

## **SPECIFICATION FOR COTCO LED LAMP**

MODEL No : LM1-TPP1-01  
DOC. No : D 31Jul02

Description:

120 Degree 3.2×2.8mm SMT-LED in  
Full Color with Water Transparent

Dice Material: AlGaInP&InGaN

Confirmed  
By Customer: \_\_\_\_\_

Date: \_\_\_\_\_



**COTCO LUMINANT DEVICE (HUIZHOU) LTD.**

### Applications:

- Indoor and outdoor displays
- Backlighting
- Coupling into light guides
- RGB full color displays

### Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating			Unit
		R	G	B	
Forward Current	I <sub>F</sub>	50	25	25	mA
Peak Forward Current*	I <sub>FP</sub>	200	100	100	mA
Reverse Voltage	V <sub>R</sub>	5	5	5	V
Power Dissipation	P <sub>D</sub>	150	120	120	mW
Operation Temperature	T <sub>opr</sub>	-40~+100			°C
Storage Temperature	T <sub>stg</sub>	-40~+100			°C
Junction Temperature	T <sub>j</sub>	+125	+125	+125	°C
Junction/ambient 1 chips on*	R <sub>thJA</sub>	450	400	450	°C/W
Junction/ambient 3 chips on*	R <sub>thJA</sub>	650	580	680	°C/W
Junction/solder point 1 chips on	R <sub>thJS</sub>	300	280	300	°C/W
Junction/solder point 3 chips on	R <sub>thJS</sub>	450	430	480	°C/W

\*pulse width ≤ 0.1msec duty ≤ 1/10

Rth test condition: Mounted on PC Board FR 4(pad size ≥ 16mm<sup>2</sup>)

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

Parameter	Condition	Symbol	Values			Unit
			R	G	B	
Wavelength at peak emission	I <sub>F</sub> =20mA	λ <sub>peak</sub>	620	520	465	nm
Dominant wavelength	I <sub>F</sub> =20mA	λ <sub>dom</sub>	612~625	520~540	460~480	nm
Spectral bandwidth at 50% Irel max	I <sub>F</sub> =20mA	Δλ	24	38	28	nm
Viewing angle at 50% IV	I <sub>F</sub> =20mA	2θ <sub>½</sub>	120	120	120	Deg.
Forward voltage	I <sub>F</sub> =20mA	V <sub>F(avg)</sub>	2.1	3.6	3.6	V
		V <sub>F(max)</sub>	2.6	4.2	4.2	V
Luminous Intensity	I <sub>F</sub> =20mA	I <sub>V(Min)</sub>	180	280	71	mcd
		I <sub>V(Avg)</sub>	300	450	110	mcd
Reverse current (max.)	V <sub>R</sub> =5V	I <sub>R</sub>	10	10	10	μA

### Ranks Combination (I<sub>F</sub> = 20mA)

Red Rank	S	T
Luminous Intensity(mcd)	180-280	280-450

### Ranks Combination (I<sub>F</sub> = 20mA)

Green Rank	T	U
Luminous Intensity(mcd)	280-450	450-710

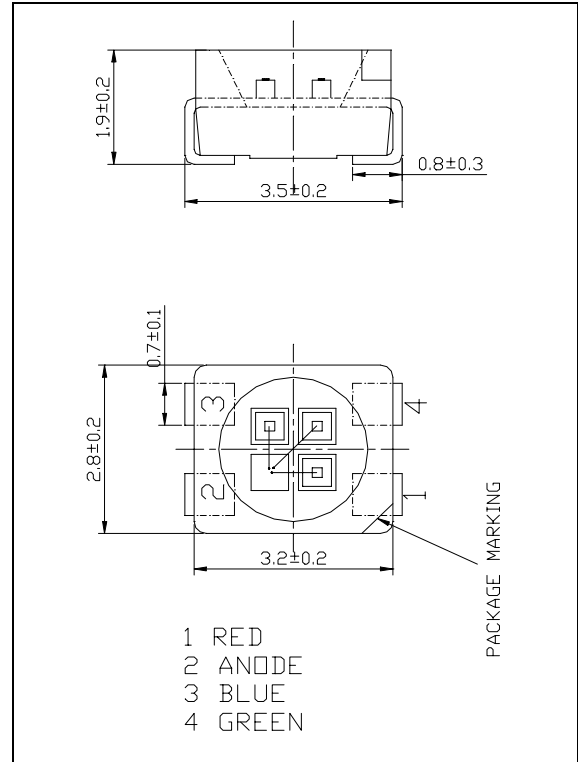
### Ranks Combination (I<sub>F</sub> = 20mA)

Blue Rank	Q	R
Luminous Intensity(mcd)	71-112	112-180

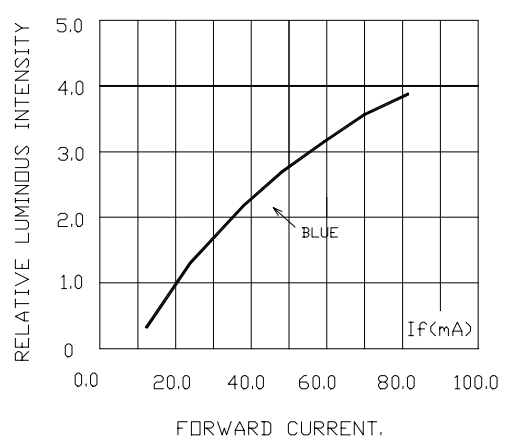
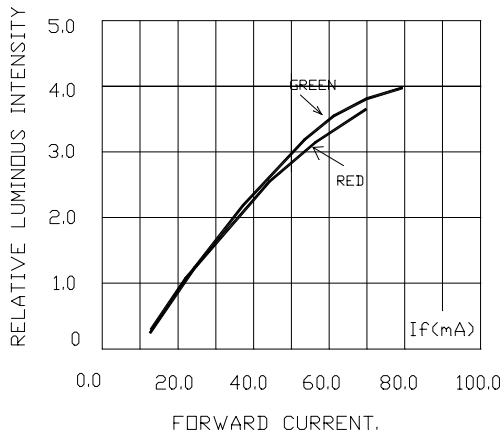
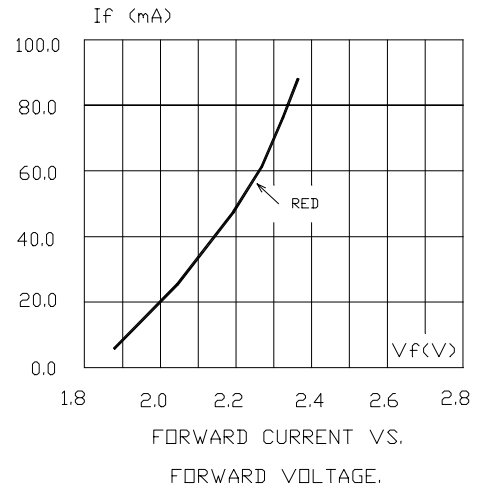
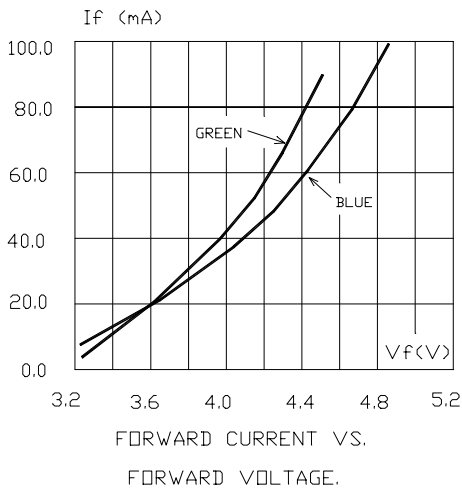
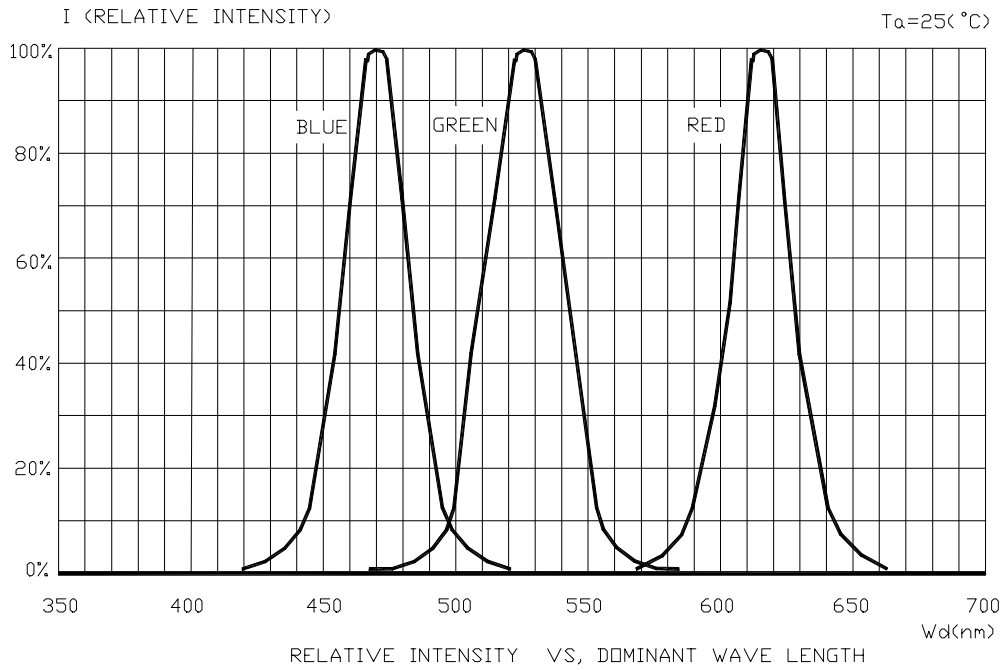
### Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be determined by Cotco.
- 2) Tolerance of measurement of luminous intensity is ±10%.
- 3) Packaging methods are available for selection, please refer to PACKAGING STANDARD.
- 4) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.

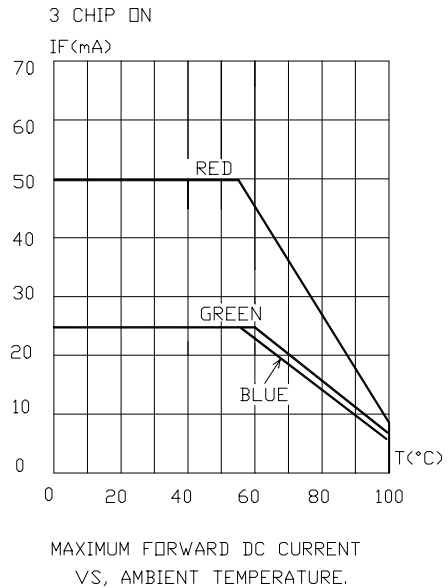
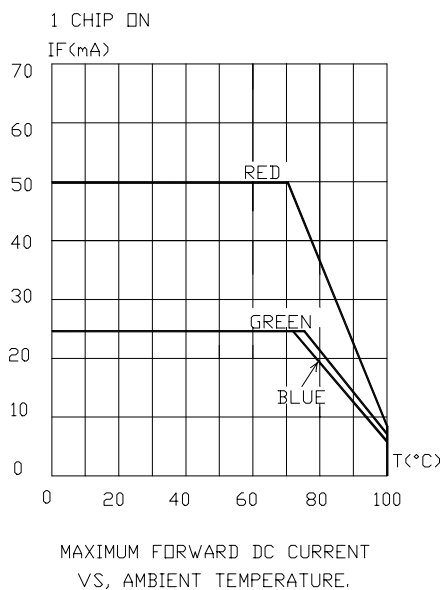
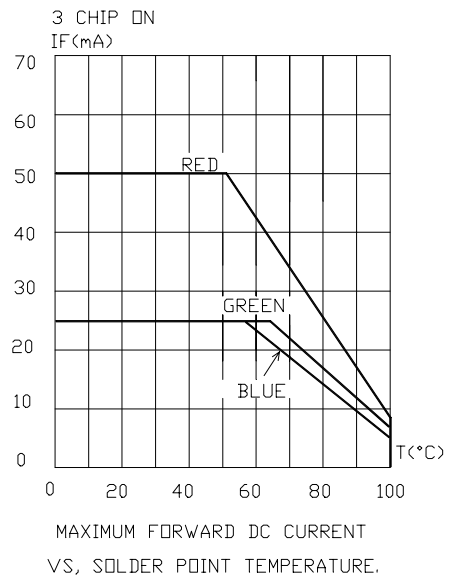
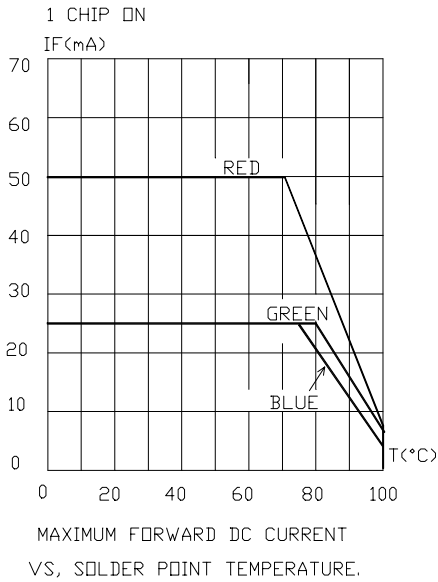
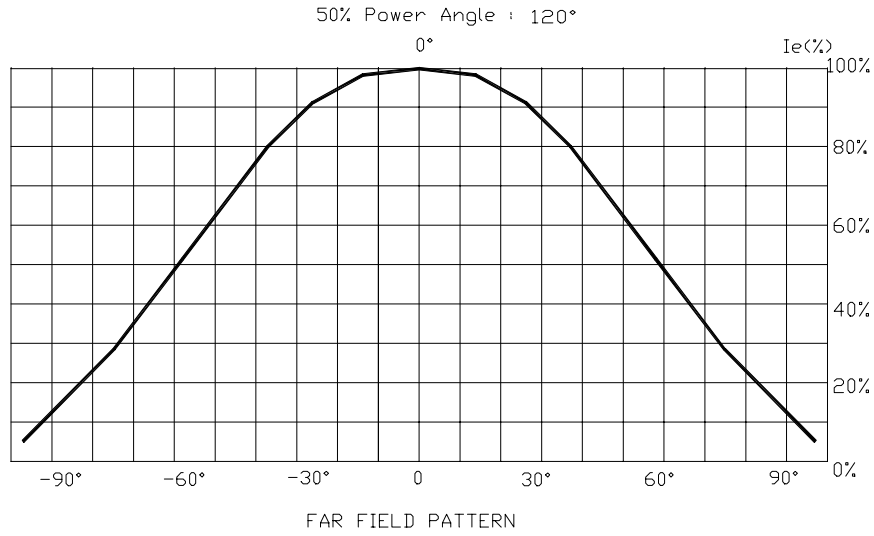
### Dimension Drawing



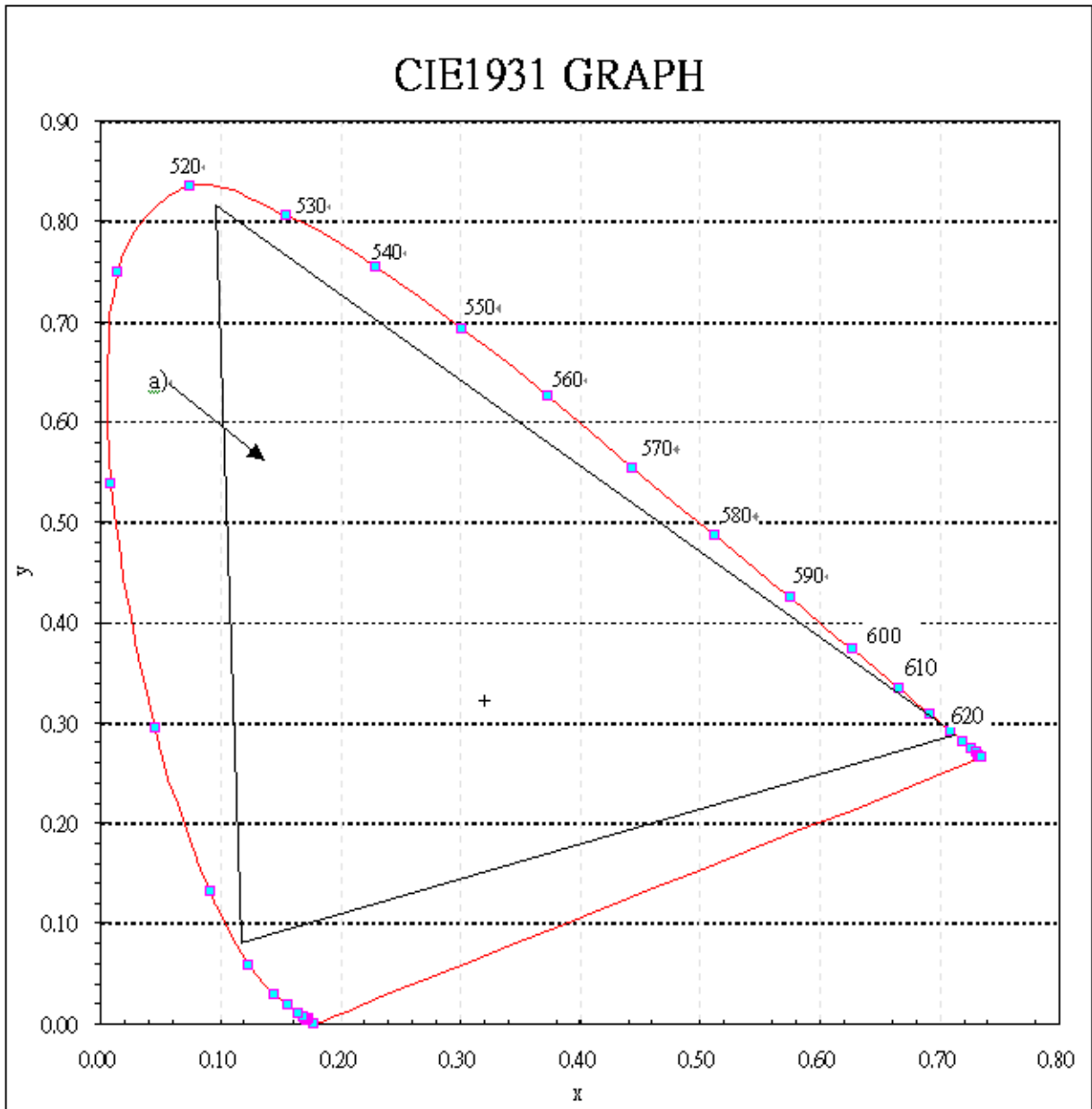
### Graphs



## Graphs



## Graphs



the color coordinates of the mixed light can be expected within the area of the color triangle marked a).

the achromatic point ( $x=0.33,y=0.33$ ) is marked "+"

Items	Signatures	Date	Revision History	
Prepared by	YangZhou	31Jul02	DOC. No.	CHANGE DESCRIPTION
Checked by	TangShR	31Jul02	C 11Jul02	Add Iv Avg
Approved by	PaulShiu	31Jul02	D 31Jul02	Modify Iv Distribution
ECN#	ECN-H20020752			

Data is subject to change without prior notice.

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Obsoletes Doc:C 11Jul02