KING LED TECHNOLOGY

LED SUMMARY OF REPORTS
LM80, INSITU, TM21, L70 & LM79

King Luminaire performs standard testing on all our LED systems in order to ensure high performing, quality decorative lighting solutions. It is important to understand each test and why they are extremely important to the end user and the long term validity of our LED products.

LM80
LM-80-08 is an approved IESNA document that deals primarily with the test processes and reporting criteria used by LED 'package' manufacturers to define the "Lumen Maintenance of LED Light Sources". It is typically the responsibility of the emitter manufacturer to publish this 'Data Set' and not the luminaire manufacturer. This Data Set is generated using the guidelines set out in LM-80, and can be used, in conjunction with separate, "In-Situ" (as designed situation) thermal measurements, to determine the lumen depreciation of the emitters over a given time period.

IN-SITU
The In Situ (ISTMT) report is a CSA/UL (ANSI/UL 1598-2004) approved thermal test for LEDs incorporated into luminaires with heat sinks, optical elements, power supplies, etc., that are operated in a variety of ambient environments, LM-80 by itself is not a predictor of luminaire lumen maintenance. In order to relate the results of the LM-80 test to the luminaire, CSA/UL requires the luminaire to be tested in environments that simulate real-world applications (in situ) with direct measurement of the hottest LED in the luminaire and the power supply at steady-state thermal equilibrium (stabilized).

TM21
Is an IESNA document projecting long term lumen maintenance of LED light sources that establishes a method for projecting lumen maintenance (and useful lifetime) of LED light sources from available LM-80 and INSITU data. This is based on a "reported" useful life not the traditional life or "time to failure". *Example: Reported L70(10k) >60,000 hrs @ 95°C 425mA.*

L70
Is an IESNA approved method of testing Projecting Long Term Lumen Maintenance of LED Light Sources Establishes a method for projecting lumen maintenance (and useful lifetime) of LED light sources from available LM-80 data and INSITU data. This is based on "time to failure" or when the luminous flux reduces to 70% of it original output. *Example: L70 Calculated Estimates - 134,273 hrs @ 25°C Ambient and 425mA.*

LM79
LM-79 is an IESNA approved method of testing methodology to create a level field for product evaluation. It looks at 25C ambient, power supply, stabilization, orientation, electrical instruments, and testing equipment.

LM-79 defines what information is required; total light output, voltage, current, power, calculates efficacy, lumen distribution, CCT, CRI, spectral distribution, testing lab, and equipment used.

LM-79 requires that solid state lighting products be tested to "Absolute Photometry." Conventional HID/ Fluorescent uses "Relative Photometry."

Absolute Photometry is lumen output of LED based luminaires and is dependent on the chip, thermal management, drive current, and optical system. LED based luminaires and lamps must be tested as a complete unit or system.

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