

A Comparison

of Cold Cathode and Fluorescent Lighting Systems

This comparison is based on photometric information by ITL Test Laboratories, Boulder, CO and LTL Testing Laboratory, Allentown, PA. According to these laboratories, the 25mm 3500K tri-phosphor white lamp puts out 386 lumens per foot (lpf) operating on a current of 100ma. The E-tech ballast that we use operates at 120ma or 240ma. These currents translate to 463 lpf at 120ma and 926 lpf at 240ma.

Cold Cathode

Watts per meter	21
Rated Lifespan	50,000 to 75,000 hrs, irrespective of on/off cycles. This is not a failure or "dark lamp" time frame, but a time when lumens output has decreased to a point that re-lamping may be advised.
Vibration Proof	Yes
Lumens per watt	70
Spark	Minus 23C
Cold lamp allows for use in exposed exterior application without damage.	
Wide range of colors	
Fully dimmable with no effect on life cycle.	
Radio Interference	No
Heat (AC loading)	Low
Re-lamp	12 to 15 years
Cold Cathode does not draw dirt into fixture so ongoing lamp cleaning is not required.	

Fluorescent

Watts per meter	30
Rated Lifespan	7,000 hrs depending on on/off cycles. Three (3) hours are lost per cycle. This denotes a complete failure of the lamp.
Vibration Proof	No
Lumens per watt	50
Spark	Plus 10C
Hot lamp cannot be used in exposed exterior application as lamp will crack on contact with rain or snow.	
Few choices of white only	
Dimmable only with use of special tubes/ballasts at a much higher cost.	
Radio Interference	Yes
Heat (AC loading)	Substantial
Re-lamp	At least every 2 years
Hot lamps draw dirt into the fixture as they cool and thus require ongoing lamp cleaning.	

The efficacy of Cold Cathode is approximately 40% higher than fluorescent tubes. With an energy consumption of 21 watts per meter and a lamp life of 50,000 to 75,000 hours, Cold Cathode easily outperforms other forms of lighting. It should be noted that the costs associated with one re-lamping can cover the initial additional costs of Cold Cathode.