LUSTROUS®

GREEN TECHNOLOGY OF LIGHTINGS

Technical Datasheet LS 42

High Power Solid-State LED Light Source

COLOR X^{RGB}

Introduction

For a brighter solid-state light source, Lustrous Technology is proud to release the new **Color X^{RGB}** LED product. Ideal for your high output multiple-color selections, **Color X^{RGB}** provides you the ability to adjust any color of lights combinations between red, green and blue chips on one single LED product. The **Color X^{RGB}** is energy efficient, and designed for all types of Commercial and Architectural applications. A dimmable controller is all you need to tune the output to your preferred color of lights.

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COLOR X^{RGB} Part Number Matrix

Table.1

Color	P/N
Full Color	C210FCXXNA

COLOR X^{RGB} Material

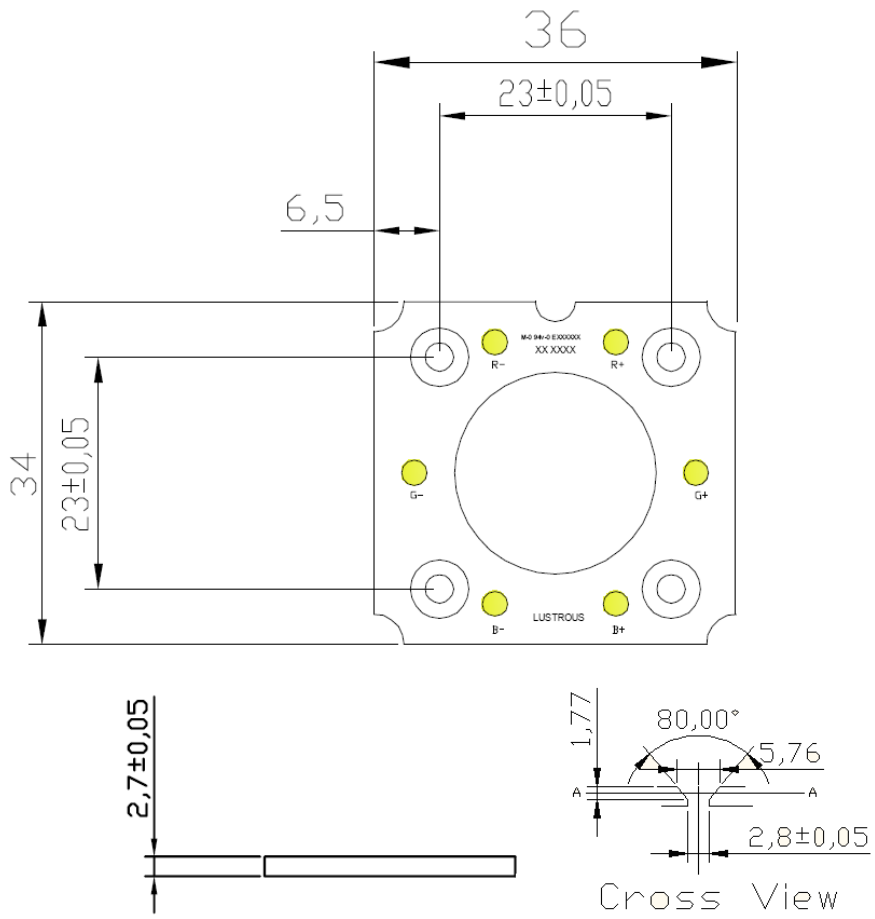
Chip Material	GaN Base

COLOR X^{RGB} Chips Array

R:4/G:3/B:3 Chips Array

Mechanical Dimensions

COLOR X^{RGB}



Note: These drawings are not for scale. All dimensions are in millimeters.

Flux Characteristics at 350 mA for Each Channel, Junction Temperature Tj = 25 ^0C

Table.1

Color	Minimum Luminous Flux (lm)	Typical Luminous Flux (lm)
Blue (470nm)	25 lm	35 lm
Green (525nm)	93 lm	125 lm
Red (625nm)	66 lm	80 lm

Note1: Luminous flux is measured in total power with a tolerance rate of +/- 10%. Minimum luminous flux performance is guaranteed from the above data.

Note2: Higher luminous flux will be available in the future.

Optical Characteristics for Each Channel

Table.2

Color	λ_d (nm)			Spectral Half-Width (nm)
	Min	Typ	Max	
Blue (470nm)	460nm	470 nm	475 nm	25
Green (525nm)	515 nm	525 nm	530 nm	30
Red (625nm)	620 nm	625 nm	635 nm	17

Electrical Characteristics for Each Channel

Table.3

Color	Forward Voltage (V) for 350 mA forward current		
	Min	Typ	Max
Blue (470nm)	9.4	10.5	11.5
Green (525nm)	9.5	10.5	12
Red (625nm)	9	10	12

Note1: Lustrous Technology allows a tolerance rate of +/- 10% for Lustrous products voltage measurement.

Note2: All figures are measured from the above forward current at 350mA.

Absolute Maximum Ratings

Table.4

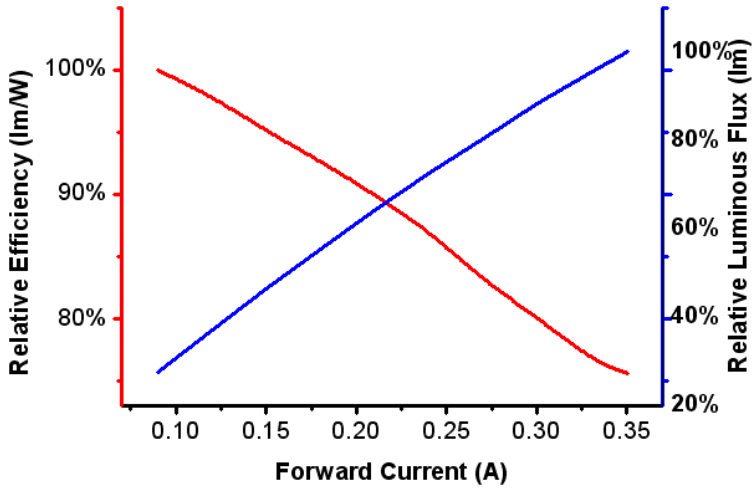
Parameters	For 350mA forward current (Each Channel)
	Blue/ Green/ Red
DC Forward Current (mA)	350
Peak Pulsed Forward Current (mA)	500
LED Junction Temperature (^0C)	< 125
ESD Sensitivity	+/- 4kV (HBM)
Thermal Resistance ($^0C/W$)	~0.5
Operating Temperature (^0C)	-20 ~ +80
Storage Temperature (^0C)	-20 ~ +50
Soldering Temperature (^0C)	260 (duration should be less than 5 seconds)

Note1: To avoid exceeding the maximum junction temperature, please set the forward current with caution.

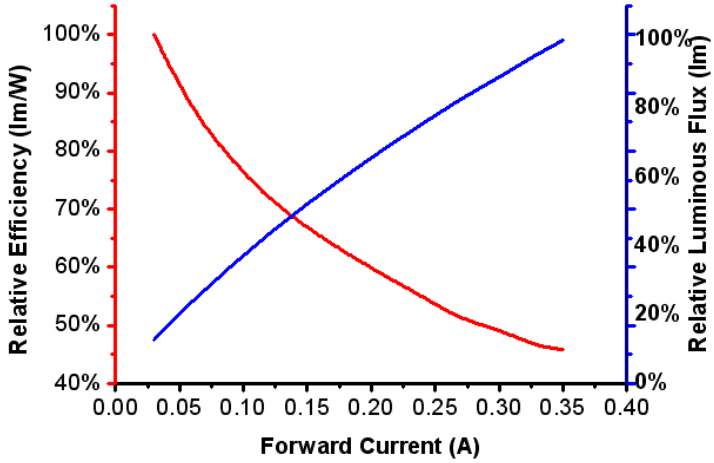
Note2: If you decide to set the maximum DC current for Lustrous products, please pay attention on the thermal design of your luminaries.

Relative Intensity vs. Current （Tj = 25˚C）

RED (625 nm)

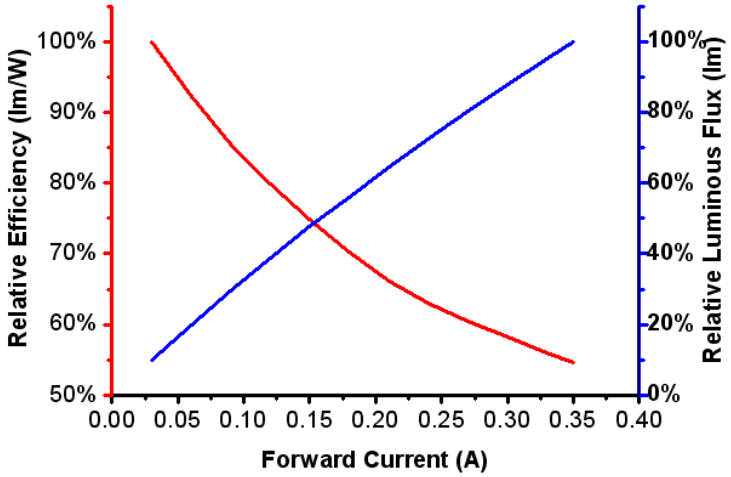


GREEN (525 nm)



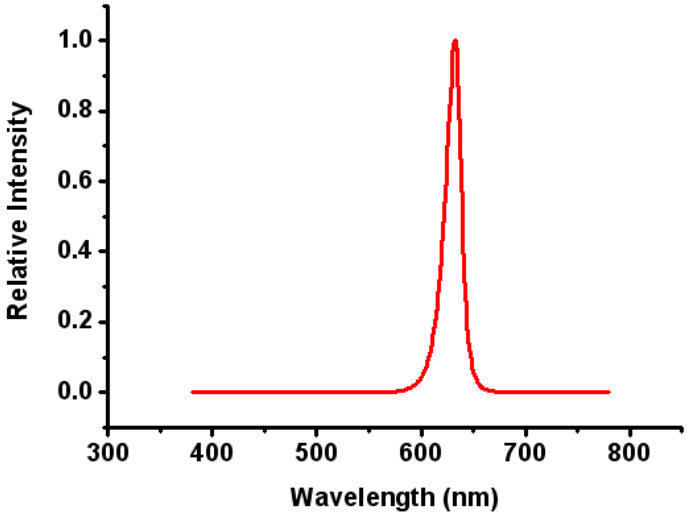
COLOR X^RGB

BLUE (470 nm)

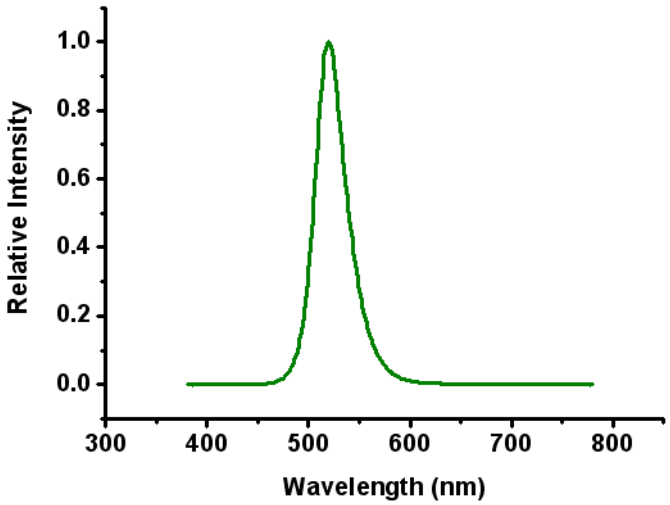

Relative Efficiency (lm/W)
100%
90%
80%
70%
60%
50%
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40
Forward Current (A)
Relative Luminous Flux (lm)
100%
80%
60%
40%
20%
0%

Relative Spectral Power

RED (625nm)

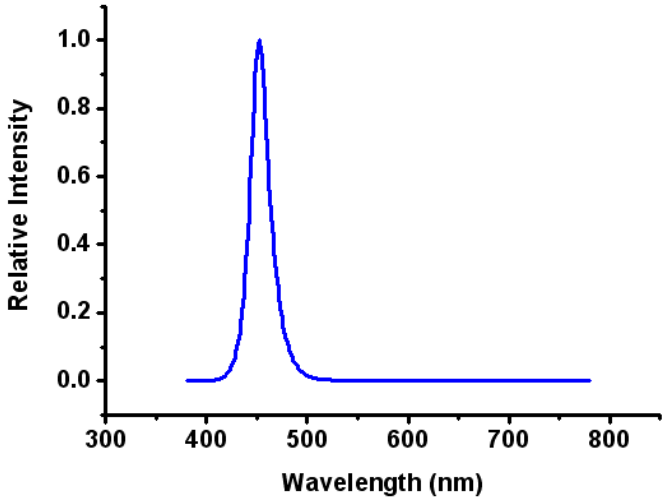


GREEN (525nm)



COLOR X^RGB

BLUE (470nm)


Relative Intensity
1.0
0.8
0.6
0.4
0.2
0.0
300
400
500
600
700
800
Wavelength (nm)

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Print Code Guideline

C2 10 FC X X N A XXXXX

1 2 3 4 5 6 7 8

XXXXXXXXXXXXX

8

V 0 – 0 – 0 0 XX XX XX

9 10 11 12 13 14

Table.11

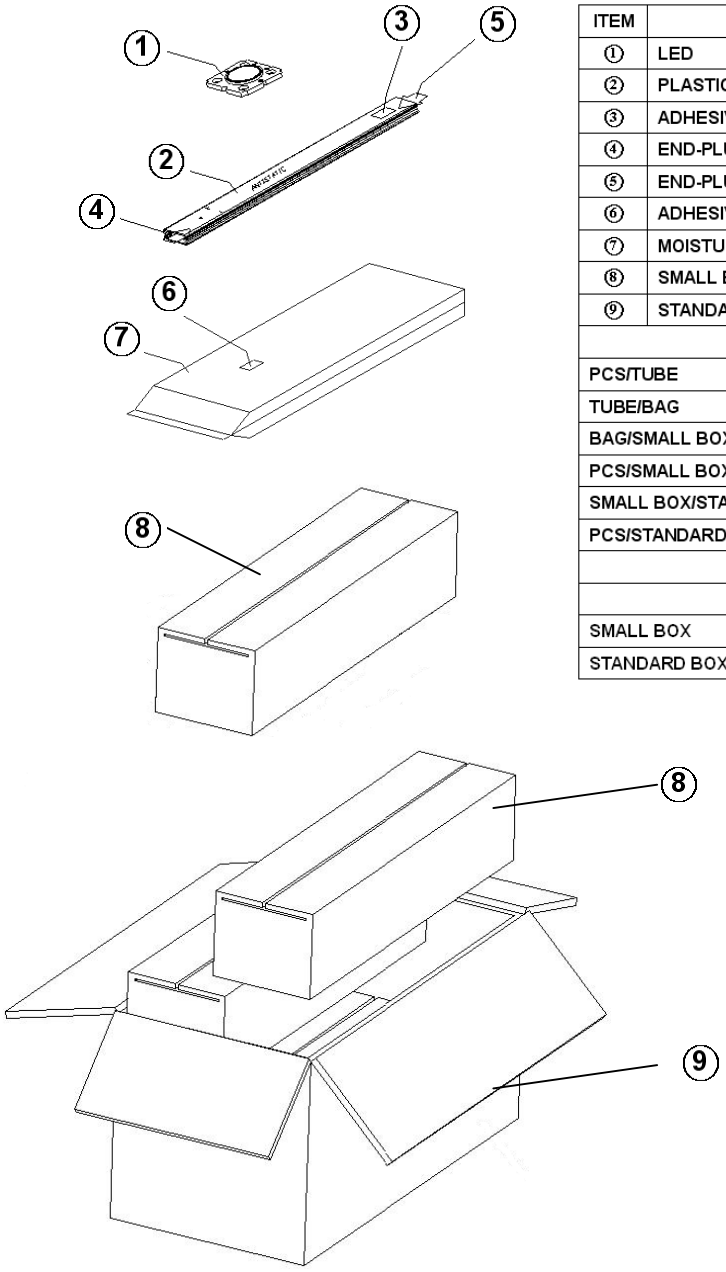
1 Type	2 Power	3 Color	4 Vf	5 Current	6 CRI
C2	**10**：10W	**FC**：Full color	**X**: Three channel	**X**: Three channel	**N**：No CRI

7 Customer Code	8 Internal Code	9 Bin Vf	10 Luminous Flux	11 Chromaticity
		V0：Without Binned	0 : Without Binned	00: Without Binned

12 Year	13 Month	14 Week
09： 2009	**01**：January	**01**：01st Week
10： 2010	**05**：May	**20**：20th Week
11： 2011	**10**：October	**45**：45th Week

COLOR X^RGB

Standard Packaging



ITEM	DESCRIPTION
①	LED
②	PLASTIC TUBE
③	ADHESIVE MAIN LABEL
④	END-PLUG WHITE
⑤	END-PLUG BLACK
⑥	ADHESIVE MAIN LABEL
⑦	MOISTURE BARRIER BAG
⑧	SMALL BOX
⑨	STANDARD BOX

STACKING METHOD	
PCS/TUBE	10
TUBE/BAG	10
BAG/SMALL BOX	2
PCS/SMALL BOX	200
SMALL BOX/STANDARD BOX	4
PCS/STANDARD BOX	800

SIZE AND WEIGHT		
	SIZE(mm^3)	WEIGHT(kg)
SMALL BOX	560x130x130	3.4±0.5
STANDARD BOX	580x280x280	14.3±0.5

Precaution for Use

Over-current Proof

1. Do not reverse current the LEDs we suggest current limit resistors for extra protection.
2. When driving the products, the clamp voltage must be set at 10.5V in driver.

Storage

1. Do not open the Moisture Barrier Bag (MBB) before you are ready to install the LEDs.
2. Storage Condition (before opening the MBB):
   - Storage Temperature:-20~50°C.
   - Relative Humidity: <60% RH.
   - Please re-seal the MBB when storing longer than 3 weeks.
   - The products should be used within half a year.
3. Storage Condition (after opening the MBB):
   - Storage Temperature:-20~50°C.
   - Relative Humidity: <60% RH.
   - The products should used or installed as soon as possible after opening the MBB. Otherwise, the LED product must be baked at 80+/-5℃, 24 hours before installation.

Installation

Do not touch the lighting surface area during installation.

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Company Information

Founded in 2004, Lustrous Technology endeavors to bring in a new era of Solid-State Lighting (SSL). In order to promote innovative new designs and maintain superior quality we have located our R&D and production facilities in Taiwan. Our commitment to excellence has helped us earn quality awards and unique patents in many countries, such as Taiwan and US. Our finest LED lighting products are designed to provide the best in performance and reliability for your next LED applications. Besides high power LED products, our professional and experienced R&D team also provides excellent secondary optical services for customers to solve any lens problems. After years of accomplishment, we have successfully established long-term and trustful worthy business relationships with several most prestigious corporations, such as Delta Electronics, Inc. and Neng Tyi Co., Ltd. If your company is considering any Lustrous products, feel free to contact our sales personnel for a brief introduction or arrange a tour of our ISO 9000 facility in Taiwan.

**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.

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