



SnapBrite™ SC254030 -14W-120

120V Direct Connect - AC LED MODULE

254 x 30mm 14 Watt 1050lm 120V AC

SINGLE-CCT or WARM ON DIM

LOW THD DIMABLE MODULE

Technical Data Sheet





Direct Connect AC LED lighting technology



SnapBrite™ SC254030 -14W-120

Description

SnapBrite high voltage AC LED modules are fast, easy and reliable LED light sources for lighting OEMs in need of LED solutions that offer direct AC line voltage connectivity.

Lynk's patented AC LED technology eliminates the requirement for an expensive, bulky and failure prone AC – DC power supply or driver. Delivering efficiency, reliability and a high power factor, SnapBrite modules can be used by lighting manufacturers in many types of fixture as an effective replacement for energy hungry incandescent, fluorescent or CFL lamps. Additionally, the modules will dim with many popular leading and trailing edge phase cut dimmers.

Unlike other AC LED light sources, these SnapBrite modules offer a very unique but optional Warm-On-Dim feature that can change CCT from cooler to warmer as the dimming level changes. This mimics the way a traditional light bulb or halogen lamp becomes warmer to look at as the light level reduces. WOD is a great feature for hospitality and residential applications.

Lynk Low THD Technology provides under 20% ATHD and a power factor of better than 0.97 for applications demanding minimal mains disturbance.

Look for the Lynk Labs name or this private label mark to ensure you are always backed by Lynk Labs high quality AC LED technology, IP, and reliability. Lynk Labs - Your AC LED Experts!



Features

- 120V Direct Connect - No Drivers/PSU's
- Lower Cost - Higher Reliability AC LED Module
- Dimmable
- Warm-On-Dim Option
- Work with most existing AC Dimmers
- High Efficiency
- High Power Factor >0.98
- Low THD <20%
- Significant Energy Savings
- Long Operating Life
- Reliable, Fast & Easy

Applications

- Trougher replacement
- Fluorescent tube replacement,
- Indoor/Outdoor General line voltage Illumination
- Ideal for commercial, hospitality and residential

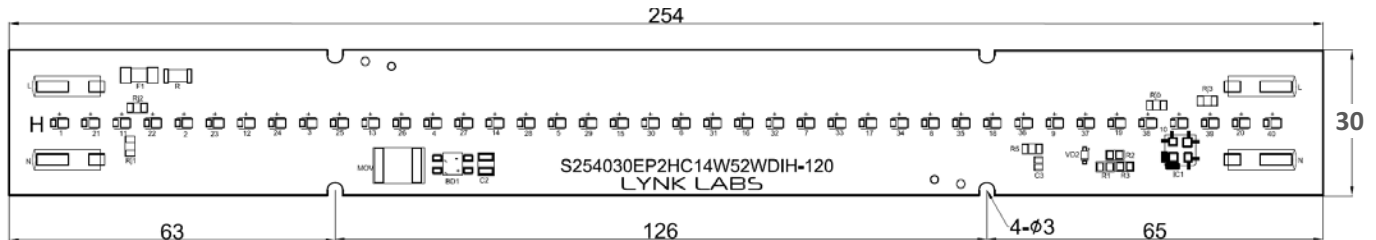


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3. Mechanical Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerance is $\pm 0.05\text{mm}$ unless otherwise noted.



4. Electrical & Optical Characteristics

| ITEM | SYMBOL | CONDITION | UNIT | MIN. | TYP. | MAX. |
|----------------------------|--------------------------------|--|------------------|------|------|------|
| Drive Voltage | V _f | connected to line | V _{rms} | 100 | 120 | 130 |
| Viewing Angle | 2θ _{1/2} | | deg | | 120 | |
| Operating/Case Temperature | R _{θj-c} | I _f =117 mA _{rms} | °C | | 70 | 90 |
| Typical Operating Power | T _o /T _c | I _f = 117 mA _{rms} | W | | 14 | |
| Luminous Flux (3000K) | Φ | V _f =120 V _{rms} | lm | | 1050 | |
| Total Harmonic Distortion | ATHD | V _f =120 V _{rms} | % | | 10 | |
| Luminous Efficacy (3000K) | η _v | V _f =120 V _{rms} | lm/w | | 75 | |

*Measurement Uncertainty of the Luminous Flux: $\pm 10\%$

*Values given are for specified drive current at 25°C case temperature



LOW THD Module Variants aTHD <20%

| MODEL NUMBER | CCT | CRI | VAC | POWER | LUMEN | lm/W |
|--------------------------|-------|-----|-----|-------|-------|------|
| SC254030EP2H14W27KCH-120 | 2700K | 90 | 120 | 14 | 1010 | 72 |
| SC254030EP2H14W30KCH-120 | 3000K | 90 | 120 | 14 | 1051 | 75 |
| SC254030EP2H14W30KCH-120 | 4000K | 90 | 120 | 14 | 1072 | 77 |

Other CCTs & 80 CRI Option may be Available to Special Order

Warm on Dim Variants

| MODEL NUMBER | Min CCT | Max CCT | CRI | VAC | POWER | LUMEN (no dimmer) | lm/W |
|---------------------------|---------|---------|-----|-----|-------|----------------------|------|
| SC254030EP2H14W42WDCH-120 | 2200K | 2700K | 90 | 120 | 14 | 1010 | 72 |
| SC254030EP2H14W52WDCH-120 | 2200K | 3000K | 90 | 120 | 14 | 1050 | 75 |

Other CCTs & 80 CRI Option may be Available to Special Order

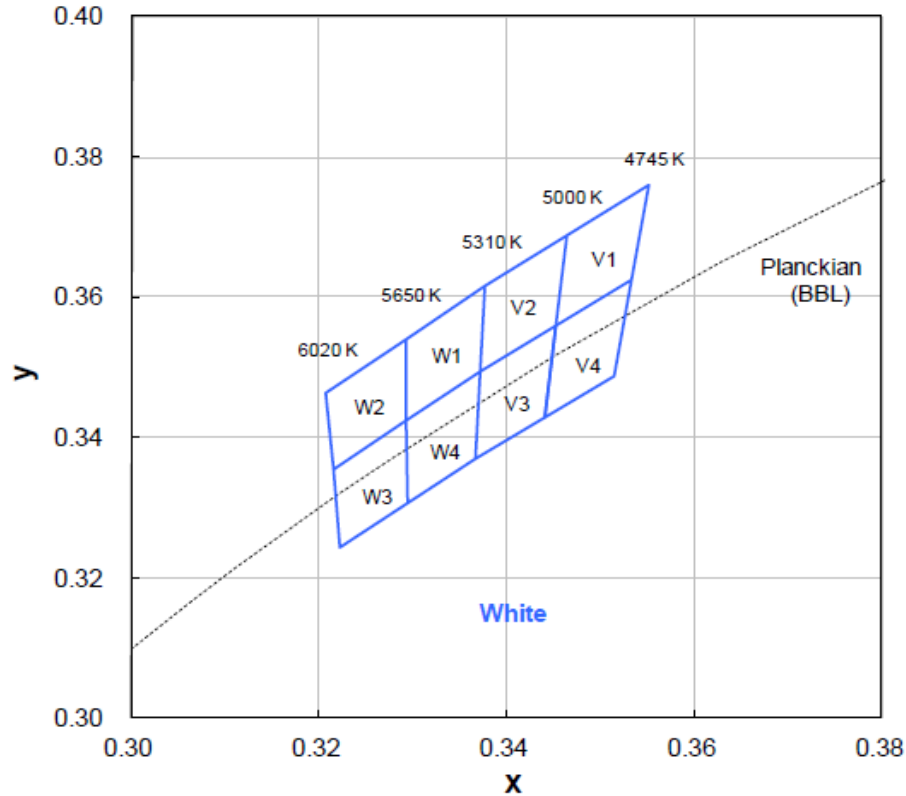
5. Absolute Maximum Ratings (@ Ta=25°C)

| ITEM | SYMBOL | ABSOLUTE MAXIMUM RATING | UNIT |
|-------------------------------|--------|-------------------------|-------|
| Power Dissipation | Pd | 16 | W |
| A.C. Current | If | 130 | mArms |
| AC Voltage | Vf | 130 | V |
| Operating Temperature | To | -25 ~ +90 | °C |
| Storage Temperature | Ts | -40 ~ +100 | °C |
| Soldering Temperature(Reflow) | Tsld | N/A | °C |
| Soldering Temperature(Hand) | Tsld | 370 | °C |



6. CIE Chromaticity Coordinates

White Binning Structure Graphical Representation



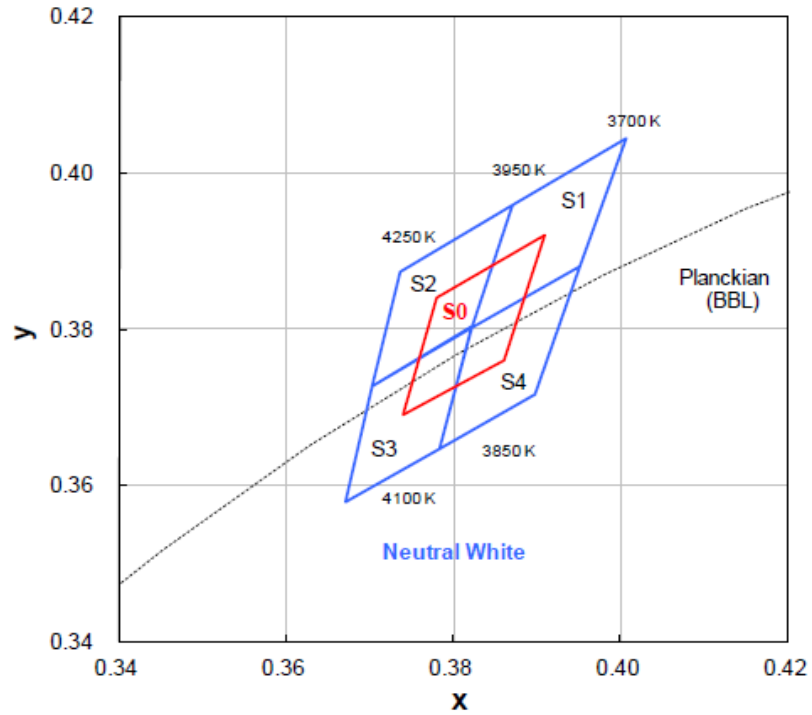
White Bin Structure

| 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 | |
| | 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



Neutral White Binning Structure Graphical Representation



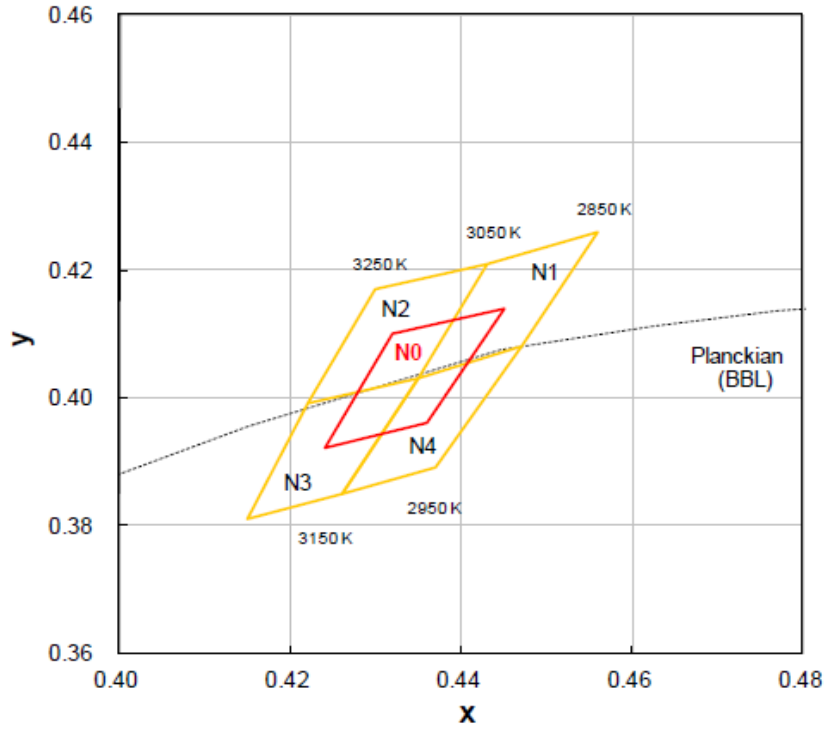
Neutral White Bin Structure

| 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 | | | 0.370 | 0.373 | |
| | 0.390 | 0.372 | | | 0.382 | 0.380 | |
| | 0.378 | 0.365 | | | 0.378 | 0.365 | |
| S0 | 0.374 | 0.369 | 3975 | | 0.367 | 0.358 | |
| | 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

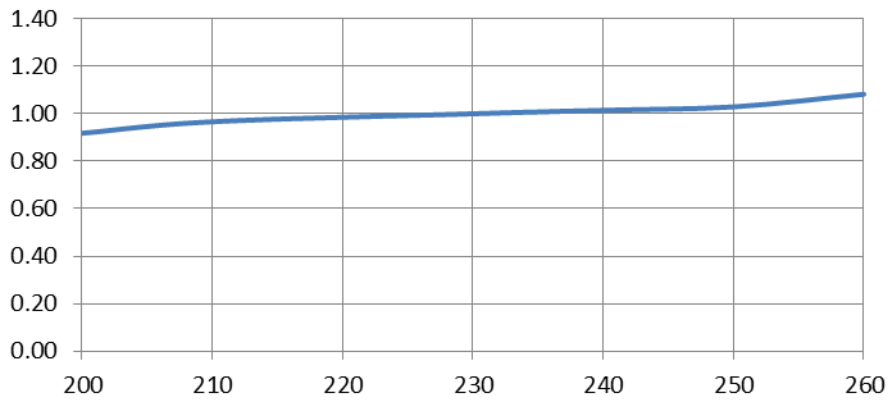
| Bin Code | x | y | Typ. CCT (K) | Bin Code | x | y | Typ. CCT (K) |
|----------|-------|-------|--------------|----------|-------|-------|--------------|
| N1 | 0.443 | 0.421 | 2950 | N2 | 0.430 | 0.417 | 3150 |
| | 0.456 | 0.426 | | | 0.443 | 0.421 | |
| | 0.447 | 0.408 | | | 0.435 | 0.403 | |
| | 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



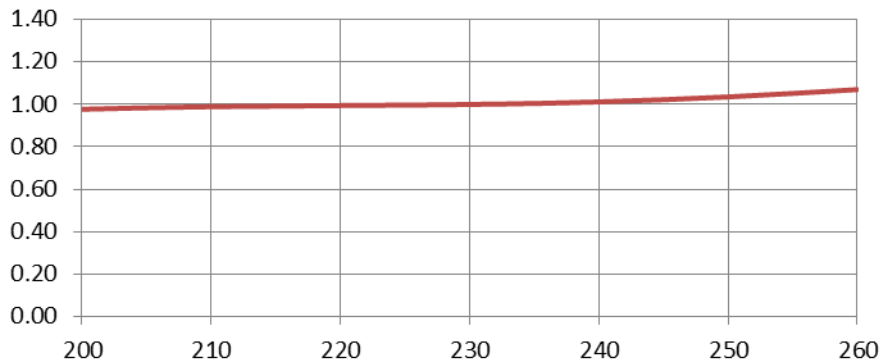
7. Typical Electrical & Optical Characteristic Curves

Relative Power vs Voltage

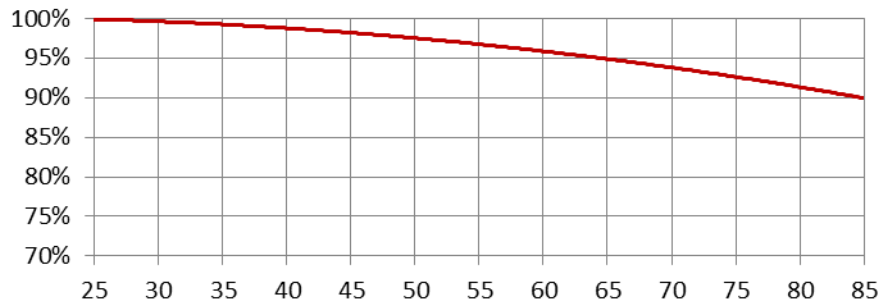


Ta=25 °C

Relative Luminous Flux vs. Voltage

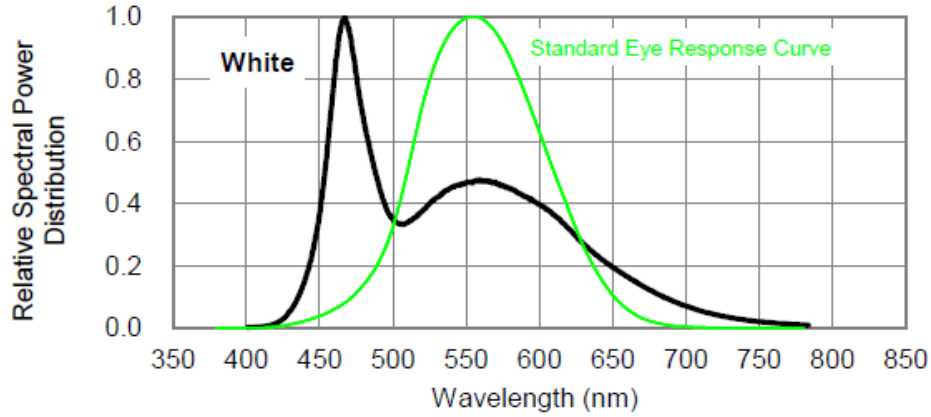


Lumen Thermal de-rating curve

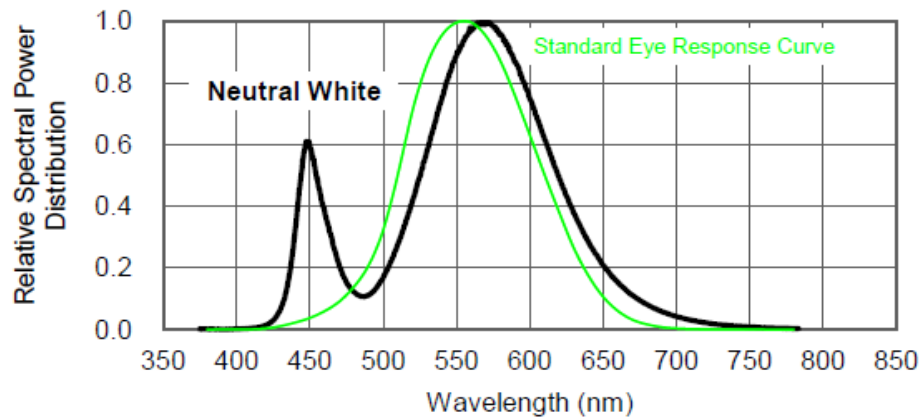




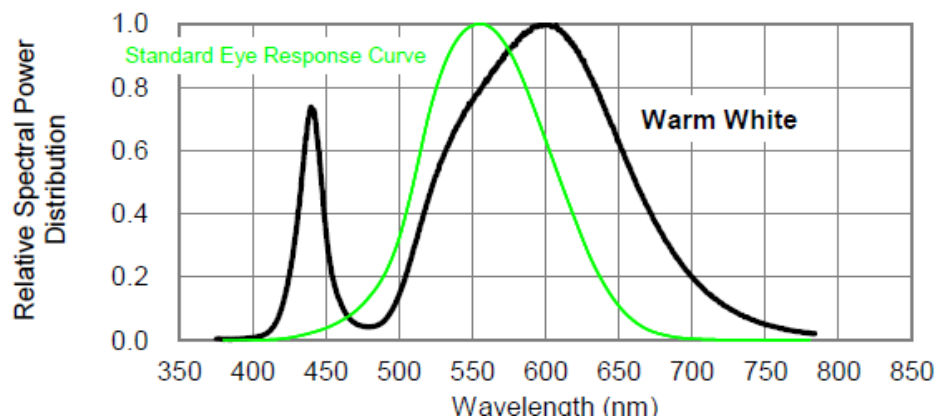
1. White

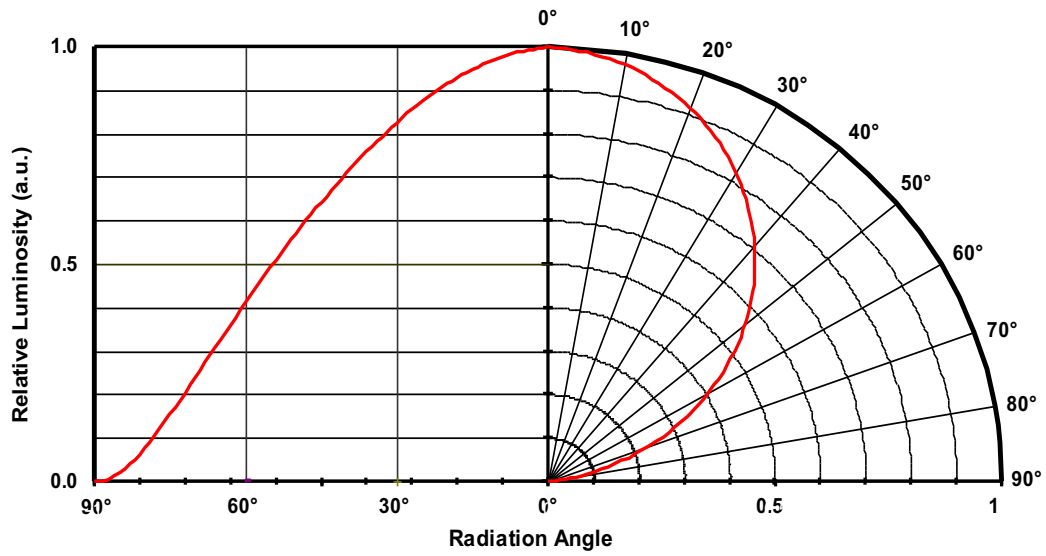


2. Neutral White

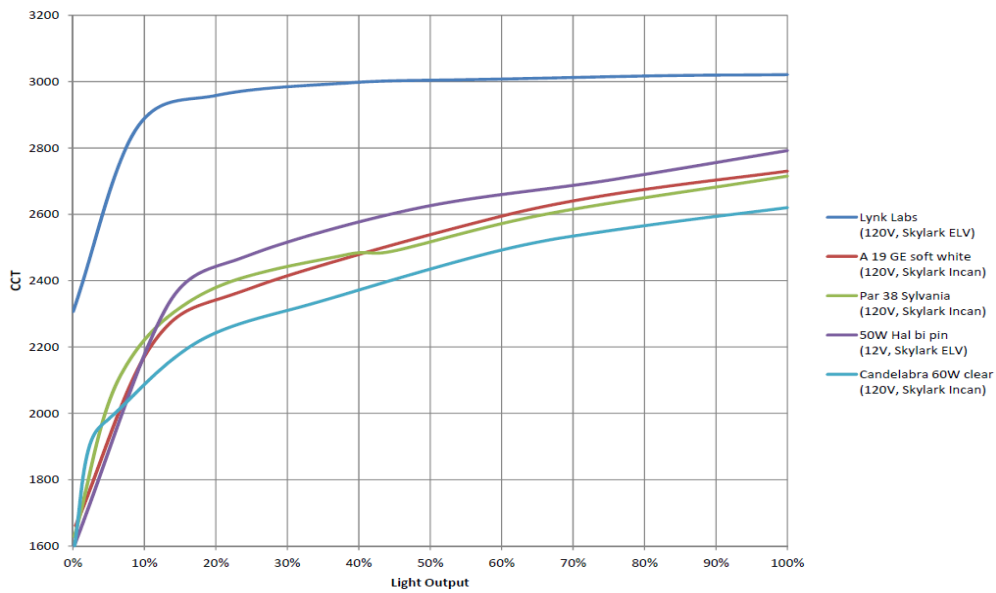


3. Warm White

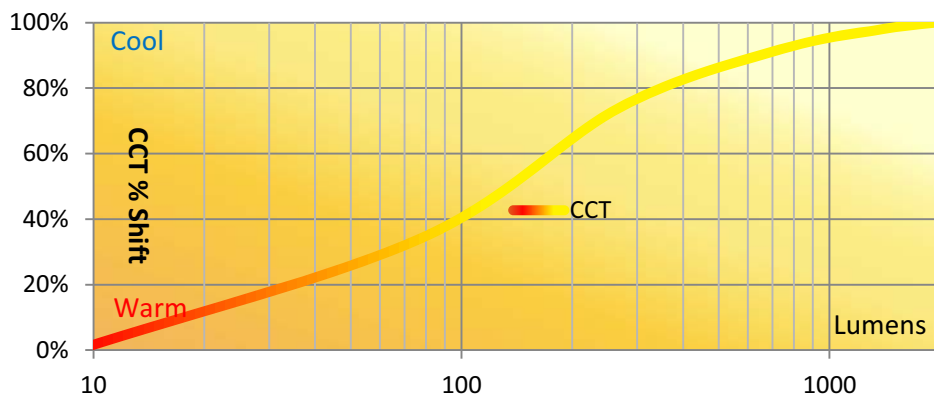




Dimming Cycle



% CCT Shift vs. perceived brightness





8.Part Number Identification

| Part Number | | | | | | | | | | | | | | |
|--------------|-------|-------------------------|--|--|----------------|--|--------------|------|------------------------------|--|-----------------|-----|---------------|---------------|
| Product Code | Shape | Dimension/Diameter (mm) | | | Internal Codes | | Module Power | aTHD | CCT (XXK) Warm on Dim (XYWD) | | Connection Type | CRI | Input Voltage | Miscellaneous |

SC 2 5 4 0 3 0 E P 2 4 H 1 4 W L 5 2 W D C H - 1 2 0 V

| Model Number | | | | | | | | | | | | |
|--------------|-------|--------------------|--|--|--------------|------|------------------------------|--|-----------------|-----|---------------|---------------|
| Product Code | Shape | Dimension/Diameter | | | Module Power | aTHD | CCT (XXK) Warm on Dim (XYWD) | | Connection Type | CRI | Input Voltage | Miscellaneous |

SC 2 5 4 0 3 0 1 4 W L 5 2 W D C H - 1 2 0 V

| Product Code | |
|--------------|----------------|
| S | = SnapBrite™ |
| T | = Tesla™ |
| G | = GeoLite™ |
| B | = BriteDriver® |

| Shape | |
|-------|----------|
| R | = Round |
| S | = Square |
| T | = Star |
| L | = Linear |

| Dimension/Diameter | | | |
|--------------------|---|---|-----|
| L | = | X | X X |
| W | = | Y | Y Y |
| D | = | Z | Z Z |

| Module Power | |
|--------------|-----------------|
| Q | = 0.25W |
| H | = 0.5W |
| T | = 0.75W |
| R | = Decimal Point |

| aTHD | |
|------|---------|
| L | = < 20% |
| H | = ≥ 20% |

| CCT/WOD | | | | |
|---------|---|---|---|--------------------------------|
| 2 | 2 | K | | = 2200K |
| 2 | 7 | K | | = 2700K |
| 3 | 0 | K | | = 3000K |
| 3 | 5 | K | | = 3500K |
| 4 | 0 | K | | = 4000K |
| 5 | 0 | K | | = 5000K |
| 5 | 7 | K | | = 5700K |
| 3 | 2 | W | D | = ~ 2700K To 2200K Warm on Dim |
| 4 | 2 | W | D | = ~ 3000K To 2200K Warm on Dim |
| 5 | 2 | W | D | = ~ 3500K To 2200K Warm on Dim |

| Connection Type | |
|-----------------|-------------------------------------|
| C | = Poke-In Connector |
| I | = Insulation Displacement Connector |
| O | = Connector + Solder Pads |
| W | = Wire "Pigtail" |
| X | = Solder Pads |

| CRI | |
|-----|------------|
| L | = < 80 CRI |
| S | = ≥ 80 CRI |
| H | = ≥ 90 CRI |

| Input Voltage | |
|---------------|---|
| 12V | = 12 VAC, Magnetic or Electronic Transformer Source |
| 12E | = 12 VAC, Electronic Transformer Source Only |
| 120V | = 120 VAC |
| 120R | = Rectified 120 VAC |
| 230V | = 230 VAC |



9. 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.

10. 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.

11. Moisture Sensitivity

The module can operate for up to 1000hrs at 85 °C and 65% Relative Humidity.

It is not designed for operation in wet conditions without an additional conformal coating which must be approved and supplied by the manufacturer during the module build process or warranty will be voided