

*Paragon Semiconductor Lighting Technology*

*PSLT*

**ParagonLED**

## Specifications

**Product Type : ParaLED-B-042-120V12W4020B-BB**

**Issued Date : 12/01/2015**

# Contents

## 1. General Description

### 1-1 Naming Rule

### 1-2 Outline dimensions

## 2. Electro-optical characteristics

### 2-1 Absolute Maximum Rating

### 2-2 Electro-optical characteristics

### 2-3 Graphs

### 2-4 Layout

## 3. Junction Temperature measurement

## 4. Reliability Test

## 1.General Description

### (1)Naming rule

**ParaLED-B-042-120V12W4020B-BB**

Product Series type : ParaLED

Dimming Type : Wram Dimming

Numbers of chips on board : 42

Voltage : 120VAC

Power Dissipation : 12W

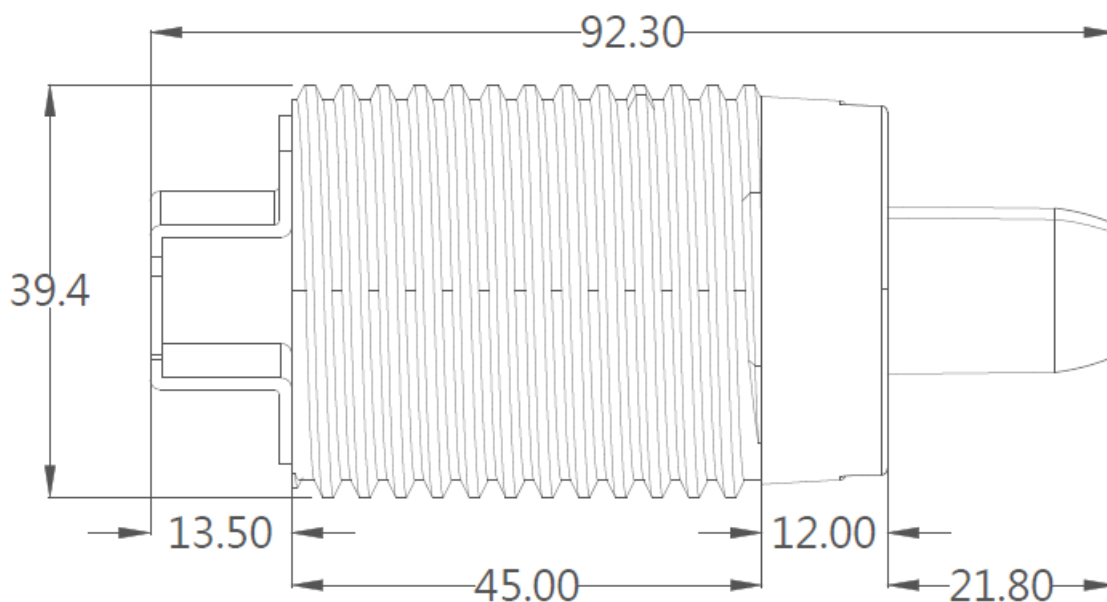
Color Temperature : 4000K~2000K

Color Rendering : RA80~89

Appearance : Fixing Iron piece(13.5mm) + socket(45mm)

Optical parts : Light Guide Lens

### (2)Outline Dimensions (Unit : mm / Tolerance: 0.2mm)



## 2.Electro-Optical Characteristics

### (1)Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Power Dissipation	P <sub>D</sub>	12	W
Forward Voltage	V <sub>F</sub>	120	V
Operating Temperature	T <sub>opr</sub>	-40 ~ +105	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +105	°C
Power Factor	Pf	>0.95	
THDi		<20%	
Dimming	Wram Dimming		
Assembly process temperature	T <sub>sol</sub>	<325°C , 5 secs	

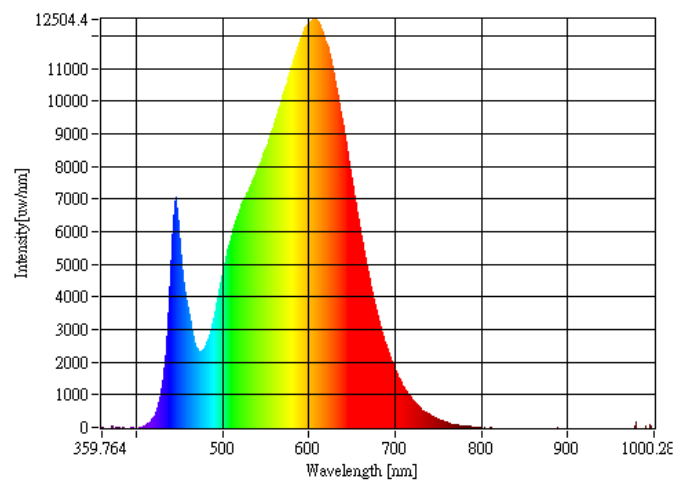
### (2)Electro-Optical Characteristics

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	$V_F$	—	—	120	—	V
Luminous Intensity	$\Phi_v$	$V_F=120V$	—	840	—	Lm
Color rendering	Ra	$V_F=120V$	—	80	—	CRI

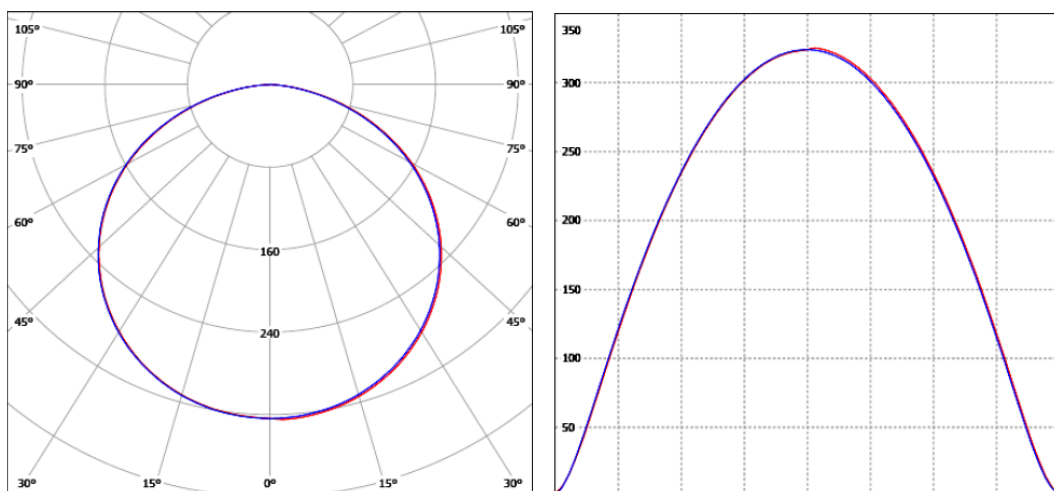
**Notice: Operating Voltage of product varies from 110V~130V · users must keep the temperature of solder joint point under 105 °C (with suitable heat sink), or may cause Serious luminous decay. We DO NOT guarantee of improper use.**

### (3) Graphs

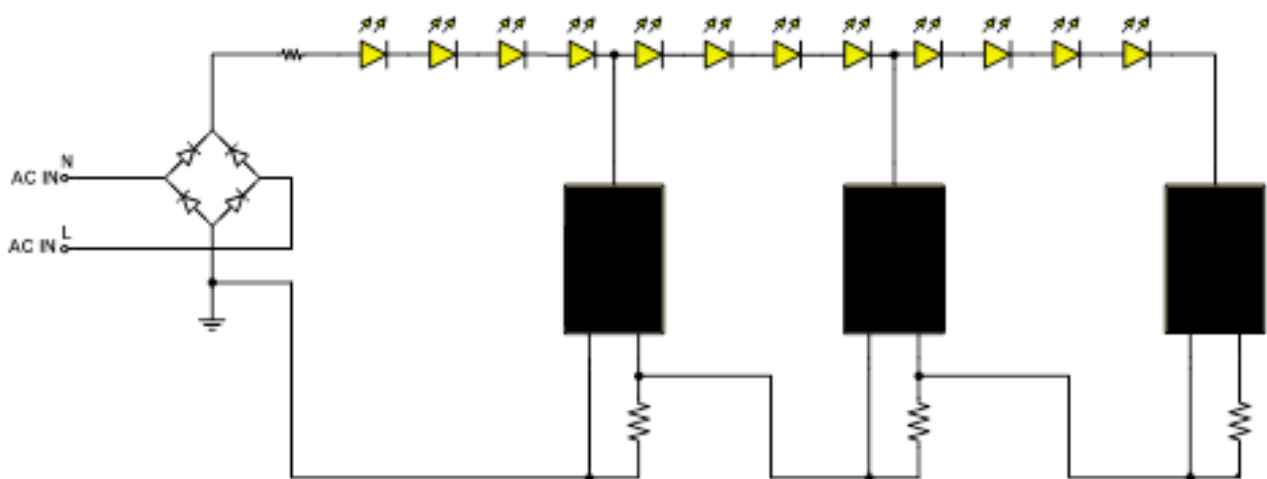
#### Spectrum



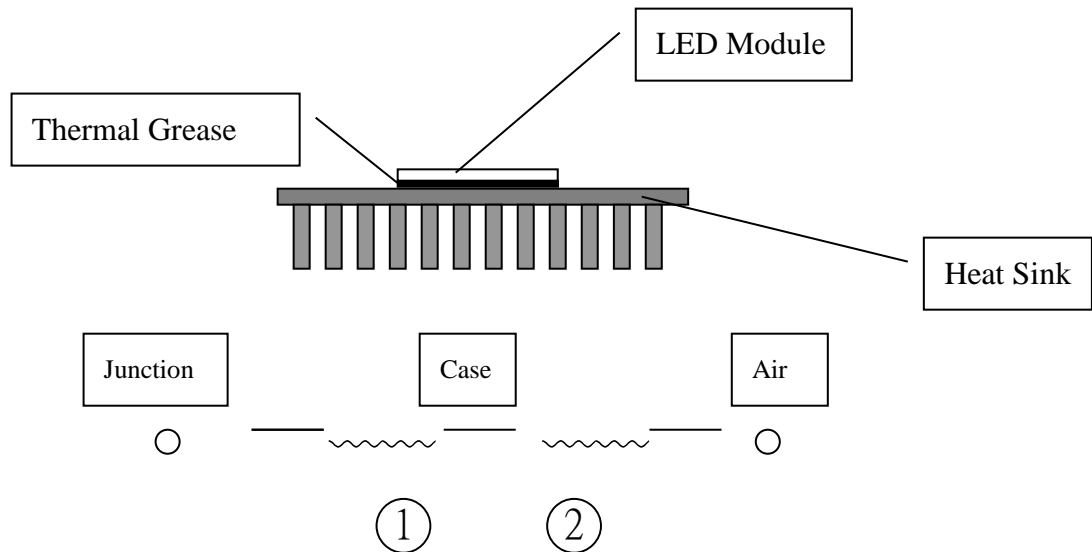
#### Candle Power Distribution & Cartesian Coordinate



### (4) Layout



### 3. Junction Temperature Measurement



- ① Thermal resistance of Junction to Case without heat sink :  $10^{\circ}\text{C/W}$  [ Reference Value ]
- ② Thermal resistance of Case to Ambient Air: Depending on what kind of heat sink users choose. In ideal thermal dissipation situation, the thermal resistance is about  $1\sim 2^{\circ}\text{C/W}$ .

### 4. Reliability Test

Test Item	Test Conditions	Number of failed
High Temperature Storage Test	Tstg= $+80^{\circ}\text{C}$ , x1,000 hrs	0/20
Low Temperature Storage Test	Tstg= $-40^{\circ}\text{C}$ , x1,000 hrs	0/20
Continous Light-on Test	Ta= $25^{\circ}\text{C}$ , RH=65%, x1,000 hrs	0/20
Boiling Test	Ta= $100^{\circ}\text{C}$ , RH=100%, x180mins	0/20
Thermal Cycle Test	$-40^{\circ}\text{C}$ x 30 mins, $80^{\circ}\text{C}$ x 30 mins, 100 cycles	0/20

Measuring Item	Measuring Condition	Judging Criteria of Failure
Forward Voltage	$I_F = 120\text{V}$	$> 0 \times 1.1$
Total Luminous Flux	$I_F = 120\text{V}$	$< L \times 0.7$