# 10W 295mm 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: | 840mA @25ºC typical; 1167mA max |
| Power Dissipation: | 11.8W typical; 147W max |
| Life: | 50,000 Hrs, if used as specified |
| Luminous Flux: | 660 lm @3000K |
| Luminous Efficacy: | 66 LPW ±10% @3000K |
| Viewing Angle: | 120 deg |
| Operating Temp: | -25ºC to +100ºC |
| Storage Temp: | -40ºC to +100ºC |
| Soldering Temp: | 370ºC |

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 magnetic or 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

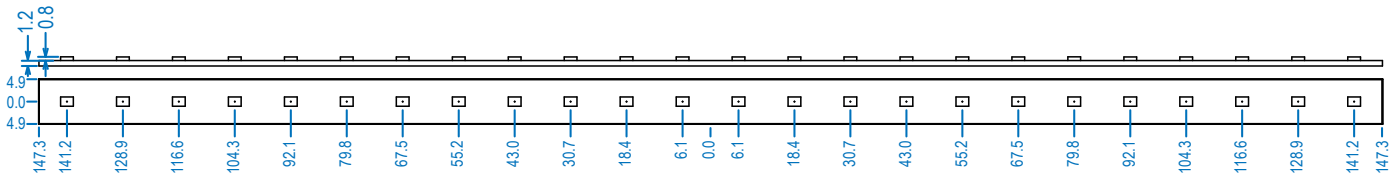
- Linear Lighting
- Cove Lighting
- Under Cabinet Lights
- Step Lights
- Accent Lights
- Garden Lights
- Display Lights

**12W 295mm 12V AC LED Module - Specifications**

| Model Number | Input Power *(W)* | Input Voltage *(Vac)* | Color Temp *(K)* | Lumens | LPW |
|---|---|---|---|---|---|
| 99031 | 10 | 12 | 2200 | 638 | 64 |
| 99264 | 10 | 12 | 2700 | 653 | 65 |
| 99032 | 10 | 12 | 3000 | 660 | 66 |
| 99265 | 10 | 12 | 3500 | 673 | 67 |
| 99033 | 10 | 12 | 4000 | 680 | 68 |
| 99034 | 10 | 12 | 5000 | 696 | 70 |
| 99035 | 10 | 12 | 5700 | 706 | 71 |

## Dimensions:

295 ±0.254 mm L x 10 ±0.254mm W x 2mm ±10% H

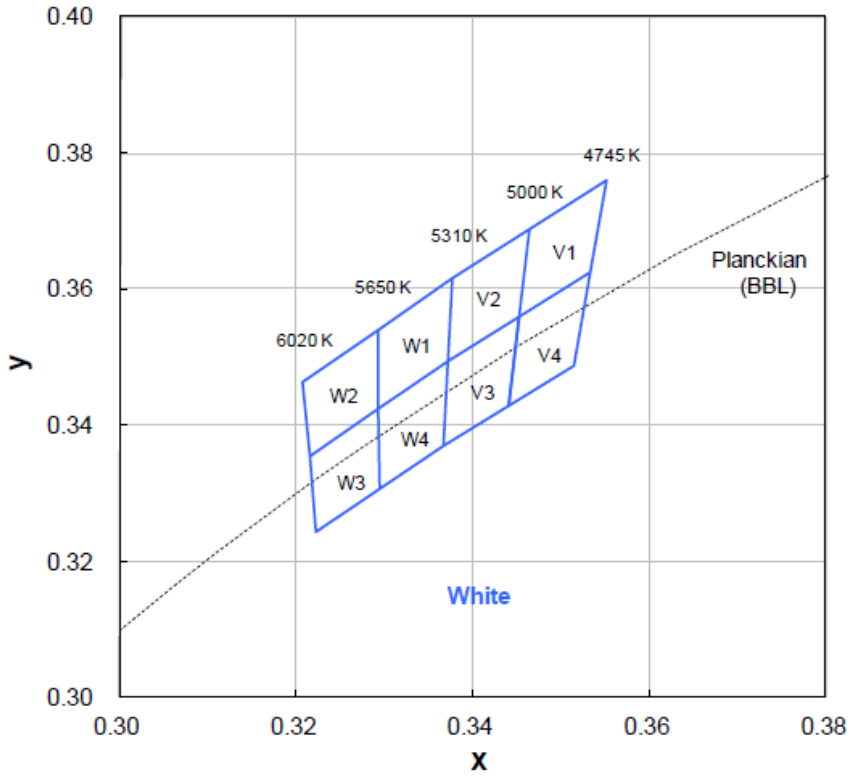



Modules can be daisy-chained, limit of 4 per chain.

*Specifications subject to change without notice. Trademarks are property of their respective owners.*

**Rev 4-9-15**

## White Binning Structure Graphical Representation



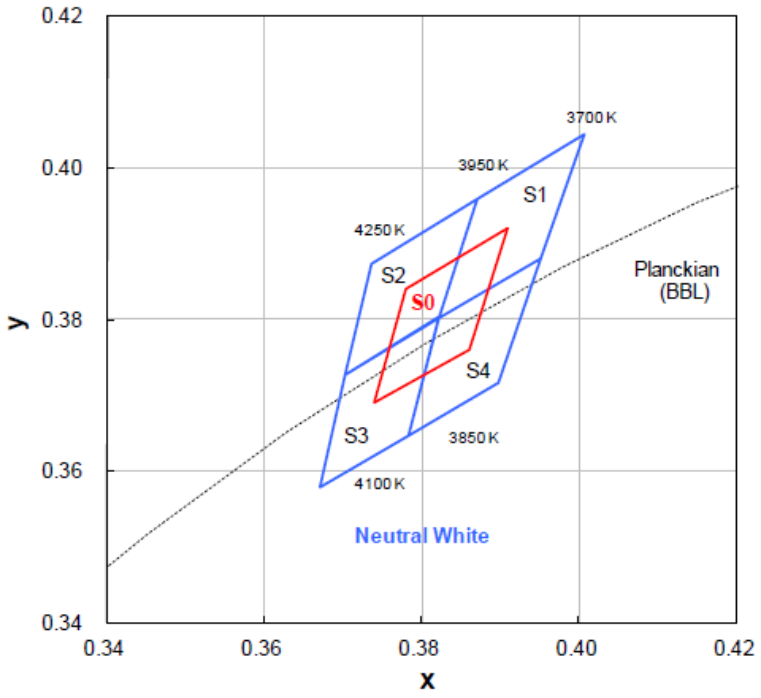

## White Bin Structure

| 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 | |
| | 0.345 | 0.356 | | | 0.329 | 0.342 | |
| V4 | 0.345 | 0.356 | 4870 | W4 | 0.329 | 0.342 | 5475 |
| | 0.353 | 0.362 | | | 0.337 | 0.349 | |
| | 0.352 | 0.349 | | | 0.337 | 0.337 | |
| | 0.344 | 0.343 | | | 0.329 | 0.331 | |
| V2 | 0.338 | 0.362 | 5155 | W2 | 0.321 | 0.346 | 5830 |
| | 0.346 | 0.369 | | | 0.329 | 0.354 | |
| | 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

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## Neutral White Binning Structure Graphical Representation



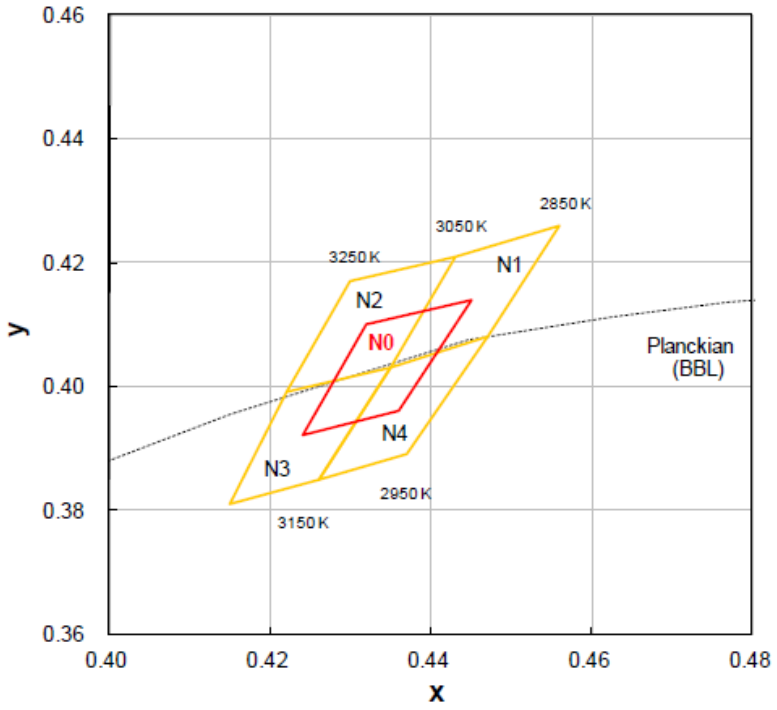

## Neutral White Bin Structure

| 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

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## Warm White Binning Structure Graphical Representation




## Warm White Bin Structure

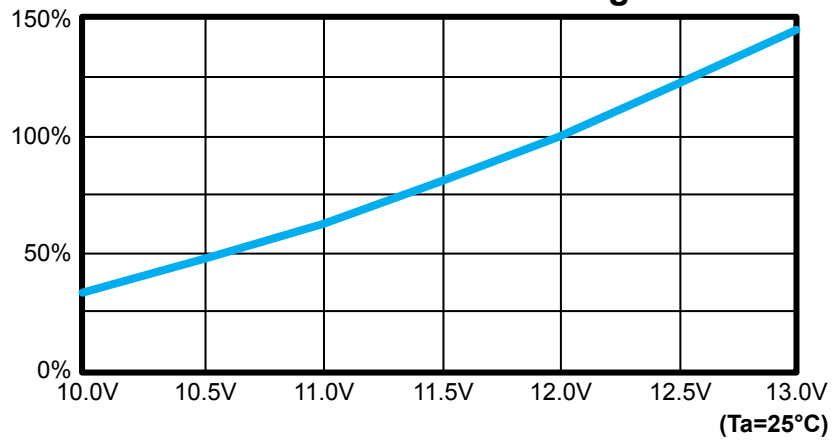
| Bin Code | x | y | Typ. CCT (K) | Bin Code | x | y | Typ. CCT (K) |
|---|---|---|---|---|---|---|---|
| N1 | 0.443 | 0.421 | 2950 | N2 | 0.430 | 0.417 | 3150 |
| | 0.456 | 0.426 | | | 0.443 | 0.421 | |
| | 0.447 | 0.408 | | | 0.435 | 0.403 | |
| | 0.435 | 0.403 | | | 0.422 | 0.399 | |
| N4 | 0.435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

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

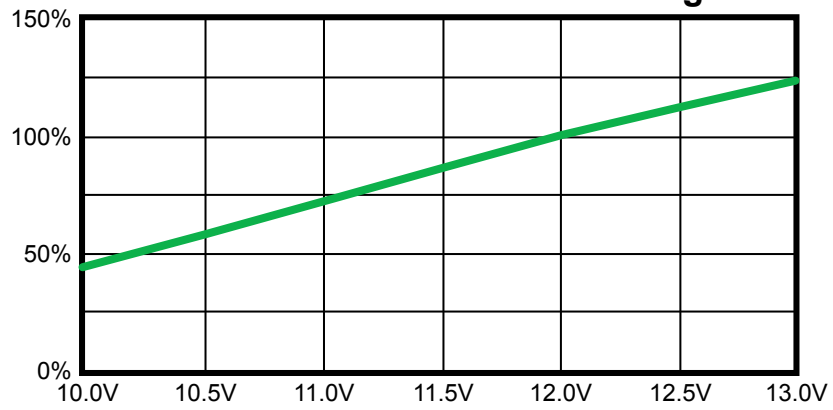
## Typical Electrical & Optical Characteristic Curves:

with current limiting resistor

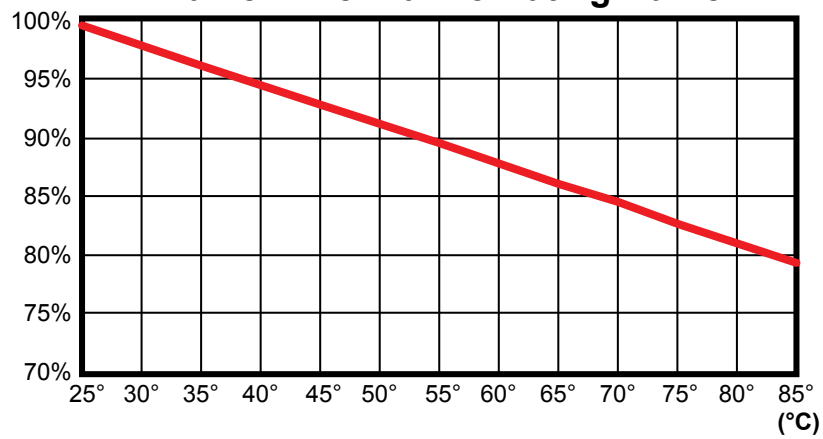
### Relative Power / Voltage




### Relative Luminous Flux / Voltage

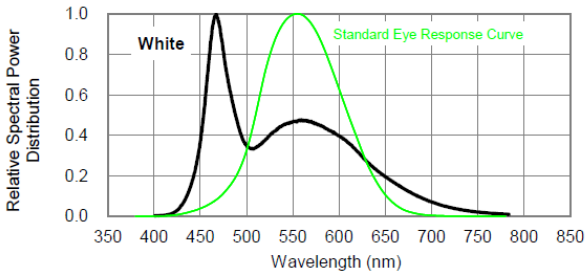


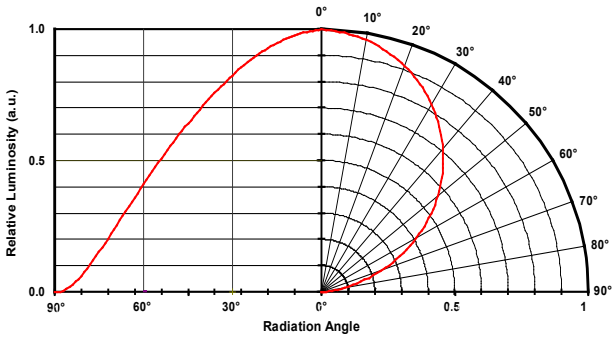

### Lumen Thermal De-Rating Curve



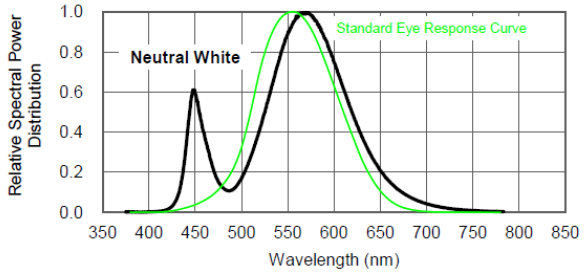

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1. White

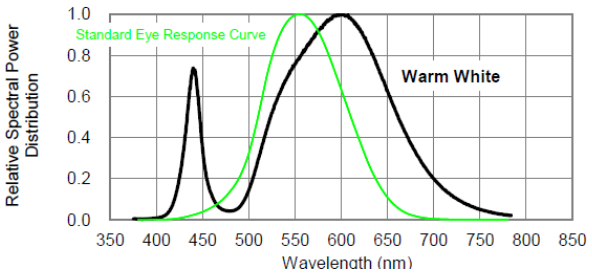



2. Neutral White




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

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