



SnapBrite S254-10W-12E

AC LED MODULE

10 Watt 660lm 12V AC

LOW VOLTAGE MULTI-LED DIMMABLE LINEAR MODULE

Technical Data Sheet





Direct Connect AC LED lighting technology

SnapBrite™ S254-10W-12E

Description

SnapBrite low voltage AC LED modules are fast, easy and reliable LED light sources for lighting OEMs in need of dimmable LED solutions that offer direct low voltage connectivity with a 12V AC magnetic or electronic transformers. Best performance is achieved with a Lynk Labs BriteDriver transformer.

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, Xenon or Halogen lamps. Additionally, the modules will dim with many popular leading and trailing edge phase cut dimmers designed for use with magnetic or electronic transformers.

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

- Direct 12V AC connection
- Compatible with existing 12V magnetic or electronic AC Power Supplies
- Reliable, Fast & Easy - Plug & Play
- Works with most existing 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
- Wall Sconce
- Step Lights
- Accent Lights
- Display Lights



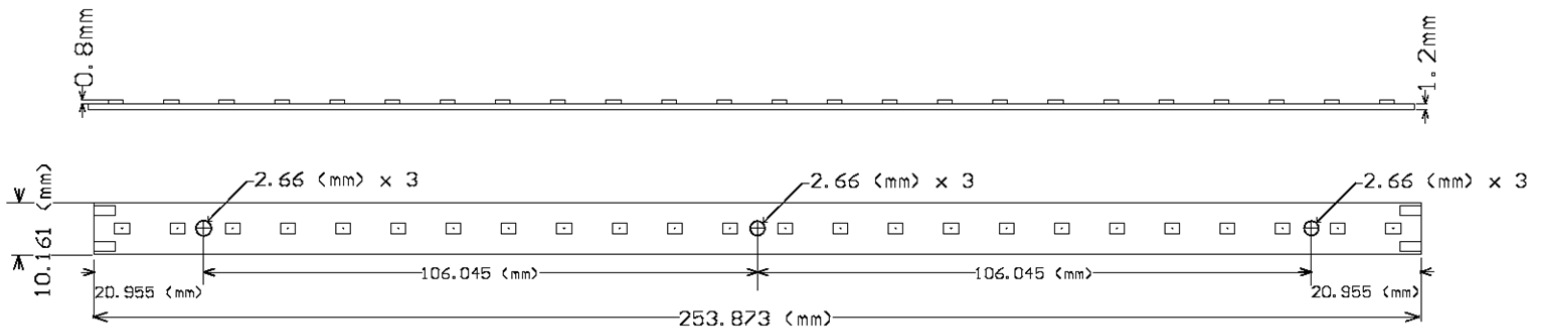
Contents:

1. Description, Features and Applications	2
2. Contents	3
3. Mechanical Dimensions	4
4. Electrical & Optical Characteristics	5
5. Absolute Maximum Ratings	5
6. C.I.E. Chromaticity Coordinates	6
7. Typical Electrical & Optical Characteristic Curves	8
8. Part Number Identification.....	10
9. Packaging	11
10. Reliability and Average Lumen Maintenance	11
11. Design Considerations/Specifications.....	11



3. Mechanical Dimensions Single LED Assembly

S254EP2HT10W_KCS-12E	Length	Width	Height
Size in Millimeters	254 mm	10 mm	5.5 mm
Tolerance	+/- 0.254mm	+/- 0.254mm	+/- 10%



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	12V AC	V _{rms}	7	12	13
Viewing Angle	2θ _½		deg		120	
Thermal Resistance	R _{θj-c}	I _f =833mA _{rms}	°C/W		tba	
Typical Operating Power	W _T	I _f =833 mA _{rms}	W		10	
Luminous Flux (3000K)	Φ	V _f =12 V _{rms}	lm		660	
Luminous Efficacy (3000K)	η _v	V _f =12 V _{rms}	lm/w		66	

*Measurement Uncertainty of the Luminous Flux: ± 10%

*Values given are for specified drive current/voltage at 25°C ambient temperature and 25°C case temperature

MODEL NUMBER	CCT	CRI	VAC	POWER	LUMEN	lm/W
S254EP2HT10W27KCS-12E	2700K	80	12	10	627	63
S254EP2HT10W30KCS-12E	3000K	80	12	10	660	66
S254EP2HT10W40KCS-12E	4000K	80	12	10	751	75

Other CCTs & 90 CRI Option may be Available to Special Order

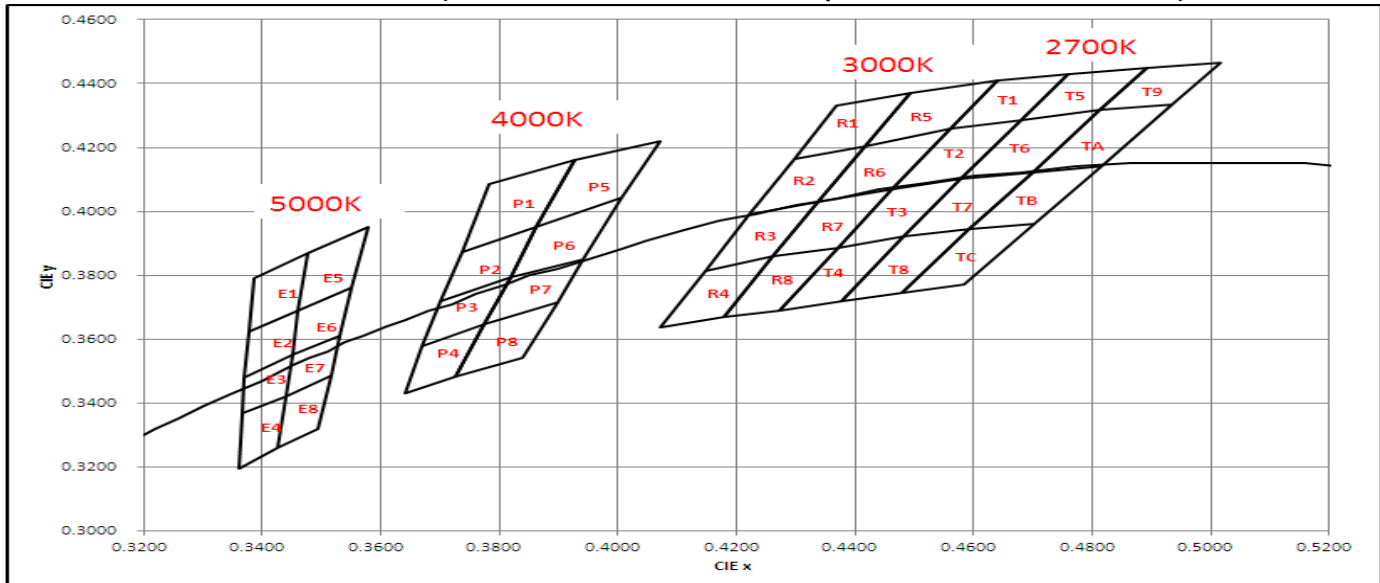
5. Absolute Maximum Ratings (@ Ta=25°C)

ITEM	SYMBOL	ABSOLUTE MAXIMUM RATING	UNIT
Power Dissipation	P _d	12	W
A.C. Current	I _f	1333	mA _{rms}
AC Voltage	V _f	13	V
Operating Temperature	T _o	-25 ~ +100	°C
Storage Temperature	T _s	-40 ~ +100	°C
Soldering Temperature(Hand)	T _{sld}	370	°C



6. C.I.E. Chromaticity Coordinates

(VF=12Vrms, Ta=25°C, pulsed measurement)



Energy star ANSI	Rank	x1	y1	x2	y2	x3	y3	x4	y4	Center CCT(K)
TY	T2	0.4562	0.4260	0.4463	0.4070	0.4578	0.4101	0.4680	0.4285	2700K
	T3	0.4463	0.4070	0.4371	0.3885	0.4482	0.3920	0.4578	0.4101	
	T6	0.4680	0.4285	0.4578	0.4101	0.4700	0.4120	0.4813	0.4319	
	T7	0.4578	0.4101	0.4482	0.3920	0.4593	0.3944	0.4700	0.4120	
	T1	0.4640	0.4410	0.4562	0.4260	0.4680	0.4285	0.4760	0.4430	
	T4	0.4371	0.3885	0.4273	0.3690	0.4376	0.3720	0.4482	0.3920	
	T5	0.4760	0.4430	0.4680	0.4285	0.4813	0.4319	0.4892	0.4450	
	T8	0.4482	0.3920	0.4376	0.3720	0.4480	0.3745	0.4593	0.3944	
	T9	0.4892	0.4450	0.4813	0.4319	0.4935	0.4335	0.5017	0.4465	
	TA	0.4813	0.4319	0.4700	0.4120	0.4815	0.4140	0.4935	0.4335	
	TB	0.4700	0.4120	0.4593	0.3944	0.4702	0.3960	0.4815	0.4140	
	TC	0.4593	0.3944	0.4480	0.3745	0.4585	0.3770	0.4702	0.3960	
RY	R2	0.4299	0.4165	0.422	0.399	0.4338	0.403	0.4416	0.4205	3000K
	R3	0.422	0.399	0.4147	0.3814	0.4262	0.386	0.4338	0.403	
	R6	0.4416	0.4205	0.4338	0.403	0.4463	0.407	0.4562	0.426	
	R7	0.4338	0.403	0.4262	0.386	0.4371	0.3885	0.4463	0.407	
	R1	0.437	0.4332	0.4299	0.4165	0.4416	0.4205	0.4493	0.437	
	R4	0.4147	0.3814	0.407	0.3636	0.4178	0.367	0.4262	0.386	
	R5	0.4493	0.437	0.4416	0.4205	0.4562	0.426	0.464	0.441	
	R8	0.4262	0.386	0.4178	0.367	0.4273	0.369	0.4371	0.3885	
PY	P2	0.374	0.3888	0.37	0.372	0.3818	0.3795	0.3863	0.395	4000K
	P3	0.37	0.372	0.367	0.3568	0.377	0.363	0.3818	0.3795	
	P6	0.3863	0.395	0.3818	0.3795	0.3941	0.385	0.3996	0.4015	
	P7	0.3818	0.3795	0.377	0.363	0.3889	0.369	0.3941	0.385	
	P1	0.3783	0.4085	0.374	0.3888	0.3863	0.395	0.3926	0.416	
	P4	0.367	0.3568	0.364	0.343	0.3727	0.3482	0.377	0.363	
	P5	0.3926	0.416	0.3863	0.395	0.3996	0.4015	0.407	0.422	
	P8	0.377	0.363	0.3727	0.3482	0.384	0.354	0.3889	0.369	
EY	E2	0.3377	0.3625	0.3368	0.348	0.345	0.355	0.3461	0.369	5000K
	E3	0.3368	0.348	0.3366	0.3369	0.344	0.342	0.345	0.355	
	E6	0.3461	0.369	0.345	0.355	0.353	0.361	0.3551	0.376	
	E7	0.345	0.355	0.344	0.342	0.3515	0.3487	0.353	0.361	
	E1	0.3385	0.379	0.3377	0.3625	0.3461	0.369	0.3477	0.387	
	E4	0.3366	0.3369	0.336	0.3195	0.3425	0.326	0.344	0.342	
	E5	0.3477	0.387	0.3461	0.369	0.3551	0.376	0.358	0.395	
	E8	0.344	0.342	0.3425	0.326	0.3495	0.332	0.3515	0.3487	

* tester tolerance of ± 0.01 on x, y color coordinates.

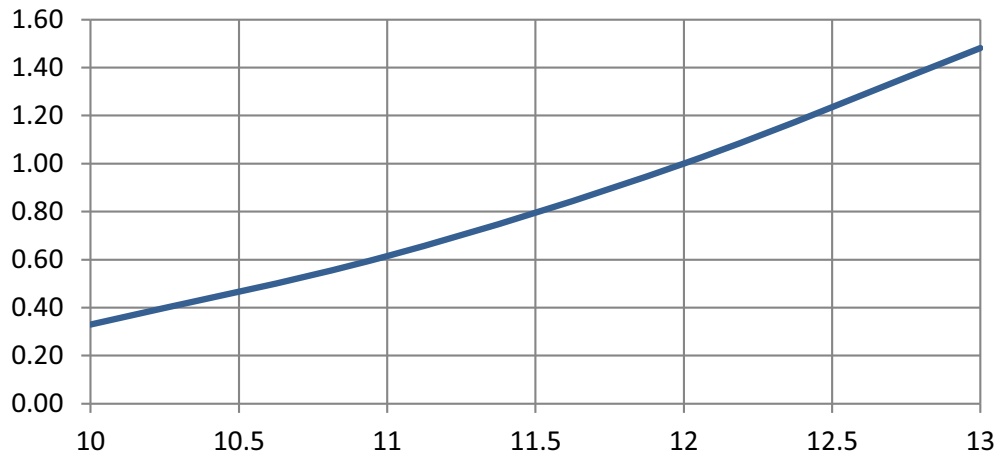


Emitting Color	Center CCT(K)	Flux Code	MIN.	MAX.	Model Name
Warm white	2700	F28	45	50	S.....27KS-12
		F29	50	55	
		F30	55	60	
		F31	60	68	
		F32	68	75	
		F33	75	85	
Warm white	3000	F34	85	95	S.....30KS-12
		F28	45	50	
		F29	50	55	
		F30	55	60	
		F31	60	68	
		F32	68	75	
		F33	75	85	
Neutral white	4000	F34	85	95	S.....40KS-12
		F35	95	110	
		F29	50	55	
		F30	55	60	
		F31	60	68	
		F32	68	75	
Cool white	5000	F33	75	85	S.....50KS-12
		F34	85	95	
		F35	95	110	
		F36	110	125	
		F30	55	60	
		F31	60	68	

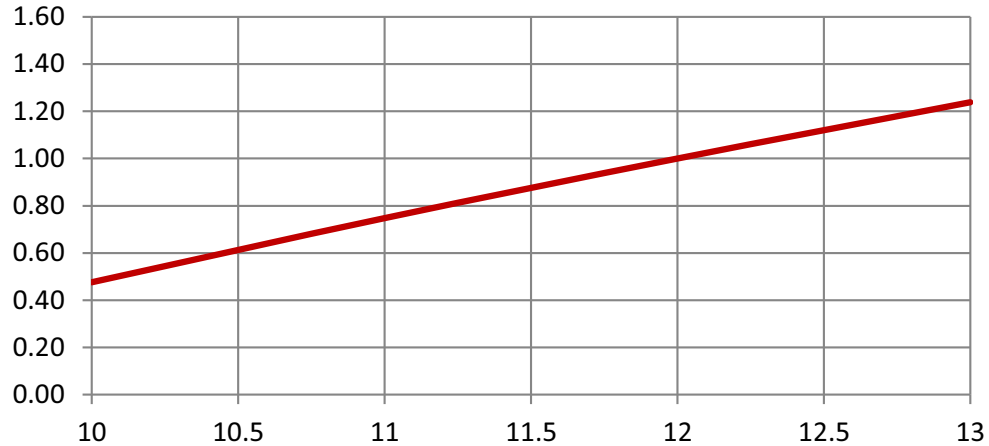


7. Typical Electrical & Optical Characteristic Curves

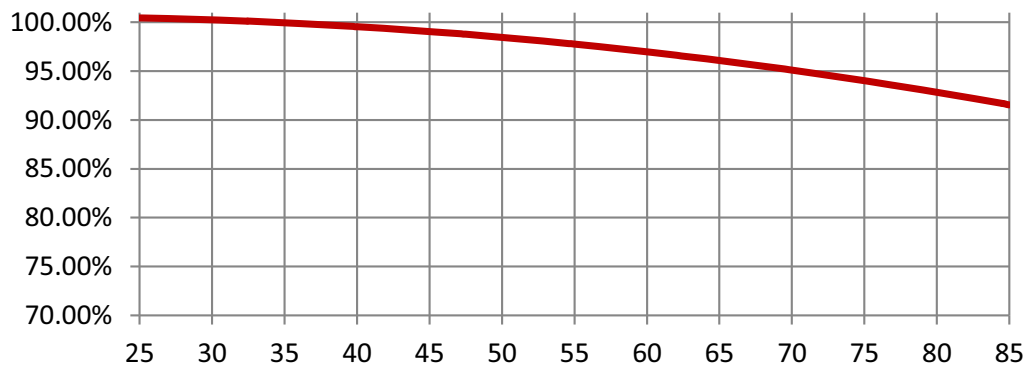
Relative Power vs Voltage



Relative Luminous Flux vs. Voltage



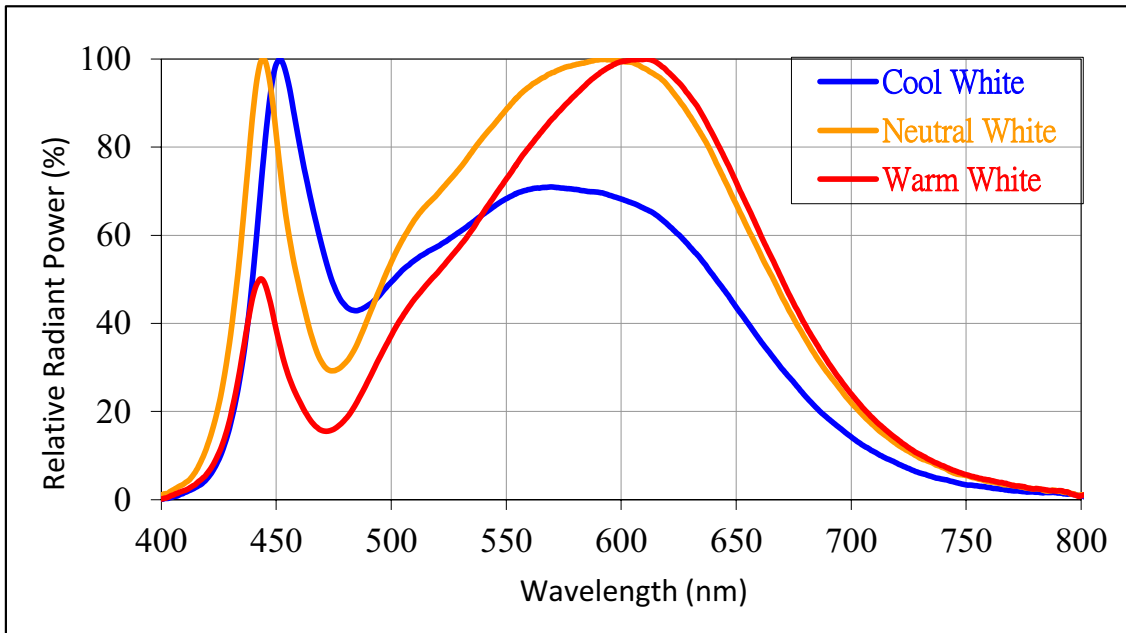
Lumen Thermal de-rating curve



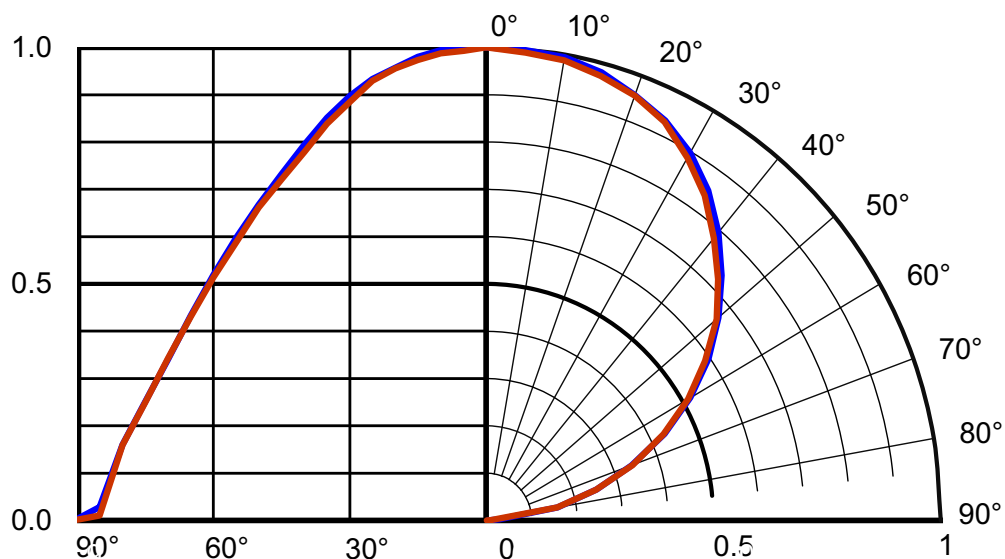


Typical Electrical & Optical Characteristic Curves

Spectrum (VF=12Vrms, Ta=25°C, pulsed measurement)

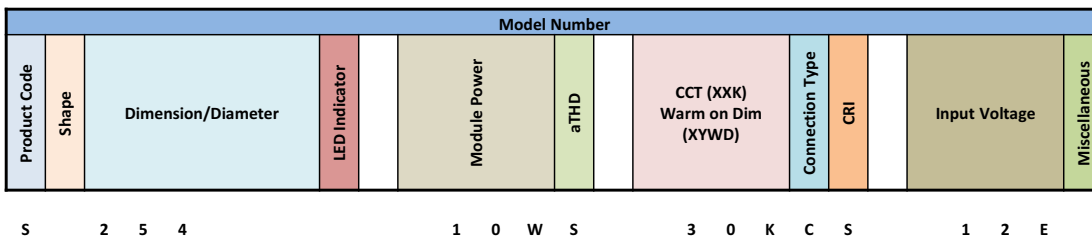
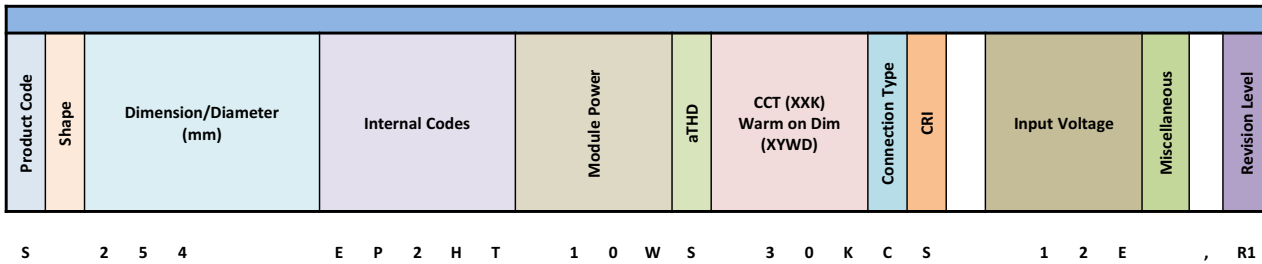


Radiant Angle & Pattern (VF=12Vrms, Ta=25°C, pulsed measurement)





8. Part Number Identification



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%
S	= ≥ 20%

Miscellaneous	
	Customer Code
	Special Design
	Special Silk Scn
	TBA

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

Revision Level	
	P1 to 9, Prelim
	R1 to ∞, RIs
	TBA

LED Indicator	
P	Prolite
E	EverLite
D	Interlight
C	Citizen
S	SemiLeds
N	Nichia
...	TBA

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. Design Considerations/Specifications

11.1 Thermal Management Requirements

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

11.2. Mechanical Mounting

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

11.3. Electrical Interface

Solder Pads

11.4. 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.