



COTCO LUMINANT DEVICE (HUIZHOU) LTD.

SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LM1-PWR1-11-N1
Model No : LM1-PWR1-11-N1
Rev. No : 02
Date: 2005-08-17

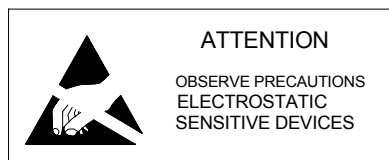
Description:

120 Degree 3.2 x 2.7mm Power SMD in
Warm White Color with Water Transparent

Dice Material: InGaN

Confirmed
By Customer: _____

Date: _____



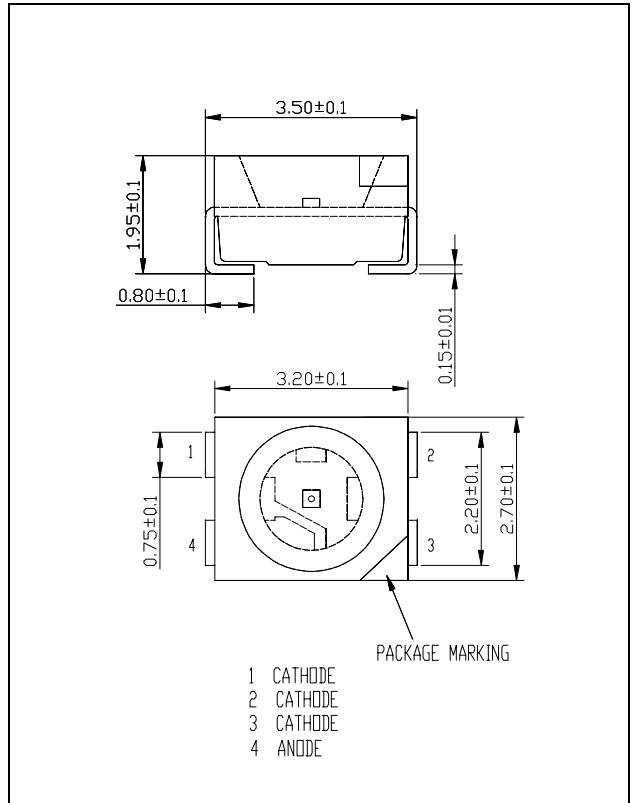
Applications:

- Indicators
- Illuminations
- LCD Back Lights
- Automobile's Applications

Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I_F	30	mA
Peak Forward Current*	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	130	mW
Operation Temperature	T_{opr}	-40 ~ + 100	°C
Storage Temperature	T_{stg}	-40 ~ + 100	°C
Junction temperature	T_j	+110	°C
Junction/ambient **	$R_{th JA}$	350	°C/W
Junction/solder point	$R_{th JS}$	200	°C/W

Dimension Drawing



*pulse width ≤0.1msec duty ≤1/10 ** Rth test condition: Mounted on PC Board FR 4 (pad size ≥16mm²)

Typical Electrical & Optical Characteristics (Ta = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 30\text{mA}$	---	3.6	4.2	V
Reverse Current	I_R	$V_R = 5\text{V}$	---	---	100	μA
Luminous Intensity	I_V	$I_F = 30\text{mA}$	450	700	---	mcd
Color Temperature	CCT	$I_F = 30\text{mA}$	---	3200	---	K
Chromaticity Coordinates	x	$I_F = 30\text{mA}$	---	0.426	---	---
	y	$I_F = 30\text{mA}$	---	0.407	---	---
50% Power Angle	$2 \theta_{\frac{1}{2}}$	$I_F = 30\text{mA}$	---	120	---	deg

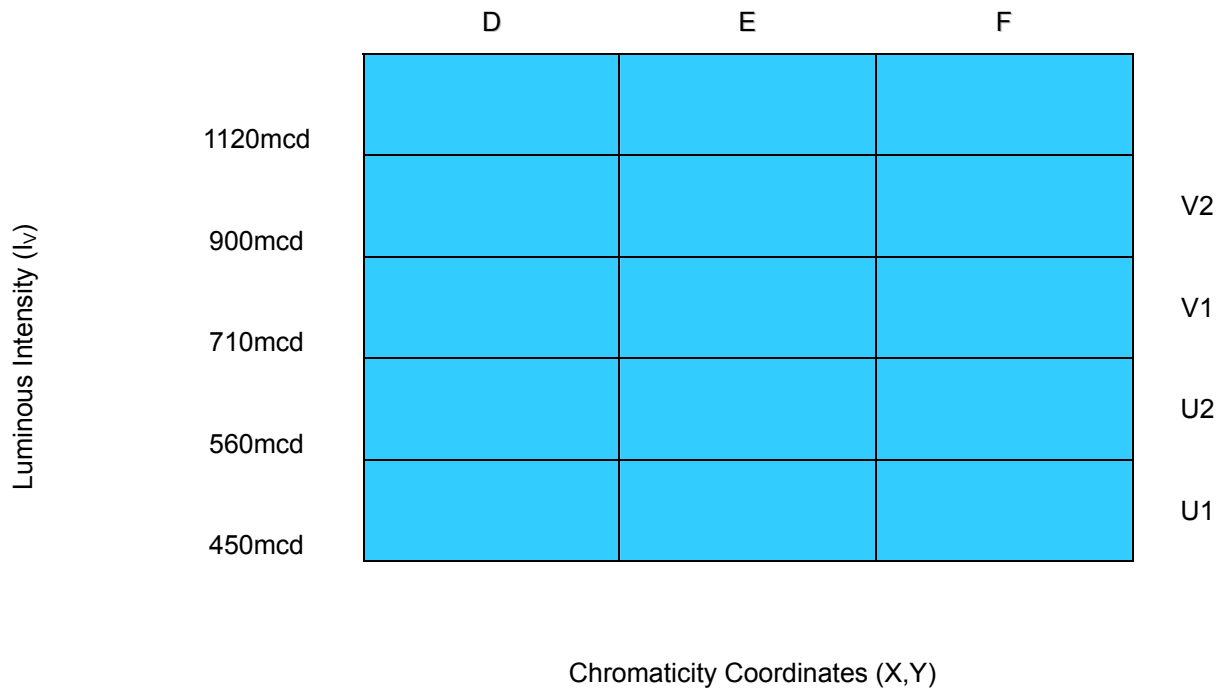
Standard bins for LM1-PWR1-11-N1 (IF = 30mA):

Lamps are sorted to Luminous Intensity –IV & Chromaticity Coordinates –(X,Y) bins shown.

Orders for LM1-PWR1-11-N1 may be filled with any or all bins contained as below.

All Luminous Intensity –IV & Chromaticity Coordinates –(X,Y) values shown and specified are at IF =30mA.

***U1+**



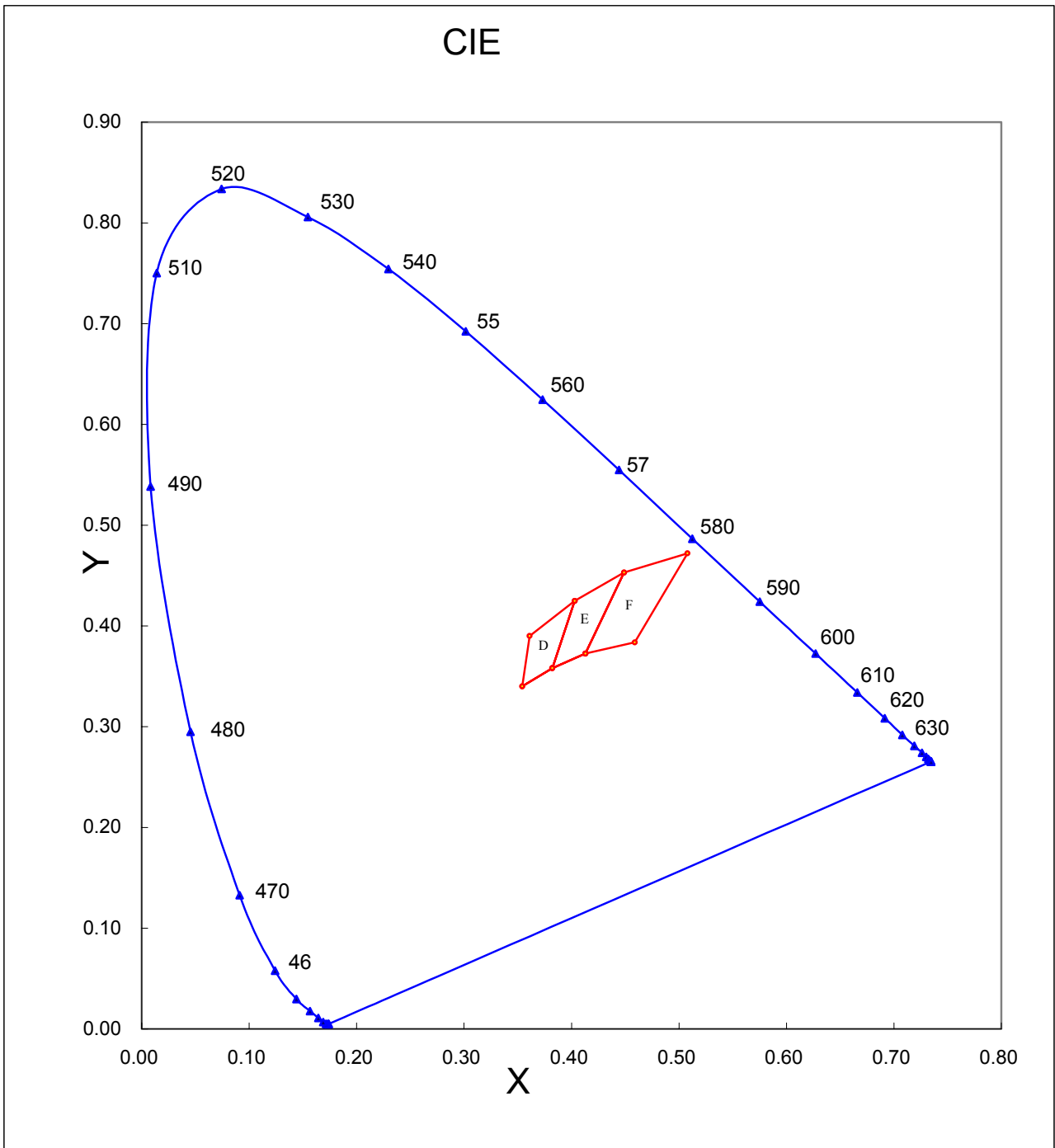
- U1+ indicates Luminous Intensity is at U1 bin or above.

Rank		D				E				F			
Chromaticity Coordinates	x	0.3541	0.3610	0.4030	0.3822	0.3822	0.4030	0.4490	0.4129	0.4129	0.4490	0.5080	0.4588
	y	0.3401	0.3900	0.4250	0.3580	0.3580	0.4250	0.4530	0.3725	0.3725	0.4530	0.4720	0.3838

Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be based on Dices distribution.
- 2) Tolerance of measurement of luminous intensity is ±10%
- 3) Tolerance of measurement of the Color Coordinates is ±0.015.
- 4) Tolerance of measurement of Vf is ±0.05 V.
- 5) Packaging methods are available for selection, please refer to PACKAGING STANDARD.
- 6) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.
- 7) Please refer to APPLICATION NOTES for Application.

CIE Chromaticity Diagram



Graphs

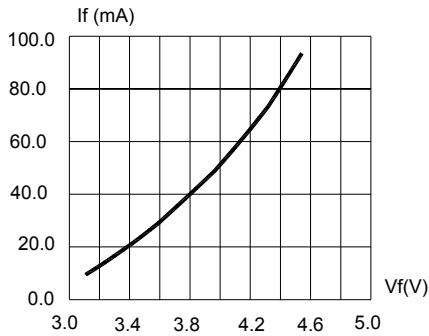


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

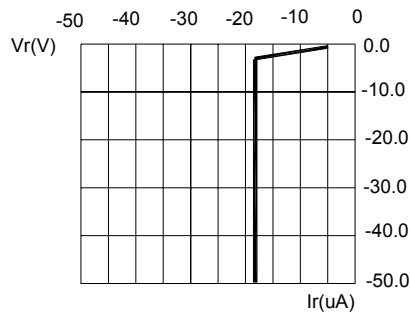


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

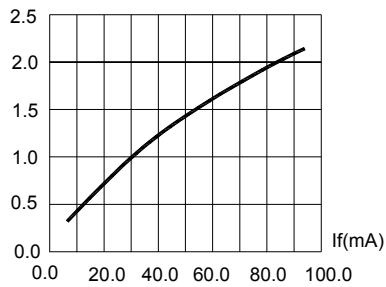


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

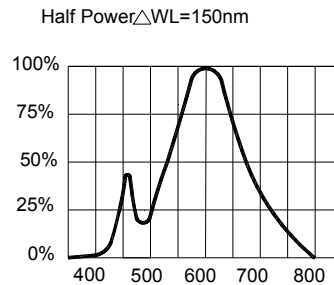


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

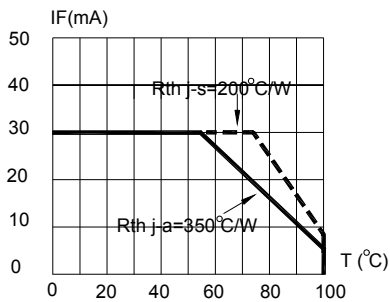


FIG.5 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON $T_{jmax}=110^{\circ}\text{C}$

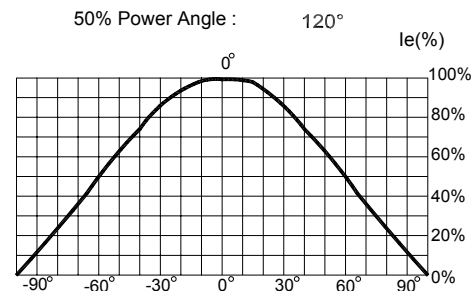


FIG.6 FAR FIELD PATTERN.

Items	Signatures	Date	Revision History		
Prepared by	Meiliping	2005-08-17	Rev.No	Date	Change Description
Checked by	XieJH	2005-08-17	02	2005-08-17	Release.
Approved by	DavidLiu	2005-08-17			
FCN#	FCN20050260				

Data is subject to change without prior notice; please refer to COTCO Website for the latest version.

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