



Office of the Ohio Consumers' Counsel

Your Residential Utility Consumer Advocate

CONSUMERS' FACT SHEET

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HOW TO SHOP FOR LIGHTBULBS CFLs & LEDs



Advancements in technology and energy efficiency standards have created more options when shopping for lightbulbs. Not all lightbulbs are created equal, and it can be difficult to choose the right one. Fortunately, lightbulbs are required to label brightness, appearance and efficiency specifications on their packaging. This fact sheet can help you choose the right lightbulb and understand the features you may want or need.

Lighting Facts

Brightness

When shopping for lightbulbs, look for lumens (lm). In the past you could shop for incandescent lightbulbs and compare the wattage, but new lightbulbs require fewer watts for similar brightness. Watts measures the power a lightbulb uses, and lumens measures brightness. Use the chart below to convert incandescent wattage to lumens. For brighter lights, look for greater lumens.

Lighting Facts Per Bulb	
Brightness	800 lumens
Estimated Yearly Energy Cost \$1.57 <small>Based on 3 hrs/day, 11 c/kWh Cost depends on rates and use</small>	
Life <small>Based on 3 hrs/day</small>	9 years
Light Appearance <small>Warm ————— Cool</small> <small>2700 K</small>	
Energy Used	13 watts

Incandescent watts (energy used)	Lumens (brightness)
40 w	450 lm
60 w	800 lm
75 w	1,100 lm
100 w	1,600 lm
150 w	2,600 lm

Light appearance

You should also consider the light appearance, which is measured in Kelvins (K) and based on two shades, warm and cool. A warm, soft light is typically

www.energy.gov/energysaver/lumens-and-lighting-facts-label

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The Office of the Ohio Consumers' Counsel (OCC), the residential utility consumer advocate, represents the interests of 4.5 million households in proceedings before state and federal regulators and in the courts.

The state agency also educates consumers about electric, natural gas, telephone and water issues.

For more information, please visit the OCC website at www.occ.ohio.gov.



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2,700-3,000 K and a cool, white light is typically 5,000-6,500 K. The Lighting Facts label indicates the light appearance on a spectrum between warm and cool.

Another measure of color is the Color Rendering Index (CRI). The CRI tells you how the light source renders colors based on natural sunlight. CRI is measured on a scale from 1-100, where 100 equals the color rendering of a 100-watt incandescent lightbulb. A CRI of 80 is common for indoor usage. CRI is sometimes indicated on the Lighting Facts label.

Types of Lightbulbs

As energy efficiency standards improve, incandescent lightbulbs are becoming less common. Instead, LED and CFL lightbulbs are now becoming more widely available and affordable.

LEDs: Light-Emitting Diodes

LED lightbulbs can last for decades; a typical incandescent lightbulb only lasts 1,000 hours but a typical LED lightbulb can last 20,000 hours or more. LED lightbulbs use up to 75 percent less power than incandescent lightbulbs. LED lightbulbs do not get hot, unlike incandescent lightbulbs that generate unnecessary heat. LED lightbulbs do not burn out, but after thousands of hours their brightness dims and their color may change. LED lightbulbs reach full brightness as soon as you flip the switch unlike CFLs that may require a few seconds to reach full brightness.

CFLs: Compact Fluorescent Lights

CFL lightbulbs use about 70 percent less energy than incandescent lightbulbs. They have an average lifespan of 10,000 to 15,000 hours. They are an affordable lighting option, averaging about \$3 to \$10 per lightbulb. However, CFLs may take 30 seconds to 3 minutes to reach their full brightness and are not ideal for areas that require instant light, such as stairways.

CFLs, like all fluorescent lightbulbs, contain a small amount of mercury, which is harmful to your health and the environment when broken. For this reason, it is dangerous to dispose of CFL lightbulbs in regular trash receptacles. Learn more about proper disposal of CFLs from the Environmental Protection Agency: www.epa.gov/cfl.

There are also **halogen lightbulbs**, which are similar to incandescent lightbulbs but more energy efficient because of a halogen gas inside the filament. They resemble incandescent lightbulbs in price and quality.

It's hard to beat the value offered by LED lightbulbs. Not only are they becoming more affordable, but they also last up to several years longer than CFL and incandescent lightbulbs. Find more smart energy tips at the Office of the Ohio Consumers' Counsel's website, www.occ.ohio.gov/publications/factsheets-smart_energy.shtml.

