A Comparison

of 100-watt Mercury Vapor and Cold Cathode 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 lamp	64
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	
Heat	Negligible
Maintenance	Low
Re-Lamp	12 - 15 years
Cold Cathode does not draw dirt into fixture so ongoing lamp cleaning is not required.	

100-watt Mercury Vapor

Watts per lamp	100
Rated Lifespan	18,000 hours, based on one (1) start per day. At this point, the lumens output has decreased to the point that re-lamping is advised.
Vibration Proof	No
Lumens per watt	26
Spark	Plus 10C
Hot lamp cannot be used in exposed exterior application as lamp will crack on contact with rain or snow.	
Only available in 3800K	
Heat	Substantial
Maintenance	Medium
Re-Lamp	At least every 5 years
Hot lamps draw dirt into the fixture as they cool and thus require ongoing lamp cleaning.	

The efficacy of cold cathode is approximately 80% higher than mercury vapor lamps, and with an energy consumption of 64 watts per fixture and a lamp life of 50,000 to 75,000 hours, cold cathode easily outperforms this form of lighting. It should also be noted that there are federal laws governing the disposal of mercury vapor lamps due to the large amount of mercury used in their production. There are no such laws governing the disposal of cold cathode lamps. The disposal of three (3) mercury vapor lamps to one cold cathode lamp makes cold cathode an extremely "Green" lighting system.