




## Comparison Chart LED VS CFL VS Incandescent Fittings

Fittings Types	LED	CFL	Incandescent
			
<b>Energy Efficiency and Energy Costs</b>			
Lifespan (average)	50,000 hours	8,000 hours	1,200 hrs.
Watts of electricity used	6 - 8 Watts	13 - 15 Watts	60 Watts
Kilowatts of Electricity used (30 incandescent bulbs per year equivalent)	329 kWh per year	767 kWh per year	3285 kWh per year
Annual Operating Cost (30 incandescent bulbs per year equivalent)	\$32.85 / year	\$76.65 / year	\$328.59 / year
LEDs use less power (watts) per unit of light - generated (lumens). LEDs help reduce greenhouse gas omissions from powerplants and lower electric bills			
<b>Environmental Impact</b>			
Contains the TOXIC element Mercury Major Environmental & Health Risk	NO	YES	NO
RoHS Compliant	YES	NO	YES
The RoHS directive aims to restrict certain dangerous substances commonly used in electronic and electronic equipment. A RoHS compliant component is tested for the presence of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Hex-Cr), Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE).			
Carbon Dioxide Emissions (30 bulbs per year)	451 pounds / year	1,051 pounds / year	4,500 pounds / year
Lower energy consumption decreases: CO2 emissions, sulfur oxide and high-level nuclear waste.			
<b>Light Output - Lumens vs Watts</b>			
Lumens	Watts	Watts	Watts
450	4 - 5	9 - 13	40
800	6 - 8	13 - 15	60
1,100	9 - 13	18 - 25	75
1,600	16 - 20	23 - 30	100
2,600	25 - 28	30 - 55	150
<b>Important Facts</b>			
Sensitivity to low temperatures	None	Yes - may not work under -10°F or over 120°F	Some
Sensitivity to humidity	No	Yes	Some
On/off cycling - switching a CFL on/off quickly, in the closet for instance, may decrease the lifespan of the bulb and increased power consumption.	No effect	Yes - can reduce lifespan drastically	Some
Turns on instantly	Yes	No - takes time to warm up	Yes
Durability	Very durable LEDs can handle jarring and bumping	Not very durable glass can break easily	Not very durable-glass or filament can break easily
Heat Emitted	3.4 BTUs per hour	30 BTUs per hour	85 BTUs per hour
Failure Modes	Not typical	Yes - may catch on fire, smoke or emit odors	Some