

bright ideas

BEST BULBS

Task Lighting: LED Lamps

This highly efficient, durable technology (found in digital clock displays and commercial signs) is making its move into the mainstream residential market. According to Natural Resources Canada, switching to light-emitting diode lamps (comprised of tiny LED bulb clusters) can cut your household lighting energy costs by more than 90%.

Lemnis Pharox LED Bulb

This bulb directly replaces a 40W incandescent while maintaining comparable light intensity with warm natural white colour. It has an estimated lifespan of 35 years under regular use and is produced using a phosphor-free process. Two great-grandsons of Anton Philips of Philips Electronics founded Lemnis.

PRICE: \$40-\$60

GBL E26-D Light Bulb

Available with a standard medium base or candelabra base to replace a 70W incandescent, this bulb uses 150 individual LEDs and is one of the brightest LED options out there. It has an estimated ten year life span under regular use.

PRICE: \$70-\$80

Cree LR6 LED Recessed Light Retrofit Bulb

This patented LED downlight has area-lighting capabilities comparable to incandescents and possesses an efficiency comparable to CFLs. This model is dimmable and will last approximately 20 years under regular use.

PRICE: \$90-\$120

Philips LED GU10

This MR16 bulb does not require a transformer, allowing for easy replacement. Philips' GU10 produces a clearly defined, bright beam perfect for accenting. Equivalent to a 20W incandescent, it's long-lasting (35,000 hours) and will only cost about \$4.20 annually, if left on all year.

PRICE: \$29.98 AT THE HOME DEPOT

Area Lighting: Compact Fluorescent Lamps (CFLs)

Global sales of CFLs doubled in 2007, and their popularity is justified: the affordable bulbs boast an efficiency roughly four times that of the standard incandescent, usually paying for their higher shelf price after 500 hours of use. Savings per bulb hover around \$30. What's more, Energy Star "weatherproof" certified bulbs function in temperatures as low as -30 degrees Celsius.

GE Energy Smart 60

Affordable and highly energy efficient, this model will last an estimated five years under regular use and is equivalent to a 60W incandescent.

PRICE: \$16.96 FOR A PACK OF 6 AT WAL-MART

Philips 23W Energy Saver Reflector Flood

These bulbs are dimmable and bright enough to light large areas like kitchens. Equivalent to an 85W incandescent, they have an estimated seven-year lifespan under regular use.

PRICE: \$14.98 AT THE HOME DEPOT

Weighing the Risks

The average CFL contains 5 milligrams of mercury—one fifth that of a typical wristwatch—and poses minor risks to human and environmental health if disposed of properly. The US EPA argues that by requiring less energy, CFLs actually cut down on mercury pollution produced by burning coal. Used CFLs can be dropped off at IKEA and Home Depot stores, or picked up on your municipality's hazardous waste collection day.



Currently, LED lamps (especially reflectors and track lights) are hard to come by in Canadian hardware stores. Instead, contact a local LED lighting distributor for more information or use LEDs Magazine's buyer's guide to find a supplier in your area: <http://www.ledsmagazine.com/buyers>

PHOTO: LEMNIS PHAROX LED BULB; LEMNIS LIGHTING

comparing bulbs (60W equivalence):

	INCANDESCENT	CFL	LED
Average energy efficiency (in lumens per watt)	15	60	35 but increasing constantly as technology develops; some models approaching efficiencies of 100 lm/w
Average lifespan (hrs)	1,500	10,000	50,000-100,000
Residential applications	All	Primarily indoor; area lighting and task lighting.	Primarily outdoor. Indoor if low brightness and direct light beam is desired.
Colors	All	All	Warm white tones are limited
Typical price range	\$1-\$3	\$3-\$7	\$40-\$100
Main benefit	Traditional choice, inexpensive.	Comparable in brightness and overall light quality to incandescents	Long lifespan and produces virtually no heat, making it safer for the home.
Main downfall	Highly energy inefficient. 130 year-old technology.	Sensitive to both cold temperatures and on-off frequency. Not suited for outdoor, motion sensor lights.	Initial cost and accessibility. Affordable models are not as bright as standard incandescent bulbs.

BEST OUTDOOR

Solar-Powered

Outdoor lighting presents an easy opportunity to get off the grid. Solar-powered pathway and property lighting is simple to install and, if used as a replacement for standard lighting, pays for itself in energy costs saved. The average set of solar-powered garden lights built with high-efficiency LED technology costs \$30-\$50 and emits light for up to 8-10 hours after sunset. For security lighting, motion-sensor LED lights are suggested as back-ups for heavily overcast days.

Emerald Solar Dual Coach Lights Pembroke Collection

Their aesthetically pleasing style and amber glow make them perfect for illuminating pathways and deterring insects.

PRICE: 6 FOR \$69.99 AT CANADIAN TIRE

Paradise Garden Solar Lights (set of 4) Affordable and durable, the model offers 10 hours of continuous lighting.

PRICE: \$19.99 AT RONA

Noma Solar LED Deck Post Light With most solar post caps going for over \$60, this is a steal. These lights can be used to improve the safety of stairs and decks.

PRICE: \$24.99 AT CANADIAN TIRE

compiled by VICTORIA GOODDAY

BEST FIXTURE

Energy-Star Qualified

Energy Star-qualified fixtures use one-quarter the energy of standard light fixtures, distribute light evenly, are dimmable for indoor applications, and use daylight and/or motion sensing technologies for outdoor applications. Qualified fixtures can be found at home improvement and hardware stores, lighting showrooms, and other retail stores, including online outlets. Ensure the bulb you choose fits the wattage recommendation, bulb-base size, and the height/width of fixtures.

Best places to go Energy Star:

If you can't replace all your fixtures, consider replacing at least the kitchen ceiling, living/family room, and outdoor porch fixtures, as they get the most use.

BEST HABIT

Using Natural Light

Cut back on energy and get in touch with your circadian rhythm by optimizing daylight. Start and end your day earlier, choose to work outside, open curtains. Consider more intensive solutions such as installing skylights or light piping if someone in your house is affected by Seasonal Affective Disorder. Philips' "daylight white" CFLs may do an effective job posing as the sun's rays, but they still use energy.