ENERGY-EFFICIENT RESIDENTIAL LIGHTING



USING COMPACT FLUORESCENT LAMPS (CFLs) TO SAVE LIGHTING ENERGY IN YOUR HOME

COMPACT FLUORESCENT LAMPS

CFLs (Compact fluorescent lamps) produce light differently than incandescent light sources. In an incandescent lamp, electric current runs through a wire filament and heats the filament until it starts to glow. In CFLs, electric current is driven through a tube containing argon and a small amount of mercury, which generates ultraviolet light that excites the interior fluorescent coating of the tube, which emits visible light.

CFLs SAVE ENERGY

CFLs offer dramatic savings being three to four times more energy efficient (using three to four times less energy) and last up to ten times longer than standard incandescent lamps. This means more reliability and reduced maintenance costs.

According to Flex Your Power, California's statewide energy efficiency marketing and outreach campaign, replacing just five of the most frequently used incandescent lamps in California residences with ENERGY STAR qualified CFLs, it would save 6.18 billion kWh and 2.26 million tons of CO_2 per year—equivalent to taking 414,000 cars off the road.[1]

[1] www.fypower.org/about/faq.html

COMPACT FLUORESCENT LAMP CHARACTERISTICS

CORRELATED COLOR TEMPERATURE (CCT)

Light color is measured on the Kelvin temperature scale (K), typically ranging from 2700 K and 6500 K for most indoor lighting applications.

2700 K – 3000 K	3500 K – 4100 K	5000 K – 6500 K
WARM WHITE / SOFT WHITE Good for bedrooms and living rooms	**COOL WHITE / BRIGHT WHITE** Good for kitchens and work spaces	**NATURAL OR DAYLIGHT** Good for reading

COLOR RENDERING INDEX (CRI)

The color rendering capabilities of light sources is measured by CRI. CRI ranges from 0 (does not render colors at all) to 100 (matched color rendition to that of an ideal source, i.e. daylight). CFLs usually have a CRI between 70 and 90.

EQUIVALENT CFLs

Determine which ENERGY STAR qualified CFLs will provide the approximate amount of light as your current incandescent lamps.

INCANDESCENT LAMPS	EQUIVALENT ENERGY STAR QUALIFIED CFLS
40 W	9 – 13 W
60 W	13 – 15 W
75 W	18 – 25 W
100 W	23 – 30 W
150 W	30 – 52 W

LAMP TYPES AND APPLICATIONS

	SPIRAL	COVERED A-SHAPED	GLOBE	TUBE	CANDLE	INDOOR REFLECTOR	OUTDOOR REFLECTOR
							
TABLE/FLOOR LAMPS	✓	✓		✓			
PENDANT FIXTURES		✓	✓				
CEILING FIXTURES	✓			✓			
CEILING FANS	✓	✓			✓	✓	
WALL SCONCES	✓			✓	✓		
RECESSED CANS				✓		✓	
TRACK LIGHTING						✓	
OUTDOOR COVERED	✓	✓		✓	✓		
OUTDOOR FLOOD							✓

MERCURY & CFL DISPOSAL

Fluorescent lamps contain a very small amount (an average of four milligrams) of mercury sealed within the glass tubing. By comparison, older thermometers contain about 500 milligrams of mercury—an amount equal to the mercury in 125 CFLs. Mercury allows the bulb to be an efficient light source. No mercury is released when the bulbs are not broken or in use.[1]

RECYCLING CFLs

California law requires that all CFLs be recycled at the end of life.

For proper recycling and disposal, take lamps and components to a local hazardous waste collection center or to a recycling event. To find a location in your area, go to **EARTH911.ORG** or call **800 CLEAN-UP (253-2687)**.

WHAT TO DO IF A FLUORESCENT LAMP BREAKS

The Environmental Protection Agency (EPA) recommends the following clean-up and disposal guidelines:

- Do not use a vacuum or broom to clean up the broken lamp on hard surfaces.
- Open a window and leave the room for 15 minutes or more.
- Put on rubber or latex gloves.
- Carefully scoop up the glass fragments with stiff paper or cardboard and place in a sealed plastic bag.
- Wipe the area clean with damp paper towels or disposable wet wipes and place them in the plastic bag.
- Place all cleanup materials (including rubber or latex gloves) in a second sealed plastic bag.
- Properly dispose of the bag and wash your hands.
- If a fluorescent bulb breaks on a rug or carpet, follow the steps above. After using stiff paper or cardboard to pick up as much material as possible, sticky tape (such as duct tape) can be used to pick up small pieces. Place these materials and the paper or cardboard into two sealable plastic bags.
- If vacuuming is needed after all visible materials are removed, vacuum the area where the bulb was broken, remove the vacuum bag (or empty and wipe the canister) and put the bag or vacuum debris in two sealed plastic bags in the outdoor trash or a protected outdoor location for normal disposal.

[1] ENERGY STAR, 2008.

FOR MORE INFORMATION

To learn more about how to save energy in your home, go to the ENERGY STAR web site at **ENERGYSTAR.GOV**.

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