

## ENERGY STAR CERTIFIED BULBS

To get the most bang for your buck, invest in ENERGY STAR certified light bulbs. Products bearing the ENERGY STAR certification have met strict energy efficiency guidelines and have several benefits. On average, an ENERGY STAR certified bulb uses 70 to 90 percent less energy than an incandescent and lasts up to 25 times longer. Over its lifetime, a single bulb could save you \$30 to \$80 in electricity costs. ENERGY STAR certified bulbs are also safer to operate since they produce 70 to 90 percent less heat and can cut home cooling energy costs.

In 2011, the Federal Trade Commission (FTC) unveiled a new label for all lightbulbs. This label was designed to inform consumers about different types of bulbs and help them choose the most efficient bulbs for their lighting needs.

Each label provides six key pieces of information:

1. Lumens or brightness of the bulb
2. Energy cost
3. The bulb's life expectancy
4. Light appearance: warm light appears more yellow; cool more blue
5. Wattage or the amount of energy the bulb uses
6. Whether the bulb contains mercury

# A Guide to Making Smart Lighting Choices

## CONSIDER THE SAVINGS OF CFLs & LEDs

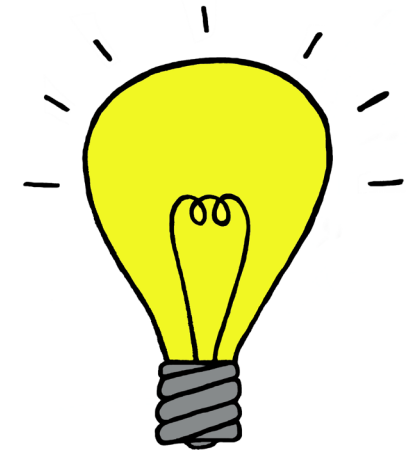
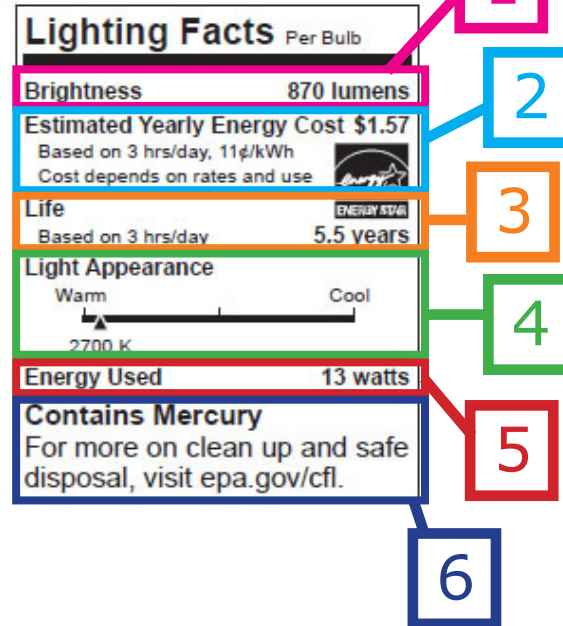
	60W Incandescent Bulb	14W CFL Bulb	9.5W LED Bulb
Lumens	650	800	800
Life (hrs)	1,500	10,000	25,000
Cost of bulb	\$1.49	\$2.99	\$6.97
Lifetime (yrs)*	1.4 yrs	9.1 yrs	22.8 yrs
Annual Energy Cost	\$7.23	\$1.69	\$1.14
Cost - Year 1	\$8.72	\$4.68	\$8.11
Total Cost* (over 20 yrs.)	\$166.95 (15 bulbs + energy)	\$42.77 (3 bulbs + energy)	\$29.77 (1 bulb + energy)

\* Cost based on July 2016 prices. Lifetime based on using bulbs 3 hrs/day.

The changes you make in your lighting choices will not only lower utility bills but will also benefit a changing planet. If every home in America replaced just one incandescent bulb with an ENERGY STAR qualified CFL or LED, we would save enough energy every year to light 3 million homes and prevent greenhouse gas emissions equivalent to those from about 800,000 cars.

## LIGHTING FACTS LABEL

Sample Label



*South Dakota*

Public Utilities Commission  
500 E. Capitol Ave.  
Pierre, SD 57501-5070  
1-800-332-1782

[www.SDEnergySmart.com](http://www.SDEnergySmart.com)  
[www.PUC.SD.gov](http://www.PUC.SD.gov)

## COMPARING WATTS TO LUMENS

Watts measure the energy a lightbulb uses to create light. Lumens describe the light output or brightness of a lightbulb.

**lumens = brightness**  
**watts = energy**

When you switch from inefficient incandescent lightbulbs to LEDs or CFLs, keep in mind that newer styles of bulbs are more efficient. This means that you can achieve the same amount of light (lumens) while using less energy (watts). To save energy and find the best fit for you, find bulbs with the lumen level that you need and then choose the bulb with the lowest wattage. You can also look for an ENERGY STAR-certified bulb that is equivalent to the standard bulb you're replacing. The label may say something like "60 watt replacement."

If you're not sure what lumen level you are looking for, use this guide to get you started:

### How Much Light Do I Need?

Incandescent Bulb (watts)	ENERGY STAR Bulb Brightness (minimum lumens)
40	450
60	800
75	1,100
100	1,600
150	2,600

## BENEFITS OF CFL LIGHTING

**1. ENERGY EFFICIENCY**  
CFL lightbulbs produce the same amount of light as incandescent bulbs while using about 75 percent less energy. These bulbs also last up to 10 times longer.

**2. SAVE MONEY**  
CFL lightbulbs are a reasonably priced alternative to incandescent bulbs. A 75-watt incandescent can be replaced by any CFL bulb with a lumen level around 1,100. To save the most money, select the bulb with the lowest wattage at that lumen level.

**3. ENVIRONMENTALLY FRIENDLY**  
CFLs contain a tiny bit of mercury, but they are still a better option than inefficient bulbs. In the U.S., electricity production at coal-burning power plants is one of the largest contributors to man-made mercury emissions. Because CFLs use less energy and last longer than incandescent bulbs, they actually reduce greenhouse gasses and landfill waste while still saving you money.

### KEEP IN MIND...

CFLs can fit into many fixtures, but there are instances when CFLs may not be the best choice. For instance, while CFLs are good options in open fixtures, using a CFL bulb in an enclosed fixture isn't ideal because these lightbulbs are sensitive to extreme temperature. When selecting energy efficient lightbulbs, always carefully read the label to ensure you're selecting a bulb that is appropriate for your specific situation.

## BENEFITS OF LED LIGHTING

**1. ENERGY EFFICIENCY**  
LED lights use 70 to 90 percent less energy than incandescent bulbs to produce the same amount of light. While incandescents release 90 percent of energy as heat, LEDs emit very little heat, helping eliminate some costs associated with home cooling.

**2. QUALITY DESIGN**  
LEDs were designed with quality in mind. These bulbs, made of epoxy lenses instead of glass, are more durable than incandescents and can last up to 25 times longer. Resistant to extreme temperature and available in a variety of shapes and sizes, LEDs are one of the most versatile lighting options on the market.

**3. SAFETY**  
LED lighting contains no mercury and are more difficult to break than other bulbs. They're also shock-resistant and operate at lower temperatures than incandescent and fluorescent lighting. This makes LED lights safer to touch. LEDs also produce little infrared light and close to no UV light making them safe to use on sensitive objects such as artifacts in museums.

**4. AESTHETICS**  
LEDs brighten instantly when turned on. Designed to focus light in a specific direction, they can also be combined to produce highly efficient illumination and individually dimmed to achieve dynamic lighting effects, not only for the eyes but also for the mood and mind.

**5. ENVIRONMENTALLY FRIENDLY**  
LED bulbs are 100 percent recyclable. By using much less energy and lasting longer than other bulbs, they also help eliminate greenhouse gas emissions and landfill waste.