LUSTROUS®

GREEN TECHNOLOGY OF LIGHTINGS

Technical Datasheet LS23

High Power Solid-State LED Light Source

COLOR X^{NES}

Introduction

For a brighter solid-state light source, **COLOR X^{NES}** is an energy-efficient building block generating enough light outputs suitable for most applications in lighting field. **COLOR X^{NES}** offers the best solid-state light source and you might realize your modern ideas of lightings.

COLOR X^{NES} is particularly designed for architects and commercial lighting designers. For specific purpose, **COLOR X^{NES}** provides a large luminous flux or radiometric power output per package with monochromatic light（UV, blue, green, or red）.

*Note1: To optimize product performance and lifetime, constant DC at advised forward current and Tb less than 50℃ should be applied.

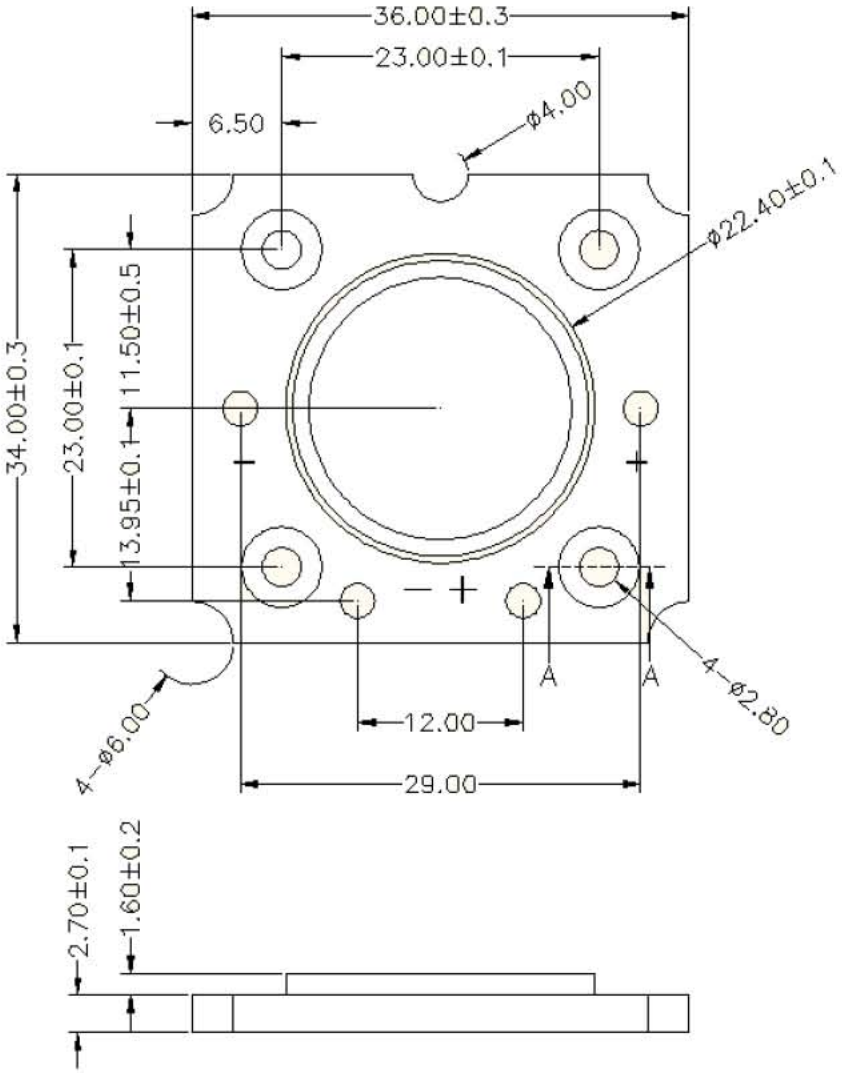
COLOR X^{NES} Part Number Matrix

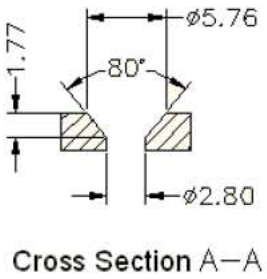
Table.1

Color	P/N
UV （400nm）	NES110UVC0B
Blue （470nm）	NES110NBC0B
Green （525nm）	NES110PGC0B
Red （625nm）	NES110NRC0B

Mechanical Dimensions

COLOR X^NES

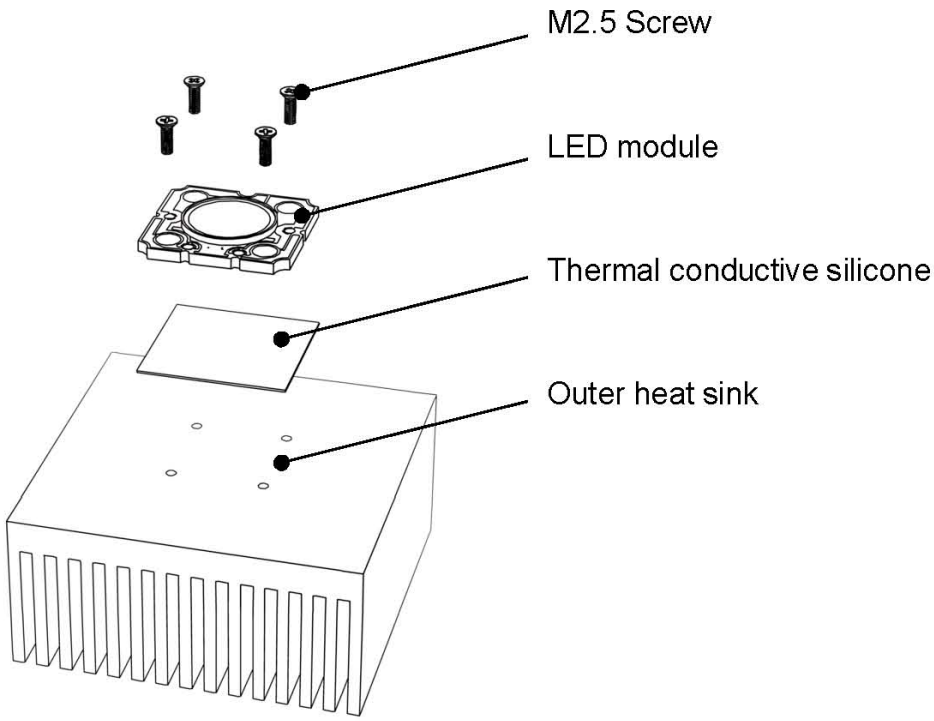




Cross Section A–A

Note1: Drawing not to scale. All dimensions are in millimeters.

Recommended installation screw pitch



Warning:

Do not touch the lighting area during handling and assembling.

Flux Characteristics at 1050 mA, Junction Temperature Tj = 25°C

Table.2

Color	Minimum Luminous Flux （lm） or Radiometric Power （mW）	Typical Luminous Flux （lm） or Radiometric Power （mW）
UV （400nm）	600mW	800mW
Blue （470nm）	55 lm	80 lm
Green （525nm）	200 lm	310 lm
Red （625nm）	150 lm	180 lm

Note1: Brightness is measured in total power with tolerable errors of 10%.Minimum luminous flux performance guaranteed within published operating conditions.

Note2: Higher luminous flux will be ready in the near future.

Optical Characteristics

Table.3

Color	λ_d（nm ） or CCT（K）			Spectral Half-Width （nm）	Viewing Angle （degrees）	CRI
	Min	Typ	Max			
UV （400nm）	380 nm	400 nm	420 nm	14	120	-
Blue （470nm）	460 nm	470 nm	475 nm	25	120	-
Green （525nm）	520 nm	525 nm	535 nm	30	120	-
Red （625nm）	615 nm	625 nm	635 nm	17	120	-

Electrical Characteristics

Table.4

Color	Forward Voltage （V） for 1050 mA forward current		
	Min	Typ	Max
Warm White （2700K）	9.4	10.5	11.5
UV （400nm）	9.4	10.5	12
Blue （470nm）	9.4	10.5	11.5
Green （525nm）	9.5	10.5	12
Red （625nm）	6.7	7.5	9

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

Note2: Measurements are taken under each nominal forward current.

Absolute Maximum Ratings

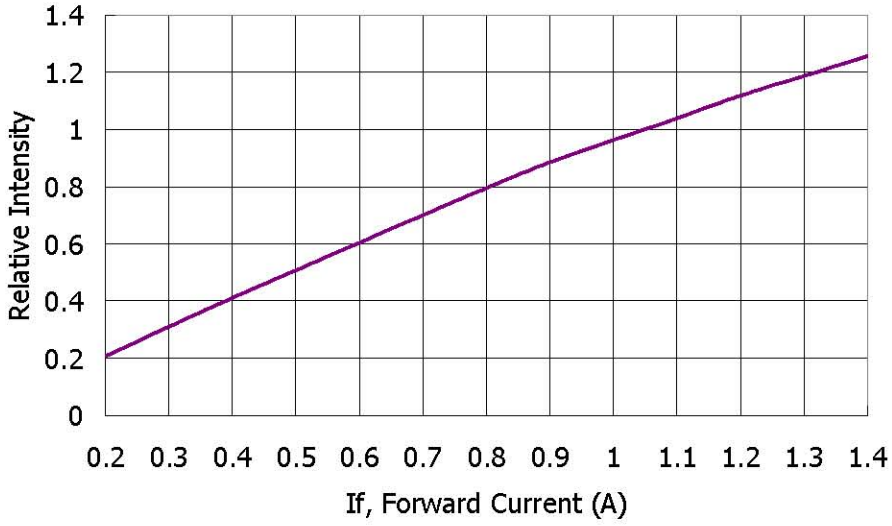
Table.5

Parameters	For 1050mA forward current
	Warm White/ UV/ Blue/ Green/ Red
DC Forward Current （mA）	1050
Peak Pulsed Forward Current （mA）	1500
LED Junction Temperature （^0C）	< 125
ESD Sensitivity	+/- 4kV （HBM）
Thermal Resistance （$^0C/W$）	~2.5
Operating Temperature （^0C）	-25 ~ +85
Storage Temperature （^0C）	-25 ~ +100
Soldering Temperature （^0C）	260 （duration should be less than 5 seconds）

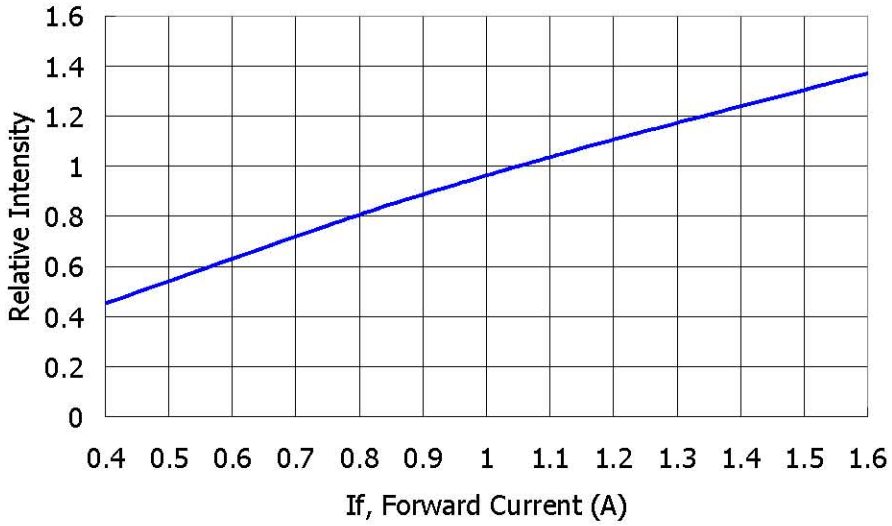
Note1: Proper current operating must be observed to maintain junction temperature below the maximum.

Relative Intensity vs. Current （TJ = 25°C）

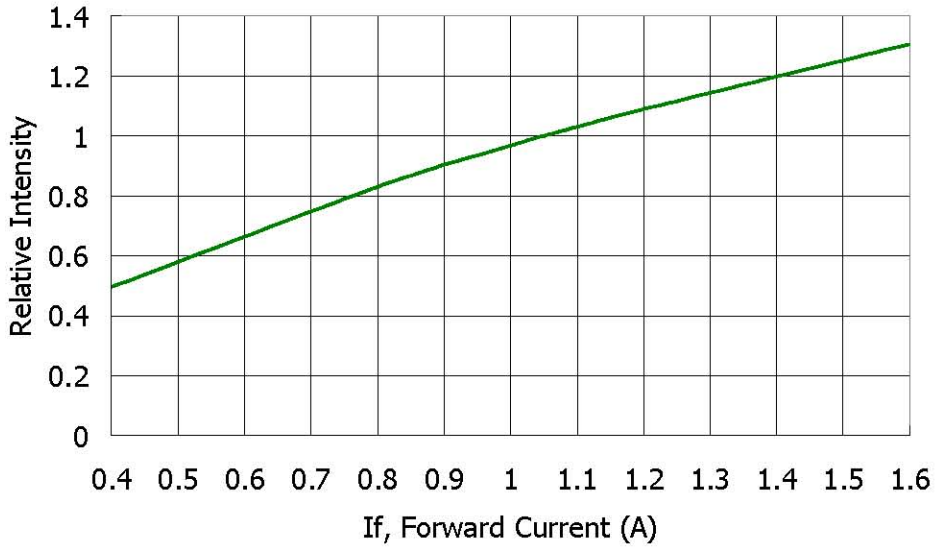
UV （400nm）



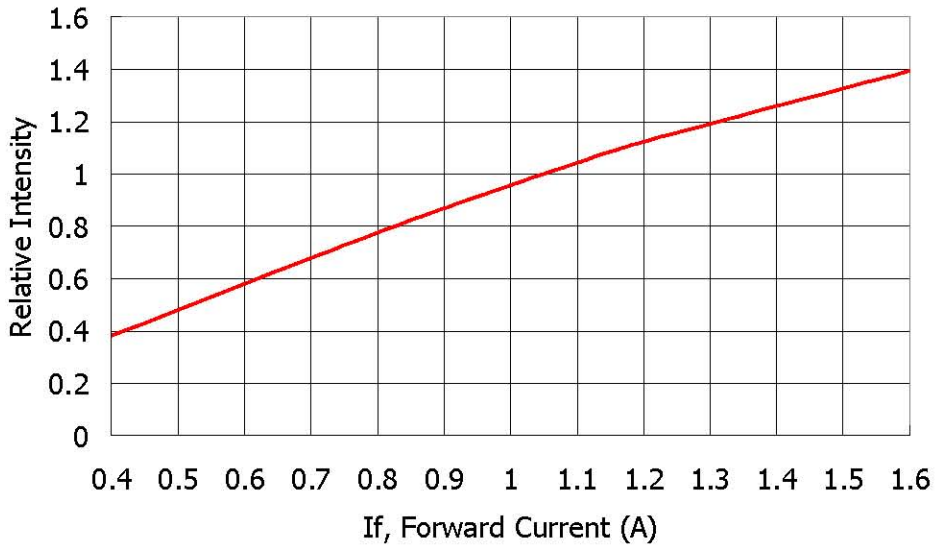
Blue （470nm）



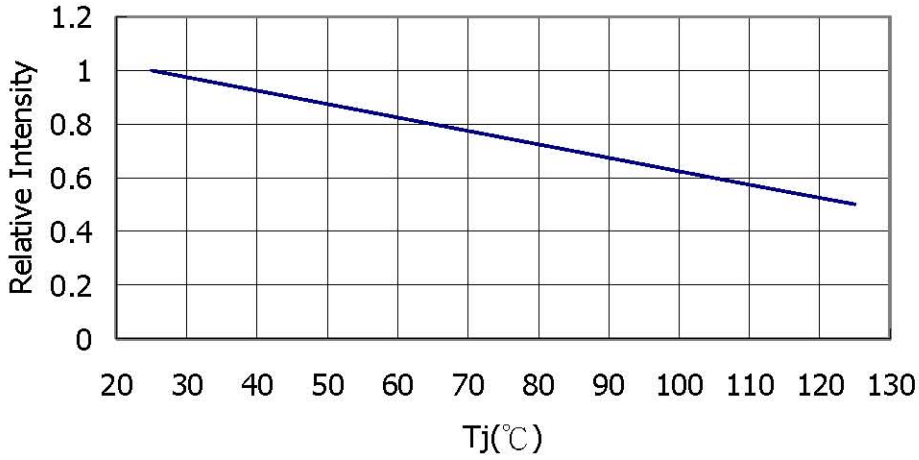
Green （525nm）



Red （625nm）

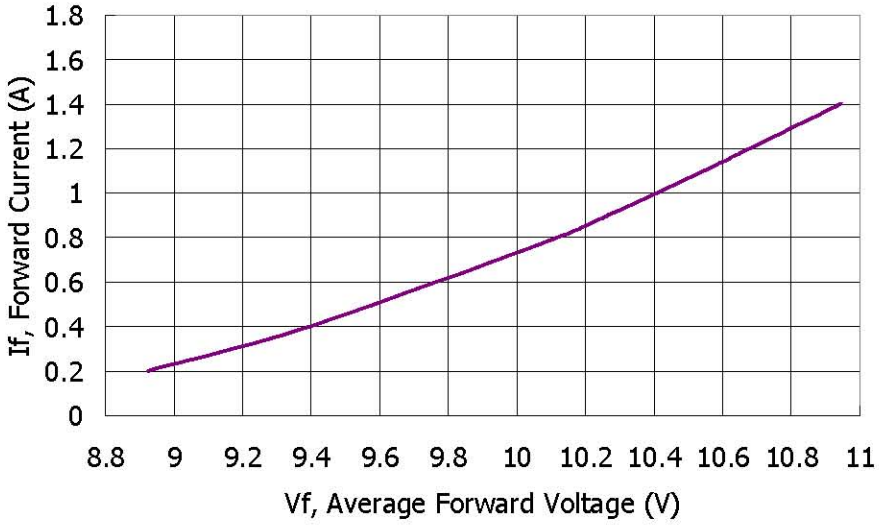


Photometric Output vs. Junction Temperature （If = 1050 mA）

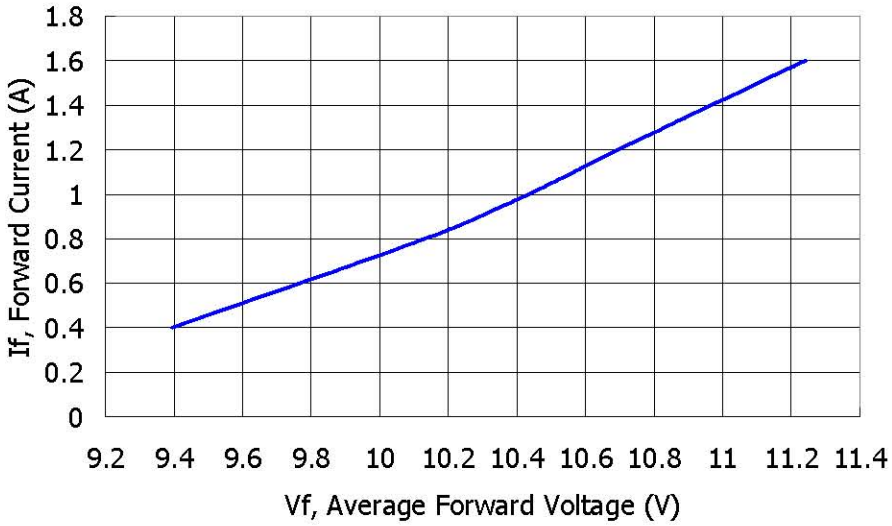


Forward Voltage vs. Current （TJ = 25°C）

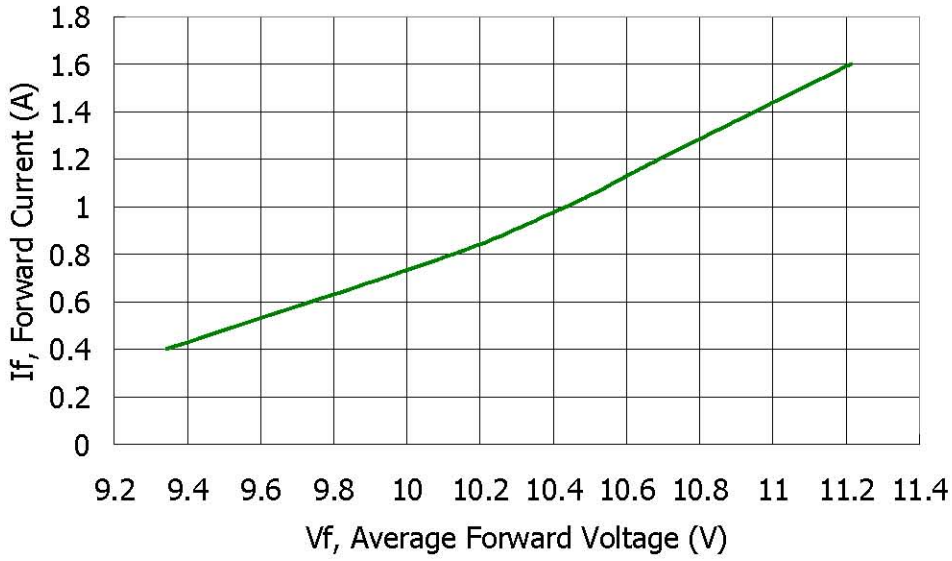
UV （400nm）



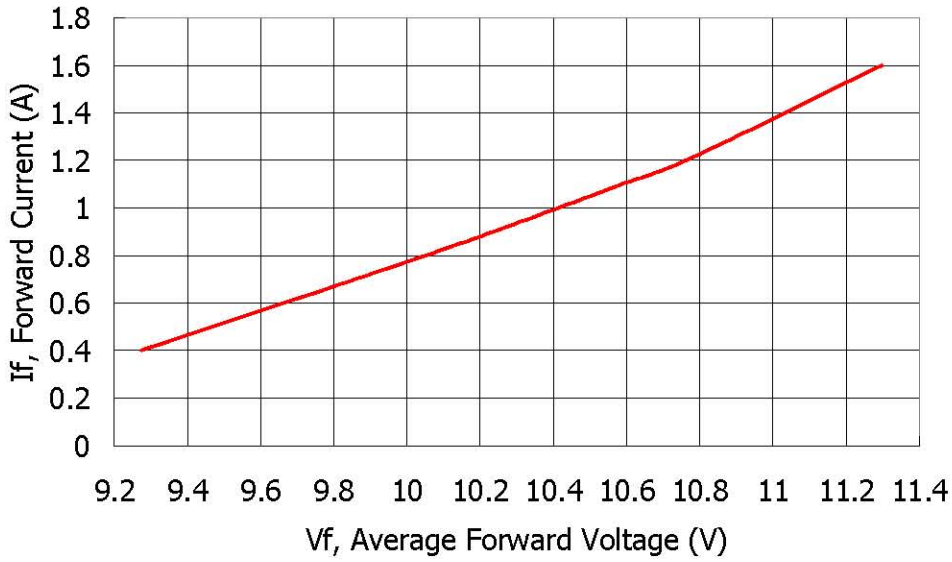
Blue （470nm）



Green （525nm）



Red （625nm）



Bin Code

■ **UV （400nm）**

BIN Table for **NES110UV**			
NO	BIN CODE	λ_d, Dominate Wave length （nm）	
		Min	max
1	V0-L0-UV1	380	420

■ **Blue （470nm）**

BIN Table for **NES110NB**			
NO	BIN CODE	λ_d, Dominate Wave length （nm）	
		min	max
1	V0-L0-NB1	460	475

■ **Green （525nm）**

BIN Table for **NES110PG**			
NO	BIN CODE	λ_d, Dominate Wave length （nm）	
		min	max
1	V0-L0-PG1	515	530

■ **Red （625nm）**

BIN Table for **NES110NR**			
NO	BIN CODE	λ_d, Dominate Wave length （nm）	
		min	max
1	V0-L1-NR1	615	635

Print Code Guideline

N E S 1 1 0 N B C 0 B -XXXXX

1 2

X X X X X X X X X X X X X X

2

V 0 – A 0 – N B 2 – X X X X X X

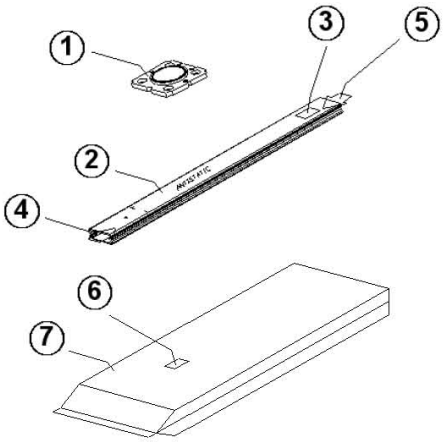
3 4 5 6 7 8

Table.11

1 P/N	2 Internal Code	3 Vf	4 Luminous Flux
UV: N E S 1 1 0 U V C 0 B Blue: N E S 1 1 0 N B C 0 B Green: N E S 1 1 0 P G C 0 B Red: N E S 1 1 0 N R C 0 B		See Bin Code Definition	See Bin Code Definition

5 Chromaticity	6 Year	7 Month	8 Week
See Bin Code Definition	**08**: 2008 **09**: 2009 **10**: 2010	**01** : January **05** : May **10** : October	**01** : 01st Week **20** : 20th Week **45** : 45th Week

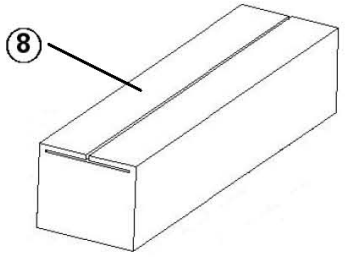
Standard Packaging

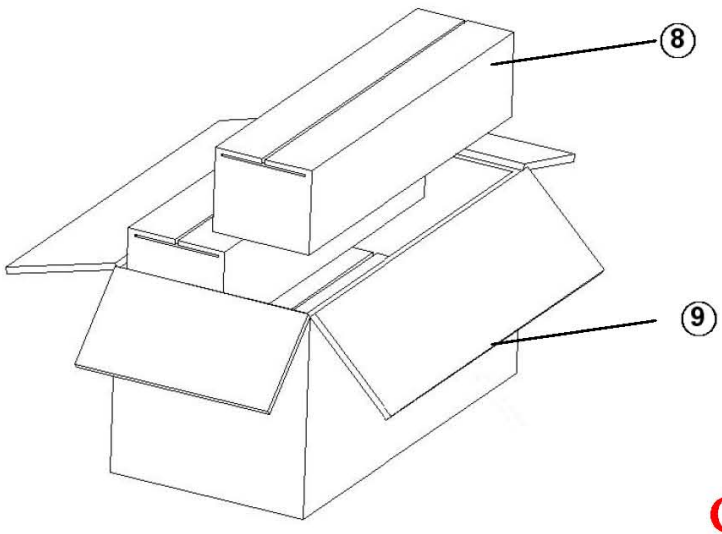


ITEM	DESCRIPTION
①	LED
②	PLASTIC TUBE
③	ADHESIVE MAIN LABEL
④	END-PLUG WHITE
⑤	END-PLUG BLACK
⑥	ADHESIVE MAIN LABEL
⑦	MOISTURE BARRIER BAG
⑧	SMALL BOX
⑨	STANDARD BOX

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. Customer must not drive the LEDs with reverse current and should apply resistors for extra protection.
2. The maximum overshot of driving current should be limited under normal driving current * 1.3 times.
3. The ripple of driving current should not be over +/-10% of normal driving current.
4. The typical driving current for this series is 1050mA.
5. When driving the products, the clamp voltage must be set at 12V in driver.

Storage

1. Do not open the moisture barrier bag （MBB） before the products are ready to be used.
2. Storage Condition （before opening the MBB）:
   - Storage Temperature: -40~90°C
   - Relative Humidity < 90% RH
   - Please re-seal the MBB when storing longer than 3 weeks.
   - The products should be used within half of a year.
3. Storage Condition （after opening the MBB）:
   - Storage Temperature: -40~90°C
   - Relative Humidity < 90% RH
   - The products should be used（assembled）as soon as possible after opening the MBB.