



# lighting for the holiday season

## overview

Holiday lights can be both bright and energy-efficient and can often replace the need for regular porch or yard lighting over the holiday season. Choosing the appropriate holiday lights and lighting controls will ensure your display is as energy-efficient as possible.

## Energy-efficient holiday lights

Choosing the most appropriate holiday lights to decorate your house can add up to big energy savings over the course of the season. Consider holiday light emitting diodes (LED), rope lighting or fibre optic cabling if you are purchasing new lights this year. Enjoy the variety of effects and savings.

Timers and photocells can also save you energy and money by automatically turning lights on at dusk and turning them off at a scheduled time. Be sure the timer is designed for the required amount of wattage.

## Holiday light emitting diodes

Holiday LED strings are available for sale through many Canadian retailers. These energy-efficient light strings are superior to standard incandescent light strings in that they:

- use up to 95 per cent less energy.
- last at seven to ten times longer.
- are more durable, with no filaments or glass bulbs to break.
- produce very little heat, reducing the risk of fire.

The energy cost of operating one of these strings is therefore a fraction of the cost of conventional holiday lights. As they go into wider use they have the potential to make a significant dent in the electricity consumed by festive lighting in British Columbia each holiday season.

When purchasing holiday LED lighting, look for ENERGY STAR® labelled products.

## Incandescent mini-lights

Introduced in the 1970s, incandescent mini-lights use 1/10 the energy of traditional incandescents. With a 100-bulb string using about 40 watts of power, they generate considerably less heat than traditional bulbs.

## Traditional incandescents

Traditional screw socket bulbs use either 5 or 7 watts per bulb. With 25 lights per string, that translates to a lot of power — between 125 to 175 watts per string. And unfortunately, most of that energy is wasted. Less than 10 per cent of the power used by an incandescent bulb goes into creating light — the rest is lost as heat.

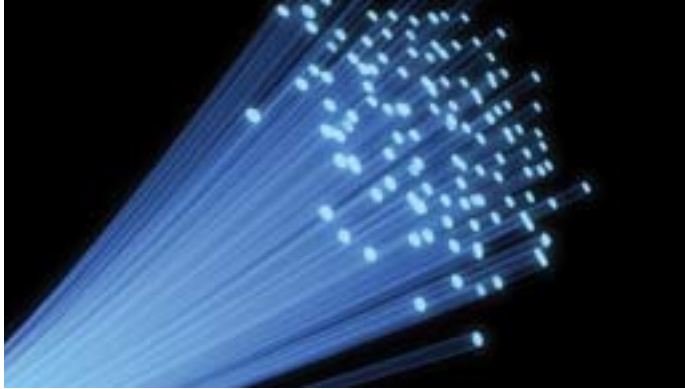
## Rope or flexible lighting

Rope or flexible lighting consists of miniature incandescent lights encased in flexible plastic tubing about 1/2 inch in diameter. Spaced about 1 inch apart, the bulbs use approximately 0.5 watts of power — or 5 watts per foot — and are rated to last over 20,000 hours. Available for indoor or outdoor use, the bulbs and tubing are available in several different colours, and these are well suited for decorations or feature illumination.



## Fibre optic cabling

Artificial trees that use built-in fibre optic cabling to send light throughout the tree, from a single incandescent bulb, are gaining in popularity. The heat generated from the single bulb — generally between 5 and 20 watts — is minimal, and its branches are cool to the touch. Many trees come with rotating colour wheels that change colour emitted by the fibres.



## Safety tips for outdoor lights

- Use Canadian Standards Association (CSA)-approved lights, cords, plugs and sockets that are marked for outdoor use or wet locations.
- Avoid using extension cords by installing a separate weather-proof circuit for holiday lighting. Place the circuit under the eaves, with a switch at your door.
- Make sure outdoor circuits are equipped with an approved, weather-proof ground fault circuit interrupter.
- Ensure the circuit breakers and fuses on your holiday lights circuit are no larger than 15 amperes.
- Don't overload circuits. Have no more than 1400 watts on a circuit. If other lights in the house dim when the holiday lighting is turned on or the plug is very hot when unplugged, your circuit is overloaded. To figure out a circuit's load, multiply the number of bulbs by the watts per bulb, and add any lamps, appliances or other equipment on the same circuit.
- Before you put light strings on a shrub, tree or your house, check for breaks or signs of insulation deterioration. Frayed cords or loose connections indicate that the wiring is poor. Replace any defective sets.
- Never install lights with the power on. Test lights first, then unplug to install.
- Keep electrical connections off the ground. Use eave clips or insulated staples, rather than nails and tacks, to hold light strings in place.
- Keep wiring clear of metal parts such as ornamental railings

and drainpipes, to prevent any risk of shock from an electrical current.

- Do not leave any light sockets empty if you want sections in your light string unlit. This can create a fire hazard, or could be fatal if someone touches the inside of the empty socket. Instead place a burned-out bulb in the socket. This will not affect the other lights on the string.
- Be sure to turn off your holiday lights before going to bed, and never leave lights on when you are away from home, unless they are connected to a timer or photocell.
- Don't leave your outdoor lights up year-round. Cords and bulbs will deteriorate, reducing their safety and shortening their life.

## Safety tips for your tree

- Keep your tree at least three feet away from heat vents, baseboards and fireplaces.
- Secure your tree so pets and children cannot knock it over.
- Use holiday LED strings inside, reducing the risk of fire.
- Replace broken bulbs and light sets that have cracked or corroded sockets, frayed plugs, bare wires or loose connections.

### Real trees

- Keep your tree fresh by sawing off an inch or two from the trunk base at an angle. Immediately place the tree in a water-filled, no-tip stand and regularly check to make sure the tree stand always has plenty of water.
- Unplug lights before watering the tree.
- Keep cords and light sets away from the water.
- Keep a fire extinguisher handy and your smoke detectors in good working order.
- For added protection, have your tree treated with fire retardant.

## Artificial trees

- Make sure your artificial tree is not flammable.
- Keep metallic trees away from electrical cords or plugs.

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