High Power Solid-State LED Light Source

LUSTRON DX5

Introduction

For a brighter solid-state light source, Lustrous Technology is proud to release the new **LUSTRON DX5**. Ideal for your high lumen output design, **LUSTRON DX5** has the ability to generate extremely high lumen output from 1,700 to 2,500 lm on one single LED product. The **LUSTRON DX5** is energy efficient, and provides high efficiency while performing its high lumen for all types of Commercial and Architectural applications. A 20-watt driver is all you need to start the high lumen light source for your next bright design.

Features

- Available in 3-step bins at 3000K, 4000K and 5700K, which ANSI C78.377 compliant
- Forward voltage: 24.8V
- Maximum drive current: 1500mA
- 140° viewing angle, uniform chromaticity profile
- RoHS compliant

LUSTRON DX5 Part Number Matrix

Table.1

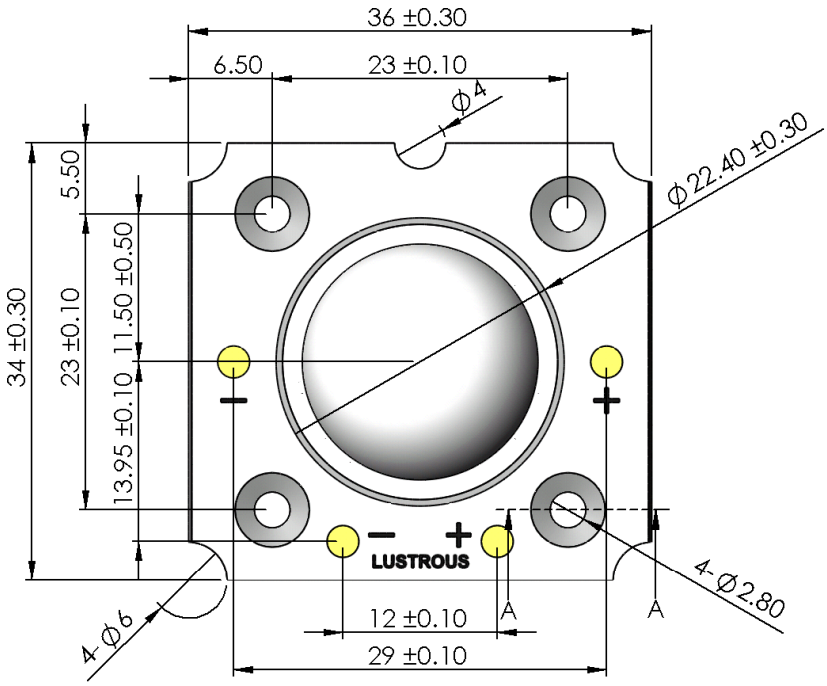
Color	P/N
Warm White	L520CLHWBA
Neutral White	L520MWHWBA
Cool White	L520NWHWDA

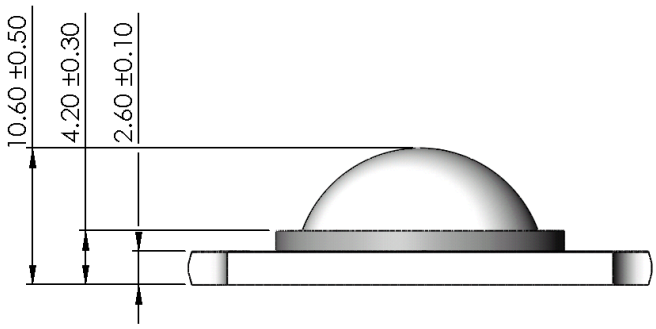
LUSTRON DX5 Material

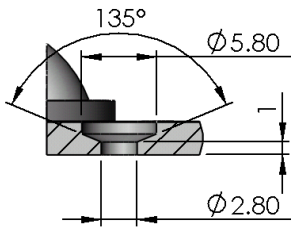
Chip Material	GaN Base

Mechanical Dimensions

LUSTRON DX5



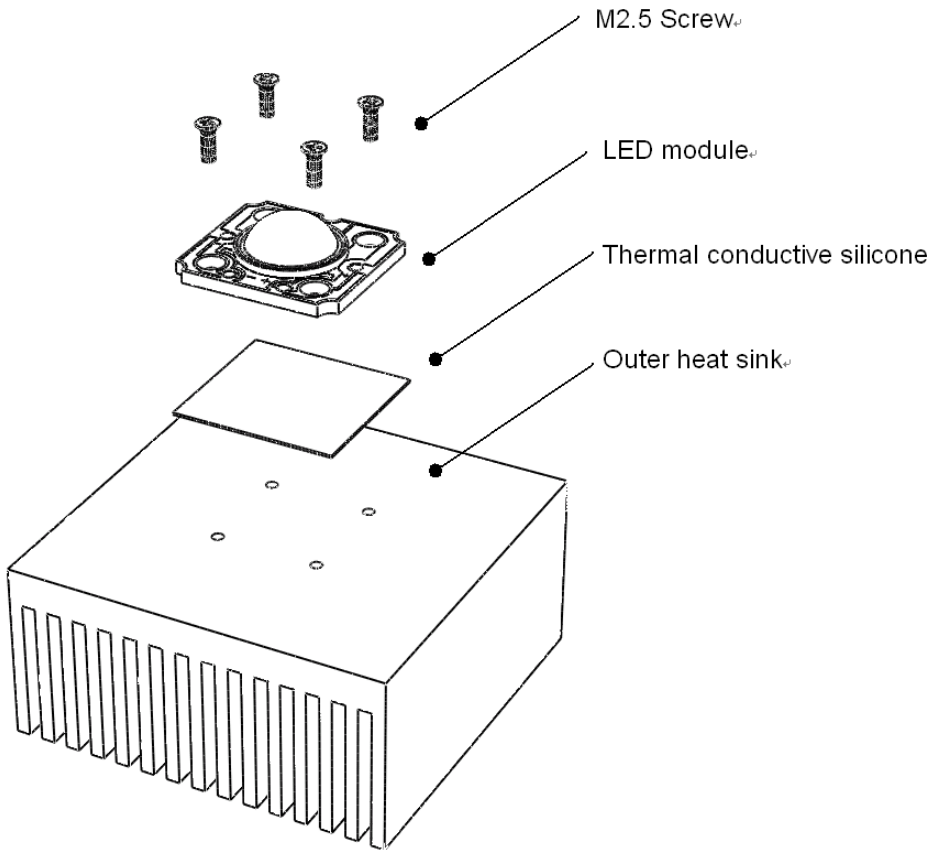




Cross Section A-A

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

Recommended installation screw pitch



Warning :

Do not touch the lighting surface area during installation.

Flux Characteristics At Junction Temperature T_j = 25℃

Table.2

Color	Luminous Flux（lm）		
	Min.	Typ.	Typ.（Tc 85℃）
Warm White（3000K）	1450	1720	1515
Neutral White（4000K）	1600	1950	1717
Cool White（5700K）	2000	2360	2078

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

Note2：Luminous binning information can be found in Table.7.

Note3：Luminous flux at case temperature of 85℃ is for reference.

Optical Characteristics

Table.3

Color	CCT（K）	Viewing Angle（degrees）	CRI
Warm White	3000	~140	85
Neutral White	4000		80
Cool White	5700		65

Note1：CRI value is measured with tolerance rate of ±3.

Electrical Characteristics

Table.4

Part Number	Forward Voltage （V） for 750 mA forward current		
	Min	Typ	Max
L520CLHWBA L520MWHWBA L520NWHWDA	23.2	24.8	27.2

Note1：Lustrous Technology allows a tolerance of each LED for voltage measurements.

Note2：Measurements are taken under each nominal forward current.

Absolute Maximum Ratings

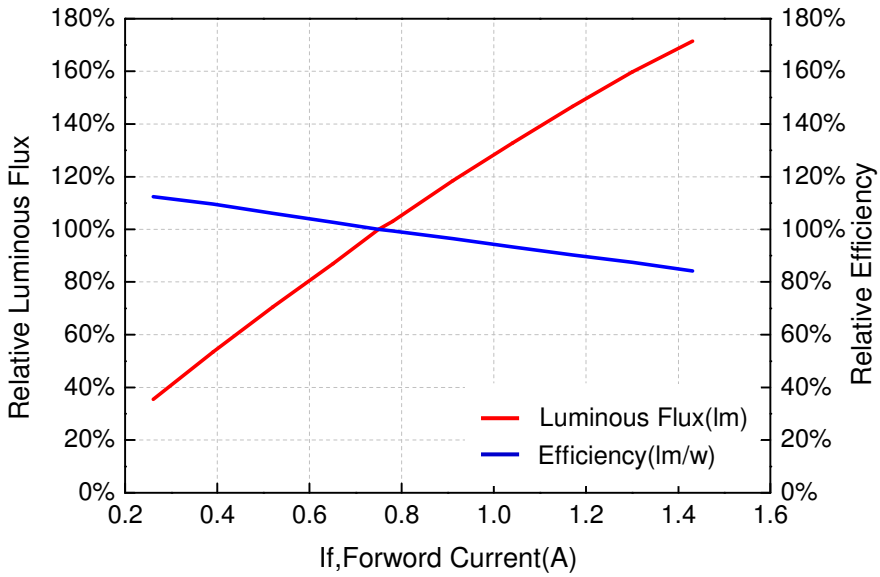
Table.5

Parameters	L520XXHWXX
Advised DC Forward Current （mA）	750
Max. DC Forward Current （mA）	1500
LED Junction Temperature （℃）	< 125
ESD Sensitivity	+ 4kV（HBM）
Thermal Resistance （℃/W）	~ 0.8
Operating Temperature （℃）	-20 ~ +85
Storage Temperature （℃）	-20 ~ +50

Note1：Proper current operating must be observed to maintain junction temperature below the maximum.

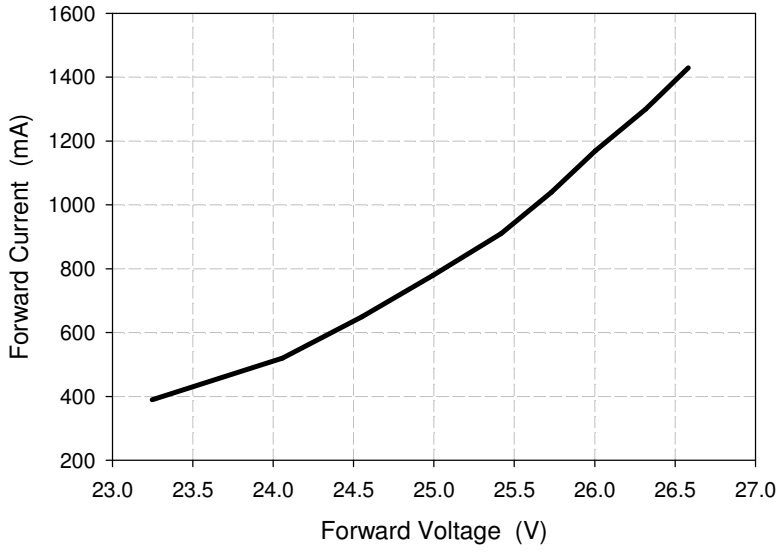
Relative Intensity vs. Current （T_j = 25˚C）

L520XXHWXX

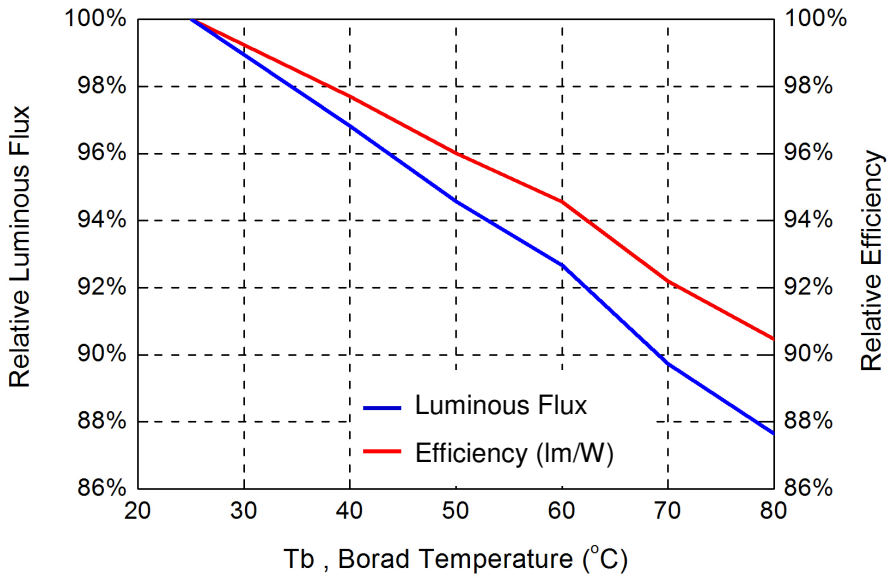


Forward Voltage vs. Current （T_j = 25˚C）

L520XXHWXX

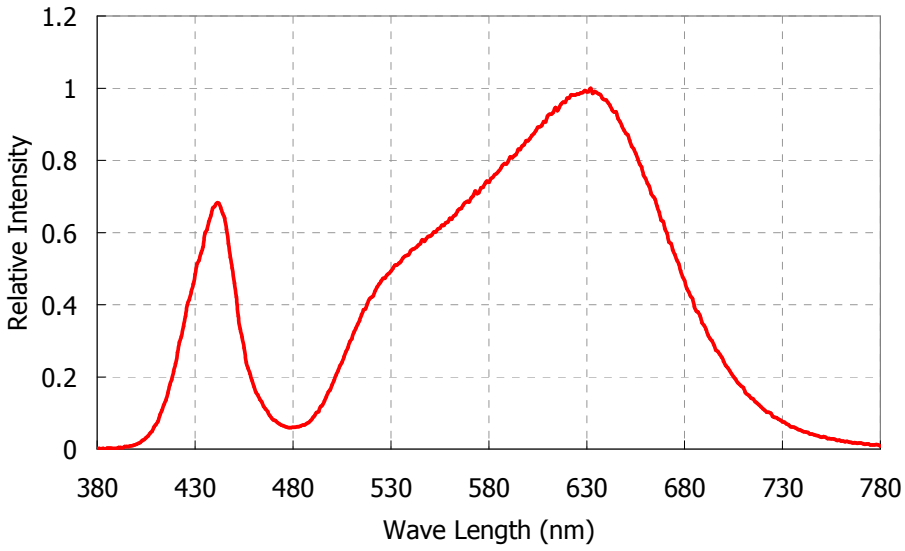


Photometric Output vs. Board Temperature

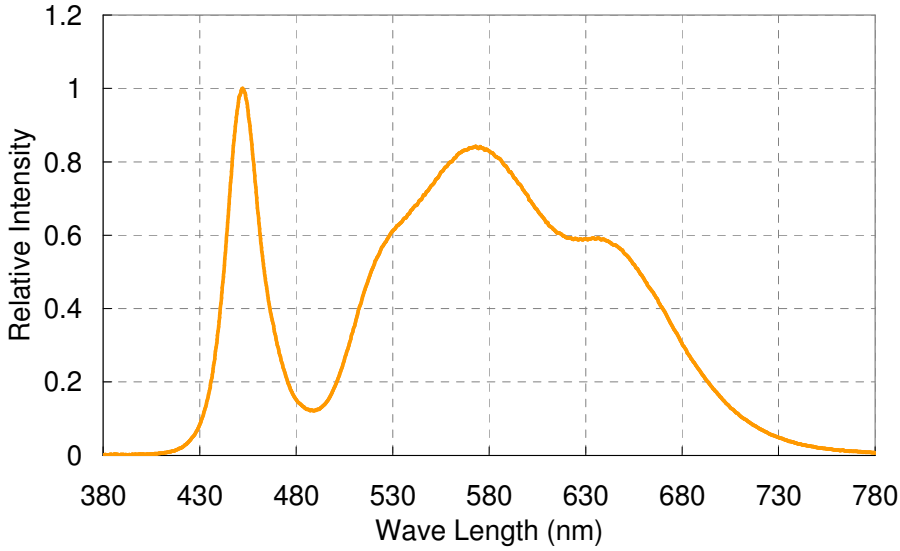


Relative Spectral Power

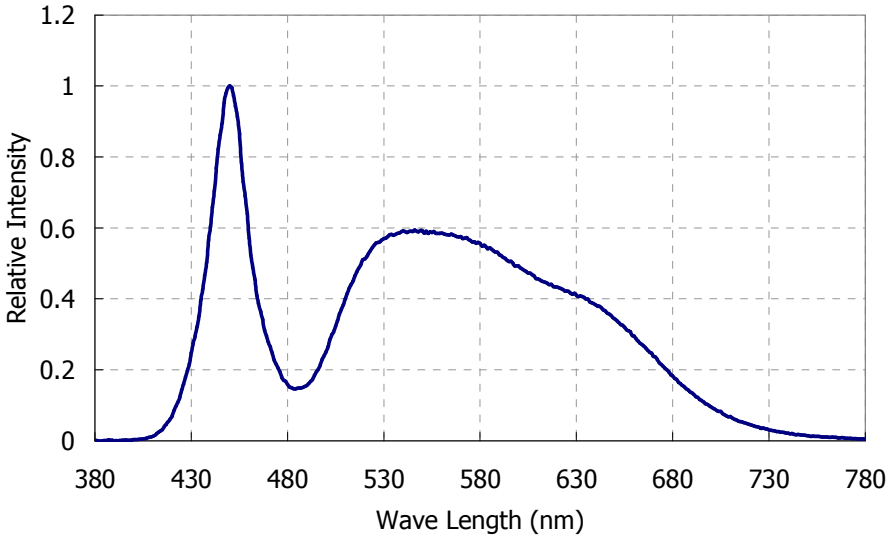
Warm White （3000K）



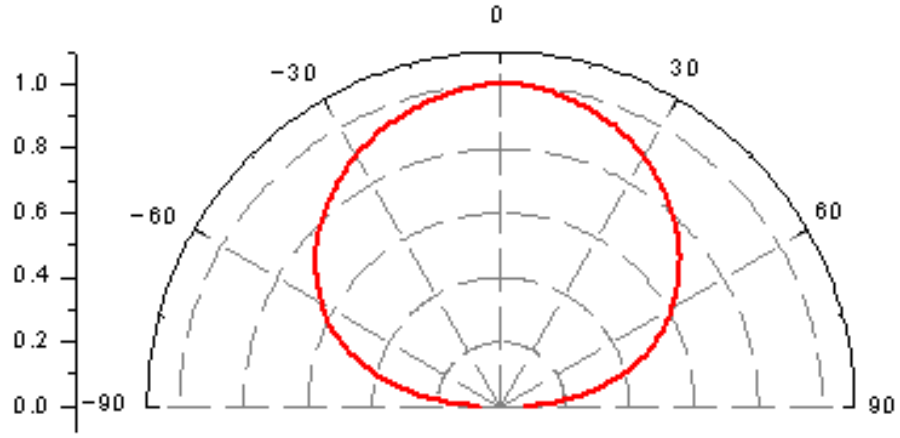
Neutral White （4000K）



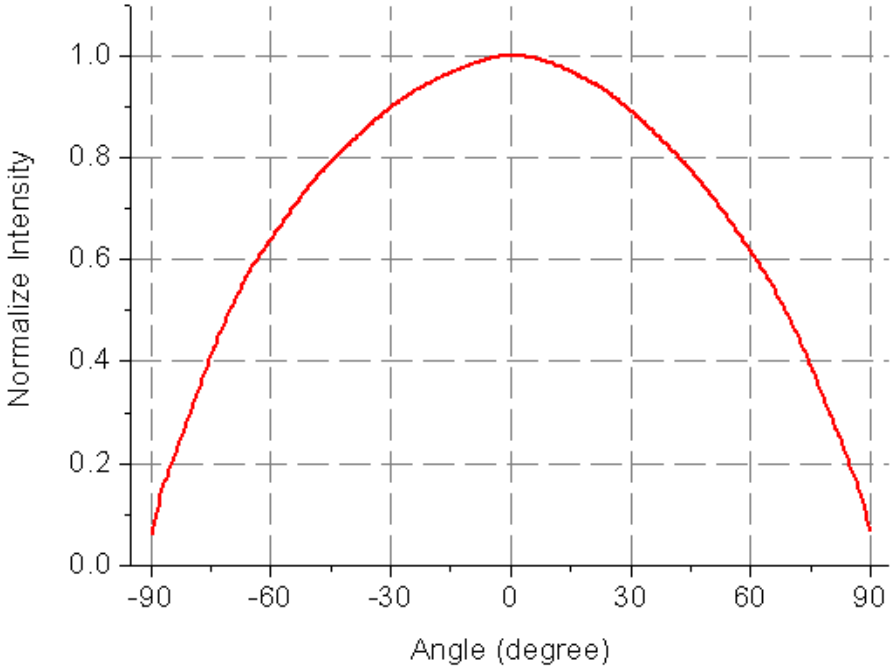
Cool White （5700K）



Typical Angular Beam Profile, T_j=25℃



View Angle: 140 degree



Note1：Photometric data is ready on request

Product Binning

In the manufacturing process, there is a natural variation of specifications between LEDs. In order to minimize variation in the end product of application, Lustrous Technology uses the current ANSI code binning procedures to measure its products for performance in luminous flux and chromaticity.

The tables below list the standard photometric bins for Lustrous LED products (tested and binned at the indicated test current). **Product availability in a particular bin varies by product and production run. Please contact your Lustrous sales representative for further information regarding product availability.**

Binning Condition

Table.6

Color	Forward Current （mA）
L520CLHWBA L520MWHWBA L520NWHWDA	750

Luminous Flux Binning Information

Table.7

BIN Code	Lv （lm）	
	min.	max.
A	5	20
B	20	40
C	40	60
D	60	80
E	80	110
F	110	140
G	140	170
H	170	200
I	200	240
J	240	280
K	280	320
L	320	360
M	360	400

BIN Code	Lv （lm）	
	min.	max.
N	400	450
O	450	500
P	500	580
Q	580	660
R	660	740
S	740	860
T	860	980
U	980	1100
V	1100	1300
W	1300	1600
X	1600	2000
Y	2000	2500
Z	2500	3000

Note：Luminous flux is measured in total power with tolerance rate of ±10%.

Chromaticity Binning Information

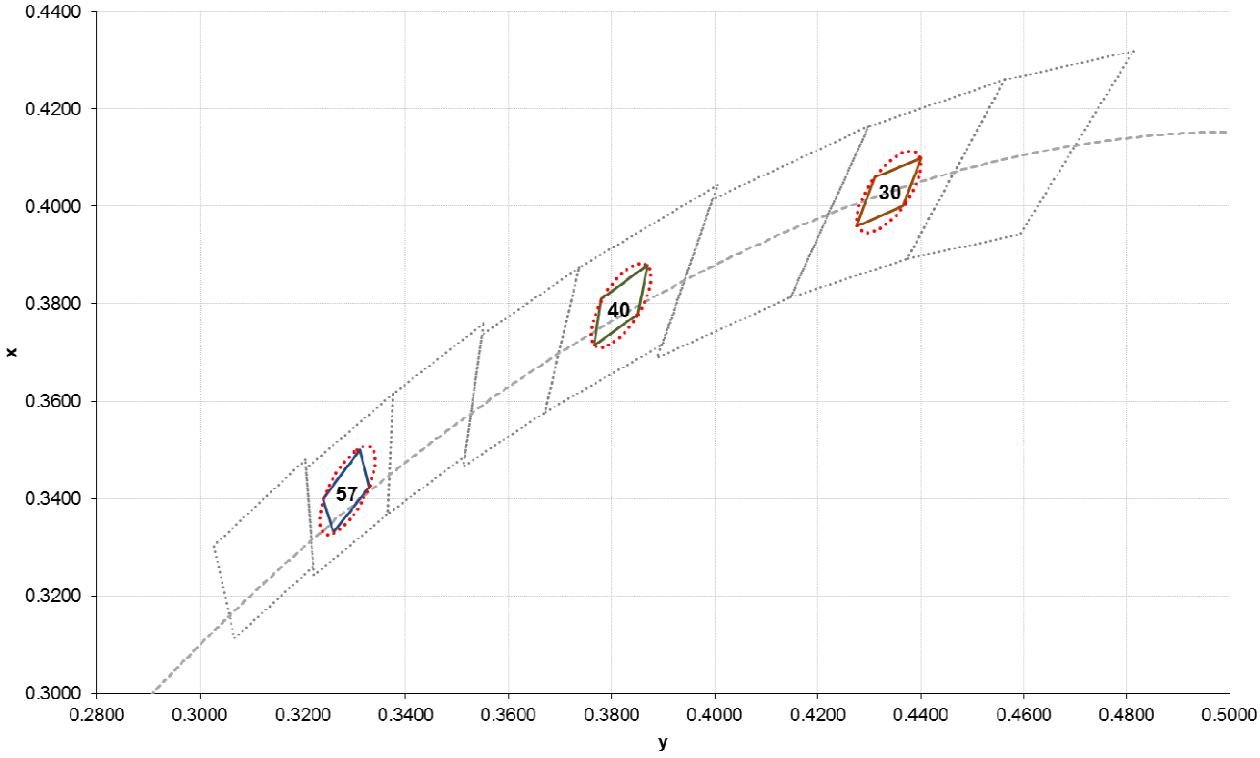


Table.8

BIN CODE	CCT (K)	Chromaticity Coordinate (CIE 1931-xy)									
		x1	y1	x2	y2	x3	y3	x4	y4	Center	
30	**3000**	**0.4400**	**0.4100**	**0.4310**	**0.4060**	**0.4275**	**0.3960**	**0.4365**	**0.4000**	**0.4338**	**0.4030**
40	**4000**	**0.3870**	**0.3880**	**0.3780**	**0.3810**	**0.3765**	**0.3715**	**0.3850**	**0.3780**	**0.3818**	**0.3797**
57	**5700**	**0.3310**	**0.3500**	**0.3240**	**0.3400**	**0.3260**	**0.3330**	**0.3330**	**0.3425**	**0.3287**	**0.3417**

**Note：Chromaticity is measured in Chromaticity Coordinate （CIE 1931-xy） with tolerance rate of ±0.005.

Print Code Guideline

L5	20	NW	H	W	D	A
1	2	3	4	5	6	7

XXXXXXXXXXXXX
8

V 0	– Y	– 30	XX	XX	XX
9	10	11	12	13	14

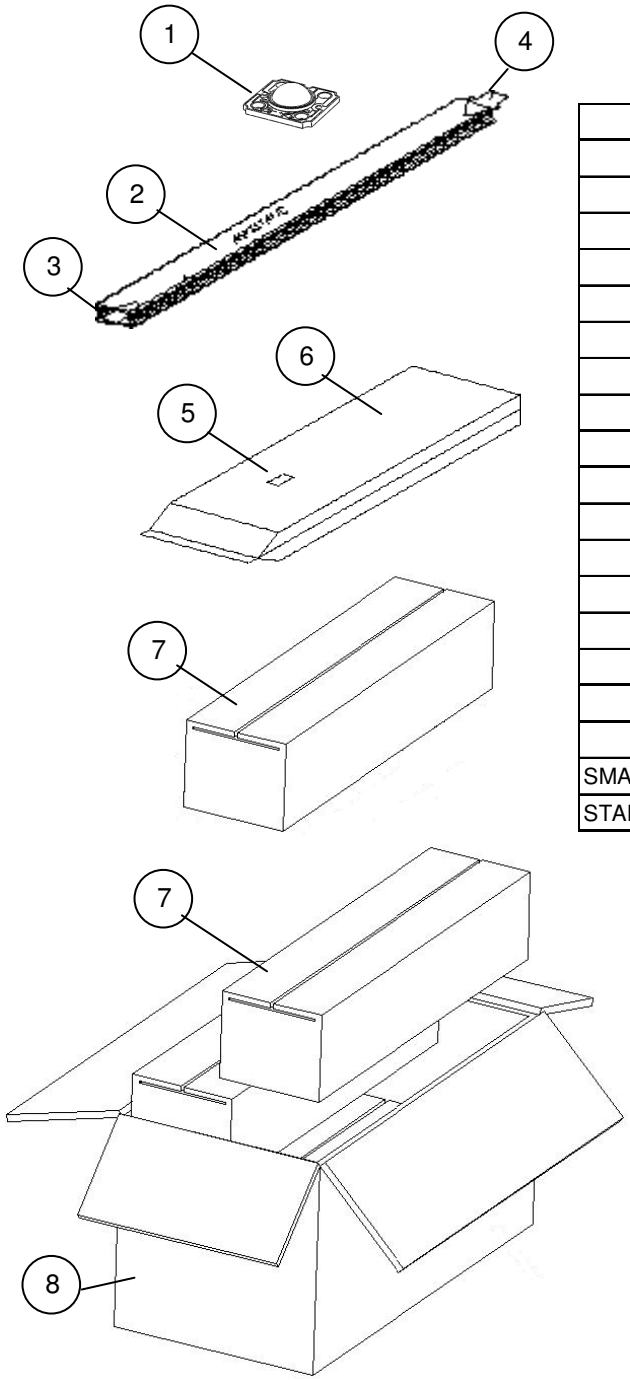
Table.11

1 Type	2 Power	3 Color	4 V_f	5 Current	6 CRI
L5	**20**：20W	**NW**：Cool White **MW**：Neutral White **CL**：Warm White	**H**：28 V	**W**：750 mA	**B**：80~90 **D**：60~70

7 Customer Code	8 Internal Code	9 Bin V_f	10 Luminous Flux	11 Chromaticity
		V0：Without Binned	See Bin Code Definition	See Bin Code Definition

12 Year	13 Month	14 Week
14： 2014 **15**： 2015	**01**：January **05**：May **10**：October	**01**：01st Week **20**：20th Week **45**：45th Week

Standard Packaging



ITEM	DESCRIPTION	
①	LED	
②	PLASTIC TUBE	
③	END-PLUG WHITE	
④	END-PLUG BLACK	
⑤	ADHESIVE MAIN LABEL	
⑥	MOISTURE BARRIER BAG	
⑦	SMALL BOX	
⑧	STANDARD BOX	
STACKING METHOD		
PCS/TUBE		10
TUBE/BAG		12
BAG/SMALL BOX		1
PCS/SMALL BOX		120
SMALL BOX/STANDARD BOX		4
PCS/STANDARD BOX		480
SIZE AND WEIGHT		
	SIZE(mm^3)	WEIGHT(kg)
SMALL BOX	440×130×130	2.22±0.5
STANDARD BOX	460×280×280	10.12±0.5

Precaution for Use

Installation

1. Do not touch the lighting surface area during installation.
2. If the product might to be used under the following conditions, the customer must evaluate its appropriateness them. This product is not designed for use under the following conditions. In places where the product might:
   - get wet due to rain.
   - suffer from damage caused by salt.
   - be exposed to corrosive gas such as Cl, S, H_2S, NH_3, SO_2, NO_x and so on.
   - be exposed to dust, fluid or oil.

Over-current Proof

1. Do not reverse current the LEDs we suggest current limit resistors for extra protection.
2. The maximum overshot current should be limited to 1500mA.
3. The ripple of driving current should not exceed +/-10% of normal driving current.
4. When driving the products, the clamp voltage must be set at 32V 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℃.
   - Relative Humidity: <60% RH.
   - The products should be used within half a year.
3. Storage Condition （after opening the MBB）:
   - Storage Temperature:-20~50℃.
   - Relative Humidity: <60% RH.
   - The products should be used or installed as soon as possible after opening the MBB.
   - Please re-seal the MBB when storing longer than 3 weeks.

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, a 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.

LUSTROUS®
Green Technology of Lighting

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