

# LED LIGHT COMPARISONS

## Equivalent wattages and light output of Incandescent, CFL and LED bulbs

Light Output	LEDs	CFLs	Incandescent
Lumens	Watts	Watts	Watts
450	4 - 5	8 - 12	40
750 - 900	6 - 8	13 - 18	60
1100 - 1300	9 - 13	18 - 22	75 - 100
1600 - 1800	16 - 20	23 - 30	100
2600 - 2800	25 - 28	30 - 55	150

## Comparing the features of Incandescent, CFL and LED bulbs

	LEDs	CFLs	Incandescent
Frequent On/Off Cycling	no effect	shortens lifespan	some effect
Turns on instantly	yes	slight delay	yes
Durability	durable	fragile	fragile
Heat Emitted	low (3 btu's/hr)	medium (15 btu's/hr)	high (85 btu's/hr)
Sensitivity to high temperature	some	yes	no
Sensitivity to low temperature	no	yes	no
Sensitivity to humidity	no	yes	some
Hazardous Materials	none	5 mg mercury/bulb	none
Replacement frequency (over 50k hours)	1	5	40+

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## Cost Comparison between LEDs, CFLs and Incandescent light bulbs

	LED	CFL	Incandescent
Light bulb projected lifespan	50,000 hours	10,000 hours	1,200 hours
Watts per bulb (equiv. 60 watts)	10	14	60
Cost per bulb	\$35.95	\$3.95	\$1.25
KWh of electricity used over 50,000 hours	500	700	3000
Cost of electricity (@ 0.10per KWh)	\$50	\$70	\$300
Bulbs needed for 50k hours of use	1	5	42
Equivalent 50k hours bulb expense	\$35.95	\$19.75	\$52.50
Total cost for 50k hours	\$85.75	\$89.75	\$352.50

### Energy Savings over 50,000 hours, assuming 25 bulbs per household:

Total cost for 25 bulbs	\$2143.75	\$2243.75	\$8812.50
Savings to household by switching from incandescents	\$6668.75	\$6568.75	0

#### Notes:

- Cost of electricity will vary. The figures used above are for comparison only, and are not exact. Residential energy costs among the various states range from 28.53 cents (Hawaii) to 6.34 cents (Idaho) per KWH.
- The cost per bulb for LEDs may vary. We used the figure of \$35.95 (for a 60 watt equivalent LED bulb) as an average among lighting retailers.
- Estimates of bulb lifespan are projected, since it would take about 6 years of continuous lighting to test. Some manufacturers claim the new LED bulbs will last up to 25 years under normal household use, but this is not proven.
- Bulb breakage and bulb replacement costs have not been factored into this comparison chart. Incandescent bulbs and CFL bulbs are more easily broken than LEDs, which increases their cost of use.
- Most LEDs come with a minimum 2-year guarantee. Any defective LED bulb will usually fail within this time.