LED vs. Incandescent Cost Comparison: Lesson 2

Why should I change my light bulbs to LED’s? That is a great question! To get the answer, we need to look at the life cycle cost for light bulbs.

What is the life cycle cost? The life cycle cost is the initial cost of the appliance (in our case a light bulb) AND the cost of energy needed to use the appliance over its life.

Initial cost of light bulb + Energy costs (electricity) = Life Cycle Cost of light bulb

Use the chart at the right to complete the equations below to determine which light bulb has the lowest life cycle cost and the greatest savings to provide 15,000 hours of light.

<table>
<thead>
<tr>
<th>Bulb Specifications</th>
<th>IL Incandescent</th>
<th>LED Light Emitting Diode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Output (lumens)</td>
<td>640 lumens</td>
<td>800 lumens</td>
</tr>
<tr>
<td>Life Expectancy (hours)</td>
<td>2,500 hours</td>
<td>15,000 hours</td>
</tr>
<tr>
<td>Energy Used (watts)</td>
<td>60 watts</td>
<td>9.5 watts</td>
</tr>
<tr>
<td>Cost per Bulb (dollars)</td>
<td>$.50</td>
<td>$3.00</td>
</tr>
<tr>
<td>Number of Bulbs needed for 15,000 hours of light</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Cost of Light Bulbs for 15,000 hours of light</td>
<td>$3.00 (circle 1)</td>
<td>$3.00 (circle 3)</td>
</tr>
<tr>
<td>Cost of Electricity for 15,000 hours of light</td>
<td>$117.00 (circle 2)</td>
<td>$18.53 (circle 4)</td>
</tr>
</tbody>
</table>

Use the table above to complete the chart.

Incandescent

Cost of Incandescent Bulbs
Circle #1
$3.00

Cost of Electricity
Circle #2
$117.00

Incandescent Life Cycle Cost
Square #1
$120.00

LED

Cost of LED Bulbs
Circle #3
$3.00

Cost of Electricity
Circle #4
$18.53

LED Life Cycle Cost
Square #2
$21.53

Savings

Amount from Square #1
$120.00

Amount from Square #2
$21.53

Life Cycle Savings for replacing one IL with a LED
$98.47