



# LIGHTING YOUR HOME

Lighting accounts for approximately 5% to 10% of your household energy bill. This amount may not seem like a lot, but it can add up quickly. Installing energy-efficient lighting is easy and results in immediate energy savings.



## LED BULBS

High-quality light-emitting diode (LED) bulbs save the most money on energy costs, upwards of 75%. Additionally, they can last two times longer than Compact Fluorescent Lamp (CFL) bulbs. Their versatility allows them to be used in a variety of applications, including as outdoor and holiday lighting.



## POTENTIAL SAVINGS

Check out the potential savings you can see by replacing just **FIVE** of your more frequently used bulbs with alternatives.

| Type of Bulb  | Incandescent (60W)*                       | CFL (15W)                                  | LED (10W)                                  |
|---|---|--|--|
| <b>Approximate Cost</b>   | <b>\$2.50</b><br>(5 bulbs at \$0.50 each) | <b>\$10.00</b><br>(5 bulbs at \$2.00 each) | <b>\$15.00</b><br>(5 bulbs at \$3.00 each) |
| <b>Lifespan</b><br>When Used 3 Hours/Day<br>7 Days/Week             | <b>~10 months</b>                         | <b>~9 years, 1 month</b>                   | <b>~18 years or more</b>                   |
| <b>Number of Bulbs Needed</b><br>in LED Lifespan                    | <b>125</b>                                | <b>13</b>                                  | <b>5</b>                                   |
| <b>Yearly Electricity Cost</b><br>(11.3/kWh)                        | <b>\$30.10</b>                            | <b>\$8.19</b>                              | <b>\$6.30</b>                              |
| <b>20-Year Price Difference</b><br>(Light Fixtures compared to LED) | <b>\$476 more</b>                         | <b>\$37 more</b>                           |  |

[https://www.energystar.gov/products/light\\_bulbs/learn-about-led-lighting](https://www.energystar.gov/products/light_bulbs/learn-about-led-lighting)

\*The U.S. Department of Energy has adopted new energy efficiency standards, ruling out the manufacture and sale of common incandescent light bulbs. This means that standard incandescent bulbs are no longer available and may be replaced with LEDs or CFLs.



## RECYCLE BULBS

Check your local waste and recycling department. To find other recycling centers near you, visit [www.Earth911.com](http://www.Earth911.com).

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## LIGHTING LINGO & PURCHASING TIPS

Now that we know the current state of light bulbs, it is important to understand their terminology. Two critical features to keep in mind are watts and lumens.

**Watts (W):** The amount of energy a bulb uses to produce light, or how much energy the bulb consumes. Lower watts = more savings.

**Lumens:** The amount of light that a bulb gives off, or how bright it is. LED lights can have the same lumens as CFL lights at much lower wattage.

In the past, light bulb branding and packaging emphasized watts, and this made sense: with only one primary bulb available (incandescents), more watts = more light. The rise of more efficient bulbs, however, has changed this focus, as newer bulbs use much less energy to produce the same amount of light. As an example, a 10W LED bulb gives off approximately the same amount of light as a 15W CFL bulb. So, more watts  $\neq$  more light. Therefore, branding now emphasizes lumens, which is typically what consumers are interested in.

Here are other terms and details to know.

**Adjustability/Dimmable:** Independent of the light's brightness, LED bulbs can also be dimmable to create a softer light when needed.

**Color Rendering Index (CRI):** The term assigned to how closely the color quality of the light output matches natural daylight. A score of 100 is the highest quality, though 80 is a common baseline for acceptable indoor lighting and 90 tends to be popular for a given price.

**Color Temperature:** Measured in degrees Kelvin (K). Lower values, between approximately 2,600 K and 3,000 K, represent warmer light. Typical CFL bulbs tend to give off light in this range. Higher values represent cooler and bluer light, such as daylight. Whitish light is in the middle of the scale. Different environments can benefit from different color temperatures. For example, a bedroom may be a better place for a warmer light, while a kitchen might be better suited with something a little whiter. You can purchase LED bulbs across the color temperature spectrum. The important thing is that you know the ambience you are getting.

**Wet/Dry Location:** LED lights can be optimized for their location, typically indoor (dry) and outdoor (wet).

**Small/Tight Spaces:** LED lights come in a variety of shapes and sizes. As a result, you may have noticed them around the house as holiday lights, tucked in around kitchen cabinets or in closets. They can even be handy while tailgating or camping — the uses are endless.

<https://www.energy.gov/eere/ssl/solid-state-lighting> • <https://www.architecturelab.net/types-of-led-lights-full-led-guide-101/>

## LIGHTING KEY POINTS

Energy-efficient bulbs are here to stay. Not only do they save you money, but they benefit the environment and improve safety as well. Because there are a number of things to consider before purchasing, here is a recap of the key points.

- ▶ LEDs are the most efficient bulbs. Although they cost more upfront, they will save you the most money, and relatively quickly.
- ▶ Focus on lumens (brightness) more than watts (energy consumption).
- ▶ Consider what type of atmosphere you want to have with your bulb by looking at color temperature and the level of surrounding moisture (e.g., bathroom, outdoor flood lighting, dairy parlor).
- ▶ Look for ENERGY STAR® certification to be more confident in your bulb purchases.
- ▶ When replacing bulbs, be sure to handle and dispose of them appropriately.