



# PRODUCT SPECIFICATION

**Model No : CSLR-N319WW4-B0**

Descriptions:	
■ LED Type	: Lighting LED Lamp
■ LED Package	: Round LED Lamp
■ Emitting Color	: Warm White
■ Viewing Angle	: 50°
■ No Stopper	



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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<b>Spec. No.</b>	PS-LL-N319WW4-B0
<b>Rev.</b>	A

**Model No : CSLR-N319WW4-B0**

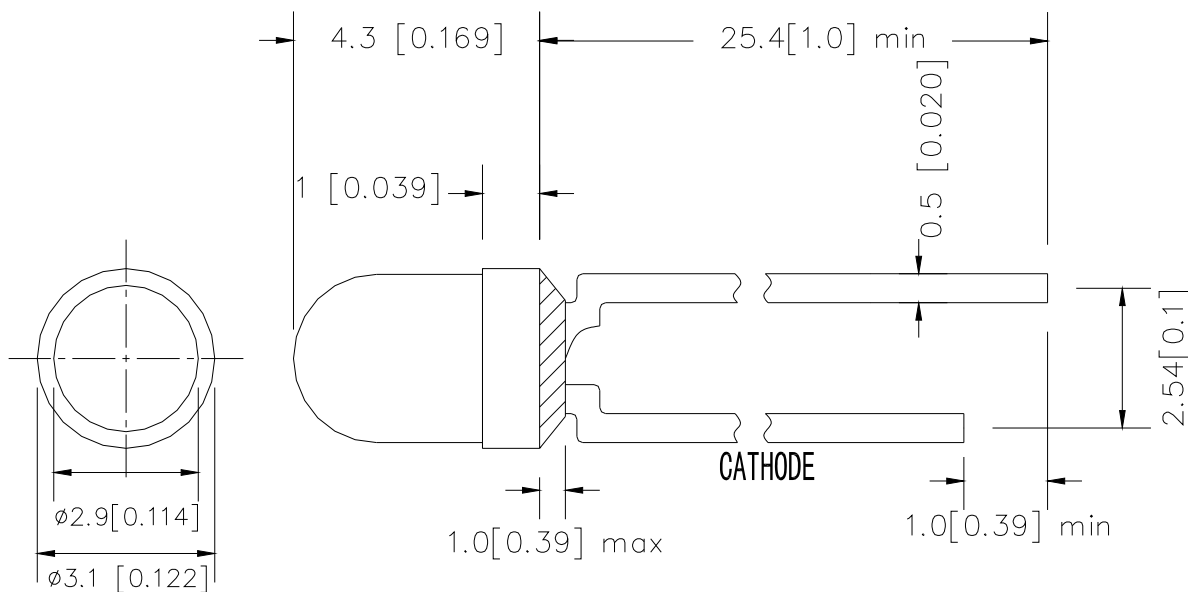
**Features -**

1. Low Power Consumption.
2. High Luminous Output
3. High Reliability and Solid Performance
4. Optimal Optical/Mechanical Design
5. Rohs Compliant

**Device Selection Guide -**

Part No.	Chip		LED Lens
	Material	Emitted Color	
CSLR-N319WW4-B0	InGaN	White	Water Transparent

**Package Outline Dimensions -**



\* Tolerance :  $\pm \frac{0.01}{0.25}$  Unit :  $\pm \frac{\text{inch}}{\text{mm}}$



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■ **Absolute Maximum Rating -**

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation	<b>Pd</b>	76	mW
Forward Current (DC)	<b>IF</b>	30	mA
Peak Forward Current *	<b>IFP</b>	100	mA
Reverse Voltage	<b>VR</b>	5	V
Operating Temp.	<b>Topr</b>	-30 ~ +80	°C
Storage Temp.	<b>Tstg</b>	-40 ~ +100	°C
Lead Soldering Temperature	<b>Tsol</b>	<b>Max. 260°C for 5 sec Max. (3mm from the epoxy body)</b>	

\* Pulse width  $\leq 0.1$  msec. duty  $\leq 1/10$

■ **Electro-optical Characteristics**

(Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	<b>VF</b>	-----	3.2	3.8	V	IF=20mA
Luminous Intensity	<b>Iv</b>	1400	2500	-----	mcd	
Chromaticity	<b>X</b>	-----	0.45	-----		
Coordination	<b>Y</b>	-----	0.41	-----		
Viewing Angle	<b>2θ 1/2</b>	-----	50	-----	deg	
Reverse Current	<b>IR</b>	-----	-----	50	μA	VR=5V



■ **Luminous Intensity Rank Limits ( IF = 20mA )**

unit : mcd

Part No. Code	CSLR-N319WW4-B0	
	min.	max.
P	1400	1800
Q	1800	2300
R	2300	3000
S	3000	3900
T	3900	5100

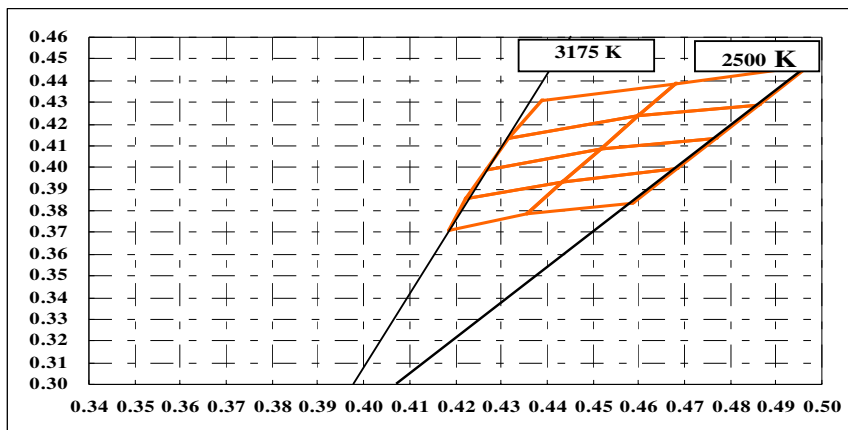
■ **Forward Voltage Rank Limits(IF=20mA)**

unit : V

Part No. Code	CSLR-N319WW4-B0	
	min.	max.
H	2.8	3.0
J	3.0	3.2
K	3.2	3.4
L	3.4	3.6
M	3.6	3.8

■ **Color Rank Limits ( IF = 20mA )**

L1					L5				
X	0.4314	0.4390	0.4680	0.4601	X	0.4601	0.4680	0.4970	0.4863
Y	0.4135	0.4310	0.4385	0.4238	Y	0.4238	0.4385	0.4466	0.4290
L2					L6				
X	0.4267	0.4314	0.4601	0.4519	X	0.4519	0.4601	0.4863	0.4770
Y	0.3986	0.4135	0.4238	0.4086	Y	0.4086	0.4238	0.4290	0.4137
L3					L7				
X	0.4222	0.4267	0.4519	0.4434	X	0.4434	0.4519	0.4770	0.4683
Y	0.3853	0.3986	0.4086	0.3930	Y	0.3930	0.4086	0.4137	0.3995
L4					L8				
X	0.4186	0.4222	0.4434	0.4355	X	0.4355	0.4434	0.4683	0.4588
Y	0.3709	0.3853	0.3930	0.3785	Y	0.3785	0.3930	0.3995	0.3838



Notes:

1. Tolerance of measurement of luminous intensity :±15%
2. Tolerance of measurement of Color Coordinates :±0.01
3. Tolerance of measurement of forward voltage :±0.05V
4. All data are measured by CSC's test equipment.
5. One delivery will include several color rank, VF rank and Iv ranks of the products.
6. The quantity-ratio of the ranks is decided by CSC.
7. Please confirm with CSC salesman, if your request different from standard specification.

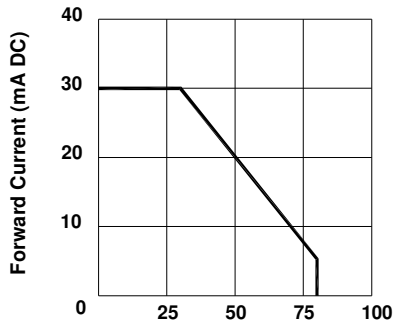


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**Typical Electrical / Optical Characteristics Curves -**

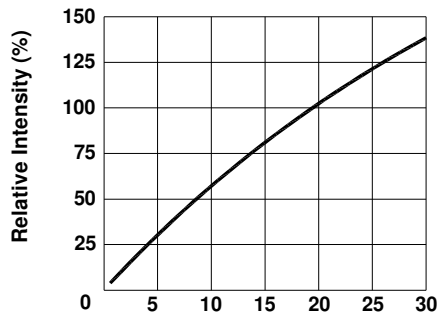
(Ta = 25°C Unless Otherwise Noted)



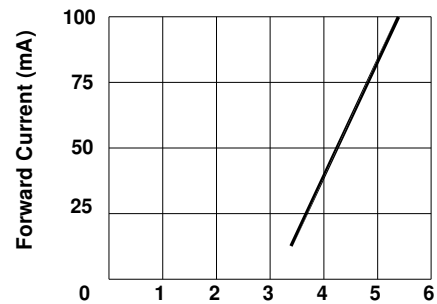
Ambient Temperature Ta (°C)  
**Fig 1. Forward Current  
Vs. Ambient Temperature**



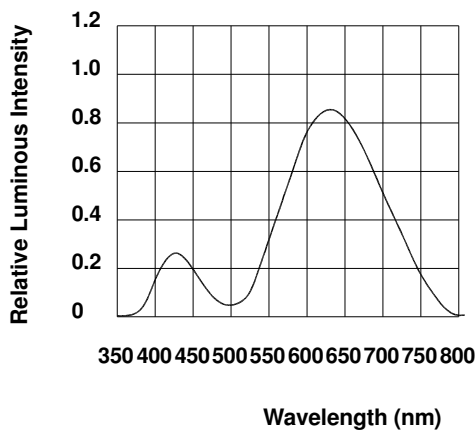
Forward Voltage VF (V)  
**Fig 2. Forward Current  
Vs. Forward Voltage**



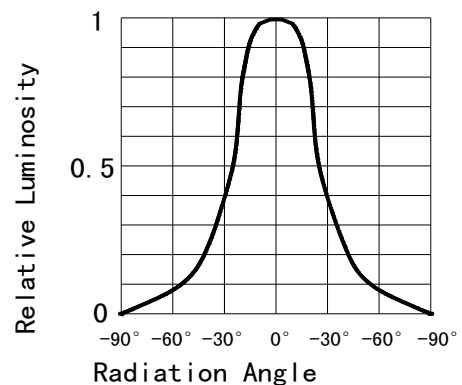
Forward Current IF (mA DC)  
**Fig 3. Relative Intensity  
Vs. Forward Current**



Forward Voltage (V)  
**Fig 4. Peak Forward Voltage  
Vs. Forward Current  
(100us test pulse, 1% duty cycle)**



**Fig 5. Relative Intensity Vs. Wavelength**



**Fig 6. Relative Luminous Intensity vs. Radiation Angle**

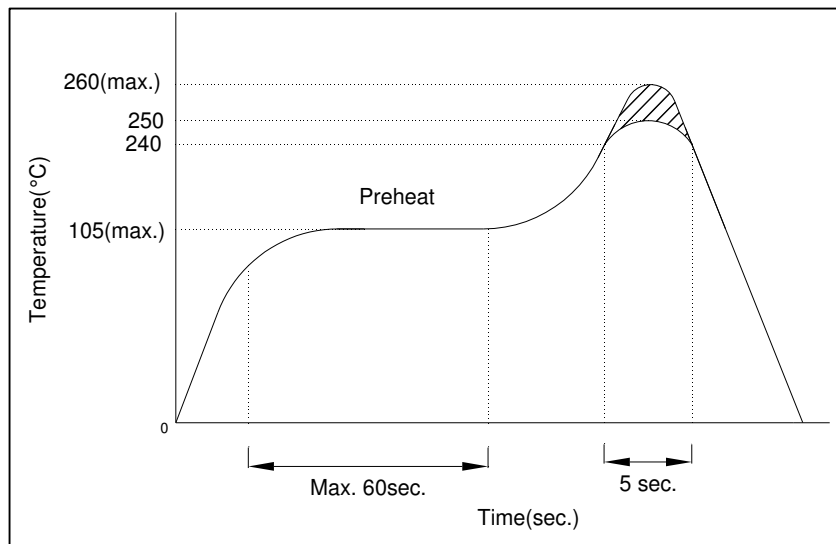


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## ■ Precautions For Use -

### 1. Recommended Soldering conditions

#### Wave Soldering



### 2. Soldering Iron

Basic SPEC. is  $\leq 5$ sec. When  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1$ sec.). Power dissipation of iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under  $230^{\circ}\text{C}$ .

### 3. Static Electricity

- Static electricity or surge voltage damages LEDs..

It is recommended that a wrist band or an anit-electrostatic glove be used when handling the LEDs.

- All devices, equipment and machinery must be properly grounded. It is recommended that mesures be taken against surge voltage to the equipment that mounts the LEDs.

Note: The specifications are subject to change without notice. Please contact us for updated information.