



# Consumer Guide to Energy-Efficient Lighting

Lighting accounts for about 15% of an average home's electricity use, so it pays to make energy-efficient lighting choices.

## PRINCIPLES FOR MINIMIZING ENERGY USE

The principles outlined below can help you light your home in a pleasant and attractive way while minimizing your energy use.

- Use ENERGY STAR® qualified LEDs. Replace bulbs that are lit three or more hours a day with ENERGY STAR-qualified LEDs. By purchasing ENERGY STAR-qualified light bulbs, you can be sure that they meet strict energy-efficiency criteria established by the U.S. Environmental Protection Agency.
- Phase out non-ENERGY STAR CFL light bulbs. As old bulbs burn out, replace them with ENERGY STAR-qualified LEDs. Even modest improvements in lighting efficiency around the home add up over time.
- If your home has dimmer switches, use them. Get in the habit of dimming lights whenever full lighting is not required. Specialty dimmer-compatible LEDs are now widely available for use in light fixtures with dimmable switches.



## History

Incandescent bulbs ruled the marketplace for 100 years but at a very high cost—90% of their energy was released as heat and only 10% as light. For a while, compact fluorescent lamps or CFLs were the most cost-effective, energy-efficient choice readily available on the market. A CFL produced the same amount of light as a comparable incandescent bulb, but used 75% less energy, produced 75% less heat, and lasted up to 10 times longer than an incandescent bulb. Then came the light-emitting diode, or LED, which revolutionized the lighting market.

## Today's LEDs

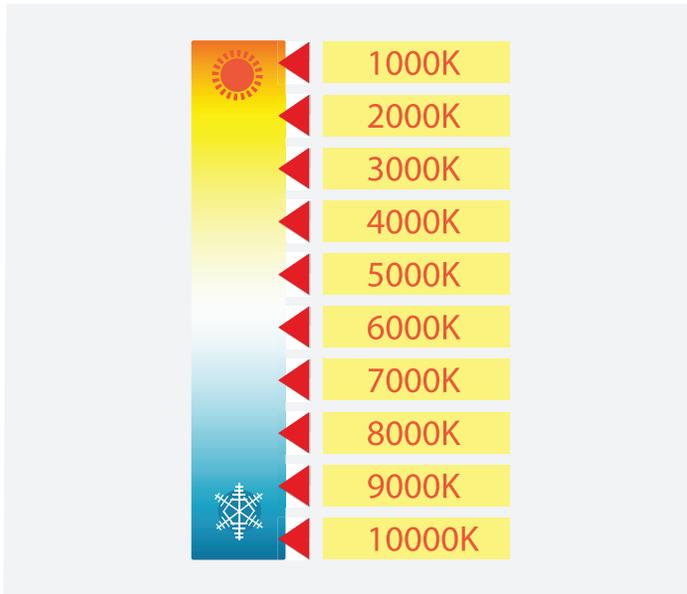
LED lighting has evolved rapidly in recent years and holds enormous potential to help achieve the nation's long-term energy goals. LEDs use up to 90% less energy and last up to 25 times longer than incandescent bulbs. Most LEDs are also dimmable. LED lighting products use light-emitting diodes to produce light very efficiently. An LED can last up to four times longer than a CFL, and unlike CFLs or incandescent bulb, LEDs are cool to the touch.

The average household currently saves about \$225 in energy costs per year by using LED lighting and through product improvements, this number will increase. With so many benefits—from cost to durability to energy savings—it's clear that LED are, and will continue to be a key part of the nation's drive to a clean energy economy.

As with other types of lighting, not all LED lighting is created equal, so look for the ENERGY STAR symbol. See Further Reading at the end of this fact sheet to learn more. Keep an eye out as technology improves and prices drop for this new lighting option.

## What About Color?

Many early LEDs gave off a cooler (slightly bluer) light than most people prefer. Today LEDs come in a variety of colors to satisfy most consumers. The color of light is measured on a Kelvin (K) temperature scale. Higher K numbers mean the light appears cooler (or bluer) and lower K numbers mean the light is warmer. This warm, yellow light most resembles incandescent lighting.

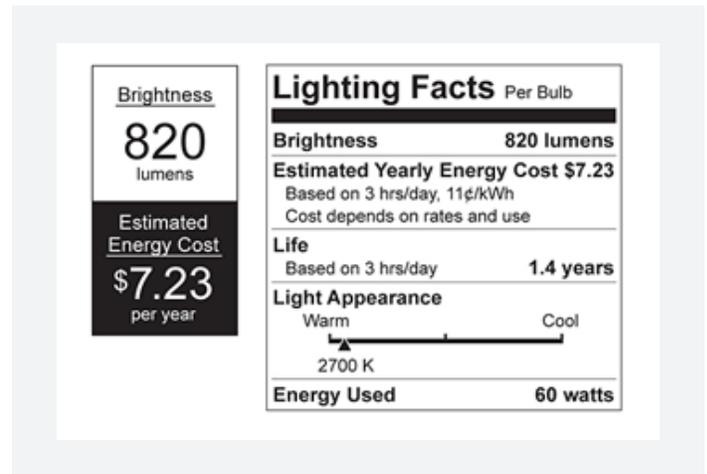


## Lumens or Watts?

You may remember buying light bulbs based on wattage numbers such as 60, 75, or even 100 watts. When incandescent light bulbs were the only choice, wattage was the only number that mattered. Now to make the right choice when buying LEDs, you need to check the lumens. While a watt is a measure of electrical power, a lumen is a measure of light (brightness). If you are looking for an energy-efficient alternative to a 75-watt incandescent light bulb, you should look for a 1,100 lumen LED light. You can find this in an LED screw-in bulb that uses as little as nine watts or in the case of LEDs for recessed lighting, just 12 watts.

## Daylighting

Daylighting is when natural daytime light is used to brighten interiors. Installing tubular daylighters, or modern skylights, can provide more daylight to spaces with little natural light. See Energy Saver: Passive Solar Home Design under Further Reading for more information.



## Lighting Facts Labels

In 2011, the U.S. Federal Trade Commission began requiring manufacturers to include labels on light bulb packaging in order to help consumers select the best bulb for their lighting needs. The labels show “Lighting Facts,” modeled after the “Nutrition Facts” labels on food packages. They provide information about brightness (or lumens), energy cost, the bulb’s life expectancy, light appearance (“warm” or “cool” light), wattage, and whether the bulb contains mercury.

## FURTHER READING

FTC: Shopping for Light Bulbs

[consumer.ftc.gov/articles/shopping-light-bulbs](https://consumer.ftc.gov/articles/shopping-light-bulbs)

DOE Energy Savers: Lighting and Daylighting

[energy.gov/energysaver/lighting-and-daylighting-products-and-services](https://energy.gov/energysaver/lighting-and-daylighting-products-and-services)

Energy Saver: Passive Solar Home Design

[energy.gov/energysaver/energy-efficient-home-design/passive-solar-home-design](https://energy.gov/energysaver/energy-efficient-home-design/passive-solar-home-design)

ENERGY STAR Information About LEDs

[energystar.gov/products/lighting\\_fans/light\\_bulbs/learn\\_about\\_LED\\_bulbs](https://energystar.gov/products/lighting_fans/light_bulbs/learn_about_LED_bulbs)  
[energystar.gov/productfinder/product/certified-light-bulbs/results](https://energystar.gov/productfinder/product/certified-light-bulbs/results)

Recycle a Bulb (check local recycling resources for the best way to recycle your light bulbs)

[recycleabulb.com](https://recycleabulb.com)