Where is the best place to use LED bulbs in my home?
They can be used almost anywhere. High use lighting areas may include kitchen, living room, rec room and bathroom. LED replacements are available for bulb types such as A-shaped PAR reflectors, MR reflectors, decorative, under cabinet, and more. When used on dimmers, in particular dimming systems that support many bulbs, we suggest testing one or two LEDs first to check compatibility.

Do LEDs work on dimmer switches and three-way lamps?
Usually, yes. Many LEDs are specifically listed as being dimmable. Some dimming systems work with LEDs better than others, so it’s best to test one or two before completely re-lamping a space. Note: Read the information on the bulb package to ensure it is a type of LED that works on a dimmer switch or three-way lamp, or ask your retail salesperson.

Do LEDs work in dusk-till-dawn fixtures?
LED or halogen bulbs are the best for this application.

Can I use LEDs outdoors?
Yes! Look for LEDs labeled for outdoor use. LEDs are not sensitive to cold temperatures and are able to withstand snow and rain. They also have proven to be durable and unlikely to shatter.

How do I select an LED that has the same brightness as my current incandescent bulb?
It’s all about Lumens, not Watts. Use the table below to find the LED with the same Lumens (brightness) as your standard incandescent.

<table>
<thead>
<tr>
<th>Incandescent Bulb</th>
<th>LED Bulb</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 watt</td>
<td>450 lumen</td>
</tr>
<tr>
<td>60 watt</td>
<td>800 lumen</td>
</tr>
<tr>
<td>75 watt</td>
<td>1,100 lumen</td>
</tr>
<tr>
<td>100 watt</td>
<td>1,600 lumen</td>
</tr>
<tr>
<td>150 watt</td>
<td>2,600 lumen</td>
</tr>
</tbody>
</table>

Do LEDs produce the heat levels of a halogen or incandescent bulb?
No! Incandescent bulbs produce light by using electricity to heat a filament, resulting in about 90% of their energy being released as heat. LEDs produce about 70% less heat than traditional bulbs, making them safer to operate and cutting energy costs associated with home cooling.

How can I make sure I am selecting the right kind of LED bulb or fixture?

Why ENERGY STAR® LEDs?
The ENERGY STAR® logo on packaging ensures the product has met strict energy efficiency guidelines and performance standards set by the U.S. Environmental Protection Agency (EPA) and the Department of Energy (DOE). LED bulbs last longer and save dollars while giving the same amount of light as the standard bulbs they replace. This is why the Department of Energy says they use up to 75 percent less energy.
What is the typical life of an LED?
LEDs are notable for being extremely long-lasting products. Many LEDs have a rated life of 25,000 hours or more. This is approximately 25 times longer than a typical incandescent. Used 12 hours a day, a 25,000 hour bulb will last almost 6 years. Used 8 hours a day, it will last more than 8 years!

I've heard that I can only get LEDs in a few shapes and sizes.
LEDs have been developed to meet the needs in your home. From dimmable and reflector floods to decorative globes and candles, you can find an LED tailored to your needs. We call it the right bulb in the right socket. With over 50 light sockets in a typical home, and 70 percent of those sockets continuing to use inefficient incandescent bulbs, there are plenty of opportunities to use LEDs.

What do I do with burned out CFLs and LEDs?
CFL – CFLs and other fluorescent bulbs contain small amounts of mercury which is hazardous to the environment. The State of Minnesota prohibits disposal of any fluorescent bulbs in your household garbage. Minnesota Power, in conjunction with local retailers and County Hazardous Waste Collection Centers, makes it easy for you to recycle used fluorescent bulbs. Find your local hazardous waste collection center by visiting www.earth911.com or calling 1-800-657-3864. For more information on CFL recycling, visit www.mnpower.com/cflrecycling.
LED – While it is safe to put LEDs in the trash, recycling them is better. Your local hardware store may have a recycling box to collect expired LEDs. To locate a LED recycler near you, visit www.earth911.com.
If the LED bulb malfunctioned through no fault of your own and is still covered under warranty, you can contact the manufacturer to discuss a resolution.

What do I do if I break a CFL (or any fluorescent bulb) or LED bulb?
CFL – If you accidentally break a CFL or fluorescent bulb, keep people and pets away from the breakage area until cleanup is complete. Visit www.epa.gov for more information on cleanup.
LED – Cleaning up a broken LED is simple. Sweep up the glass and light components and throw them into your garbage or recycle.

Should LEDs be used in enclosed fixtures?
Not if they are completely enclosed. LEDs need to have a way to allow for heat to dissipate. Otherwise, they can overheat and may fail early.

Where can I get more information on LEDs?
• Phone 1-800-677-8423
• Official Government ENERGY STAR® website www.energystar.gov
• Email: mnpowerinfo@weccusa.org
• Visit Minnesota Power’s website at www.mnpower.com/lightbulbs