

# Choosing a Replacement for the Standard Incandescent Light Bulb

With the standard incandescent light bulb being phased out under new energy efficiency lighting regulations, how do you decide which replacement bulb is best for your home and budget?

Follow these 3 easy steps...

- 1** Choose bulbs based on how bright you need them to be. Brightness is measured in lumens. The higher the lumens, the brighter the light.
- 2** Determine which bulb has the lowest estimated energy cost per year. These will save you the most money.
- 3** Choose the additional features you prefer, such as service life and colour. 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		
	Standard Incandescents	New Halogen Incandescents	CFLs	LEDs	
450 lumens	40 Watts \$7.03/yr	29 Watts \$5.10/yr	10 Watts \$1.76/yr	6 Watts \$1.05/yr	ENERGY USE ENERGY COST PER YEAR*
800 lumens	60 Watts \$10.55/yr	43 Watts \$7.56/yr	13 Watts \$2.29/yr	11 Watts 1.93/yr	ENERGY USE ENERGY COST PER YEAR*
1100 lumens	75 Watts \$13.18/yr	53 Watts \$9.32/yr	16 Watts \$2.81/yr	13 Watts \$2.29/yr	ENERGY USE ENERGY COST PER YEAR*
1600 lumens	100 Watts \$17.58/yr	72 Watts \$12.66/yr	20 Watts \$3.52/yr	19 Watts \$3.34/yr	ENERGY USE ENERGY COST PER YEAR*
	TYPICAL LIFE = 1 YEAR*	TYPICAL LIFE = 2-3 YEARS*	TYPICAL LIFE = 6-8 YEARS*	TYPICAL LIFE = 15-25 YEARS*	

\*Rated life and energy cost per year based on 3 hours of use per day (energy cost per year based on Maritime Electric residential first block energy charge of \$0.1396/kWh and HST of 15%)

## Where can I find this information?

Most light bulb packages in Canada now have labels that tell you how bright the bulb is and how much energy it will use. Look on the light bulb package to match the lumens information and energy cost per year to the table above.

### Front of package

- 1** Brightness
- 2** Estimated energy cost per year

Brightness	800 lumens
Estimated Energy Cost	\$1.57 per year

### Back of package

- 3** Other features

Lighting Facts	
Per Bulb	
Brightness	800 lumens
Estimated Yearly Energy Cost	\$1.63
Based on 3 hrs/day, 11¢/kWh. Cost depends on rates and use.	
Life	22.8 years
Based on 3 hrs/day	
Light Appearance	
Warm ← 2700 K → Cool	
Energy Used	13.5 watts

# Why are light bulbs changing?

In both the United States and Canada, new energy efficiency regulations require improved energy efficiency for general purpose light bulbs. You can still buy incandescent bulbs (halogen incandescents) that look and operate like the ones you are used to – the new ones just use less electricity. Most light bulb packages in Canada will include a Lighting Facts label such as the one shown below.

## Example of new bulb labels

Lighting Facts	
Per Bulb	
1 <b>Brightness</b>	800 lumens
<b>Estimated Yearly Energy Cost</b>	\$1.63
Based on 3 hrs/day, 11¢/kWh. Cost depends on rates and use.	
3 <b>Life</b>	22.8 years
Based on 3 hrs/day	
4 <b>Light Appearance</b>	
5 <b>Energy Used</b>	13.5 watts

- 1 Brightness** – Tells you how much light the bulb provides.
- 2 ENERGY STAR® Logo** – Indicates which CFLs and LEDs meet ENERGY STAR® requirements for efficiency, lifetime and quality.
- 3 Life** – Estimates in years how long the bulb will last. A longer bulb life means less frequent replacement and faster payback on your lighting investment.
- 4 Light Appearance** – Tells you the colour temperature of light, expressed in degrees Kelvin. 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 prefer the warm white colour compared to daylight or bright white bulbs.
- 5 Energy Used (Watts)** – Measures bulb energy use, not brightness.

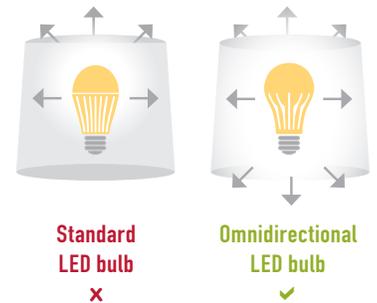
# Which bulbs cost the least to purchase and operate over the long run?

While an 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 bulb. Over the longer life of an LED, savings can exceed \$50 per bulb. The following table helps to illustrate why more efficient bulbs such as CFLs or LEDs are the best bargain overall. Over short time periods CFLs can cost slightly less than LEDs, but LEDs win over the long run due to longer life and lower energy use. CFLs contain mercury and require proper disposal.

Bulb Types (all approx. 800 lumens)	Life	Costs	Year 1	Annual Cost	Total Costs over 20 years
Standard Incandescent 60 Watt	1 year	Bulb Cost	\$0.50	\$0.50	\$10.00
		Energy Cost	\$10.55	\$10.55	\$211.00
		<b>Total Cost</b>	<b>\$11.05</b>	<b>\$11.05</b>	<b>\$221.00</b>
Halogen Incandescent 43 Watt	3 years	Bulb Cost	\$2.50	\$0.00	\$15.00
		Energy Cost	\$7.56	\$7.56	\$151.20
		<b>Total Cost</b>	<b>\$10.06</b>	<b>\$7.56</b>	<b>\$166.20</b>
CFL 13 Watt <small>(*CFL bulbs contain mercury)</small>	8 years	Bulb Cost	\$3.50	\$0.00	\$10.50
		Energy Cost	\$2.29	\$2.29	\$45.80
		<b>Total Cost</b>	<b>\$5.79</b>	<b>\$2.29</b>	<b>\$56.30</b>
LED 11 Watt	23 years	Bulb Cost	\$6.00	\$0.00	\$6.00
		Energy Cost	\$1.93	\$1.93	\$38.60
		<b>Total Cost</b>	<b>\$7.93</b>	<b>\$1.93</b>	<b>\$44.60</b>

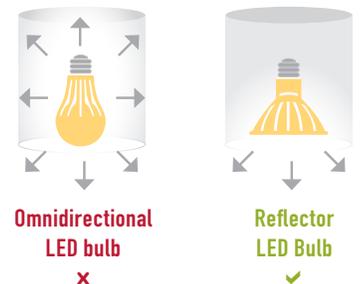
\*Rated life and energy cost per year based on 3 hours of use per day (energy cost per year based on Maritime Electric residential first block energy charge of \$0.1396/kWh and HST of 15%)

## Table lamp comparison



In table and floor lamps, you want the lights to shine in all directions, so look for Energy Star®-labeled bulbs that are omnidirectional.

## Recessed can comparison



For down lights and recessed cans, install Energy Star® reflector LED bulbs. The light going upward from the omnidirectional bulbs can be wasted inside this fixture.