HOW DO FLUORESCENT LAMPS AND DIMMING BALLASTS WORK?

How Do Fluorescent Lamps Work?

A linear fluorescent lamp consists of a glass tube containing low pressure mercury vapor with a tungsten filament at each end. Light is produced by striking an arc across the lamp from one filament to the other, causing the gas to glow. The amount of current passing through the lamp determines the light output. U-bent, twin tube and compact fluorescent lamps are simply linear lamps with a varying number of bends.



How Does Lutron Dim Fluorescent Lamps?

Lutron ballasts control the current passing through the lamp to offer the user light level control. As part of the dimming process, it is important to keep the filaments warm by passing a current through them. Instant-start ballasts do not provide heat to these filaments and use sockets that connect the two filament pins together. A Lutron ballast uses these filaments and it is important that these two pins are not shorted together in the socket. Hence the need for rapid-start sockets which keep these pin connections separate. Using instant-start sockets with a Lutron ballast will cause excess current to flow in the lamp wires which may permanently damage the ballast.



