



4.5W 100mm 12V AC Electronic Linear Module

AC LED Technology by Lynk Labs
Compatible with Phase-cut Dimmers
5 yr. Warranty when used with TRP 12V AC power supply

Specifications

Drive Voltage: Power with TRP #99002, 99004 or 99006 electronic transformer. Not to exceed 13V.

AC Current: 377 mA @25°C typical; 500 mA max

Power Dissipation: 4.5W typical; 6W max

Life: 50,000 Hrs, if used as specified

Luminous Flux: 237 lm @3000K

Luminous Efficacy: 79 LPW ±10% @3000K

Viewing Angle: 120 deg

Operating Temp: -25°C to +100°C

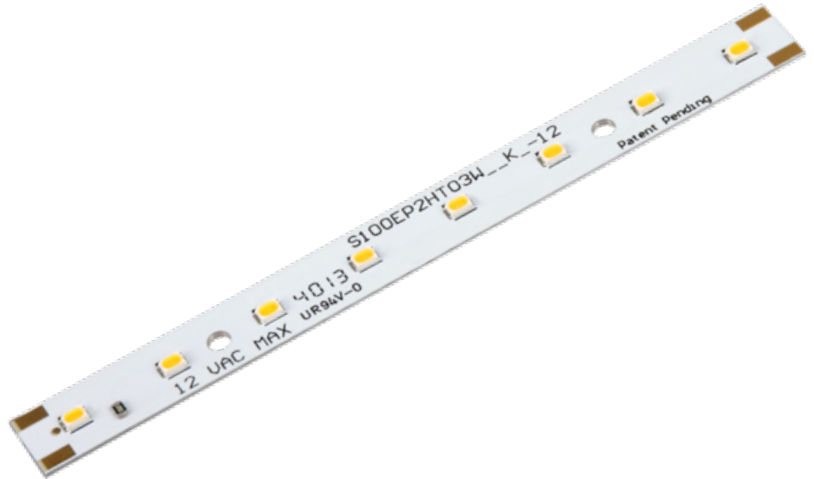
Storage Temp: -40°C to +100°C

Soldering Temp: 370°C

Low voltage AC LED modules offer an effective replacement for incandescent, Xenon or Halogen lamps. Patented AC LED technology eliminates the need for an AC-DC driver. Compatible with existing electronic 12V AC power supplies.

Features

- Compatible with existing electronic 12V AC Power Supplies
- Polarity Independent
- Reliable, fast and easy - "Plug & Play"
- Compatible with most existing leading edge or trailing edge phase cut AC Dimmers
- High Power Efficiency
- High Power Factor
- Significant Energy Savings
- Durable Light Source
- Long Operating life



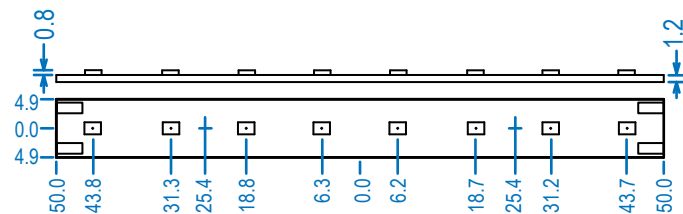
Applications

- Linear Lighting
- Cove Lighting
- Under Cabinet Lights
- Step Lights
- Accent Lights
- Garden Lights
- Display Lights

4.5W 100mm 12V AC LED Module					
Model Number	Input Power (W)	Input Voltage (Vac)	Color Temp (K)	Lumens	LPW
99104	4.5	12	2200	318	71
99105	4.5	12	2700	325	72
99106	4.5	12	3000	329	73
99168	4.5	12	4000	339	75
99169	4.5	12	5000	347	77
99170	4.5	12	5700	351	78

Dimensions:

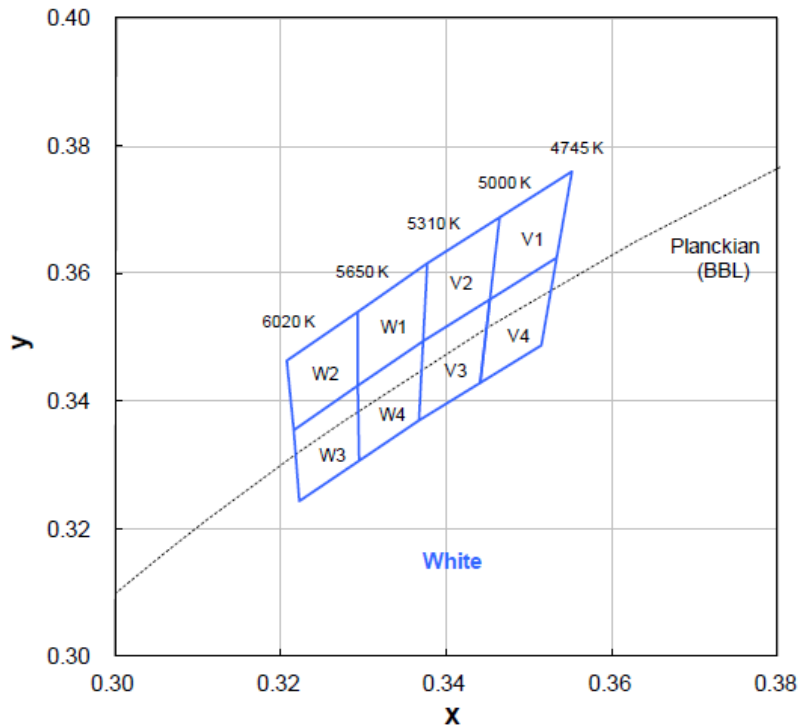
100 ±0.254 mm L x 10 ±0.254mm W x 2mm ±10% H



Modules can be daisy-chained, limit of 4 per chain.

CIE Chromaticity Coordinates:

White Binning Structure Graphical Representation

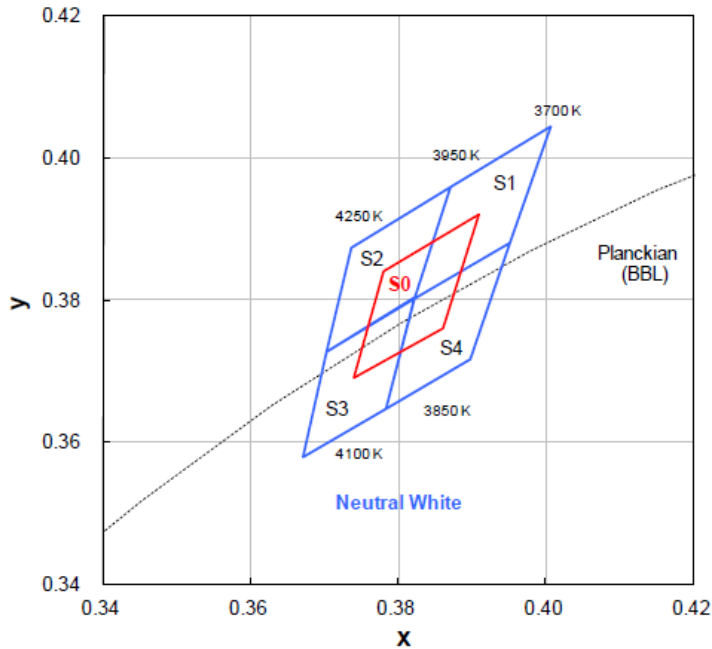


White Bin Structure

Bin Code	x	y	Typ. CCT (K)	Bin Code	x	y	Typ. CCT (K)
V1	0.346	0.369	4870	W1	0.329	0.354	5475
	0.355	0.376			0.338	0.362	
	0.353	0.362			0.337	0.349	
V4	0.345	0.356	4870	W4	0.329	0.342	5475
	0.345	0.356			0.329	0.342	
	0.353	0.362			0.337	0.349	
V2	0.352	0.349	5155	W2	0.337	0.349	5830
	0.344	0.343			0.329	0.331	
	0.338	0.362			0.321	0.346	
V3	0.346	0.369	5155	W3	0.329	0.354	5830
	0.345	0.356			0.329	0.342	
	0.337	0.349			0.322	0.335	
V3	0.337	0.349	5155	W3	0.322	0.335	5830
	0.345	0.356			0.329	0.342	
	0.344	0.343			0.329	0.331	
	0.337	0.337			0.322	0.324	

- Tolerance on each color bin (x , y) is ± 0.01

Neutral White Binning Structure Graphical Representation

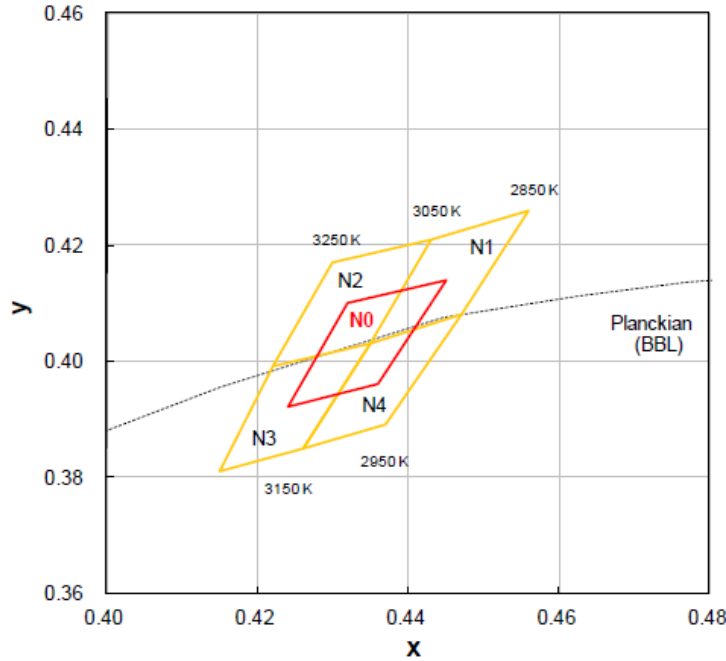


Neutral White Bin Structure

Bin Code	x	y	Typ. CCT (K)	Bin Code	x	y	Typ. CCT (K)
S1	0.387	0.396	3825	S2	0.374	0.387	4100
	0.401	0.404			0.387	0.396	
	0.395	0.388			0.382	0.380	
	0.382	0.380			0.370	0.373	
S4	0.382	0.380	3825	S3	0.370	0.373	4100
	0.395	0.388			0.382	0.380	
	0.390	0.372			0.378	0.365	
	0.378	0.365			0.367	0.358	
S0	0.374	0.369	3975				
	0.378	0.384					
	0.391	0.392					
	0.386	0.376					

- Tolerance on each color bin (x , y) is ± 0.01

Warm White Binning Structure Graphical Representation



Warm White Bin Structure

Bin Code	x	y	Typ. CCT (K)	Bin Code	x	y	Typ. CCT (K)
N1	0.443	0.421	2950	N2	0.430	0.417	3150
	0.456	0.426			0.443	0.421	
	0.447	0.408			0.435	0.403	
N4	0.435	0.403	2950	N3	0.422	0.399	3150
	0.447	0.408			0.422	0.399	
	0.437	0.389			0.435	0.403	
	0.426	0.385			0.426	0.385	
N0	0.424	0.392	3050		0.415	0.381	
	0.432	0.410					
	0.445	0.414					
	0.436	0.396					

- Tolerance on each color bin (x , y) is ± 0.01

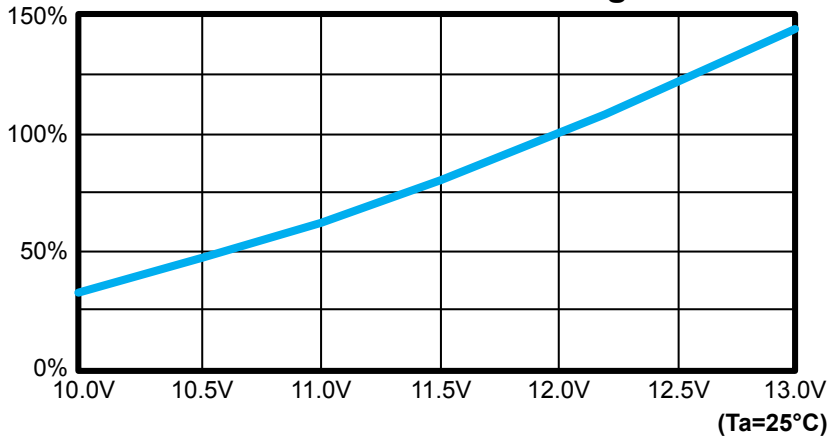


4.5W 100mm 12V Linear AC LED Light Engine

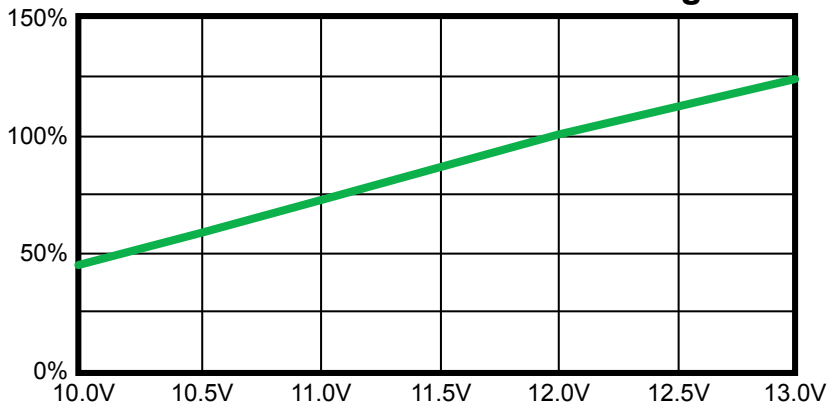
SSL Solutions Faster Than The Speed Of Light®

Typical Electrical & Optical Characteristic Curves:

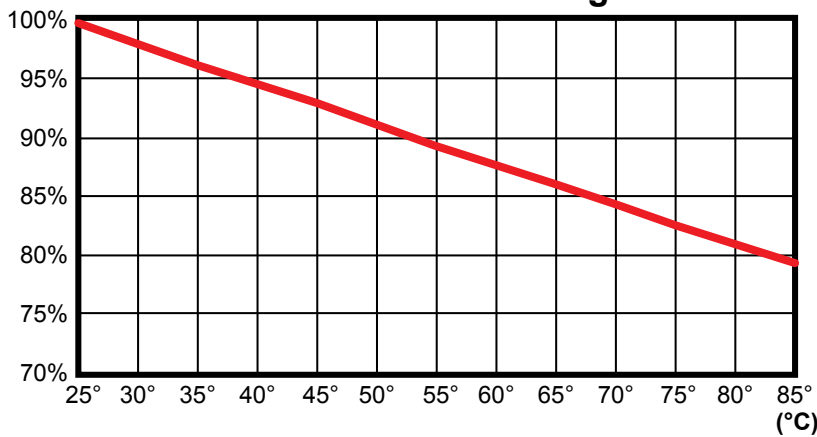
Relative Power / Voltage



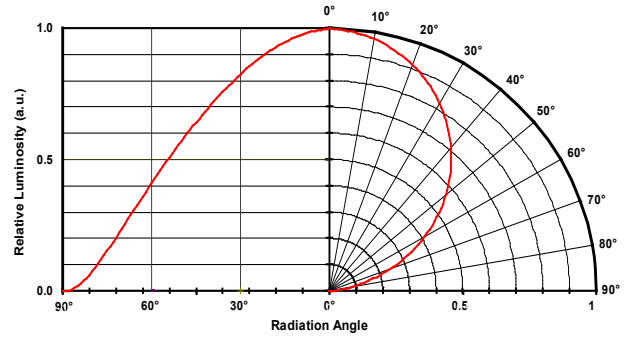
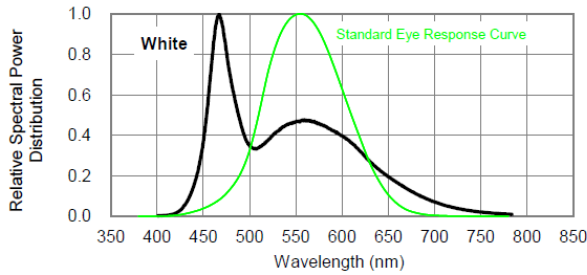
Relative Luminous Flux / Voltage



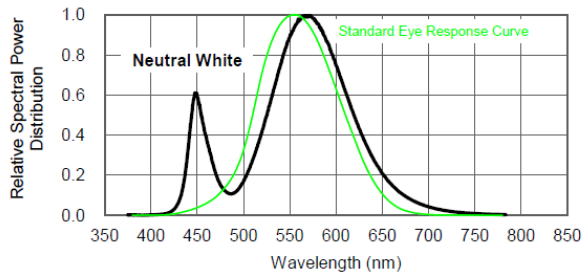
Lumen Thermal De-Rating Curve



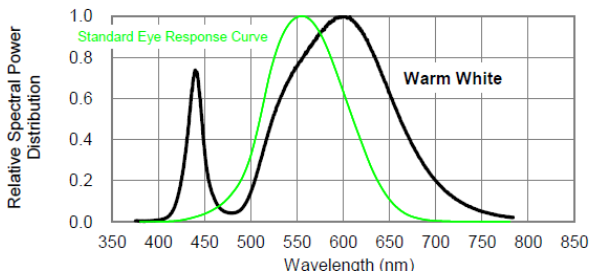
1. White



2. Neutral White



3. Warm White



Packaging

- LED Modules will be packaged in trays for primary protection.
- According to the total delivery amount, cardboard boxes will be used to protect the trays of LED Modules from mechanical shocks during transportation.
- The boxes are not water resistant and therefore must be kept away from water and moisture.

Reliability and Average Lumen Maintenance

Before releasing new products the manufacturer puts a representative product sample set through an entire suite of qualification tests, including the most stressful test for high power LEDs, the Wet High-Temperature Operating Life (WHTOL) test at 85°C/85%RH for 1000 hours at the specified operating current.

LED lifetime has been extrapolated based on the accumulated operating and accelerated aging data. Based on this data, the manufacturer projects that the LED products will deliver, on average, 70% lumen maintenance at 50,000 hours of operation at the specified operating current, provided that the case temperature is maintained at or below 80°C.

Design Considerations/Specifications

Thermal Management Requirements

- Heat Sink Required (22 square cm/watt surface area)
- Thermal epoxy – No mechanical mounting required
- Thermal tape – No mechanical mounting required
- Thermal grease – Mechanical mounting required

Mechanical Mounting

- Use nylon washers for all mounting holes when using screws.
- Do not put force on LEDs.
- Do not bend PCB.

Electrical Interface

- Solder Pads