



Comparing Cold Cathode To Incandescent Lighting

COLD CATHODE LAMP	INCANDESCENT
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SAFETY CONSIDERATIONS

1. Electrodes in lamp do not provide a point source of light.	1. Filament in lamp provides a point source of light.
2. Leaves no after image in the eye and does not contribute to the induction of spatial disorientation.	2. Leaves an after image in the eye contributing to the induction of spatial disorientation.
3. Electrodes are steel shells and cannot be damaged.	3. Lamp filament is fragile and subject to vibration damage.
4. Lamp burns cool; electrode temperatures reach 300° F.	4. Lamp burns very hot; filament temperatures reach 4000-5000° F.
5. Non-hazardous and environmentally safe; is not a fire and explosion hazard due to cool electrodes.	5. Fire and explosion hazard with accidental

EXPENSE AND APPLICATION FACTORS

6. Lamp Life—20,000-40,000 hours.	6. Lamp life—varies with type and size of lamp approximately 1500-2000 hours for aviation lamps.
7. Energy requirement: produces equal light for rated incandescent lamp for less than 60% of the power expended by the incandescent lamp.	7. Energy requirement: consumes rated current for lamp size.
8. Lamp color: can be manufactured to emit wave-lengths within a relatively narrow spectrum of nanometers; color can be controlled without the use of colored lenses.	8. Lamp color: Emits a broad spectrum of visible light, including infrared. Color determined by use of colored lenses.
9. Efficiency: approximately 65% of energy is expended in providing light, 35% is lost to heat.	9. Efficiency: approximately 5% of energy is expended in providing light; 95% is lost to heat.
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.	10. Use of colored lenses greatly reduces the candela of emitted light with significant loss in efficiency up to 60% with some lenses.
11. Operates on either AC or DC current.	11. Operates on AC current at airports.

MAINTENANCE AND RELIABILITY

12. Maintenance requirements—low.	12. Maintenance requirements—high.
13. Reliability—high.	13. Reliability—low.
14. Night Vision Devices—compatible.	14. Night Vision Devices—non-compatible.



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