



CFL vs Halogen vs LED

CFL

CFLs contain mercury gas that produces invisible ultraviolet (UV) light when the gas is excited by electricity. The UV light hits the white coating inside the fluorescent bulb, and the coating changes it into light you can see.

Best Applications

Anywhere lighting is left on for extended periods and full brightness is not immediately necessary, such as family rooms, bedrooms and common areas.

Key Features

- Uses 75 percent less energy than incandescent light bulbs.
- At an energy rate of \$.11/kWh, replacing a 60-watt incandescent with a 13-watt CFL can save you more than \$40 in energy costs over the life of a bulb (for those with an 8,000-hour life rate).
- Lasts up to eight-to-10 times longer than incandescent bulbs.
- Available in different sizes and shapes to fit almost any fixture.
- Most generate the same light output in the same color range as incandescents.
- Some CFLs operate off of a delayed start and can take up to three minutes to reach full light output.



GE Energy Smart® CFL

Halogen

Halogen bulbs have a tungsten filament just like incandescent bulbs, but halogen bulbs also are filled with halogen gas. When the bulb is lit, tungsten from the filament is evaporated into the bulb's gas, providing illumination. The halogen gas then carries the evaporated tungsten particles back to the filament and re-deposits them. This creates lower energy use for the bulb.

Best Applications

High-intensity reading lamps, office lamps and display lighting where users want to spotlight artwork or photos and outdoor applications where bright light is needed.

Key Features

- Many are 10-20 percent more energy efficient than incandescent bulbs.
- Instant start. Halogens do not experience the delayed warm-up associated with CFLs.
- Fully dimmable.
- Produces a bright, crisp light.



GE Energy-Efficient
Soft White



LED

LEDs are small light sources or thin chips that become illuminated by the movement of electrons through a semiconductor material.

Best Applications

Outdoor lighting where fixtures are left on for extended periods and changing bulbs is not easily done. LEDs also are fitting in linear applications, such as under cabinet lighting, where bulbs/light sources with thin profiles are needed.

Key Features

- LEDs can use up to 75 percent less energy than incandescents.
- Lasts up to 25 times longer than incandescent and halogen light sources, and up to three times longer than most CFLs.
- Instant start. LEDs do not experience the delayed warm-up associated with CFL bulbs.
- Small LED chips allow for more compact, design-forward fixtures, as well as the illumination in tight areas.
- Cooler to the touch.
- Robust – no filament to break.
- Most emit light in a specific direction, versus in all directions, but GE's traditionally shaped LED bulbs are omnidirectional. That is, they are designed to emit light all around, just like a standard incandescent light bulb.



GE Energy Smart® LED

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Learn more about the future of lighting and GE innovation at www.gelighting.com.