

Compact Fluorescent Lamp (CFL)



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Introduction

Compact fluorescent lamps have some benefits in comparison with classic light bulbs. It is lower power consumption (to 80%) and much longer lifetime (5 to 15 times). Disadvantages are longer starts mainly at more expensive types, impossibility to use darker and price.

Fluorescent lamps are available usually in these color temperatures:

- Warm white (2700K)
- Cool white (4000K)
- Daylight (6000K)

Most often we meet with "warm white", which is close to classic bulb and which is most pleasant to people. Compact fluorescent lamp use vacuum pipe similar to classic strip lamp and princip of energy transformation to light is same. Tube has on both ends two electrodes faced with Barium. Kathode has high temperature about 900 degree Celsius and generates many electrons which are accelerated by voltage between electrodes and hits atoms of Argon and Mercury. There arise low temperature plasm. Overflowing energy mercury radiate in a UV light form. Inner side of tube is faced with luminophore, which transform UV light in to the visible light. Tube is powered by alternating current, so that function of electrodes (cathode and anode) is still changing. Because there are used switched converter, which works on tens of kilohertz, that CFL lamp doesn't "blink" in comparison to classic strip tube lamp. Converter, which is present in a screw cap, substitute classic ballast with a starter.