



### Incandescent (Filament) Bulbs

These are the traditional light sources which have been used for many years. A thin metal filament inside a sealed bulb is heated up by passing electric current through it to the point where it glows. To make the filament last as long as possible there is usually a mixture of inert gases inside the bulb.



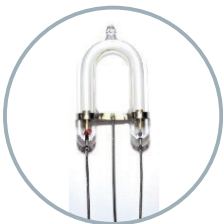
### Halogen Bulbs

Halogen bulbs are a form of incandescent bulb, but the gas inside is a halogen and the bulb is made of quartz glass; this allows the filament to run hotter and therefore brighter and whiter, and also gives slightly higher efficiency.



### Compact Fluorescent (CFL)

Compact Fluorescents are basically a fluorescent tube which is bent rather than straight, allowing a small fluorescent light source to be achieved in (typically) a standard screw or bayonet fitting. Fluorescent tubes pass current through the gas inside them which then emits UV light, the inside surface of the tube has a coating which converts the UV into visible light.



### Xenon Tube

Xenon tubes work by discharging the energy stored in a capacitor through a special flash tube filled with xenon gas at low pressure to produce a very short burst of high intensity white light.



### LED

In electronic circuits there are many types of diode, these basically allow electric current to flow through the diode in only one direction. An LED is a special type of semiconductor diode which emits light when electric current flows through it, hence the name Light Emitting Diode. The semiconductor material used to make the LED determines the colour of light emitted.

Type	Cost	Power Consumption	Life	Efficiency
Filament	Low	High	Short	Low
Halogen	Low	High	Short	Low-Medium
CFL	Low-Medium	Low-Medium	Medium	Medium-High
LED	Medium-High	Low	Long	High