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LAMP LIFE

Life ratings are calculated by controlled starting of a defined test batch with a predetermined mortality limit, under laboratory conditions with a reference ballast.

Normal fluorescent testing is 3 hours on, 15 minutes off, repeated until 50% mortality of the test batch is reached. This time value is recorded as "average rated life". Typically we see 20,000 hours for "standard" fluorescent T8 and T12 lamps. High output versions may be rated as low as 12,000 hours.

Higher Wattage HID testing (400W metal halide and high pressure sodium) is based on 10 hours per start, 50% mortality; we see life ratings of 20,000 hours for standard MH, 24,000 hours for HPS under these test metrics.

T5 technology is relatively new. Using accelerated life testing, lamp manufacturers originally rated T5 at 20,000 hours per start with the 3 hours/50% mortality criteria. However, considering the frequent application of T5 technology in highbay applications and other commercial & industrial installations, further investigation and real-life case studies are pointing to >30,000 hours using 12 hours per start, with 30% mortality of the test batch.

One example is a major microelectronics company that had 6,900 one-lamp F54T5HO luminaires installed in March 2002, in a 24/7 application. As of December, 2004 (at 25,000 hours burn time), less than 200 lamps have burned out – which equals less than 3% mortality! At this rate we can see that the original life rating of 20,000 hours was extremely conservative, so they should easily see in excess of 34,000 hours operation before they reach 50% mortality. In addition, lumen output is still measured within 91% of original.

New data will be forthcoming from major lamp manufacturers this spring to address this remarkable performance.