



# SnapBrite® SRL46-9W-120

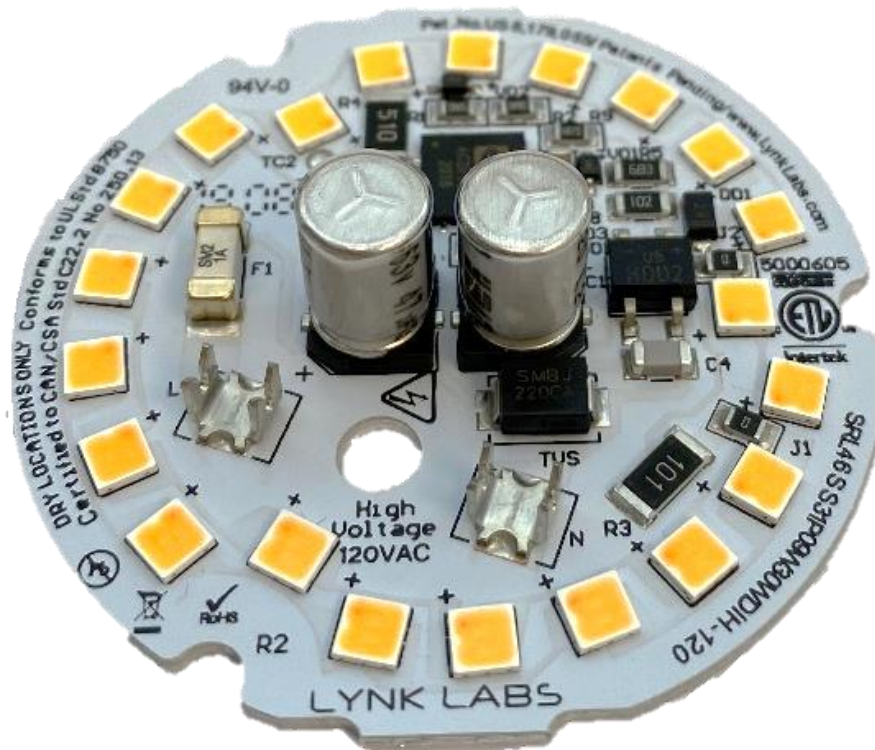
SnapBrite® SRL46SS31P09W\_\_K(WD)-120

120Vac Direct Connect - DoB™ LED Module  
 Low Flicker (CEC; T24) – Phase-Cut/Triac Dimmable  
 Warm-on-Dim™ or Single CCT's

46mm (1.81") Diameter, 11.4mm (0.44") Height

9-Watt, 900 Lumen, 100 LPW

## Technical Data Sheet





## Direct Connect AC LED lighting Technology

### SnapBrite® SRL46-9W-120

#### Description

The SRL46-9W-120 module utilizes Lynk Labs patented DoB™ (Driver on Board) technology to provide a compact, self-contained, highly reliable, easy to install module that can connect directly to 120VAC mains.

The SRL46-9W-120 module utilizes Lynk Labs patented “Warm-on-Dim™” technology to provide a comfortable color shift from cooler (3000K or 2700K) CCTs to a nice warm ambient 2200K CCT at the low end of the dimming range.

This module has been designed to meet the following standards; UL8750, CSA-C22.2 No 250, UL 94V0, RoHS, IEEE-1789, CEC-Title-24 (JA8).

This module is compatible with most ELV type Triac dimmers hooked in series with the power input.

This module is designed for long life based on the thermal performance of the fixture in which it is implemented. We recommend that the fixture be designed for a temperature  $\leq 85^{\circ}\text{C}$  @ the thermal Test Points located on the module.

This module employs several Lynk Labs patents to cover the product from circuit to system. More information on Lynk Labs Intellectual Property is available at [www.lynkklabs.com](http://www.lynkklabs.com).

#### Features

- ✓ **9W,  $\geq 900$  lumens @ 3000K @ 90 CRI,  $\geq 100$  Lumens per Watt**
- ✓ **Connects to Direct Mains; 90 to 132 Vac – No External Drivers Needed**
- ✓ **Meets CEC T24 & IEEE-1798 – Low Flicker**
- ✓ **Driver on Board™ – Cost/Reliability**
- ✓ **Compact/Simple Installation**
- ✓ **Low THD**
- ✓ **Standard CCT’s; 5000K, 4000K, 3500K, 3000K, 2700K, and 2200K**
- ✓ **Warm on Dim Options; 3000K to 2200K, or 2700K to 2200K**
- ✓ **ETL Recognition to UL8750 & CAS; C22.2 #250 Pending.**
- ✓ **Patent Protected Circuit-to-System**

#### Applications

- **Down-Lights/ Flush Mounts**
- **Sconces/Pendants**
- **Spots & Accent Lights**
- **Under Cabinet/Task Lighting**



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## Electrical & Optical Characteristics

Item	Symbol	Condition	Unit	Min.	Typ.	Max.
Drive Voltage	V <sub>f</sub>	Connected to Line	V <sub>rms</sub>	90	120	132
Viewing Angle	2θ <sub>1/2</sub>		Deg		120	
Case Temperature	T <sub>c</sub>	If = 77 mA	°C		70	90
Life @ Nominal Case Temp		T <sub>c</sub> ≤ 70°C	kHrs		50	
Typical Operating Power	W <sub>T</sub>	If = 77 mA	W	9.5	9.0	9.5
Luminous Flux (3000K)	Φ		Lm		900	
Total Harmonic Distortion	ATHD		%		≤20	
Luminous Efficacy (3000K)	η <sub>v</sub>		lm/W		100	
Flicker% Dimmer @ Max	200Hz Step Filter		%		<30%	
Flicker% Dimmer @ 20%	200Hz Step Filter		%		<30%	
Flicker% Dimmer @ Min	200Hz Step Filter		%		<30%	

\*Measurement Uncertainty of the Luminous Flux: ± 10%

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

Part Number Variants	CCT	CRI	Vac	Power	Lumen	R9	LPW
SRL46SS31P09W22KIH-120	2200K	≥85	120	9.0	855	>50	95
SRL46SS31P09W27KIH-120	2700K	≥90	120	9.0	900	>50	100
SRL46SS31P09W30KIH-120	3000K	≥90	120	9.0	900	>50	100
SRL46SS31P09W35KIH-120	3500K	≥90	120	9.0	900	>50	100
SRL46SS31P09W40KIH-120	4000K	≥90	120	9.0	945	>50	105
SRL46SS31P09W50KIH-120	5000K	≥90	120	9.0	981	>50	109
SRL46SS31P09W42WDIH-120	27K-22K Warm Dim	≥90	120	9.0	900	>50	100
SRL46SS31P09W52WDIH-120	30K-22K Warm Dim	≥90	120	9.0	900	>50	100

\*Other CCTs may be Available to Special Order

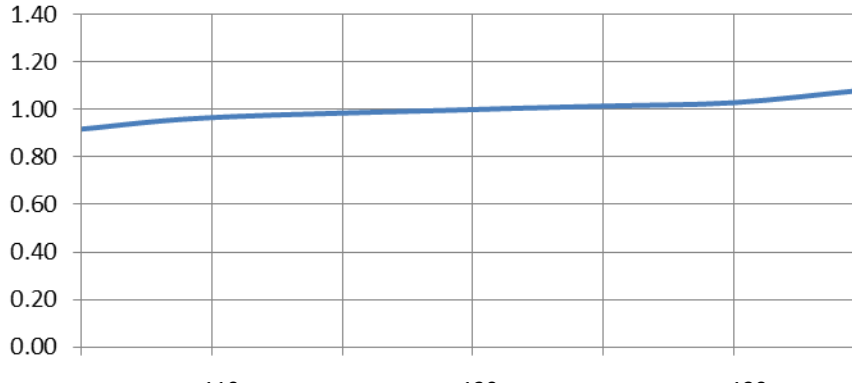
## Absolute Maximum Ratings (@ Ta=25°C)

Item	Symbol	Absolute Maximum Rating	Unit
Power Dissipation	P <sub>d</sub>	9.5	W
AC Current	I <sub>f</sub>	83	mArms
AC Voltage	V <sub>f</sub>	132	V
Operating Temperature	T <sub>o</sub>	-25 to +85	°C
Storage Temperature	T <sub>s</sub>	-40 to +100	°C
Soldering Temp (Hand)	T <sub>sld</sub>	370	°C

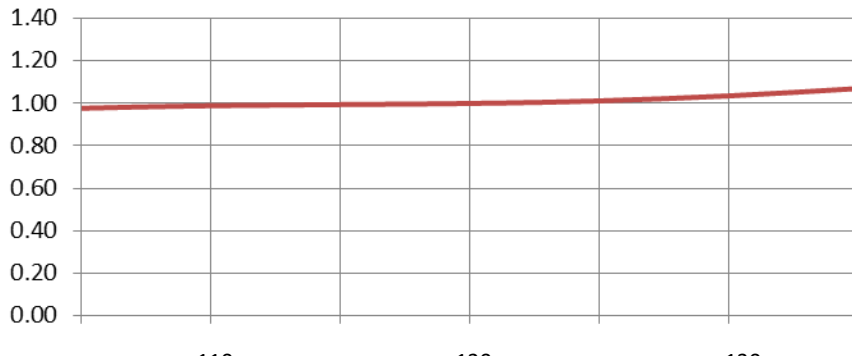


## Typical Electrical & Optical Characteristic Curves

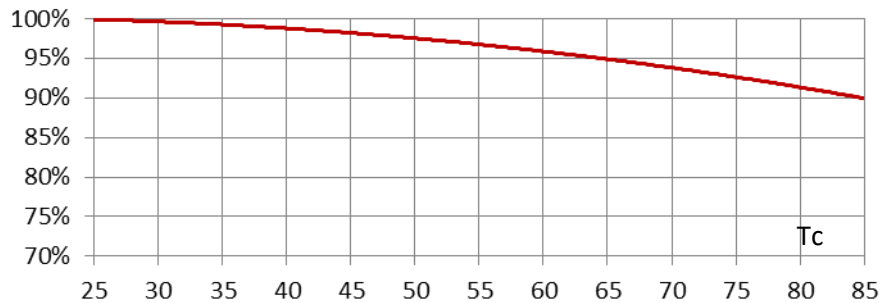
### Relative Power vs Voltage



### Relative Luminous Flux vs. Voltage



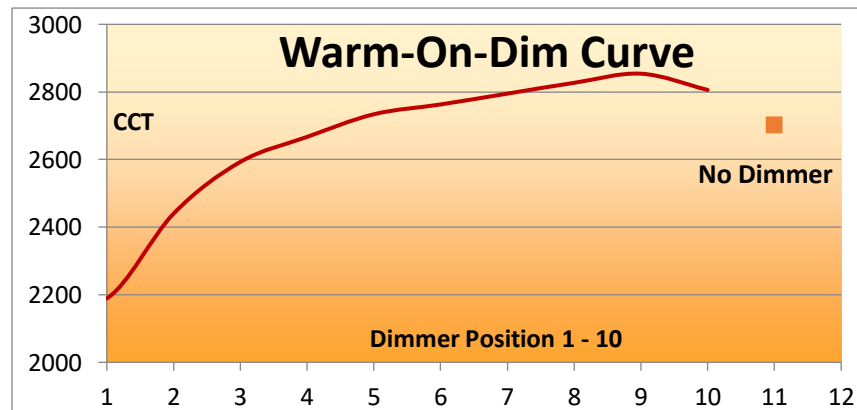
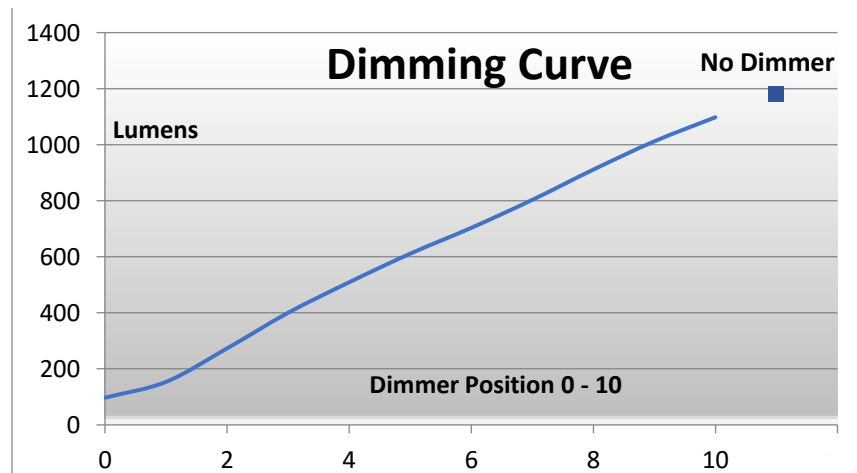
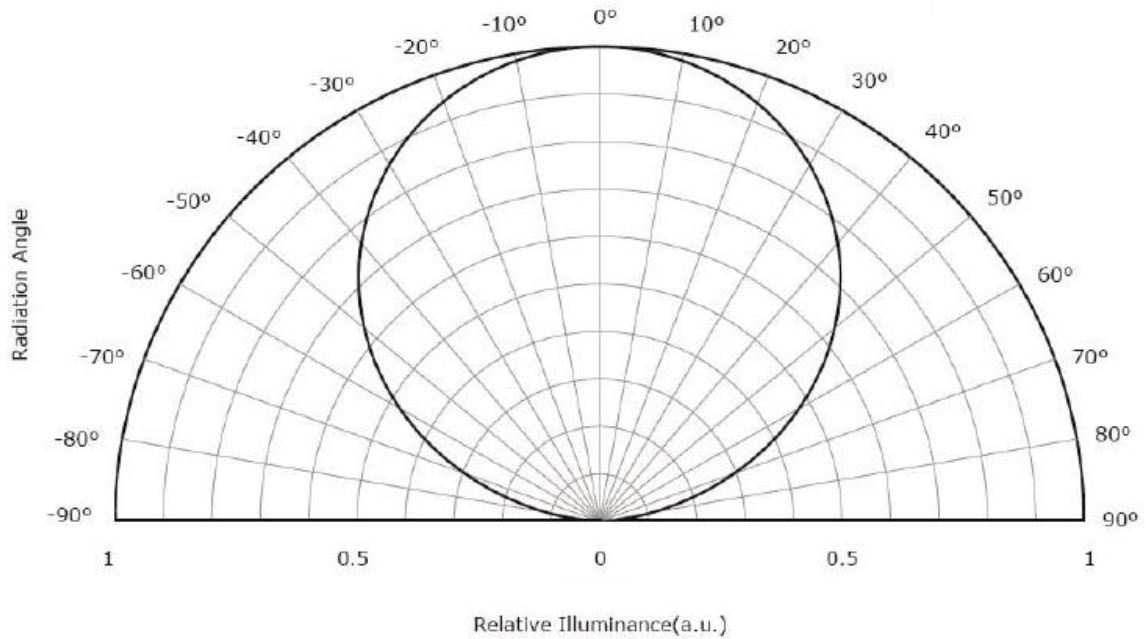
### Lumen Thermal de-rating curve





**Directivity**

$T_A = 25^{\circ}\text{C}$





## Part Number Identification

<b>SRL46</b>	<b>SS31</b>	<b>P</b>	<b>09W</b>	<b>--K(WD)</b>	<b>I</b>	<b>H</b>	<b>120</b>
Module Type: 46mm Round DoB™, T24	LED Type: 3030, 1W, 6V	Dimming Type: Phase Cut	Power: 9-Watts	Color Temperature: 22K = 2200K 27K = 2700K 30K = 3000K 35K = 3500K 40K = 4000K 50K = 5000K 42WD = 27K-22K WOD 52WD = 30K-22K WOD	Connection Type: I = IDC C = Poke-In W = Wire X = Solder	CRI L = ≥70 S = ≥80 H = ≥80	Input Voltage: 120 Vac

## Installation

- 1) Product Name/produit masculin/producto masculino: **SRL46SS31P09W\_\_K(WD)IH-120**
- 2) Input/Entrée/Entrada: **120 VAC, 77 mArms, 9W, 60 HZ**
- 3) Dry Locations Only/Pour Emplacements Secs Seulement/Para lugares secos solo
- 4) Mount securely to a thermally conductive flat surface designed to achieve  $\leq 85^{\circ}\text{C}$  @ the TC test point/Monter solidement sur une surface plane thermoconducteur conçue pour atteindre  $\leq 85^{\circ}\text{C}$  @ le point d'essai de TC/Monte firmemente a una superficie plana térmicamente conductiva, diseñada para lograr el  $\leq 85^{\circ}\text{C}$  @ el punto de prueba de TC.

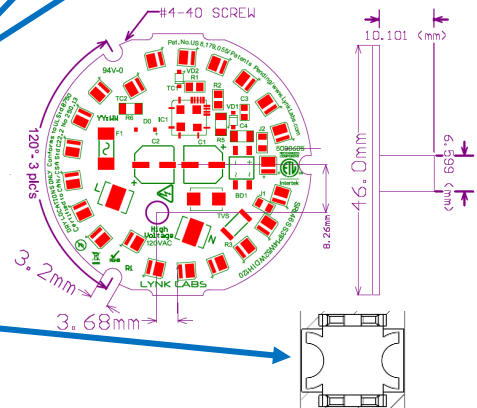
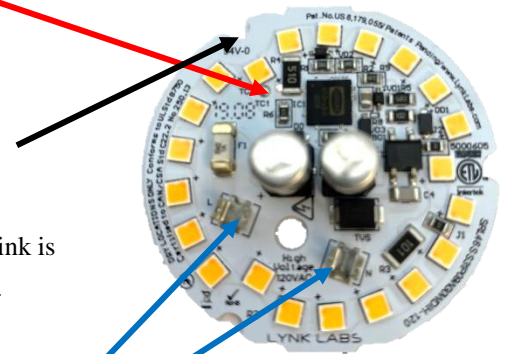
### ✓ Intended for factory installation only.

### ✓ Mount the module to the Fixture/Heat Sink.

- Use three pan-head screws with  $< 3.2\text{mm}$  shaft. A #4-40 Screw is recommended with an insulating washer under the pan-head.
- The use of Thermal Bond Material Between the Module & Heat Sink is Recommended (3M-8805 Thermal Tape, Thermal Grease, Aavid-ThermalCote™ or Equivalent).


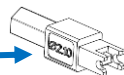
### ✓ Connect the AC-Voltage to the module.

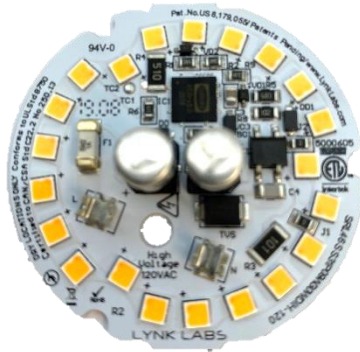
- Direct Mains; 90 to 120 VAC only.
  - Insert wire pair through the underside of the module.
  - Thin-Jacketed 18 AWG Stranded Wire Pair is recommended.
  - Punch down the Line & Neutral wire to the appropriate AVX, IDC Contact (L/N marked on the board). Minimize wire overhang.
- The Connector used is a AVX, IDC, Part Number; 709176001501006.
  - Will work with 18 AWG Fine-Stranded or Solid Wire.







- Insulation Diameter 1.6mm to 2.1mm.
- Use AVX Punch Down Tool, 067000763001000 with  069176701901000 Metal tool 
- Attach Motion Sensor to the P1 connector and mount the sensor to the fixture based on the application and usage plan.



***ETL Recognized UL8750 & CSA-C22.2; Report #101224493CHI-001***

***Flicker Performance (Pass = <30% @ ≤200 Hz):***

<b>Dimmer set to Maximum (100%)***</b>	<b>0-40 Hz</b>	<b>0-90 Hz</b>	<b>0-200 Hz</b>	<b>Pass/Fail</b>
Percent Flicker	17%	20%	22%	Pass
Amplitude Modulation	.17	.20	.22	Pass
<b>Dimmer set to 20%</b>	<b>0-40 Hz</b>	<b>0-90 Hz</b>	<b>0-200 Hz</b>	<b>Pass/Fail</b>
Percent Flicker	3%	6%	10%	Pass
Amplitude Modulation	.03	.06	.10	Pass
<b>Dimmer set to Minimum</b>	<b>0-40 Hz</b>	<b>0-90 Hz</b>	<b>0-200 Hz</b>	<b>Pass/Fail</b>
Percent Flicker	15%	15%	17%	Pass
Amplitude Modulation	.15	.15	.17	Pass
*** Tested with Lutron; DIVA, DVCL-153P				

***Cautionary Warnings:***

- 1) Potentially Hazardous, High-Voltage is Present on the Top Surface of the Module!***
- 2) Do not attempt field Replacement of the module.***
- 3) Tampering with the module will void the UL Listing.***
- 4) The Module is Intended for Factory Installation Only.***
- 5) For In-Service Failures Contact the Fixture Manufacturer.***

***Lynk Labs, Customer Service; 847-783-0123***

***For information on Lynk Labs Intellectual Property employed in this product visit***

***[www.lynklabs.com](http://www.lynklabs.com)***