

## SPECIFICATION FOR CERAMIC COB LED

**Part No:**LCOB50-15W030XXFR60-0320

**Description:**

37.5\*37.5mm COB LED

**Dice Material:** InGaN

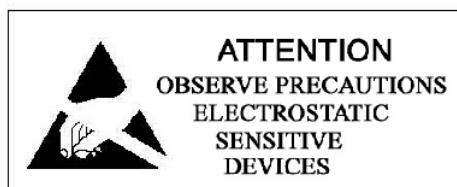
**Confirmed by Customer:** \_\_\_\_\_

**Approved by**

**Checked by**

**Prepared by**

罗顺忠



## LCOB50-15W030XXFR60

### BS-Normal CRI Series COB LED



### Introduction

Lightspot BS Normal CRI series LED Light engine is based on our main patent----- **MCOB** ( **M**ulti-**C**hips **O**n **B**oard) . Lightspot LEDs combine tens or hundreds power LED chips with a rugged package capable of operating in excess of power . Lightspot LEDs maximumly decrease LED uncomfortable glare and also Zebra strips, at the same time increase LED light efficiency and reduce thermal resistance.

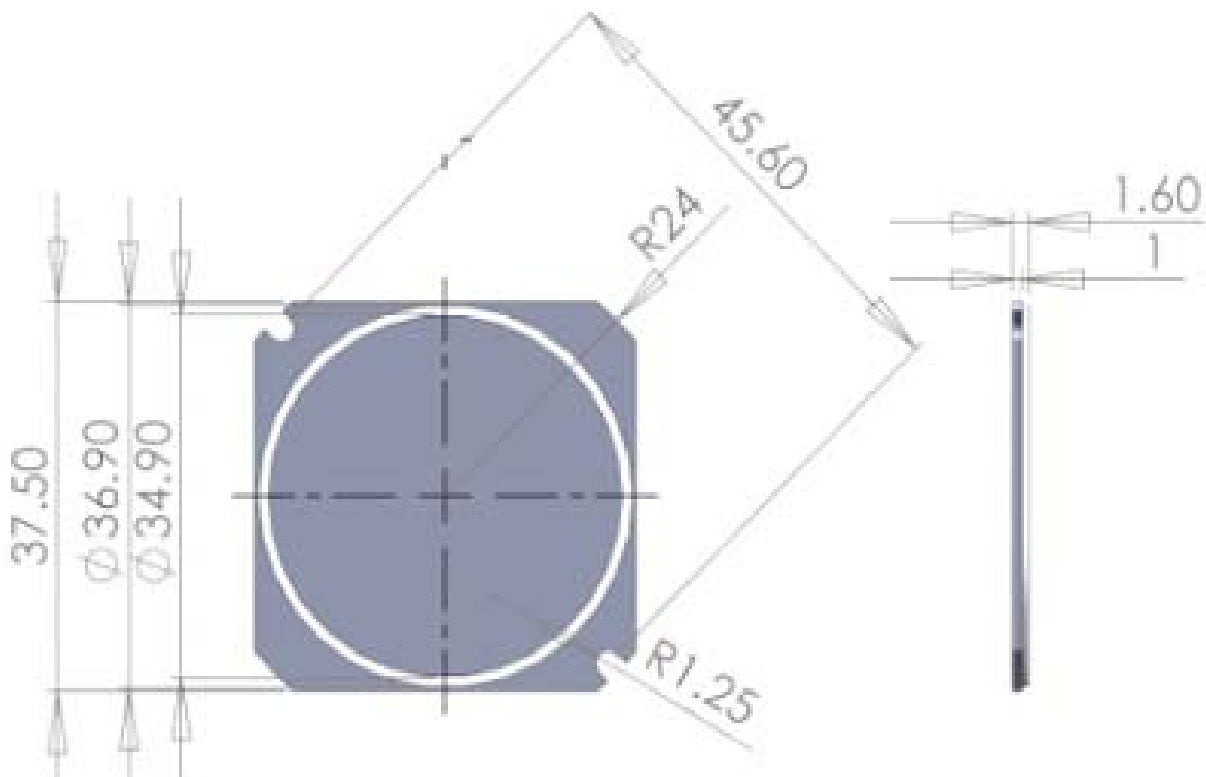
### Features:

- ◇ Area light source, which can avoid glare
- ◇ More energy efficient than incandescent , halogen and some fluorescent lamps
- ◇ Industry's lowest thermal resistance
- ◇ Long operating life, lumen maintenance of greater than 70% after 50,000 hours
- ◇ Low forward voltage operated
- ◇ Instant light (less than 100ns)
- ◇ Lead Free product, RoHS compliant
- ◇ No UV

## Application

- ◇ Automotive interior / exterior lighting
- ◇ Automotive signal lighting
- ◇ General Torch
- ◇ Architectural lighting
- ◇ LCD TV / Monitor Backlight
- ◇ Projector light source
- ◇ Traffic signals
- ◇ Task lighting
- ◇ Decorative / Pathway lighting
- ◇ Remote / Solar powered lighting
- ◇ Household appliances

## Outline Dimensions:



**LCOB50-15W030XXFR60**

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

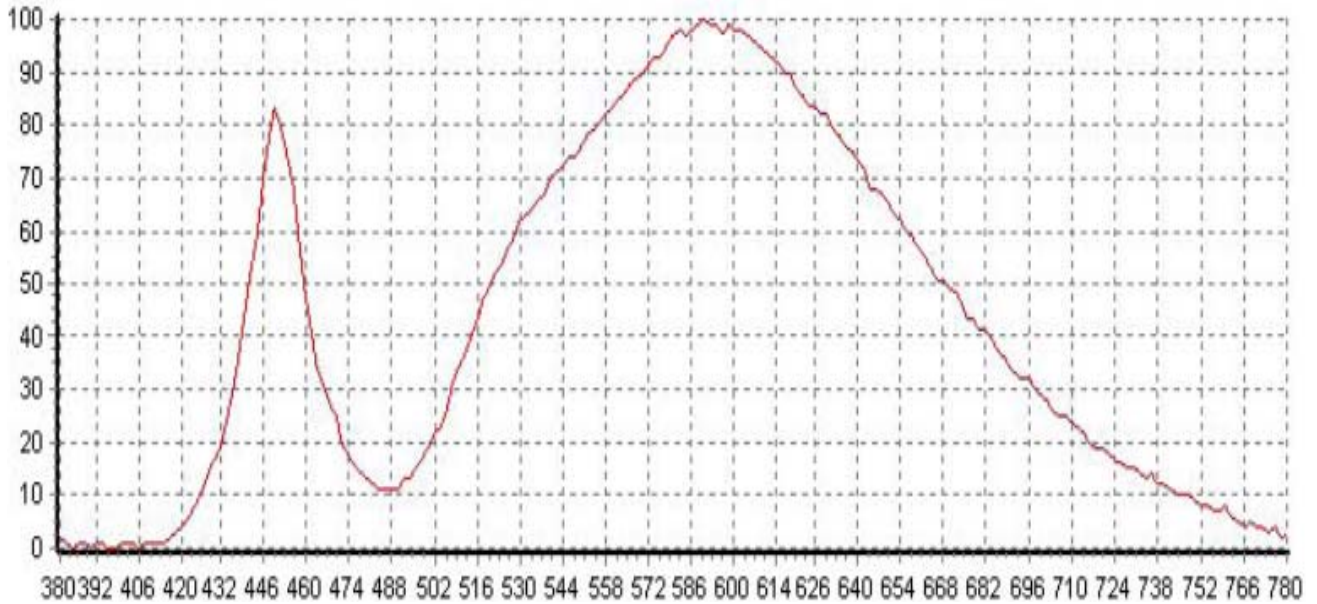
Parameter	Part No.	Symbol	Maximum	Unit
Power Dissipation	LCOB50-15W030XXFR60	Pd	15	W
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)		IF(peak)	480	mA
Continuous Forward Current		IF	320	mA
LED junction temperature		JT	120	°C
Reverse Voltage		VR	75	V
Thermal Resistance, junction to case	LCOB50-15W030XXFR60	R $\theta$ j-c	2.0	°C/W
Soldering Temperature °C	5 seconds, 260°C or lower			
Operating temperature range		Topr	-30°C to + 85°C	
Storage Temperature Range		Tstg	-40°C to + 100°C	

### ● Warm white

Parameter	Part No.	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Luminous flux	LCOB50-15W030XXFR60	$\phi$	I <sub>F</sub> =320mA	1450	/	1750	lm
Viewing Angle		2 $\theta$ 1/2			140		deg
Forward Voltage		V <sub>F</sub>	I <sub>F</sub> =320mA	42	47.5	51	V
Reverse Current		I <sub>R</sub>	V <sub>R</sub> =75V			160	uA
Correspondingly		CCT		2870	3045	3220	K
Color Rendering Index		CRI		60	/	65	

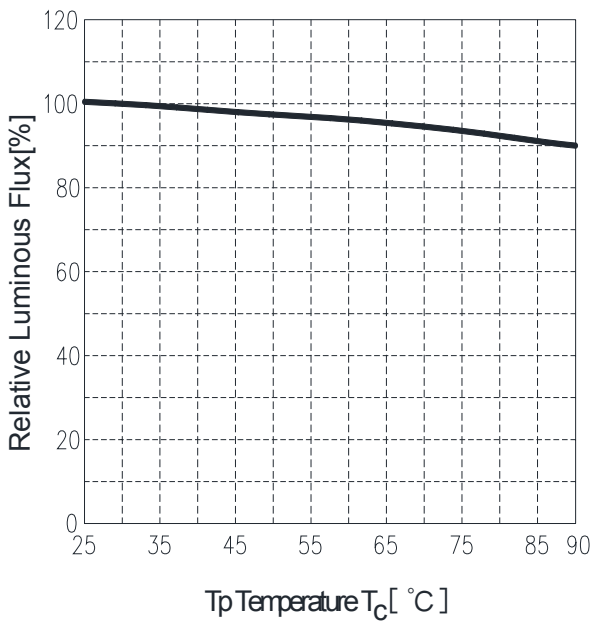
- 1、 The luminous intensity data did not include  $\pm 10\%$  testing tolerance.
- 2、 Tolerance of CRI is  $\pm 2$ .

## Relative Spectral Power Distribution

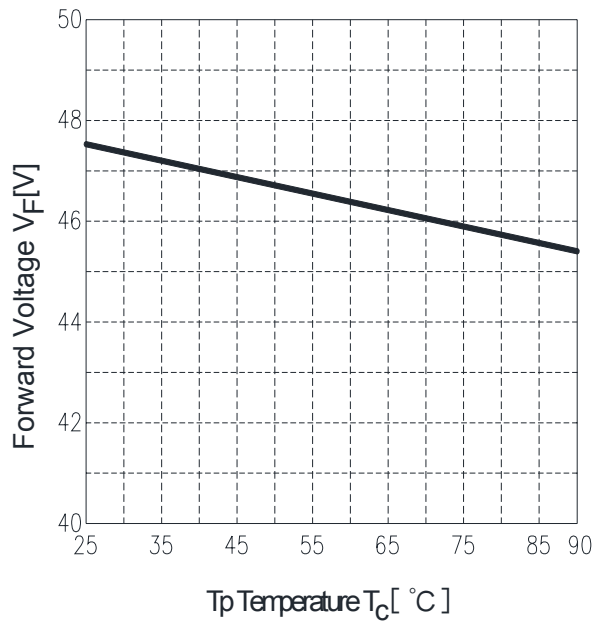


## Temperature Characteristics

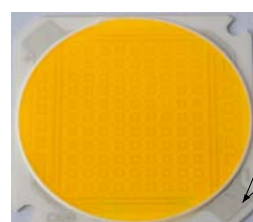
Relative Luminous Flux (@320mA) vs. T<sub>p</sub> Temperature



Forward Voltage (@320mA) vs. T<sub>p</sub> Temperature



(measuring point for T<sub>p</sub> Temperature)



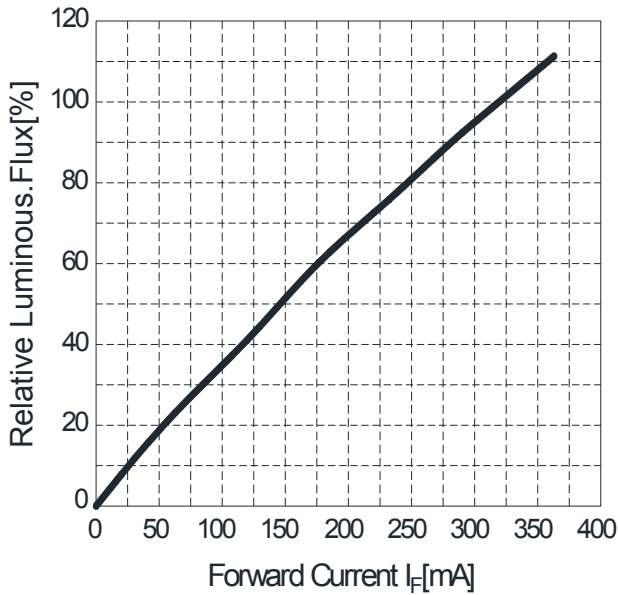
PAD

measuring point

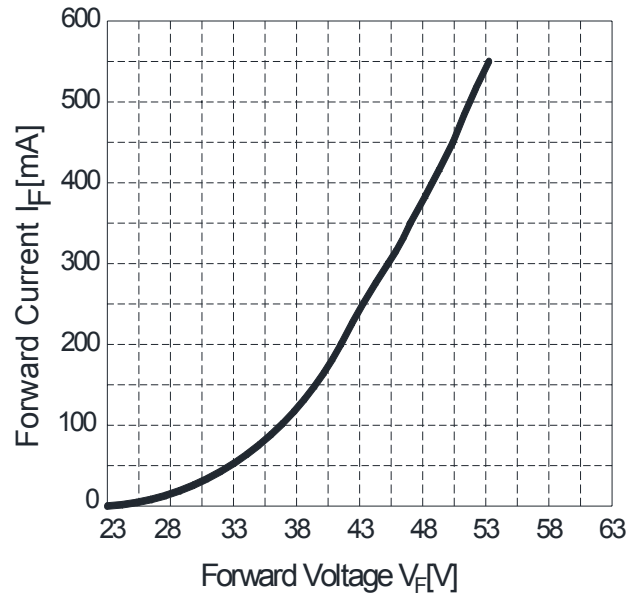
Please ensure the maintenance of heat radiation not to exceed T<sub>p</sub> temperature over the rating in operation.

## Electrical Characteristics

Relative Luminous.Flux( $T_c=25^\circ\text{C}$ ) vs.Forward Current

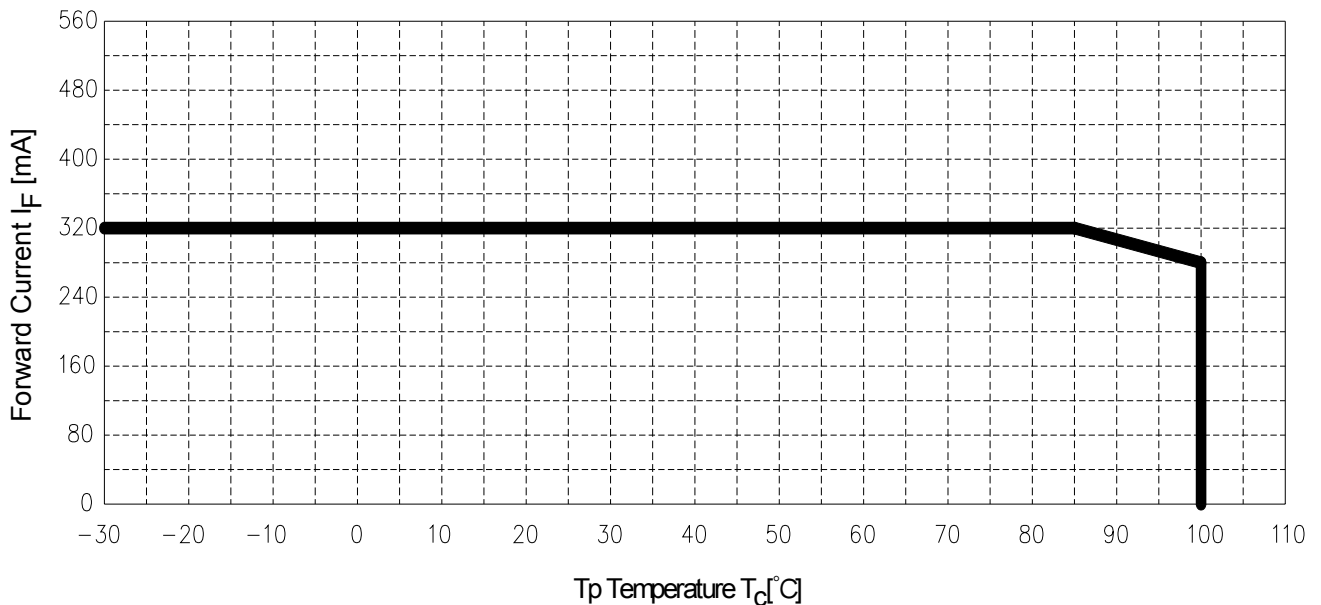


Forward Current( $T_c=25^\circ\text{C}$ ) vs.Forward Voltage



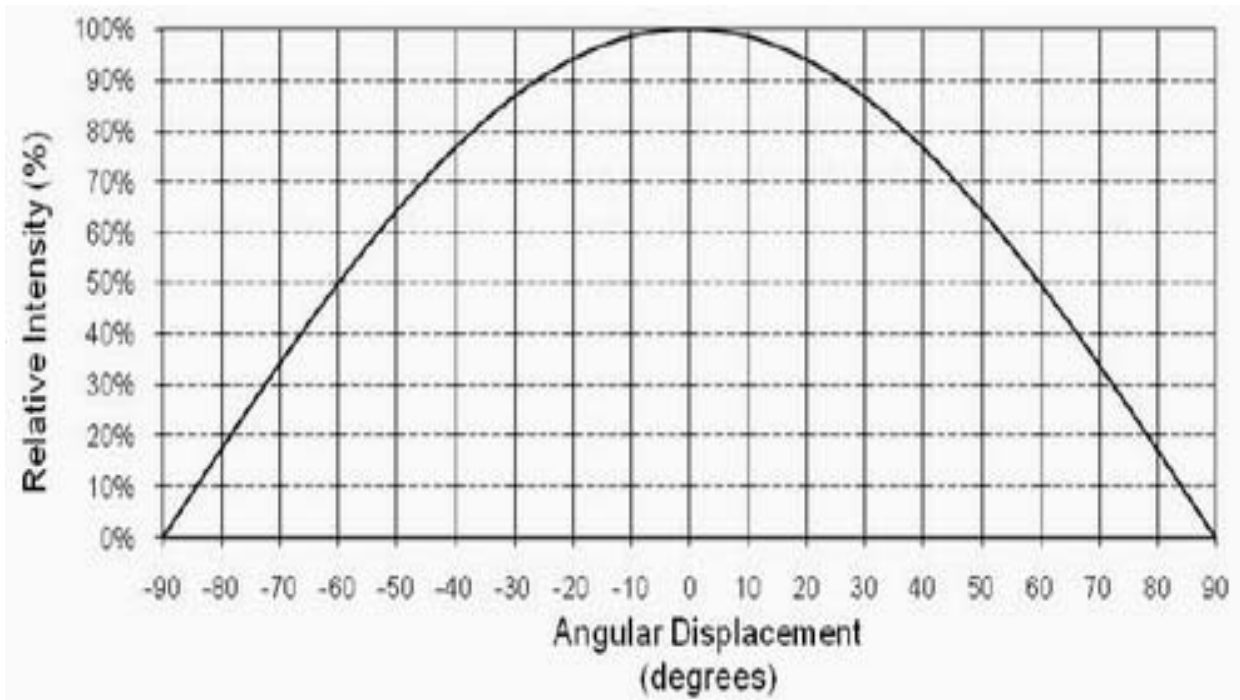
## Derating Curves characteristics

### Forward Current Derating Curve

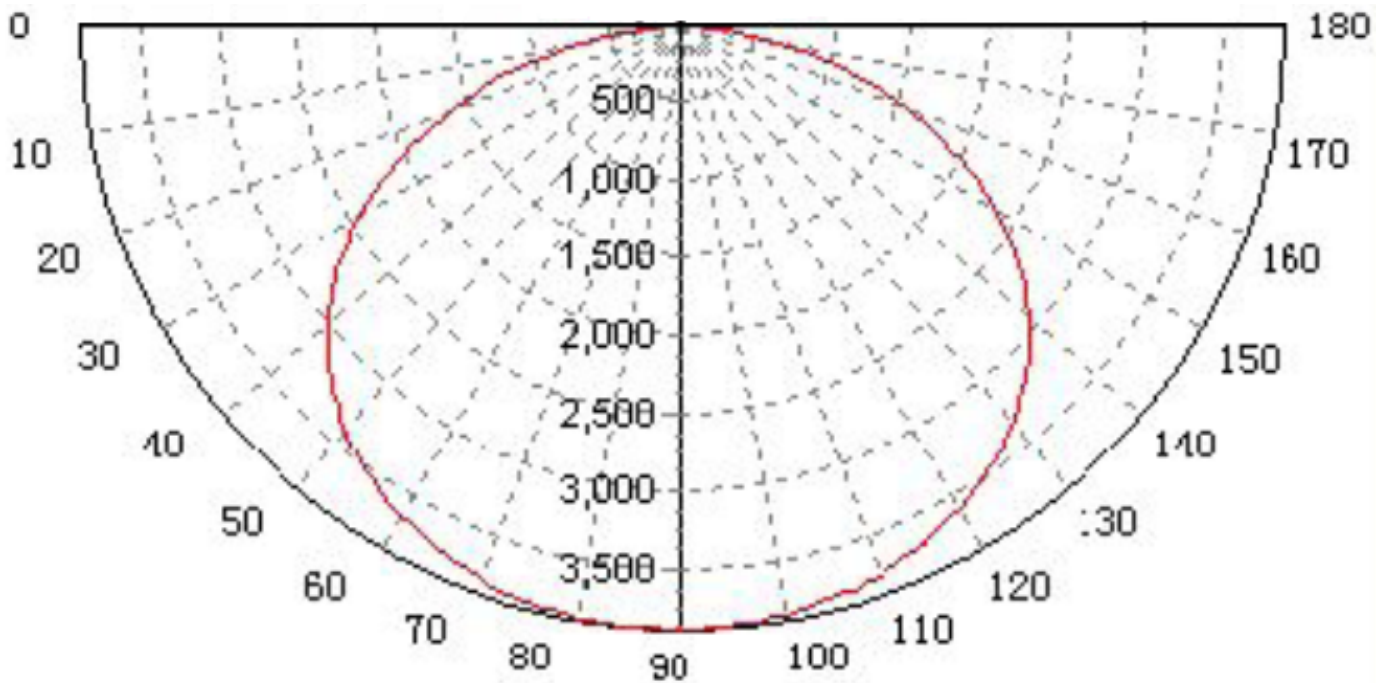


To keep  $T_p$ (PAD-temperature) lower than rating enough heat-radiation performance needs to be secured by using an adequate heat sink.

## Typical Polar Radiation Pattern

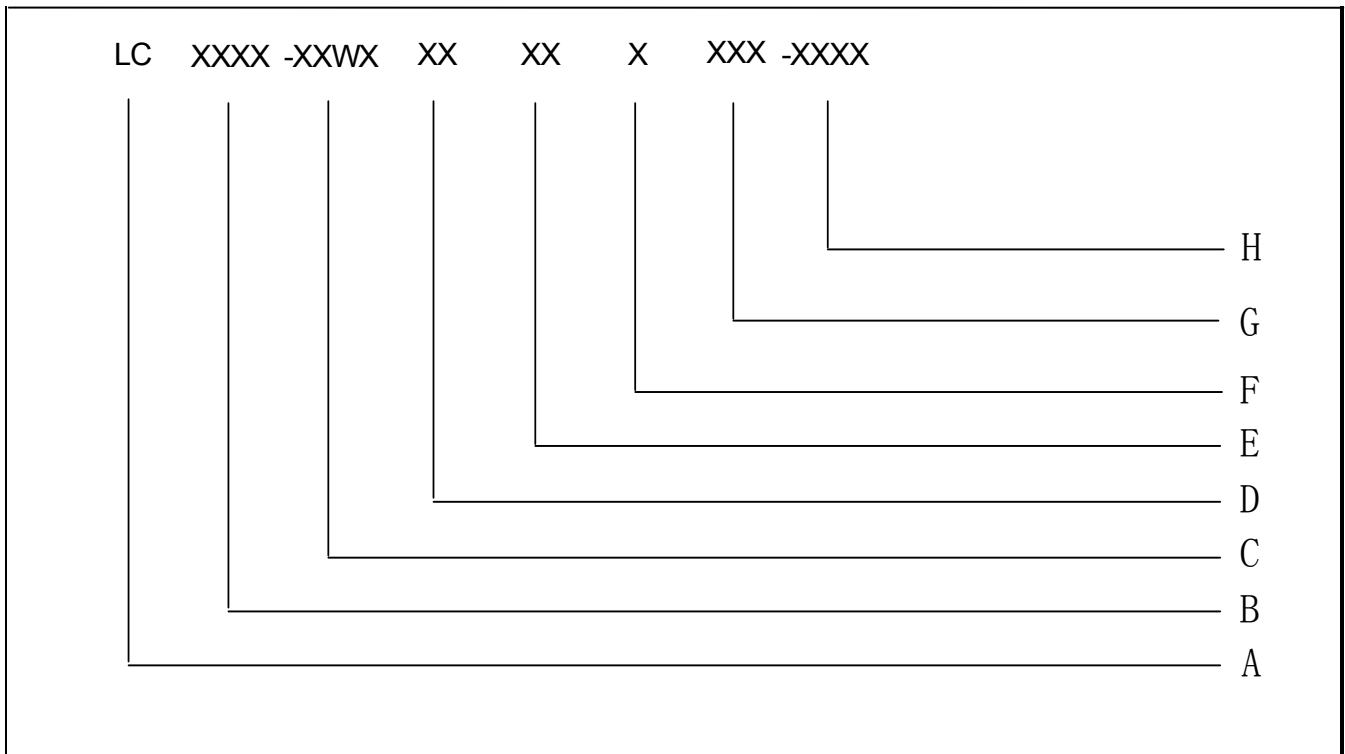


## Typical Spatial Radiation Pattern



## Typical Polar Radiation Pattern

## Order Code



### 编码原则:

A: LC表示日明陶瓷面光源产品

B: XXXX表示产品的尺寸规格, 如: 4008、4012、6012; 0B25、0B35、0B50

C: XXWX表示产品功率大小, 如: 05W0表示该产品的功率大小为5瓦

D: XX表示产品的标称色温, 如: 27、30、35、40、45、50、57、65等

E: XX表示晶片规格

F: X表示产品的亮度范围, 如:  $70\text{lm/w} \leq E < 90\text{lm/w}$ ;  $90\text{lm/w} \leq F < 110\text{lm/w}$ ;  
 $110\text{lm/w} \leq G < 130\text{lm/w}$

G: XX表示产品的显指范围, 如:  $55 \leq R55 < 60$ ;  $60 \leq R60 < 65$ ;  $65 \leq R65 < 70$ ;  $70 \leq R70 < 75$ ;  
 $75 \leq R75 < 80$ ;  $80 \leq R80 < 85$ ;  $85 \leq R85 < 90$ ;  $90 \leq R90 < 95$

H: XXXX表示产品正常工作时的正向电流值, 如: 0200表示电流值大小为200mA等

More detail please see "[Lightspot LED Binning and Labeling.pdf](#)"

### NOTICE:

- All dimensions are in millimeter.
- Tolerance is  $\pm 0.1\text{mm}$  unless otherwise noted.
- It is strongly recommended that the temperature of lead be not higher than  $60^\circ\text{C}$ .
- This information in this document is subject to change in order to improve reliability, design or function without prior notice and does not represent a commitment on the part of this company.
- Avoids preserving in the high temperature, the high-moisture, as well as in the acidic environment .