Your Guide to More Efficient and Money-Saving Light Bulbs

With new energy efficient lighting standards come new kinds of light bulbs and more choices than ever. So how do you decide which bulb is best for your home and budget?

NRDC
THE EARTH'S BEST DEFENSE

It's as easy as 1, 2, 3...

STEP 1 Choose bulbs based on how bright you need them to be. This is measured in lumens. The higher the lumens, the brighter the light.

STEP 2 Once you've chosen the lumen output you need, determine which bulb has the lowest estimated energy cost per year. These will save you the most money.

STEP 3 Finally, choose the other features you prefer, such as lifetime and light appearance. The ENERGY STAR® logo tells you which CFLs and LEDs meet minimum efficiency, lifetime and quality standards.

YOU USED TO BUY — YOUR CHOICES NOW

LEAST EFFICIENT → MOST EFFICIENT

LESS BRIGHT → MORE BRIGHT

	Standard Incandescents	New Halogen Incandescents	CFLs	LEDs	
450 lumens	40 W $5.34/yr	29 W $3.87/yr	10 W $1.34/yr	5 W $0.67/yr	energy use / energy cost per year
800 lumens	60 W $8.02/yr	43 W $5.74/yr	13 W $1.74/yr	10 W $1.34/yr	energy use / energy cost per year
1100 lumens	75 W $10.02/yr	53 W $7.08/yr	16 W $2.14/yr	15 W $2.00/yr	energy use / energy cost per year
1600 lumens	100 W $13.36/yr	72 W $9.62/yr	20 W $2.67/yr	19 W $2.54/yr (limited availability)	energy use / energy cost per year
	TYPICAL LIFE = 1 year*	TYPICAL LIFE = 1-2 years	TYPICAL LIFE = 10 years	TYPICAL LIFE = 15-25+ years	

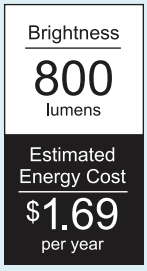
* rated life is based on 3 hours of use per day

Where can I find this information?

Nearly all light bulb packages now have labels that tell you what you need to know, much like nutrition labels on food. Want to know if a particular bulb is bright enough to meet your needs? Match the lumens information from its Lighting Facts label to the table above. If a bulb claims to be a "100 watt replacement" but is only 1200 lumens, for example, it's really closer to the brightness of a typical 75 watt bulb.

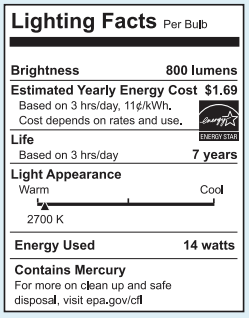
Front of package

1. Brightness
2. Estimated energy cost per year



Back of package

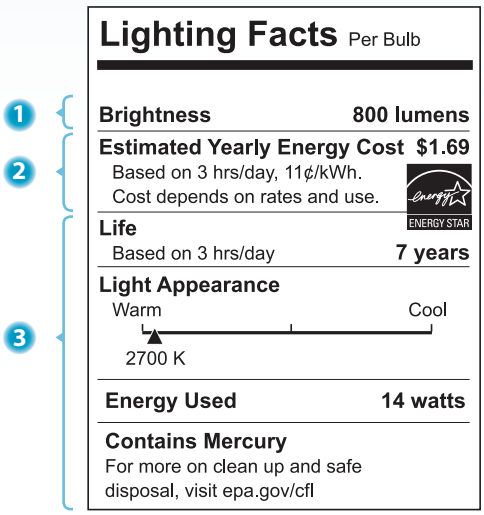
3. Other features



Why are light bulbs changing?

In 2007, Congress passed and President Bush signed into law the Energy Independence and Security Act (EISA), improving energy efficiency for many products, including light bulbs. You can still buy incandescent bulbs that look and operate like the ones you are used to—the new ones just use less energy. The law also requires new light bulb labels to help you choose the most efficient bulbs, like LEDs and CFLs.

See the Savings on New Bulb Labels



Brightness – The most important information on the label and the only way to know for sure how much light the bulb provides.

ENERGY STAR Logo – Indicates which CFLs and LEDs meet ENERGY STAR requirements for efficiency, lifetime and quality.

Life – Estimates in years how long the bulb will last. Long life bulbs save you the hassle of frequent bulb changes and help ensure that more efficient bulbs pay for themselves over time.

Light Appearance – Tells you the shade of light. Incandescents produce warm white light—between 2700 K and 3000 K. Bulbs that produce cooler or more bluish light will have a higher rating, such as 4000 K to 6500 K. Most buyers will prefer the warm white color to "daylight" or "bright white" colors.

Energy Used (watts) – Measures bulb energy use, not brightness.

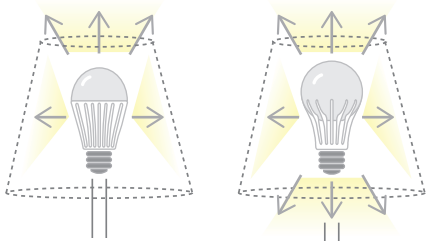
Contains Mercury – CFLs contain extremely low levels of mercury, less than 2.5 mg, and are completely safe to use in normal operation. NRDC's fact sheet (www.nrdc.org/legislation/files/lightbulbmercury.pdf) contains more information.

Some bulbs last for 1 year and others last for 10 or more. Which bulbs cost the least in the long run?

While a traditional incandescent bulb may be the cheapest to buy, the overall cost of both purchasing and powering the bulb will be far higher than an LED. Over the longer life of an LED, those savings can be more than $50. The following table helps to illustrate why more energy efficient bulbs are the best bargain overall. Over relatively short time periods, CFLs can be a slightly better deal than LEDs, but LEDs win over the long haul due to longer life and lower energy use.

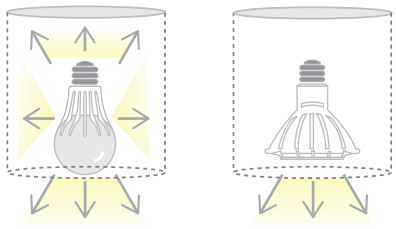
Bulb Types (all approx. 800 lumens)	Life	Costs	Year 1	Cost Annually	Total Costs over 10 years
Standard Incandescent 60 W	1 yr	Bulb Cost	$0.50	$0.50	$5.00
		Energy Cost	$8.02	$8.02	$80.15
		Total Cost	$8.52	$8.52	**$85.15**
Halogen Incandescent 43 W	1 yr	Bulb Cost	$1.50	$1.50	$15.00
		Energy Cost	$5.74	$5.74	$57.44
		Total Cost	$7.24	$7.24	**$72.44**
CFL 13 W	9 yrs	Bulb Cost	$3.00	$0.00	$6.00
		Energy Cost	$1.74	$1.74	$17.37
		Total Cost	$4.74	$1.74	**$23.37**
LED 10 W	23 yrs	Bulb Cost	$13.00	$0.00	$13.00
		Energy Cost	$1.34	$1.34	$13.40
		Total Cost	$14.34	$1.34	**$26.40**

Table lamp comparison



In table and floor lamps, you want the light to shine in all directions, so look for ENERGY STAR-labeled bulbs that are omnidirectional.

Recessed can comparison



For downlights and recessed cans, install ENERGY STAR reflector LED bulbs. The light going upward from omni-directional bulbs can be wasted inside the fixture.

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