



# SnapBrite™ SC203028S-09W-120

120V Direct Connect - AC LED MODULE

203 x 28mm 9 Watt 694lm 120V AC

SINGLE-CCT or WARM ON DIM

LOW THD DIMABLE MODULE

Technical Data Sheet





## Direct Connect AC LED lighting technology



# SnapBrite™ SC203028S-9W-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

TBA

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	Vrms	100	120	130
Viewing Angle	$2\theta_{1/2}$		deg		120	
Operating/Case Temperature	$R_{\theta j-c}$	$I_f=75 \text{ mA}_{rms}$	$^{\circ}\text{C}$		70	90
Typical Operating Power	$T_o/T_c$	$I_f=75 \text{ mA}_{rms}$	W		9	
Luminous Flux (3000K)	$\Phi$	$V_f=120 \text{ V}_{rms}$	lm		694	
Total Harmonic Distortion	ATHD	$V_f=120 \text{ V}_{rms}$	%		18	
Luminous Efficacy (3000K)	$\eta_v$	$V_f=120 \text{ V}_{rms}$	lm/w		76	

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

\*Values given are for specified drive current at  $25^{\circ}\text{C}$  case temperature



LOW THD Module Variants aTHD <20%

MODEL NUMBER	CCT	CRI	VAC	POWER	LUMEN	lm/W
SC203028XS3109W27KC-120	2700K	80	120	9	780	86
SC203028XS3109W30KC-120	3000K	80	120	9	796	87
SC203028XS3109W40KC-120	4000K	80	120	9	827	91

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
SC203028XS3109W42WDC-120	2200K	2700K	80	120	9	750	83
SC203028XS3109W52WDC-120	2200K	3000K	80	120	9	780	87

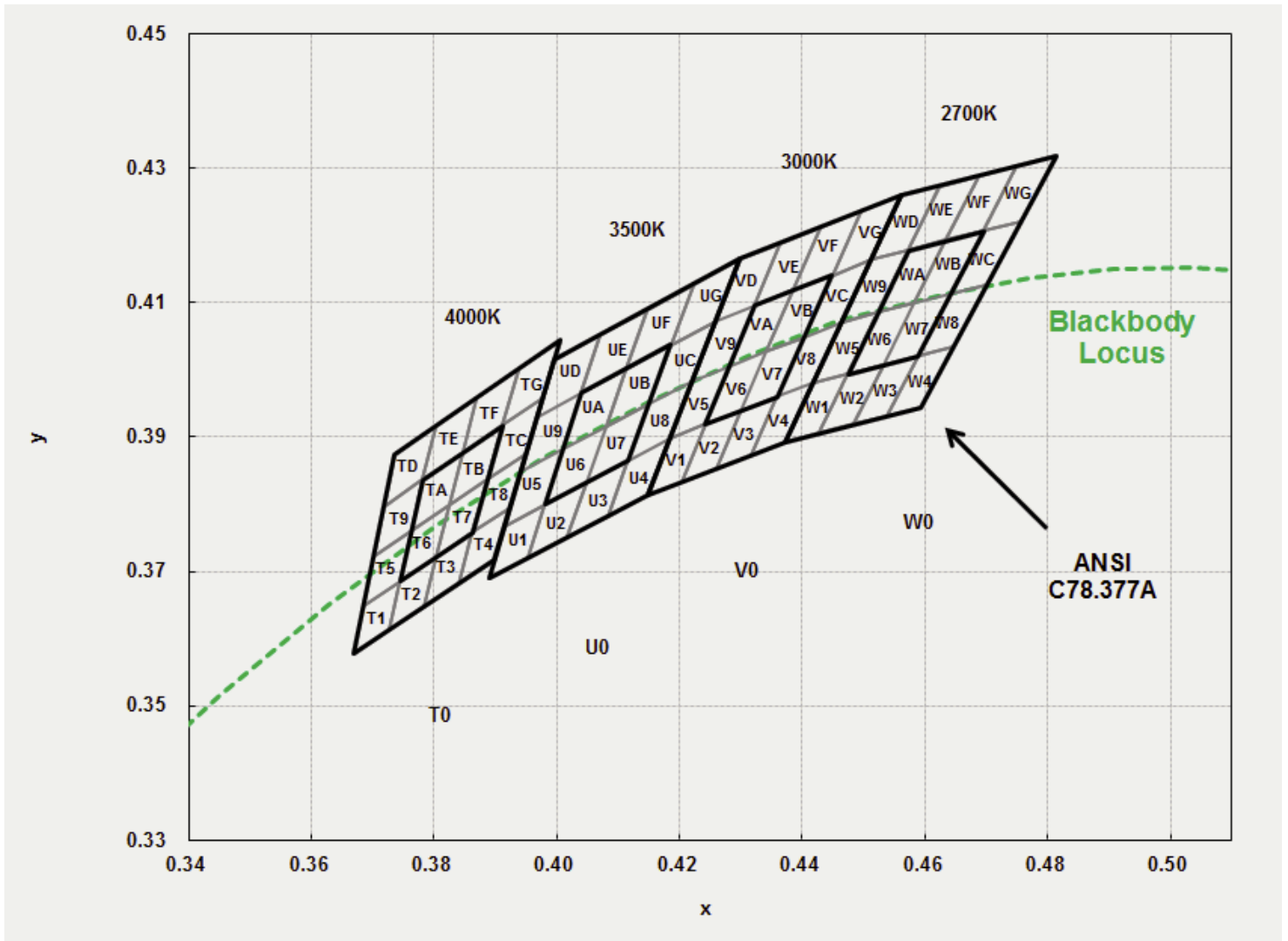
Other CCTs & 80 CRI Option may be Available to Special Order

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

ITEM	SYMBOL	ABSOLUTE MAXIMUM RATING	UNIT
Power Dissipation	Pd	11	W
A.C. Current	If	92	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



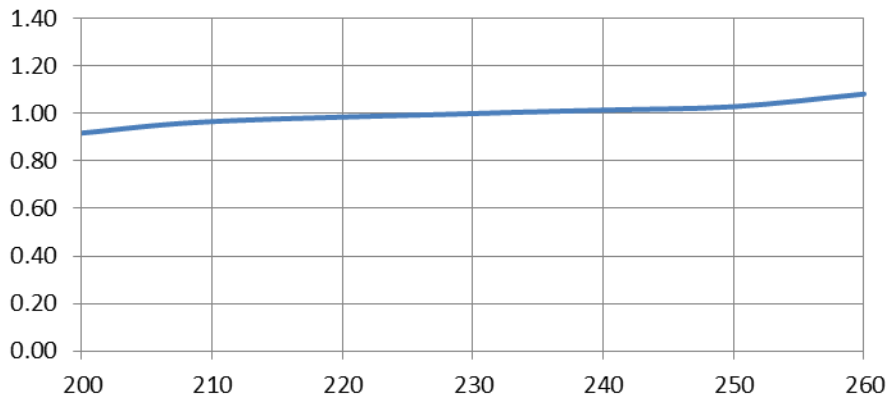
## 6. CIE Chromaticity Coordinates





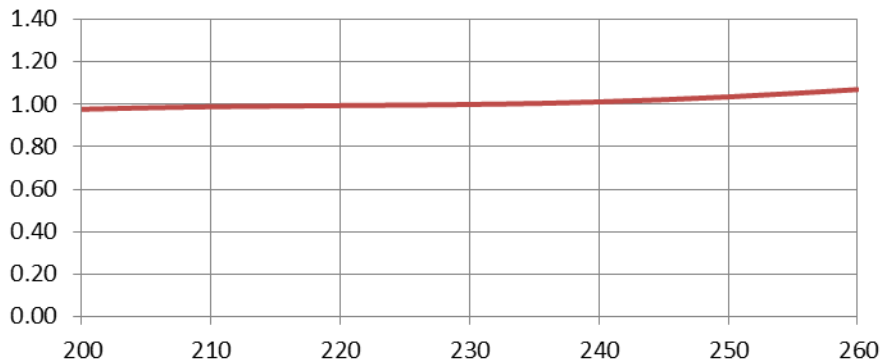
## 7. Typical Electrical & Optical Characteristic Curves

### Relative Power vs Voltage

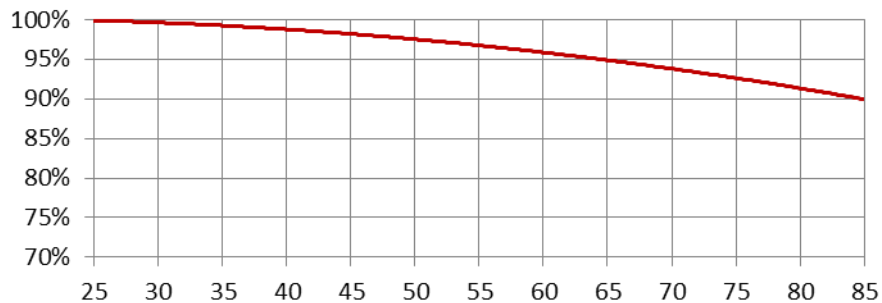


Ta=25 °C

### Relative Luminous Flux vs. Voltage

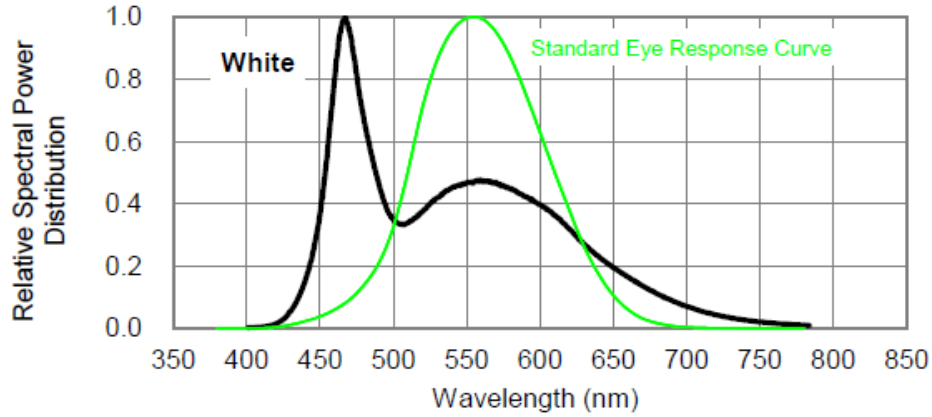


### Lumen Thermal de-rating curve

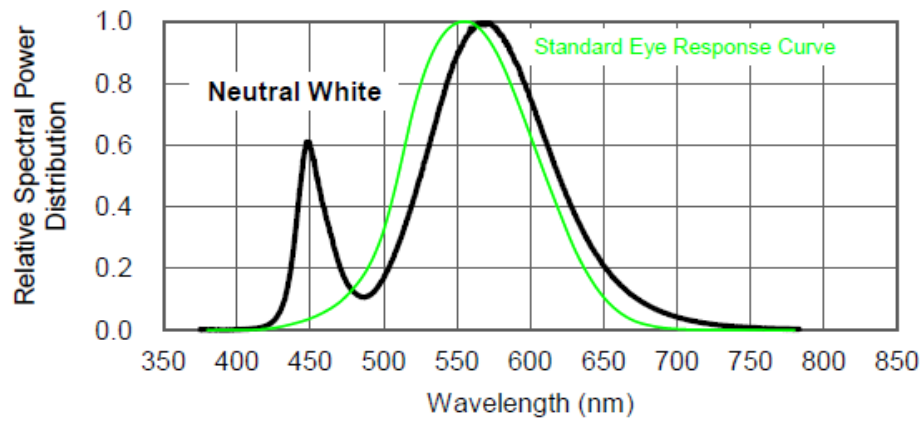




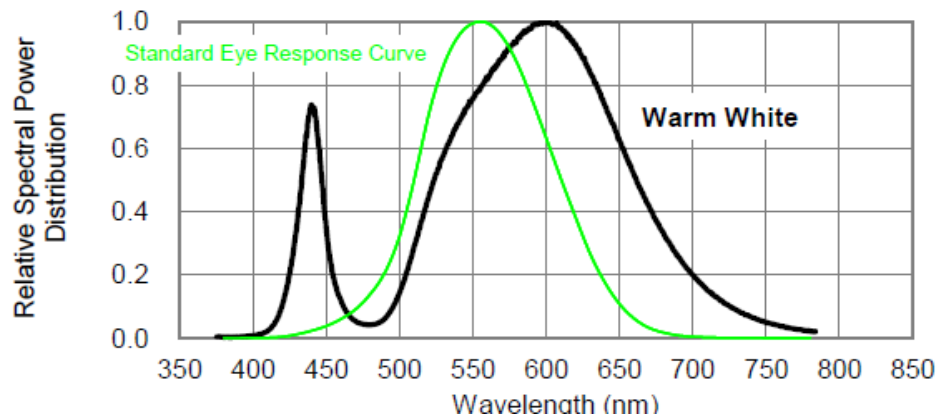
**1. White**



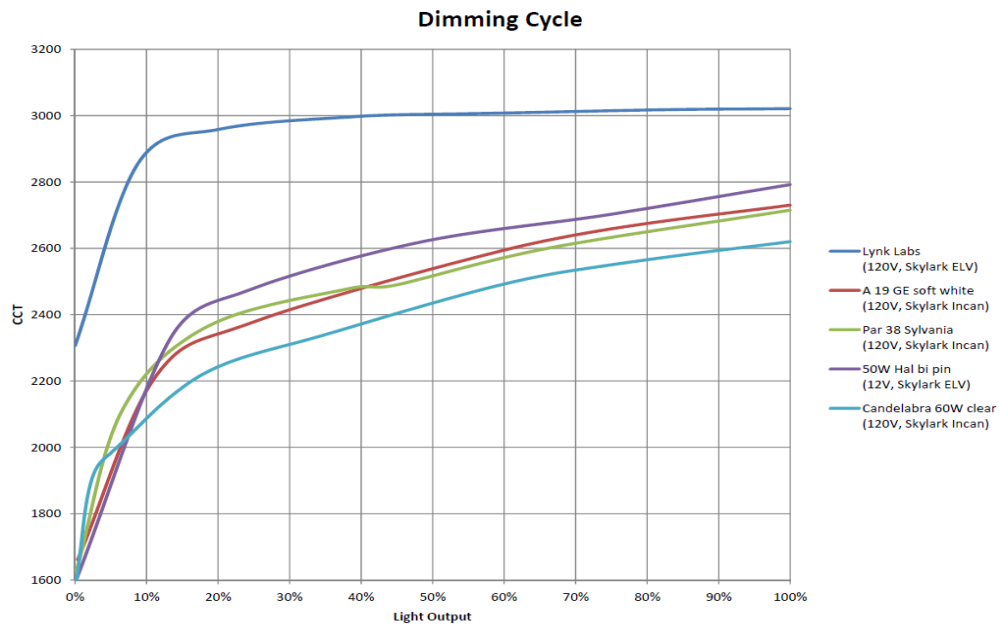
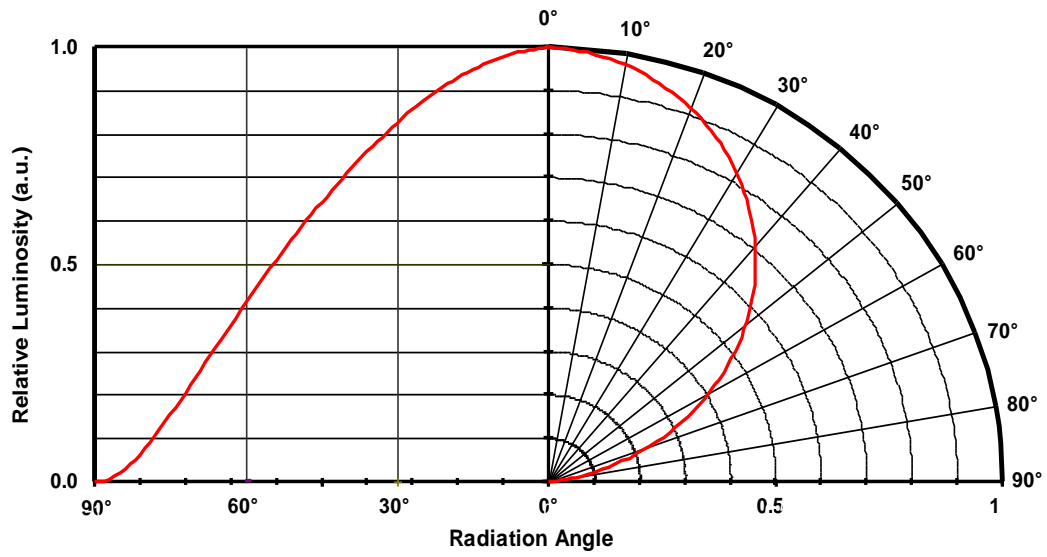
**2. Neutral White**



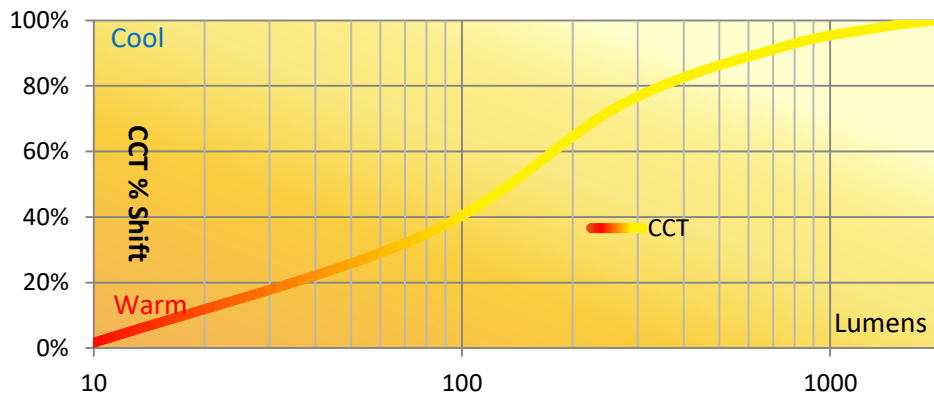
**3. Warm White**







**% 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	0	3	0	2	8	X	S	3	1		9	W	L	4	2	W	D	C	S	-	1	2	0	V

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SC		2	0	3	0	2	8	S		9	W	L	4	2	W	D	C	S	-	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
W	=	Y	Y
D	=	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