

Lphysics college essay



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Discussion An incandescent light bulb, incandescent lamp or incandescent light globe is an electric light which produces light with a filament wire heated to a high temperature by an electric current passing through it, until it glows. The hot filament is protected from oxidation with a glass bulb that is filled with inert gas. Incandescent bulbs are manufactured in a wide range of sizes, light output, and voltage ratings, from 1.5 volts to about 300 volts. They require no external regulating equipment, have low manufacturing costs, and work equally well on either alternating current or direct current. As a result, the incandescent lamp is widely in household and commercial lighting, for portable lighting such as table lamps, car headlamps, and flashlights, and for decorative and advertising lighting.

Incandescent bulbs are much less efficient than most other types of lighting; most incandescent bulbs convert less than 5% of the energy they use into visible light (with the remaining energy being converted into heat). The luminous efficacy of a typical incandescent bulb is 16 lumens per watt, compared to the 60 lumens per watt of a compact fluorescent bulb. The higher the power of bulb, the higher the temperature difference of light bulb and the heat energy. 15W bulb has the lowest temperature difference that is 5°C. 40W bulb has temperature difference of 14°C.

60W bulb has temperature difference of 21°C. 100W bulb has the highest temperature difference that is 41°C. When experiment is conducted, many errors will occur. This will cause the experimental results will not be accurately. For example, when using stopwatch to measure the time of 1 minute with the bulb light out, error due to reaction time for pressing

stopwatch will occurs. Besides that, inability to draw out all the air particles from the aluminium tin when bulb light out inside the tin for 1 minute.

This may cause the temperature inside the tin will be affected. So repeat the experiments...