GREEN TECHNOLOGY OF LIGHTINGS

Technical Datasheet LS03

(All patents pending)

High Power Solid-State LED Light Source

Introduction

For a brighter solid-state light source (more than 1 Watt), **LUSTON III** (with a full range of colors) is an energy-efficient building block generating enough light outputs suitable for most applications. **LUSTON III** offers the best solid-state light source for you to realize your innovate ideas about lightings. We help you create a new approach for future lighting.

Warm white **LUSTON III** is also available in both Star and O'Ring configurations. Both configurations provide best possible color rendering capability and color temperature. With a nominal correlated color temperature of 3200K, similar to conventional indoor light source, **LUSTON III** is particularly designed for architects and light designers.

LUSTON III in 350mA and 700mA driving current gives our customers more flexibility and convenience in electronic design.

LUSTON III Part Number Matrix

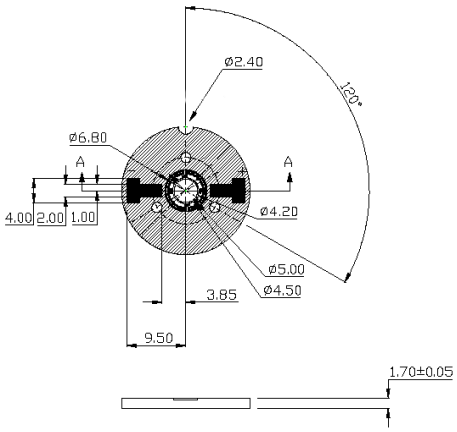
Table.1

Color	O'Ring (3.7V, 700mA)	Star (3.7V, 700mA)	Star (7.5V, 350mA)
			
Warm White (3200K)	NHW103CL	NHH103CL	NH6103CL
White (6500K)	NHW103NW	NHH103NW	NH6103NW
Blue (470nm)	NHW103NB	NHH103NB	NH6103NB
Green (525nm)	NHW103PG	NHH103PG	NH6103PG
Amber (590nm)	NHW103AB	NHH103AB	NH6103AB
Red (625nm)	NHW103NR	NHH103NR	NH6103NR

Mechanical Dimensions

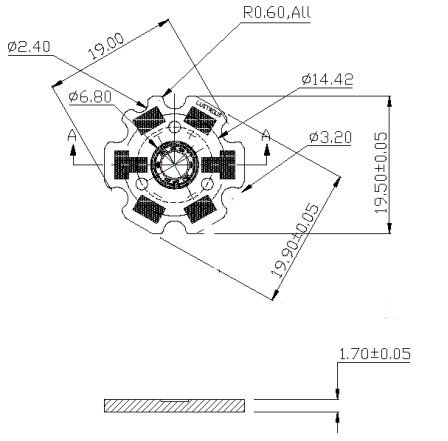
LUSTON III

O'Ring



LUSTON III

Star



Note:

1. Drawing not to scale**.** All dimensions are in millimeters.

Flux Characteristics at 700mA, Junction Temperature Tj = 25^{0}C

Table.3

Color	Minimum Luminous Flux (lm) or Radiometric Power (mW)	Typical Luminous Flux (lm) or Radiometric Power (mW)
White (6500K)	33 lm	55 lm
Warm White (3200K)	27 lm	45 lm
625nm	24 lm	40 lm
590nm	24 lm	40 lm
525nm	48 lm	80 lm
505nm	40 lm	70 lm
470nm	170 mW	280 mW

1. Brightness is measured in total power with tolerable errors of 10%.Minimum luminous flux performance guaranteed within published operating conditions.
2. Higher luminous flux will become available in the near future.

Optical Characteristics

Table.4

Color	Dominant Wavelength (nm) or Color Temperature(K)			Spectral Half-Width (nm)	Viewing Angle (degrees)
	Min	Typ	Max		
White (6500K)	4500K	6500K	8000K	NA	120
Warm White (3200K)	2700K	3200K	3600K	NA	120
625nm	620	625	630	15	120
590nm	585	590	595	15	120
525nm	520	525	530	30	120
505nm	500	505	510	30	120
470nm	465	470	475	30	120

1. Color Rendering Index (CRI) for our white product is higher than those made with Yag or Tag phosphor. Nitride phosphor consists of green and red spectrum which enhances CRI.

Electrical Characteristics

Table.5

Color	Forwrad Voltage (V) for 700mA forward current			Forwrad Voltage (V) for 350mA forward current		
	Min	Typ	Max	Min	Typ	Max
White (6500K)	3.0	3.7	4.0	6.0	7.5	8.0
Warm White (3200K)	3.0	3.7	4.0	6.0	7.5	8.0
625nm	1.5	2.5	3.0	3.0	5.0	6.0
590nm	1.5	2.5	3.0	3.0	5.0	6.0
525nm	3.0	3.7	4.0	6.0	7.5	8.0
505nm	3.0	3.7	4.0	6.0	7.5	8.0
470nm	3.0	3.7	4.0	6.0	7.5	8.0

1. Lustrous Technology allows a tolerance of each LED for voltage measurements.
2. Measurements are taken under each nominal forward current.

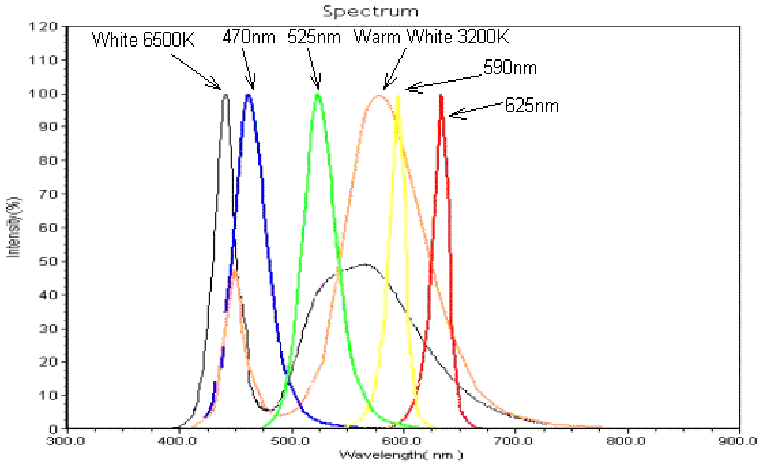
Absolute Maximum Ratings

Table.5

Parameters	For 700mA forward current	For 350mA forward current
	White/Warm White/625nm/ 590nm/525nm/505nm/470nm	White/Warm White/625nm/ 590nm/525nm/505nm/470nm
DC Forward Current (mA)	700	350
Peak Pulsed Forward Current (mA)	1000	500
LED Junction Temperature (^0C)	< 120	
ESD Sensitivity	+/-16000 HBV	
Operating Temperature (^0C)	-40 ~ +100	
Storage Temperature (^0C)	-40 ~ +100	
Soldering Temperature (^0C)	260 (duration should be less than 5seconds)	

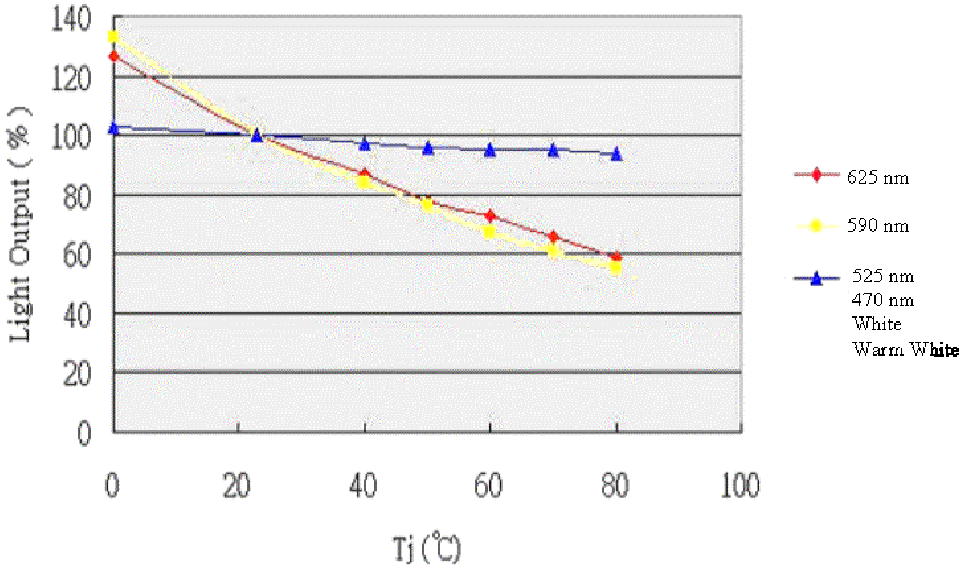
1. Proper current derating must be observed to maintain junction temperature below the maximum
2. For single side circuit Star or O'Ring type cannot be soldered by general IR or reflow.

Wavelength Characteristics, Tj=25^{0}C



1. Relative intensity vs. wavelength.
2. White color spectrum of typical CCT part, integrated measurement.

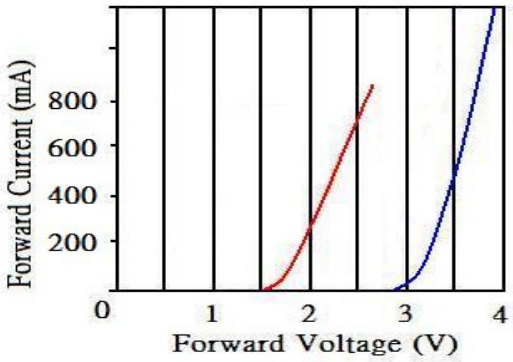
Light Output Characteristics



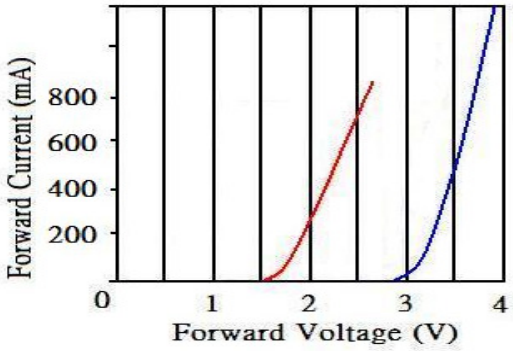
1. Relative light output vs. junction temperature. Thermal management is necessary to avoid exceeding maximum junction temperature. Consult Lustrous us for further information.
2. Lustrous historical data projects that our products will deliver at least 70% lumen maintenance based on the operation under nominal forward current with junction temperature below 90^{o}C .

Forward Current Characteristics, Tj=25^{0}C

For 700mA forward current

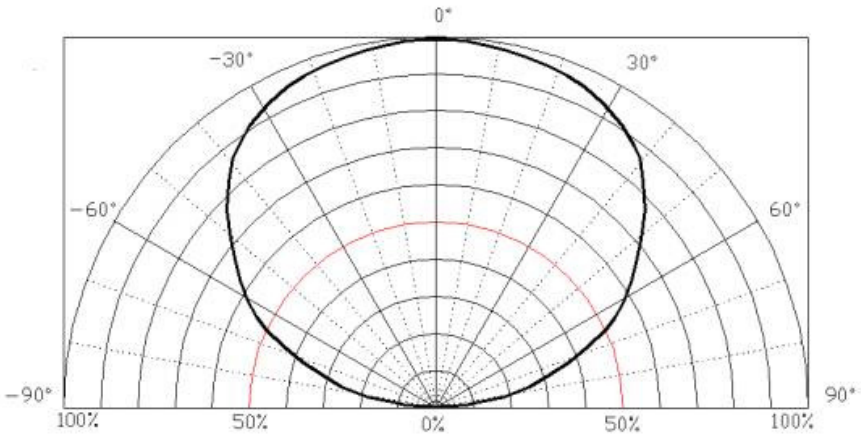


For 350mA forward current



1. Driving currents less than the testing conditions may produce unpredictable results. PWM is recommended for dimming effects.
2. Red curve is for red and amber LED and blue represents the others.

Typical Angular Beam Profile, Tj=25^{0}C



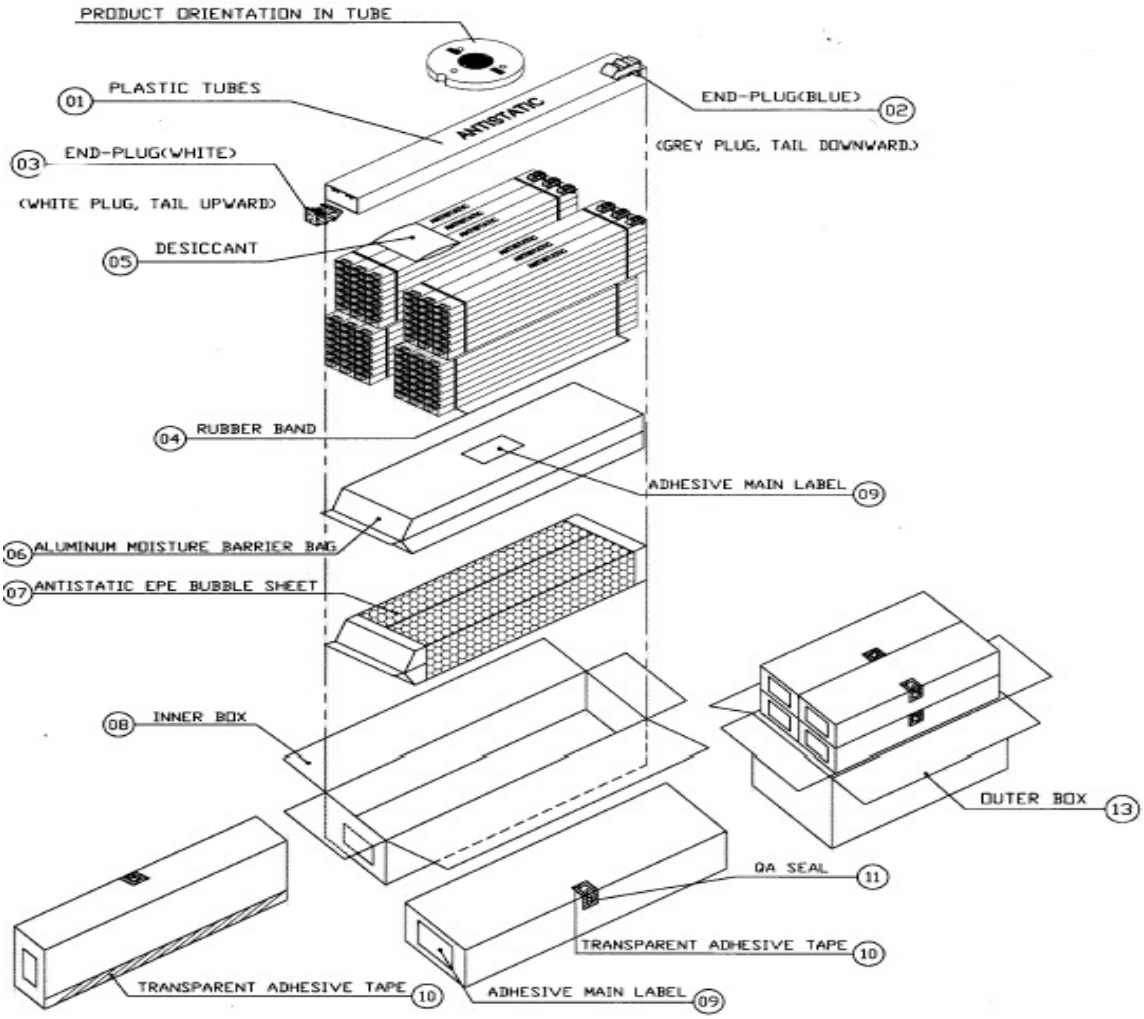
View Angle:120 degree

1. Detail beam profile data can be provided to certain qualified customers

Typical Packaging

STACKING METHOD

PROD NO. / STACKING METHOD	HLLED (Ø20.7x1.6mm)
PCS / TUBE	24
TUBES / BUNDLE	21 (3x7)
BUNDLE / BOX	4
PCS / BOX	2016
PCS / OUTER BOX	8064



Company Information

Lustrous Technology, founded in 2004, endeavors to bring a new era of solid-state lighting. Our R&D development center and production facilities are based in Taiwan, famous island for IT technology in the world. Our products are well designed in both performance and reliability. Lustrous is one of the leading high-power LED manufacturer and solution provider in the world.

**Lustrous Technology may make process and material changes affecting performance and characteristics of our products without further notice. These products supplied after changes will continue to meet published specifications, but may not be identical to products supplied as samples or under prior orders.