

COLD CATHODE VS. INCANDESCENT LAMP

INCANDESCENT LAMP	COLD CATHODE LAMP
SAFETY CONSIDERATIONS	
<ol style="list-style-type: none"> 1. Filament in lamp provides a point source of light. 2. Leaves an after image in the eye contributing to the induction of spatial disorientation. 3. Lamp filament is fragile and subject to vibration damage. 4. Lamp burns very hot; filament temperatures reach 4000-5000° F. 5. Fire and explosion hazard with accidental breakage due to hot filament. 	<ol style="list-style-type: none"> 1. Electrodes in lamp do not provide a point source of light. 2. Leaves no after image in the eye and does not contribute to the induction of spatial disorientation. 3. Electrodes are steel shells and cannot be damaged. 4. Lamp burns cool; electrode temperatures reach 300° F. 5. Non-hazardous and environmentally safe; is not a fire and explosion hazard due to cool electrodes.
EXPENSE AND APPLICATION FACTORS	
<ol style="list-style-type: none"> 6. Lamp life - varies with type and size of lamp; approximately 1500-2000 hours for aviation lamps. 7. Energy requirement: consumes rated current for lamp size. 8. Lamp color: Emits a broad spectrum of visible light, including infrared. Color determined by use of colored lenses. 9. Efficiency: approximately 5% of energy is expended in providing light; 95% is lost to heat. 10. Use of colored lenses greatly reduces the candela of emitted light with significant loss in efficiency up to 60% with some lenses. 11. Compatible with standard rheostats. 	<ol style="list-style-type: none"> 6. Lamp Life - 20,000-40,000 hours. 7. Energy requirement: produces equal light for rated incandescent lamp for less than 60% of the power expended by the incandescent lamp. 8. Lamp color: can be manufactured to emit wavelengths within a relatively narrow spectrum of nanometers; color can be controlled without the use of colored lenses. 9. Efficiency: approximately 65% of energy is expended in providing light, 35% is lost to 10. If a clear lens is used, maximum candela from lamp is emitted, permitting maximum efficiency of lamp to be realized; up to 65% greater than with colored lenses. 11. Compatible with rheostats that vary the input current (amperage).
MAINTENANCE AND RELIABILITY	
<ol style="list-style-type: none"> 12. Maintenance requirements - high. 13. Reliability - low. 14. Night Vision Devices - non-compatible. 	<ol style="list-style-type: none"> 12. Maintenance requirements - low. 13. Reliability - high. 14. Night Vision Devices - compatible.