

## **SPECIFICATION FOR COTCO LED LAMP**

MODEL No : LC503NYL1-30Q

DOC. No : D 14Oct03

Description:

30 Degree 5mm LED Lamp in  
Amber Color with Water  
Transparent Lens and No Stopper

Dice Material: AlGaInP

Confirmed  
by Customer: \_\_\_\_\_

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

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

### Applications:

- Advertising Signs
- Indicators
- Traffic
- Automotive Lighting

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

| Items                      | Symbol    | Absolute maximum Rating   | Unit |
|----------------------------|-----------|---|------|
| Forward Current            | $I_F$     | 50  | mA   |
| Peak Forward Current*      | $I_{FP}$  | 200   | mA   |
| Reverse Voltage            | $V_R$     | 5   | V    |
| Power Dissipation          | $P_D$     | 125   | mW   |
| Operation Temperature      | $T_{opr}$ | -40 ~ + 95  | °C   |
| Storage Temperature        | $T_{stg}$ | -40 ~ +100  | °C   |
| Lead Soldering Temperature | $T_{sol}$ | Max.260°C for 5 sec Max.<br>(3mm from the base of the epoxy bulb) |      |

\*pulse width  $\leq 0.1$ msec duty  $\leq 1/10$

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

| Items               | Symbol                  | Condition     | Min. | Typ. | Max. | Unit    |
|---------------------|-------------------------|---------------|------|------|------|---------|
| Forward Voltage     | $V_F$                   | $I_F = 20$ mA | ---  | 2.0  | 2.5  | V       |
| Reverse Current     | $I_R$                   | $V_R = 5$ V   | ---  | ---  | 100  | $\mu$ A |
| Dominant Wavelength | $\lambda_D$             | $I_F = 20$ mA | 587  | 591  | 596  | nm      |
| Luminous Intensity  | $I_V$                   | $I_F = 20$ mA | 1520 | 2000 | ---  | mcd     |
| 50% Power Angle     | $2\theta_{\frac{1}{2}}$ | $I_F = 20$ mA | ---  | 30   | ---  | deg     |

### Ranks Combination ( $I_F = 20$ mA)

| Rank               | U             | V             |
|--------------------|---------------|---------------|
| Luminous Intensity | 1520-2130 mcd | 2130-3000 mcd |

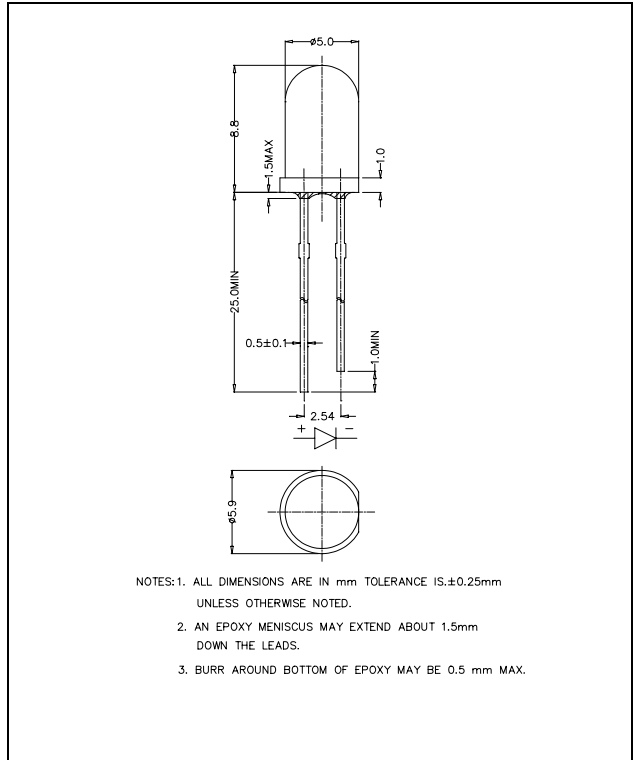
| Rank                | X3         | X4         | X5         |
|---------------------|------------|------------|------------|
| Dominant Wavelength | 587-590 nm | 590-593 nm | 593-596 nm |

| Rank    | V1       | V2       | V3       | V4       | V5       |
|---------|----------|----------|----------|----------|----------|
| Voltage | 1.6-1.8V | 1.8-2.0V | 2.0-2.2V | 2.2-2.4V | 2.4-2.6V |

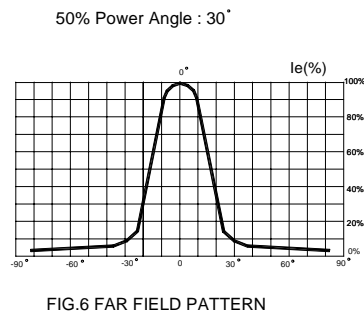
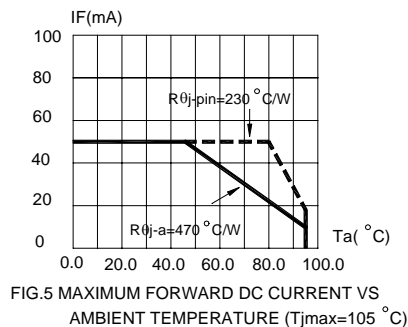
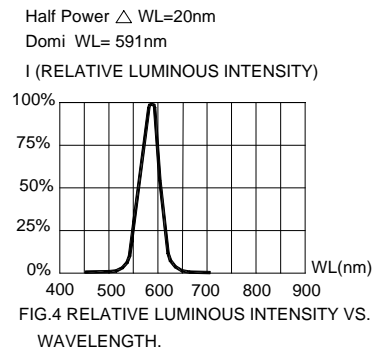
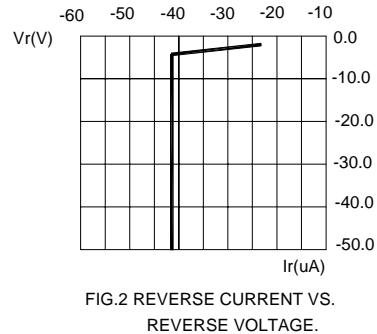
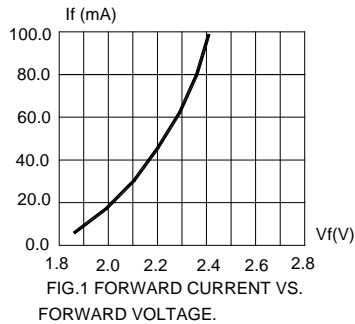
### Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be determined by Cotco.
- 2) Tolerance of measurement of luminous intensity is  $\pm 15\%$ .
- 3) Tolerance of measurement of dominant wavelength is  $\pm 1$ nm.
- 4) Tolerance of measurement of Vf is  $\pm 0.05$  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.

### Dimension Drawing



## Graphs



1. Cathode PAD Area (0.18 X 0.18inch<sup>2</sup>)
2. Height above nominal seating plane in inches(0.3inch)

| Items       | Signatures    | Date       | Revision History |  |
|-------------|---------------|------------|------------------|--|
| Prepared by | LiuZM         | 2003/10/14 | DOC. No.         | CHANGE DESCRIPTION                               |
| Checked by  | ZouGR         | 2003/10/14 | B 05Feb02        | CHANGE FORMAT                                    |
| Approved by | David         | 2003/10/14 | C 03Jul03        | Cancel VF(min) Dimension Drawing from 8.7 to 8.8 |
| ECN#        | ECN-H20030345 |            | D 14Oct03        | $P_D$ from 150 to 125; Change FIG.5.             |

Data is subject to change without prior notice.

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Obsoletes Doc: C 03Jul03.