

LED

Frequently Asked Questions

INTRODUCTION

LED technology is rapidly advancing. To provide the best product, SPI Lighting will continue to advance our LED offering to match the newest technology. There may be times when SPI will substitute newer and better technology than what our catalog, quotes, and submittals reflect. We will notify you of these substitutions. SPI will support/warranty every generation of product with equal or better technology. SPI Lighting is able to fulfill many special requirements for specific wattages, lumens, color temperatures, LED brands, or board construction. These requests may require special handling, longer lead times, and associated fees above the quoted price.

QUESTIONS

What is LED?

LED, Light-Emitting Diode, is a semi-conducting device that emits visible light or infrared radiation when an electric current passes through it. Light-emitting diodes use the properties of electroluminescence, in which certain substances emit electromagnetic radiations when excited by the flow of an electric current.

What makes up an LED system?

An LED system has four main components: LED, circuit board, driver, and power supply.

Why use LED?

LEDs are a solid-state device. They do not have a filament or arc tube that can break which makes them more reliable and usually means a longer life. LEDs are mercury free and we use lead free materials during manufacturing. Their small size allows for the design of smaller sleeker luminaires. Because of their longer life and more reliable construction, areas with difficult maintenance challenges are good for LEDs as they require much less service than traditional lighting options.

Can you get energy savings using LEDs?

Today, based on LED advancement, you will see an energy savings in almost all applications when compared to traditional light sources. LEDs allow for better optical control of the light so when comparing energy savings it is recommended to use actual application details, not necessarily just comparing delivered lumen values.

Whose LEDs are being used?

The actual LED used can vary for each luminaire, but for the majority of products, SPI Lighting uses the Nichia 757 or Samsung 561C LED package. As a general guideline these LEDs can deliver up to 1850 Initial Lumens (>140lm/W) per foot, at the highest output. When other LEDs are used, SPI will typically use Cree, Lumileds, Nichia, Osram, or Samsung LEDs.

What is the max remote distance for drivers?	Typically it is 15' – 18' on most products. For extended remote distances, sometimes accommodations can be made to achieve this. Contact the factory with your required remote distance needs.
Are there any concerns with extended remote distances?	Yes, there are many. The main problem with remote drivers is overcoming voltage drop in the system. Sizing of the entire circuit becomes critical. Also, with voltage drop, the efficiency of the system will decrease and raise the true AC power draw of the luminaire.
Do we have photometry?	Yes, SPI does photometric testing for both luminous intensity and color temp measurements according to LM-79 testing standards. This testing is completed by using a third party NVLAP qualified facility. IES files are available for download on the website.
Delivered Lumens	Actual Delivered Lumens will vary between luminaires based on how efficient the optical and thermal systems are. SPI Lighting reports the delivered lumens on all product pages and the website, per LM-79 photometric testing or prorations of actual tests.
Initial Lumens	Initial Lumens are what the Raw LED device will deliver at start-up. This value does not take into account any optical, thermal, or electrical losses that are a result of the end product construction and application.
How do you ensure color consistency?	SPI Lighting uses precise bin selection and strict quality processes to maintain a 3-step (MacAdam) SDCM on all white LED lampings.
What does SDCM mean?	It stands for Standard Deviation Color Matching. It is also sometimes referred to as a MacAdam Ellipse variation. This is a measure of color variation between LEDs.
What is the CRI at each CCT of LED?	SPI Lighting provides 80+ CRI on all products and CCT options. 90+ CRI is available. Please contact factory for details.
What are the available CCT options for LED?	SPI Lighting offers 3000K, 3500K, and 4000K standard on most products. Other CCTs are available. Please contact factory for details.
How do I dim an SPI Lighting product?	Standardly, SPI Lighting offers 0-10V, 10% Minimum Dim Level on all LED products unless stated otherwise. Other dimming protocols and minimum dim levels are available. SPI can offer a dimmable product that will work with most dimming systems. Please contact factory with specifications and details of your dimming system.
How do I control an RGB fixture?	As with standard dimming, SPI Lighting can usually offer a control solution to fit your system for our RGB products. Although DMX is the most popular, there is no "Default System" for RGB control. Please contact factory with your dimming system specifications and requirements when ordering an RGB fixture.
Can we change the wattage and lumen outputs?	Yes, this is easily done. Please consult factory with requirements and details.

Does the thermal management system keep the LED junction temperature below specified maximums in all applications?

Yes, SPI Lighting does ISTMT (In-Situ Temperature Measurement Testing) on luminaires to ensure they operate within parameters to meet the L## lifetime claims on the luminaire.

Has LM-80 testing been performed by your LED or LED module manufacturer?

LM-80 has been performed by the manufacturer of the LED diode. We also do our own temperature verification per the manufacturer guideline in our fixtures on site. All of our fixtures are proven to run under the recommended temperatures in standard mountings to achieve a minimum of 50,000 hours' life to L70.

Do LEDs really last over 100,000 hours?

Yes, typically LEDs will stay illuminated for 100,000 hours and beyond, but that does not necessarily mean it's all usable light. Following TM-21 standards, SPI Lighting gathers LM-80 and ISTMT data to state a usable lifetime of our LED System. This is stated in the L## lifetime format (typically L70 - 70% of initial light output).

How do we ensure consistency among fixtures built today or a year from now?

Each board is marked with a unique Date/Lot code to help manage this ever-changing technology.

Can we mount LEDs inside an existing luminaire?

Yes, in many cases this is possible. Please consult factory with specifications and details.

Is there an end-of-life policy?

Yes. See [Terms & Conditions](#) for additional information.

What is the warranty?

The warranty is five years for LEDs. See [Terms & Conditions](#) for additional information.

LED STANDARDS

LM-79	The standard that outlines the acceptable test procedures for photometry of luminaires.
LM-80	The standard that outlines the acceptable test procedure for collecting lifetime results of LED components. This testing is done by the LED manufacturer at the LED level.
TM-21	The standard that outlines the acceptable watt to test and extrapolate the expected L## lifetime of an LED luminaire.
L70	Stated lifetime of LED luminaires. This number identifies how long it will take the luminaire to get to 70% of its initial output. The L-value can change, with the numbers following L representing the level of output. (Example L90 = 90% of initial output)