

LINEARlight

Low Power Consumption White or Colored LED Modules



Key Features & Benefits

- LEDs are closely spaced to minimize hotspots in shallow installations
- Available in a variety of colors to fit different applications
- Low profile module enables mounting in compact spaces
- Dimmable by pulse width modulation, a method that maintains consistent lumen output and color
- Comes with a range of accessories including optics, heat sink and mounting means, facilitating easy installation
- Long life: up to 100,000 hours for colors and 50,000 (L_{50}) hours for whites when temperature at T_c point is maintained at 40°C minimizing maintenance frequency

LINEARlight LED modules open creative design options. These are ideal wherever subtle or discreet lighting effects are desired or where temperature or space limitations prevent the use of conventional means of illumination. The sleek LED modules are available in red, orange, yellow, green, blue, and a variety of white color temperatures.

The LINEARlight module is optimally paired with OPTOTRONIC® 10.5Vdc power supplies. They are easily configured with a series of power feed and board-to-board connectors. To facilitate easy installation, optional connector assemblies and mounting tracks are available in 18" and 56" lengths. These may be paired with diffuser accessories to modify and soften light distribution.

Product Offering

Ordering Abbreviation	Wattage	Color
L4LRE/10V/827/LNRLT	4	2700K
L4LRE/10V/830/LNRLT	4	3000K
L4LRE/10V/840/LNRLT	4	4000K
L4LRE/10V/854/LNRLT	4	5400K
L4LRE/10V/617/LNRLT	4	Amber Red
L4LRE/10V/606/LNRLT	4	Orange
L4LRE/10V/587/LNRLT	4	Yellow
L4LRE/10V/527/LNRLT	4	True Green
L4LRE/10V/470/LNRLT	4	Blue

Application Information

Applications

- Border lighting
- Edge lighting
- Egress marking
- Path lighting
- Walkways

Specifications and Certifications



The OSRAM LINEARlight is UL2108
Recognized for US and Canada Class 2 Unit.
(UL file # E258264)



This light source meets restrictions
on hazardous substances.

Listed in Sign Components Manual (SAM)



Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

Ordering Information

Item Number	Ordering Abbreviation	Module Length (ft)	No. of LEDs	Power (W)	Voltage (Vdc)	Current (Amps)	Color	Color Temperature/ Wavelength	Lumens (lm)*	Lumens/ft	Watts/ft
70288	L4LRE/10V/827/LNRLT	1.47	32	4	10.5	0.4	White	2700K	88	59.9	2.8
70329	L4LRE/10V/830/LNRLT	1.47	32	4	10.5	0.4	White	3000K	89	60.5	2.8
70330	L4LRE/10V/840/LNRLT	1.47	32	4	10.5	0.4	White	4000K	111	75.5	2.8
70289	L4LRE/10V/854/LNRLT	1.47	32	4	10.5	0.4	White	5400K	111	75.5	2.8
70007	L4LRE/10V/617/LNRLT	1.47	32	4	10.5	0.4	Amber Red	617nm	78	53.1	2.8
70083	L4LRE/10V/606/LNRLT	1.47	32	4	10.5	0.4	Orange	606nm	98	66.7	2.8
70006	L4LRE/10V/587/LNRLT	1.47	32	4	10.5	0.4	Yellow	587nm	69	46.9	2.8
70008	L4LRE/10V/525/LNRLT	1.47	32	4	10.5	0.4	True Green	525nm	57	38.8	2.8
70009	L4LRE/10V/470/LNRLT	1.47	32	4	10.5	0.4	Blue	470nm	34	23.1	2.8

* All data is related to entire module measured at Tc point of 25°C. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process. Users need to take into account the lumen depreciation as the temperature rises with various thermal management solutions installed.

Ordering Guide

L	4	L	R	E	/	10V	/	8	30	OR	617	/	LNRLT
LED	Wattage	Linear	Rigid	Engine		Voltage		CRI>80	Color Temperature 3000K		Wavelength		Product Family LINEARlight

Power Supply Information

Max. No. of Modules & Max. Length per Power Supply	OT6 (51502)		OT20 (51599)		OT50 (51509)	
	No. of Modules	Max. Length (ft)	No. of Modules	Max. Length (ft)	No. of Modules	Max. Length (ft)
All Item Numbers	1	1.47	3	4.41	9	13.23

Notes:

1. A maximum of three (3) LINEARlight modules may be connected in a single feed. Remaining load must be connected on subsequent power feeds. Consult the wiring diagram for more details.
2. OPTOTRONIC® power supplies are optimally paired with SYLVANIA LED modules and are specifically designed with protection features for safe operation.
3. The module is designed to work with constant voltage power supplies only. Reference the power supply PIB # ECS049 for product specification information.
4. The LINEARlight can be dimmed when used the OT DIM or OTRGB DIM controllers. Because of the power consumed by these controllers, an additional de-rating of the overall "Maximum" load must be factored into the above chart. To determine this de-rating (wattage) value please reference Step 8 of Application Note # LED026.
5. These values are an approximation based on maximum power values 5.04W. To accurately determine the maximum LED load, please evaluate the application based on the application note "Determining the Maximum LED Load on a Constant Voltage Power Supply" LED026. This document can be found at www.sylvania.com.

Minimum and Maximum Ratings

Parameter	Values
Operating Temperature at Tc point	-30 to +75°C (-22 to +167°F) for green, blue and whites; -30 to +85°C (-22 to +185°F) for all others
Storage Temperature	-40 to +85°C (-40 to +185°F)
Voltage Range	10 to 11 Vdc
Maximum Reverse Voltage	0Vdc

Notes:

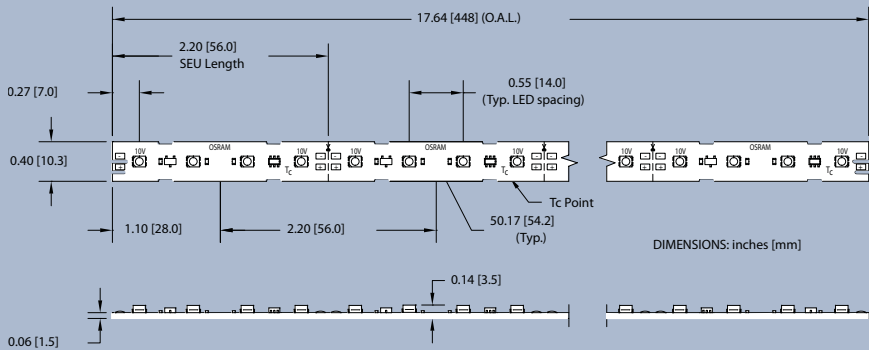
1. Exceeding maximum ratings may damage the LED module and cause potential safety hazards.
2. Elevated operating temperatures can be expected to negatively impact the service life in terms of lumen output.

Accessories

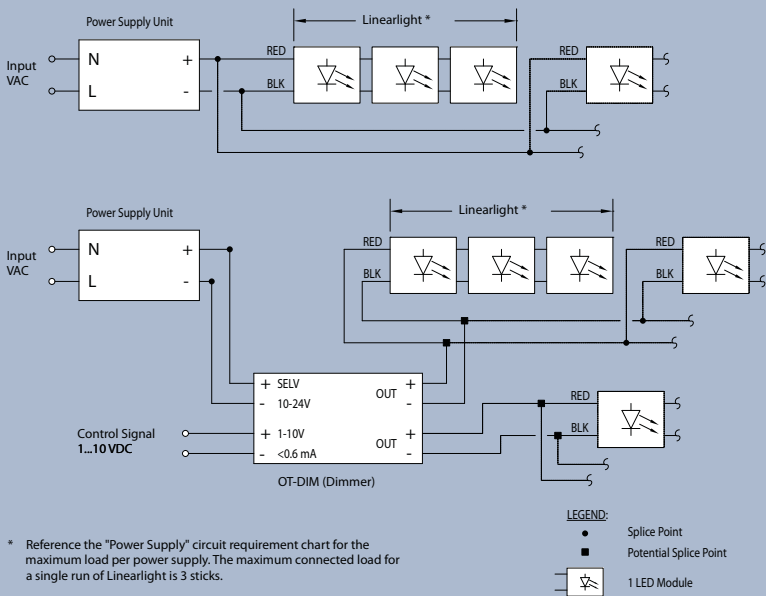


Item Number	Ordering Abbreviation	Description	Length (in.)	Order Qty.
70115	LAC-C/LL/IC/2P/20IN	Input Connector	19.69	10
70133	LAC-C/LL/BB/2P/2IN	Board to Board	1.97	10
70116	LAC-C/LL/BB/2P	Board to Board	—	10
71237	LAC-T/LNRLT/P/5FT	Prismatic Mounting Track	56	6
71239	LAC-T/LNRLT/D/5FT	Diffused Mounting Track	56	6

Assembly Diagram



Wiring Diagram



Safety Information

WARNING: ONLY QUALIFIED PERSONNEL SHOULD PERFORM INSTALLATION.

TO AVOID ELECTRICAL SHOCK OR COMPONENT DAMAGE, DISCONNECT POWER BEFORE ATTEMPTING INSTALLATION OF THE POWER SUPPLIES AND/OR MODULES.

Failure to install the power supplies and/or LED modules in accordance with the National Electric Code (NEC), all applicable Federal, State and local electric codes as well as the specific Underwriters Laboratories (UL) safety standards for the installation, location and application may cause serious personal injury, death, property damage and/or product malfunction.

1. The LED module itself and all its components shall not be subjected to mechanical stress and assembly must not damage or destroy conducting paths on the circuit board.
2. Installation of LED modules shall be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
3. Observe correct electrical polarity, incorrect polarity may destroy the module. (Depending on the product, incorrect polarity may lead to emission of red or no light.)
4. The LINEARlight can typically survive transient total current levels of up to 2 Amps. As a general design precaution, if the maximum current of the power supply is more than 2 Amps, fast-blow fuses should be incorporated into the wiring plan.
5. Electrostatic Discharge (ESD) precautions shall be incorporated when handling or installing the module. (For more information, reference document # LED093 ESD Protection for LED Systems.)
6. The module, as manufactured, has no conformal coating and therefore offers no inherent protection against corrosion. The ability to customize the length of the module by cutting at specifically marked points is a key feature of the product and hence the reason for no factory installed conformal coating. For these reasons, it is recommended that the user complete all module modification first (cutting, wiring) and then apply a conformal coating in the final stages of installation.
7. Damage by corrosion and improper heat sinking will not be honored as a materials defect claim. It is the user's responsibility to ensure adequate heat sink and protection against corrosive agents such as moisture, condensation and other harmful elements.

Assembly Information

1. Solder connections should only be performed on designated solder pads (marked "10V +/-"). During soldering, do not exceed the maximum soldering time of 10 seconds and the maximum soldering temperature of 260°C.
2. Each module can be separated into submodules of 4 LEDs each by carefully sawing or cutting at the marked lines between coupons.
3. The mounting of the module is carried out by attaching it at the mounting holes. Mounting screws should be treated with synthetic washers to prevent circuit board damage and possible short circuiting.
4. For applications involving exposure to humidity and dust, the module must be protected by a fixture, or housing with a suitable protection class. The module can be protected against condensation by treatment with an appropriate circuit board grade conformal coating. The conformal coating should have the following features:
 - a. Optical transparency
 - b. UV – resistance
 - c. Thermal expansion matching the thermal expansion of the module $15-30 \times 10^{-6} \text{cm/cm/K}$
 - d. Low permeability of steam for all climate conditions
 - e. Resistance against corrosive environment

The Acrylic Protective Lacquer (APL) from the company Electrolube (www.electrolube.com) has been tested and meets the conditions for this product (or equivalent). Please reference "Assembly Information" for any preparation instructions.

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Specifications subject to change without notice.

Warranty

SYLVANIA LED products are covered by our LED Module, OPTOTRONIC® Power Supply and/or Control warranty.

The LINEARlight is covered under warranty as long as the temperature at the Tc point does not exceed 75°C for whites and 85°C for colors; exceeding this temperature will void all warranties.

For additional information or to download the warranty registration form, refer to the latest version of the warranty available in the Literature section of www.sylvania.com/LED.

Module Warranty: 3 years

System Warranty: 5 years

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