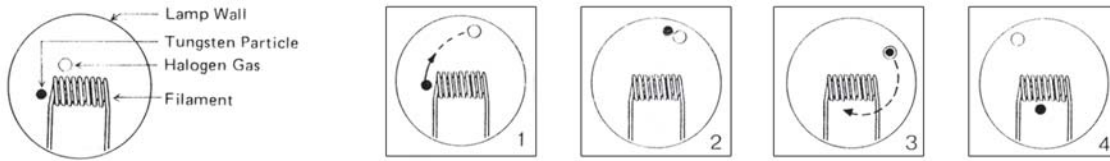


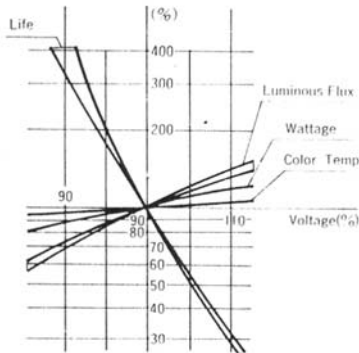
TUNGSTEN HALOGEN LAMP CHARACTERISTICS

HALOGEN CYCLE



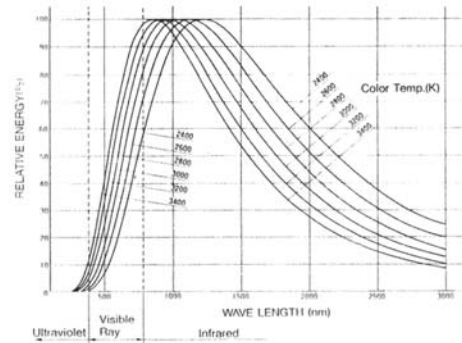
1. Tungsten particle evaporates.
2. Tungsten and halogen gas particles collide and combine, forming a Halide.
3. The Halide moves toward the filament.
4. The Halide dissociates at high temperatures in the vicinity of filament. Tungsten particle is deposited on filament, and Halogen gas is released, ready to combine again

VOLTAGE vs. LAMP CHARACTERISTICS



As the voltage applied to a lamp is varied, a change occurs in the lamp characteristics of lumen output, wattage, color temperature, life, etc. This diagram shows an example of such a change expressed in percentage to the rated values.

SPECTRAL ENERGY DISTRIBUTION



The different color temperatures of Tungsten Halogen of any incandescent lamps have their respective Spectral Energy Distributions.

CAUTIONARY NOTICE

To ensure maximum safety and efficiency of the lamp, the following precautions should always be observed:

1. Disconnect the power supply before moving or replacing the lamp or the equipment fuse.
2. If the lamp has been provided with a protective cover for transportation, do not remove the cover until the lamp has been inserted in the equipment.
3. Do not touch the lamp with bare hands or fingers. If inadvertently touched, it should be cleaned with a lint-free cloth moistened with alcohol or methylated spirits before use.
4. The lamp should not be installed in positions other than those recommended by the manufacturer.

5. The lamp should not be operated at voltages that exceed 110% rated voltage or for longer periods of time than specified.
6. The lamp should not be operated with improper fuses or equipment not specifically designed for its type and rating.
7. The lamp should be burned only in sockets and equipment approved for its use.
8. Observe any other requirements specified on the applicable standards sheet.

Non-observance of these precautions may lead to damage to the lamp and equipment and, in extreme cases, to explosion of the lamp since it operates with an internal pressure greater than atmospheric pressure. Therefore, only luminaires providing a cover or protective shield must be used.