




**Comparison Chart  
LED Lights vs. Incandescent Light Bulbs vs. CFLs**

<b>Energy Efficiency &amp; Energy Costs</b>	 <p><b>Light Emitting Diodes (LEDs)</b></p>	 <p><b>Incandescent Light Bulbs</b></p>	 <p><b>Compact Fluorescents (CFLs)</b></p>
<b>Life Span (average)</b>	<b>50,000 hours</b>	<b>1,200 hours</b>	<b>8,000 hours</b>

<p><b>Watts of electricity used</b> (equivalent to 60 watt bulb).</p> <p>LEDs use less power (watts) per unit of light generated (lumens). LEDs help reduce greenhouse gas emissions from power plants and lower electric bills</p>	<b>6 - 8 watts</b>	<b>60 watts</b>	<b>13-15 watts</b>
<p><b>Kilo-watts of Electricity used</b> (30 Incandescent Bulbs per year equivalent)</p>	<b>329 KWh/yr.</b>	<b>3285 KWh/yr.</b>	<b>767 KWh/yr.</b>
<p><b>Annual Operating Cost</b> (30 Incandescent Bulbs per year equivalent)</p>	<b>\$32.85/year</b>	<b>\$328.59/year</b>	<b>\$76.65/year</b>

## Environmental Impact



**Light Emitting Diodes (LEDs)**



**Incandescent Light Bulbs**



**Compact Fluorescents (CFLs)**

**Contains the TOXIC Mercury**  
**RoHS Compliant**

No

Yes

**Carbon Dioxide Emissions**  
(30 bulbs per year)

**451 pounds/year**

Lower energy consumption decreases: CO2 emissions, sulfur oxide, and high-level nuclear waste.

No

Yes

**4500 pounds/year**

**Yes** - Mercury is very toxic to your health and the environment

**No** - contains 1mg-5mg of Mercury and is a major risk to the environment

**1051 pounds/year**

**Important Facts**



**Light Emitting Diodes (LEDs)**



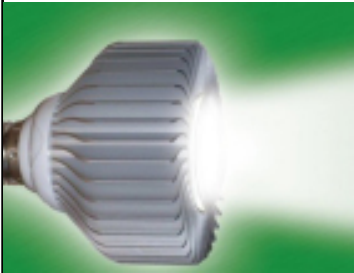
**Incandescent Light Bulbs**



**Compact Fluorescents (CFLs)**

<p><b>Sensitivity to low temperatures</b></p>	<p>None</p>	<p>Some</p>	<p>Yes - may not work under negative 10 degrees Fahrenheit or over 120 degrees Fahrenheit</p>
<p><b>Sensitive to humidity</b></p>	<p>No</p>	<p>Some</p>	<p>Yes</p>
<p><b>On/off Cycling</b> Switching a CFL on/off quickly, in a closet for instance, may decrease the lifespan of the bulb.</p>	<p>No Effect</p>	<p>Some</p>	<p>Yes - can reduce lifespan drastically</p>
<p><b>Turns on instantly</b></p>	<p>Yes</p>	<p>Yes</p>	<p>No - takes time to warm up</p>
<p><b>Durability</b></p>	<p>Very Durable - LEDs can handle jarring and bumping</p>	<p>Not Very Durable - glass or filament can break easily</p>	<p>Not Very Durable - glass can break easily</p>
<p><b>Heat Emitted</b></p>	<p>3.4 btu's/hour</p>	<p>85 btu's/hour</p>	<p>30 btu's/hour</p>
<p><b>Failure Modes</b></p>	<p>Not typical</p>	<p>Some</p>	<p>Yes - may catch on fire, smoke, or omit an odor</p>

**Light Output**



**Light Emitting Diodes (LEDs)**



**Incandescent Light Bulbs**



**Compact Fluorescents (CFLs)**

<b>Lumens</b> 450 800 1,100 1,600 2,600	<b>Watts</b> 4-5 6-8 9-13 16-20 25-28	<b>Watts</b> 40 60 75 100 150	<b>Watts</b> 9-13 13-15 18-25 23-30 30-55