





Specification

Client Name: _____

Client P/N: _____

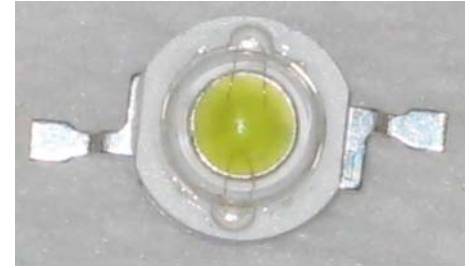
Wenrun P/N: WR-EP8080WW-350LA-L40

Date: _____

Customer confirm	Approved by	Checked by	Issued by
			

◆ Features:

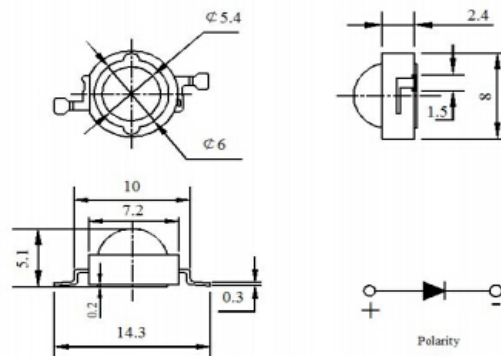
- Super high flux output and high luminance
- Excellent heat-sinking and ultra high intensity and high reliability
- Designed for high current operation
- ESD protection
- SMT solderability


◆ Applications

- Street lamp
- General lights
- LCD display backlight
- Decorative and Pathway lighting
- Task lighting
- Exterior and interior automotive illumination

◆ Materials

Items	Description
Housing black body	Heat resistant polymer
Encapsulating Resin	Silicone
Lens	Heat resistant clear polymer
Electrodes	Plating copper alloy
Die attach	Silver paste
Chip	InGaN / InGaAlN

◆ Package Dimensions:

Notes:

- 1、 All dimensions are in millimetres (mm)
- 2、 Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted

◆ Absolute Maximum Rating (Ta=25°C)

Parameter	Symbol	Max	Unit
Power Dissipation	P _D	1300	mW
Pulse Forward Current	I _{FP}	700	mA
DC Forward Current	I _F	350	mA
Reverse Voltage	V _R	5	V
Operating Temperature Range	T _{opr}	-25~85	°C
Storage Temperature Range	T _{stg}	-40~100	°C
Junction Temperature	T _j	125	°C
Electrostatic Discharge	ESD	5000	V

Notes: Proper current must be observed to maintain junction temperature below the maximum.

I_{FP} condition: pulse width ≤ 1ms ,duty cycle ≤ 1/10

◆ Electrical Optical Characteristics (Junction Temperature, T_J=25°C)

Parameter	Symbol	Mix.	Typ.	Max.	Unit	Test Condition
Luminous Flux	φ	90	--	110	lm	I _F =350mA
Forward Voltage	V _F	3.0	--	3.6	V	I _F =350mA
Color Rendering Index	R _a	--	80	--	/	I _F =350mA
Chromaticity Coordinates	X	--	0.43	--	/	I _F =350mA
	Y	--	0.41	--	/	I _F =350mA
Color Temperature	T _c	--	3000	--	K	I _F =350mA
Viewing Angle	2 θ 1/2	--	120	--	Deg.	I _F =350mA

Notes.

- 1.Luminous flux measurement tolerance : ±10%
2. CCT tolerance : ±10%
3. θ_{1/2} is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value
- 4.Tolerance of Luminous Flux ±10%
- 5.Tolerance of Peak Wavelength ±2nm
6. Tolerance of Forward voltage ±0.1V
7. Luminous Intensity is measured by WENRUN's equipment on bare chips

-----Caution-----

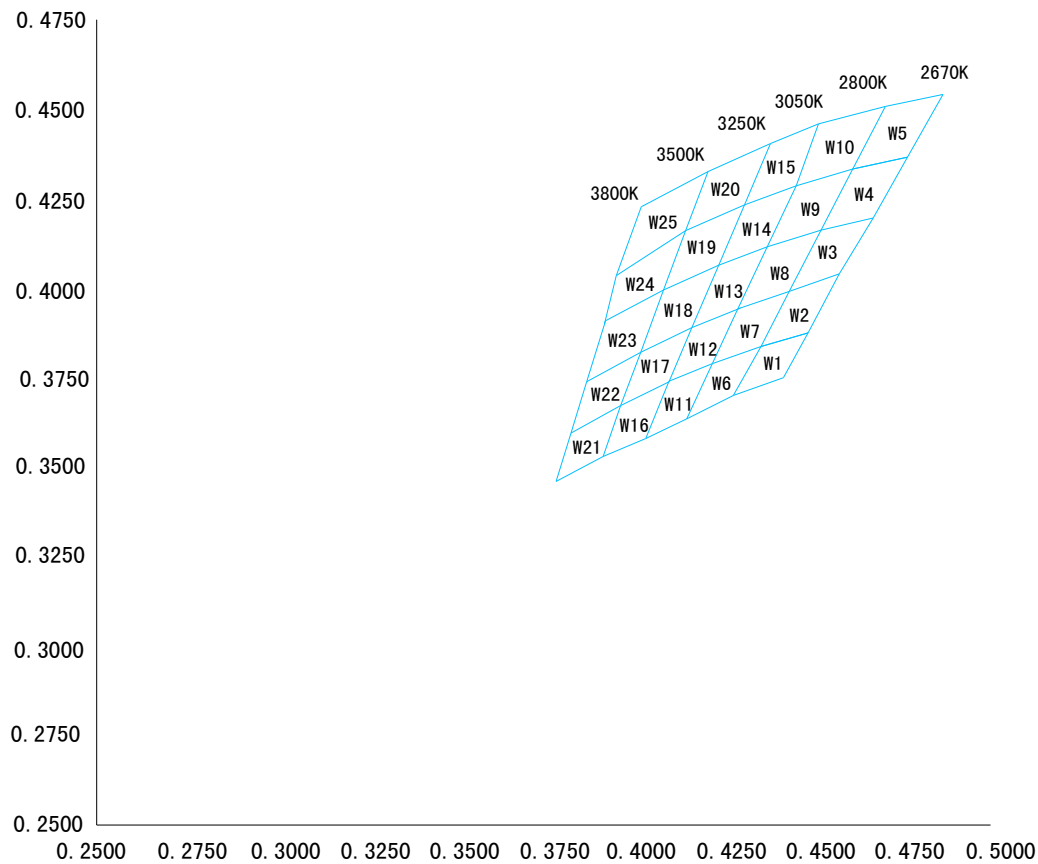
Please do not drive at rated current more than 5 sec. without proper heat sink

Bin range of Chromaticity Coordinates (tolerance is ± 0.01 @ $I_F = 350\text{mA}$):

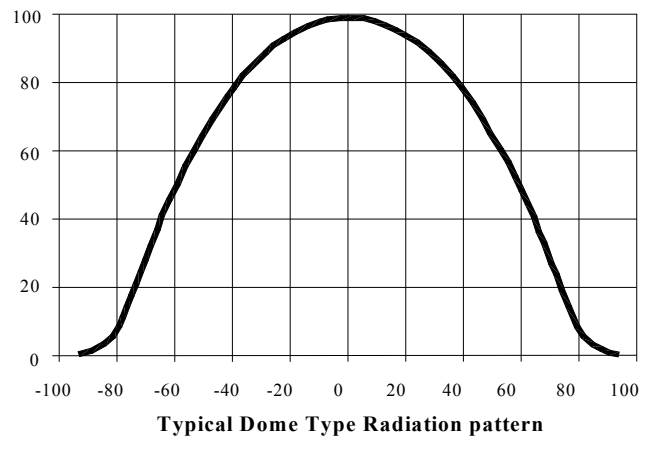
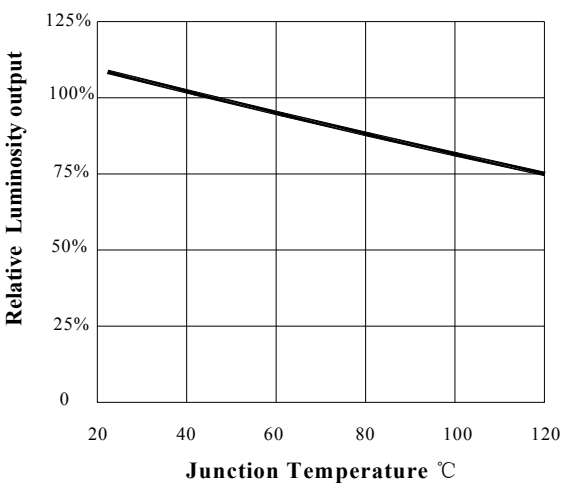
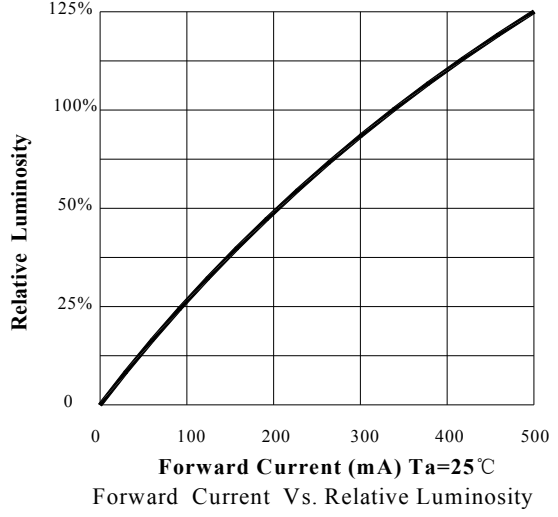
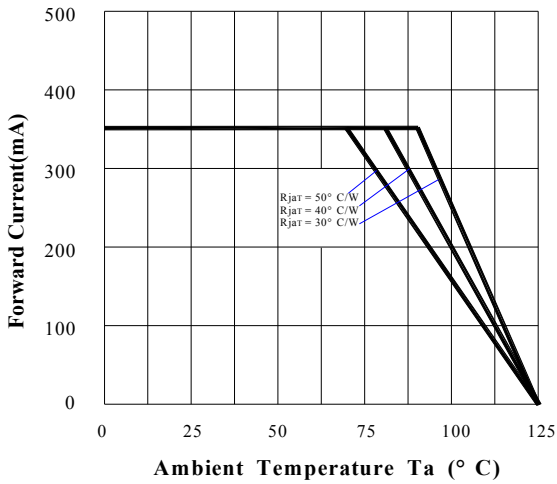
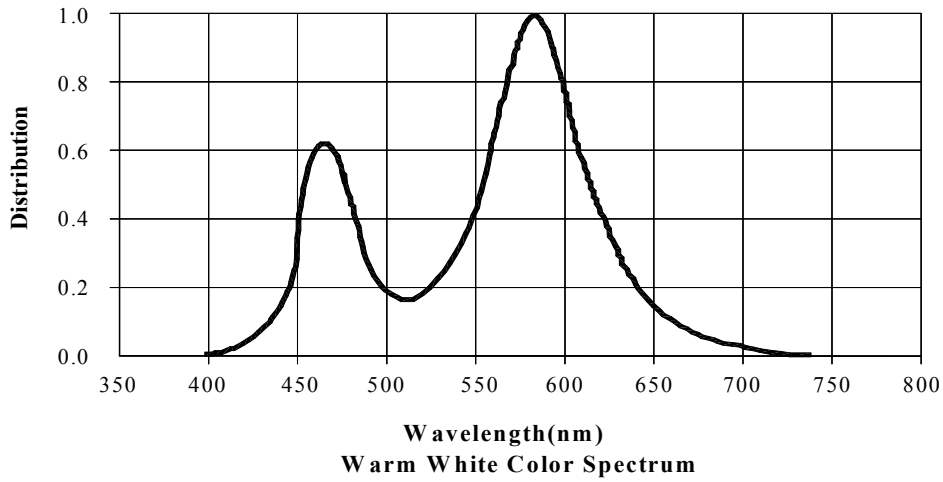
W1	0.4280	0.3700	W2	0.4358	0.3837	W3	0.4436	0.3991	W4	0.4525	0.4162
2670	0.4420	0.3750	2670	0.4489	0.3875	2670	0.4576	0.4040	2670	0.4671	0.4196
-	0.4489	0.3875	-	0.4576	0.4040	-	0.4671	0.4196	-	0.4767	0.4366
2800K	0.4358	0.3837	2800K	0.4436	0.3991	2800K	0.4525	0.4162	2800K	0.4614	0.4333
W5	0.4614	0.4333	W6	0.4150	0.3635	W7	0.4221	0.3789	W8	0.4293	0.3942
2670	0.4767	0.4366	2800	0.4280	0.3700	2800	0.4358	0.3837	2800	0.4436	0.3991
-	0.4866	0.4541	-	0.4358	0.3837	-	0.4436	0.3991	-	0.4525	0.4162
2800K	0.4705	0.4508	3050K	0.4221	0.3789	3050K	0.4293	0.3942	3050K	0.4375	0.4116
W9	0.4375	0.4116	W10	0.4456	0.4286	W11	0.4035	0.3580	W12	0.4101	0.3740
2800	0.4525	0.4162	2800	0.4614	0.4333	3050	0.4150	0.3635	3050	0.4221	0.3789
-	0.4614	0.4333	-	0.4705	0.4508	-	0.4221	0.3789	-	0.4293	0.3942
3050K	0.4456	0.4286	3050K	0.4518	0.4459	3250K	0.4101	0.3740	3250K	0.4164	0.3890
W13	0.4164	0.3890	W14	0.4239	0.4064	W15	0.4311	0.4233	W16	0.3916	0.3530
3050	0.4293	0.3942	3050	0.4375	0.4116	3050	0.4456	0.4286	3250	0.4035	0.3580
-	0.4375	0.4116	-	0.4456	0.4286	-	0.4518	0.4459	-	0.4101	0.3740
3250K	0.4239	0.4064	3250K	0.4311	0.4233	3250K	0.4384	0.4404	3500K	0.3965	0.3672
W17	0.3965	0.3672	W18	0.4021	0.3821	W19	0.4085	0.3995	W20	0.4147	0.4161
3250	0.4101	0.3740	3250	0.4164	0.3890	3250	0.4239	0.4064	3250	0.4311	0.4233
-	0.4164	0.3890	-	0.4239	0.4064	-	0.4311	0.4233	-	0.4384	0.4404
3500K	0.4021	0.3821	3500K	0.4085	0.3995	3500K	0.4147	0.4161	3500K	0.4209	0.4326
W21	0.3784	0.3465	W22	0.3826	0.3595	W23	0.3870	0.3739	W24	0.3923	0.3909
3500	0.3916	0.3530	3500	0.3965	0.3672	3500	0.4021	0.3821	3500	0.4085	0.3995
-	0.3965	0.3672	-	0.4021	0.3821	-	0.4085	0.3995	-	0.4147	0.4161
3800K	0.3826	0.3595	3800K	0.3870	0.3739	3800K	0.3923	0.3909	3800K	0.3953	0.4035
W25	0.3953	0.4035									
3500	0.4147	0.4161	/			/			/		
-	0.4209	0.4326									
3800K	0.4023	0.4227									

- Please refer to CIE 1931 Chromaticity diagram
- CCT selection acc. to CCT groups and an accuracy of $\pm 200\text{K}$

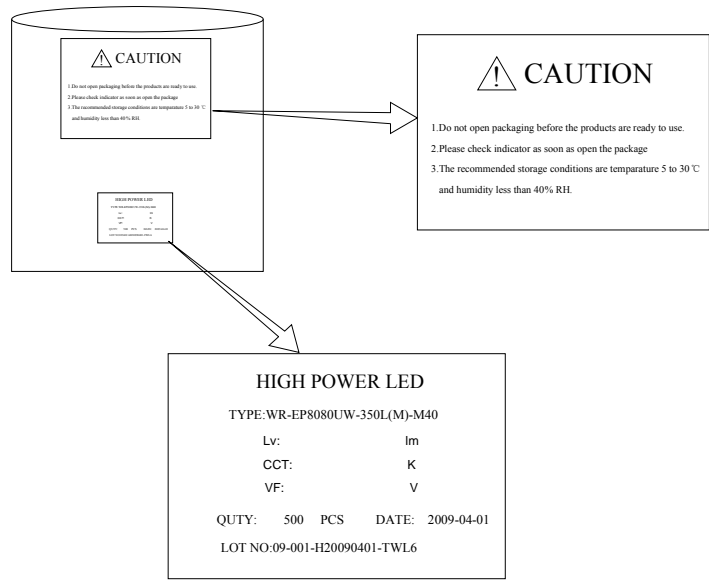
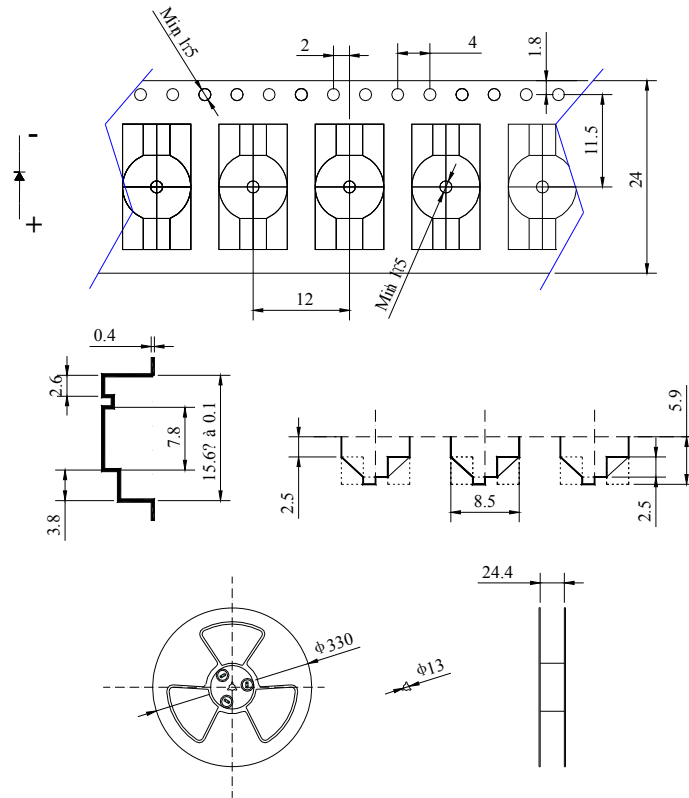
◆ Chromaticity Coordinates & Bin grading diagram: ($I_F=350mA$)



◆ **Typical Electro-Optical Characteristics Curves:**



◆ Emitter Reel Packaging



Note:

- 1、 400 Pcs/ Reel
- 2、 All dimensions are in millimeters

◆ Reliability
(1) Test Items and Conditions

NO	Test Item	Test Conditions	Test Duration
1	High Temperature operation life	85°C, I _F =350mA	1000hours
2	Room Temperature operation life	25°C, Max, I _F =350mA	1000hours
3	Temperature Cycling	-40±5°C → 25±5°C → 100±5°C → 25±5°C (30min, 5min, 30min, 5min)	100Cycles
4	High Temperature And High Humidity Storage	Ta:85±5°C, Ra:85±5%	1000hours
5	High Temperature Storage Life	100°C	1000hours
6	Low Temperature Storage Life	-40°C	1000hours
7	Solder Heat Resistance	260°C±5°C	5sec
8	Natural Drop	On concrete from 1.2m, 3times	

(2) Criteria of judging the damage

Item	Symbol	Test condition	Criteria for judgement	
			Min.	Max.
Forward voltage	V _F	I _F =350 mA	/	U.S.L*1.1
Luminous intensity	I _V	I _F =350 mA	L.S.L*0.7	/
Appearance	/	View check	No mechanical damage	

* U.S.L: Upper standard level

L.S.L: Lower standard level

◆ Precautions In Use**A. Overcurrent or Excessive Voltage proof**

Circuit should be designed to prevent any overcurrent or excessive voltage which can damage LEDs.

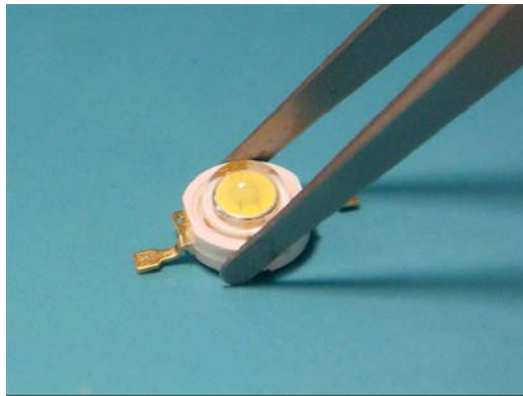
B. Storage

1. Do not open packaging before the products are ready to use.
2. The recommended storage conditions are temperature 5 to 30°C and humidity less than 40%RH.

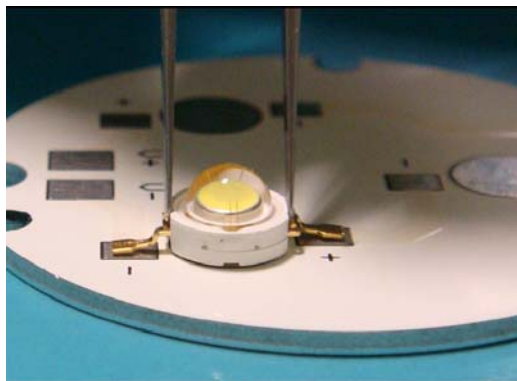
C. Handling and Soldering Conditions

1、 The high Power LED is encapsulated using optical silicone. The bottom metal (slug/heat-sink) is anode. Please avoid connecting slug to cathode as this will cause short-circuit.

2、 Only picked up LED by gripping at the white plastic body. Avoid putting pressure or puncturing onto the silicone lens. When stress is applied on silicone lens, it may damage optical properties and damage the internal wirebond.



- 3、 Manual mounting of LED onto MCPCB, Gently press the white plastic body or the lead



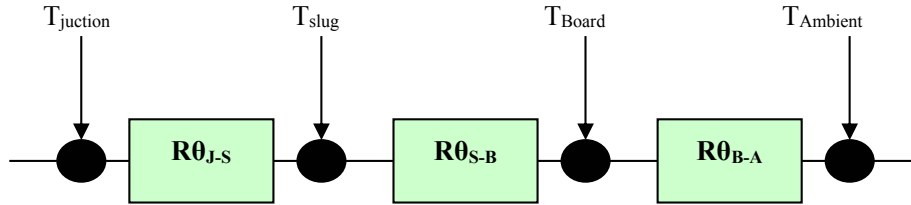
- 4、 After soldering, do not warp the circuit board.

D. Thermal Management

1、 For maintaining the high flux output and achieving reliability, WR-EP8080 series LEDs package should be mounted on a metal core printed circuit board with proper thermal connection to dissipate approximately 1W of thermal energy under 350mA operation.

2、Special thermal designs are also recommended to take in outer heat sink design .

3、Sufficient thermal management must be conducted, or the die junction temperature will be over the limit large electronic driving and LEDs lifetime will decrease critically.



The Equation to get the value of thermal resistance of WR-EP8080XW-350XM-XXX LED will be as follow

$$R\theta_{junction-Ambient} = R\theta_{junction-Slug} + R\theta_{Slug-Board} + R\theta_{Board-Ambient}$$

$$R\theta_{junction- Board} = R\theta_{junction-Slug} + R\theta_{Slug-Board}$$

$$T_j = R\theta_{junction- Board} \cdot P_D + T_{Board}$$

Where: P_D -Power dissipation, T_{Board} -Temperature of metal PCB bottom

Notes: It's strongly recommended to keep the junction temperature(T_j) under 85°C.

◆ Notes:

1、Above specification may be changed without notice. We will reserve authority on material change for above specification.

2、When using this product, please observe the absolute maximum ratings and the instructions for the specification sheets. We assume no responsibility for any damage resulting from use of the product which does not comply with the instructions included in the specification sheets.