of Energy - Energy Efficiency and Renewable Energy  
 A Consumer's Guide to Energy Efficiency and Renewable Energy  
**How Compact Fluorescents Compare with Incandescents**

Many compact fluorescent light bulbs now carry the Energy Star label. These bulbs last up to 10,000 hours and save \$25 to \$45 over the life of the bulb.

Photo credit: D and R Int., LTD.



Compared to [incandescent lamps](#), [compact fluorescent lamps \(CFLs\)](#), when used properly have the following advantages:

- Last up to 10 times longer
- Use about one-fourth the energy
- Produce 90% less heat, while producing more light per watt.

Compare the wattage of commonly available incandescent lamps and the wattage of a CFL that will provide similar light levels.

Table 1. Comparable Wattage of CFLs and Incandescents

Incandescent Wattage	CFL Wattage
25	5
50	9
60	15
75	20
100	25
120	28
150	39

Table 2 below shows how you can save money using CFLs. This table assumes the light is on for 6 hours per day and that the electric rate is 10 cents per kilowatt-hour.

Table 2. Cost Comparisons between CFLs and Incandescents		
	27-Watt Compact Fluorescent	100-Watt Incandescent
Cost of Lamps	\$14.00	\$0.50
Lamp Life	1642.5 days (4.5 years)	167 days
Annual Energy Cost	\$5.91	\$21.90
Lamps Replaced in 4.5 years	0	10
Total Cost	\$40.60	\$103.55
Savings Over Lamp Life	\$62.95	0

Incandescent lamps have a few advantages over CFLs. The color rendition of incandescent lamps is superior to CFLs, though it has greatly improved in CFLs. Incandescents also project light further. This makes them more appropriate for some applications, such as for lighting in high ceilings. Compact fluorescent lamps, however, can also have advantages in high locations. CFLs can be more convenient for hard-to-reach places because they last longer and do not need to be changed as often.