

Technical Datasheet LS06

(All patents pending)

High Power Solid-State LED Light Source

LUSTRON X

Introduction

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

LUSTRON X provide the best possible color rendering capability and color temperature. With a nominal correlated color temperature of 2800~3200K, similar to conventional indoor light source, **LUSTRON X** is particularly designed for architects and commercial lighting designers.

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LUSTRON X Part Number Matrix

Table.1 (For 350mA, 31.5V)

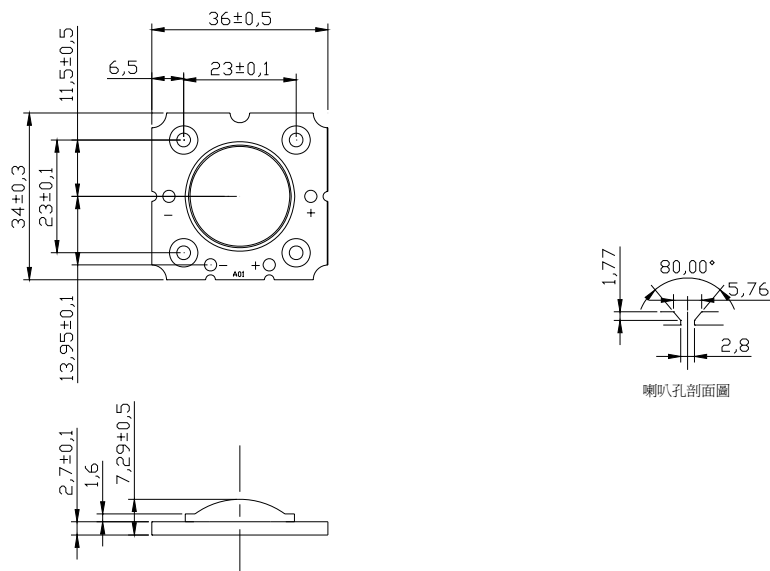
Color	P/N
Warm White (3200K)	LHS110CLC0B
White (6500K)	LHS110NWC0B
Neutral White(4100K)	LHS110MWC0B

Table.2 (For 1000mA, 10.5V)

Color	P/N
Warm White (3200K)	LAS110CLC0B
White (6500K)	LAS110NWC0B
Neutral White(4100K)	LAS110MWC0B

Mechanical Dimensions

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Note:

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

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Stress Testing Item

Stress Test	Stress Condition	Stress Duration	Failure Criteria	Result (failed/tested)
HTOL	Ta=85°C Tj<=125°C, If=500mA(or If = 1.5A*)	Time=1000hrs	Note1	0/20
LTOL	Ta=-30°C Tj<=125°C, If=500mA(or If = 1.5A*)	Time=1000hrs	Note1	0/20
RTOL	Ta=25°C Tj<=125°C, If=500mA(or If = 1.5A*)	Time=1000hrs	Note3	0/20
WHTOL	Ta=60°C Tj<=125°C, If=300mA(or If = 0.9A*) Humidity=90% RH	Time=500hrs	Note1	0/20
HTSL	Ta=125°C, No operation	Time=1000hrs	Note1	0/20
LTSL	Ta=-40°C, No operation	Time=1000hrs	Note1	0/20
TMCL	-25°C to 125°C 15 mins dwell time, 15mins transfer time	500 cycle	Note1	0/20
TMSK	-40°C to 100°C 15 minute dwell time, < 20 second transfer time	500 cycle	Note1	0/20
Mechanical Shock	1500 G, 0.5 ms pulse width 5 shocks each, 6 axis		Note2	0/20
Salt Atmosphere	Temp = 35°C Salt deposit 30 g/sq.m/da	Time=48 hrs	Note2	0/20
Solderability	Pb-Free reflow solder profile, or T=260°C, 10secs, 3 times		Note3	0/20

Note1: A failure is an LED that is open, shorted, or loses more than 50% of its initial

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light output.

Note2: A failure is an LED that is open or shorted.

Note3: A failure is an LED that is open, shorted, or loses more than 15% of its initial light output.

*: This value is for LAS110XXC0B.

Flux Characteristics at Junction Temperature $T_j = 25^{\circ}\text{C}$

Table.3 (For 350mA, 31.5V)

Color	Minimum Luminous Flux (lm) or Typical Luminous Flux (lm) or	
	Radiometric Power (mW)	Radiometric Power (mW)
White (6500K)	650 lm	750 lm
Warm White (3200K)	550 lm	600 lm
Neutral White (4100K)	550 lm	600 lm

Table.4 (For 1000mA, 10.5V)

Color	Minimum Luminous Flux (lm) or Typical Luminous Flux (lm) or	
	Radiometric Power (mW)	Radiometric Power (mW)
White (6500K)	650 lm	750 lm
Warm White (3200K)	550 lm	600 lm
Neutral White (4100K)	550 lm	600 lm

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.

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

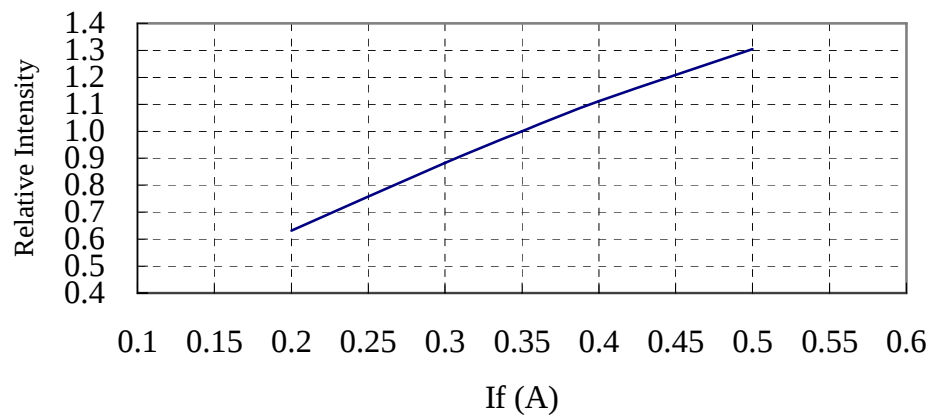


Fig.1 Relative Intensity vs. Current (350mA)

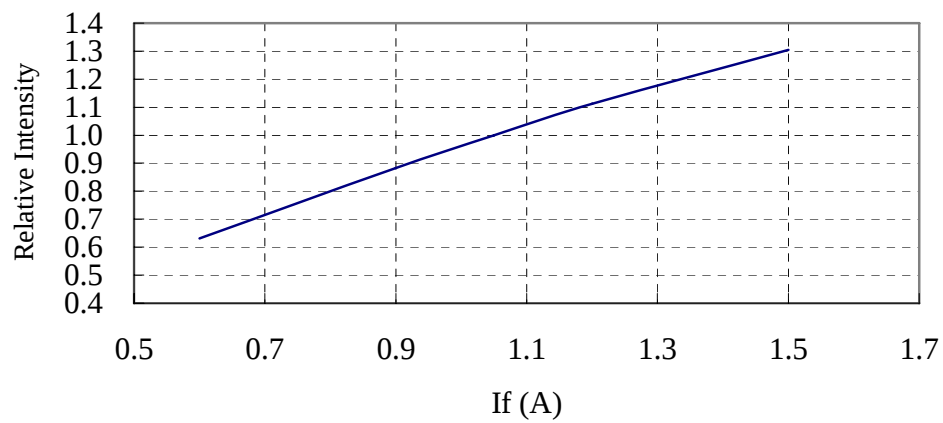


Fig.2 Relative Intensity vs. Current (1.5A)

Photometric Output vs. Junction Temperature (for all type)

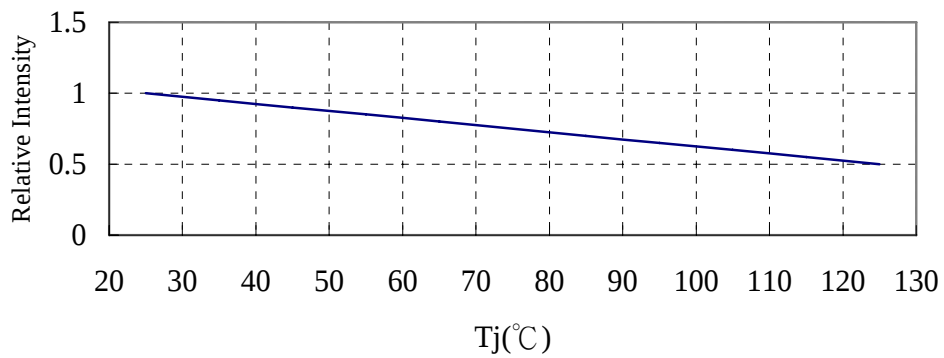


Fig3. Photometric Output vs. Junction Temperature

Relative Spectral Power (for all type)

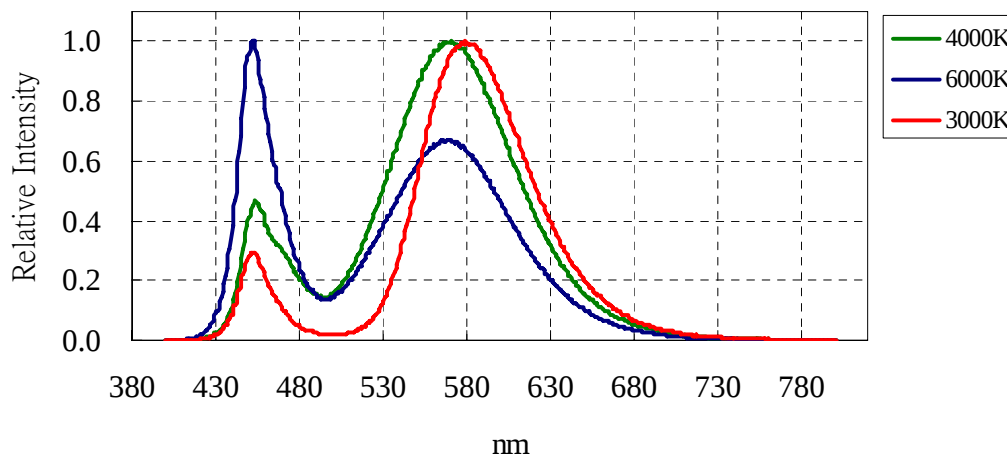


Fig4. Relative Spectral Power

Optical Characteristics, for all type

Table.5

Color	λ_d (nm) or CCT(K)			Spectral Half-Width (nm)	Viewing Angle (degrees)	CRI
	Min	Typ	Max			
White (6500K)	4500K	6000K	10000K	NA	140	60
Warm White (3200K)	2500K	3000K	3500K	NA	140	40
Neutral White (4100K)	3500K	4100K	4500K	NA	140	50

Electrical Characteristics

Table.6

Color	Forwrad Voltage (V) for 350 mA forward current			Temperature coefficient of voltage(mV/°C)
	Min	Typ	Max	
White (6500K)	28.0	31.5	36.0	-36.0
Warm White (3200K)	28.0	31.5	36.0	-36.0
Neutral White (4100K)	28.0	31.5	36.0	-36.0

Table.7

Color	Forwrad Voltage (V) for 1.5A forward current			Temperature coefficient of voltage(mV/°C)
	Min	Typ	Max	
White (6500K)	9.4	10.5	12.0	-12.0
Warm White (3200K)	9.4	10.5	12.0	-12.0
Neutral White (4100K)	9.4	10.5	12.0	-12.0

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

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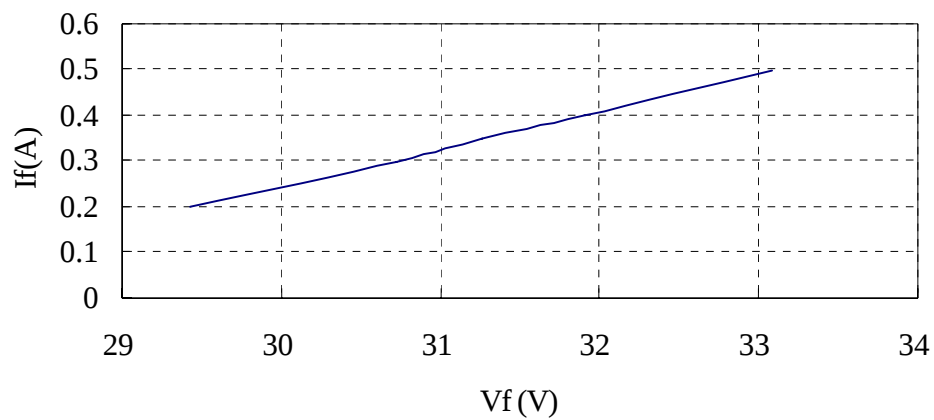


Fig5. Current vs Voltage (for 350mA type)

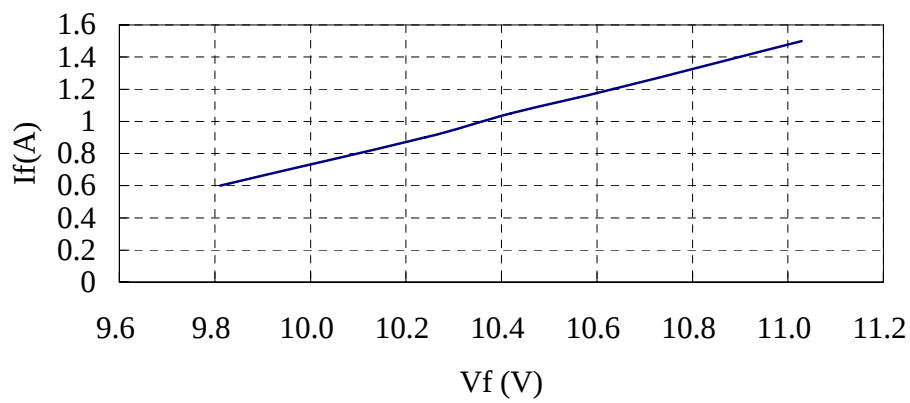


Fig6. Current vs Voltage (for 1.5A type)

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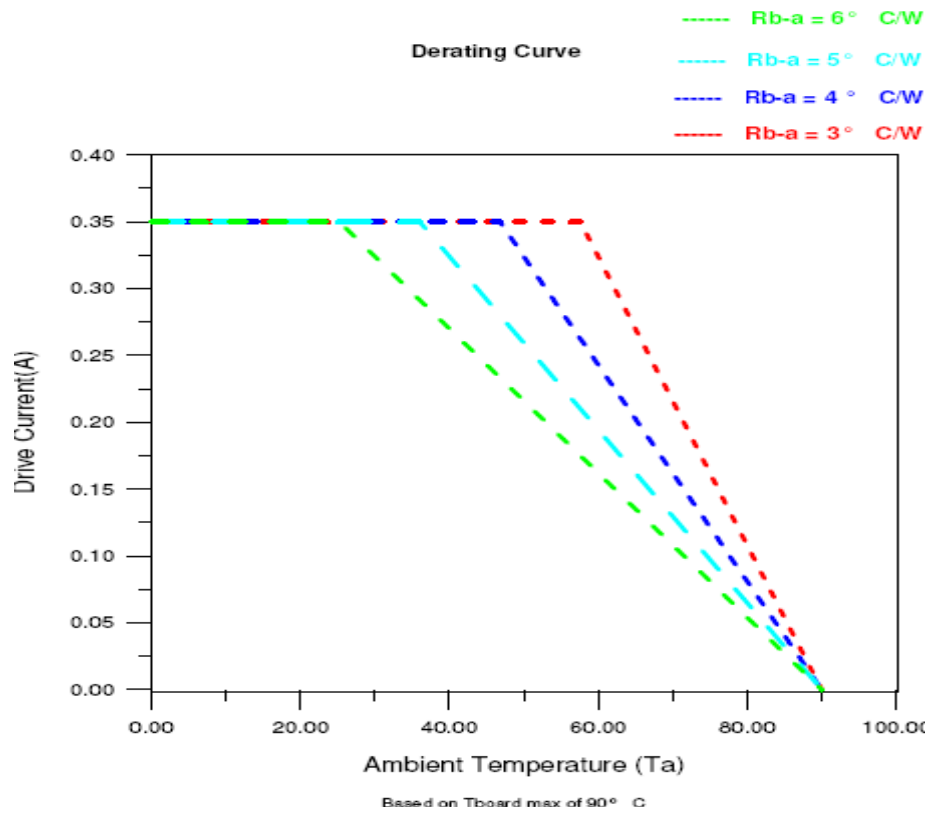


Fig.7 Derating Curve (for 350mA type only)

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Absolute Maximum Ratings

Table.8

Parameters	For 350mA forward current
	White/Warm White
DC Forward Current (mA)	350
Peak Pulsed Forward Current (mA)	500
LED Junction Temperature (°C)	< 125
ESD Sensitivity	+/-16000V HBM
Operating Temperature (°C)	-40 ~ +85
Storage Temperature (°C)	-40 ~ +100
Soldering Temperature (°C)	260 (duration should be less than 5seconds)

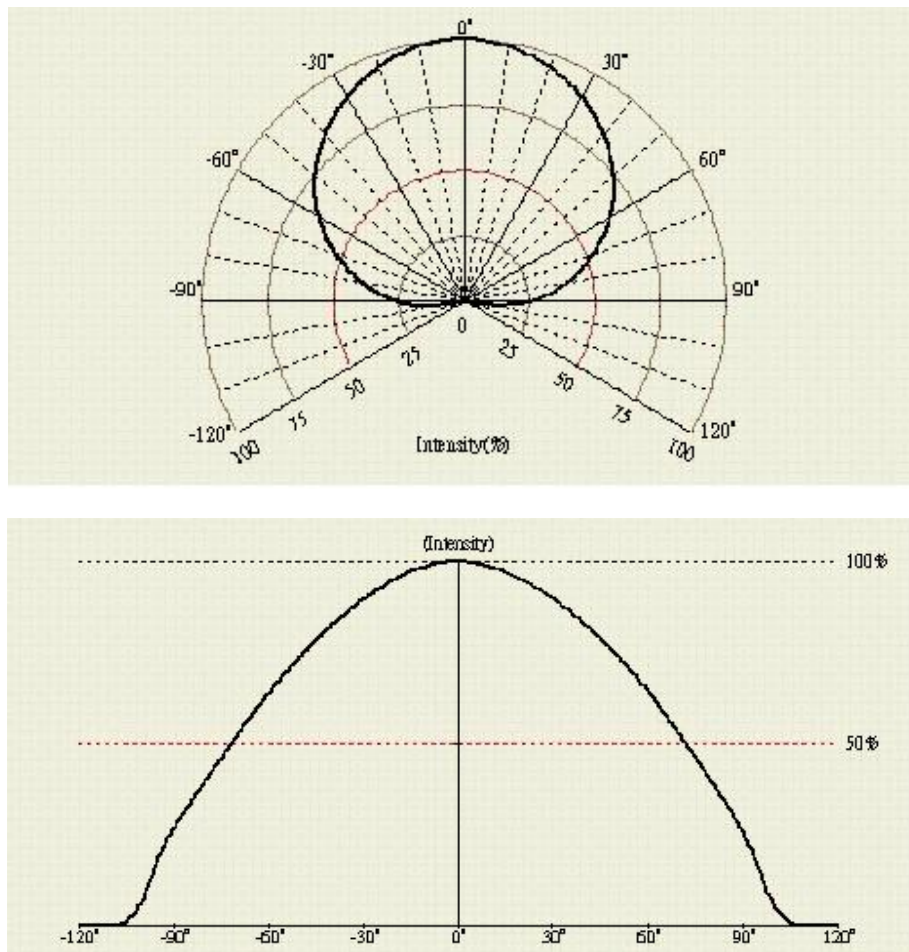
Table.9

Parameters	For 1000mA forward current
	White/Warm White
DC Forward Current (mA)	1000
Peak Pulsed Forward Current (mA)	1500
LED Junction Temperature (°C)	< 125
ESD Sensitivity	+/-16000V HBM
Operating Temperature (°C)	-40 ~ +85
Storage Temperature (°C)	-40 ~ +100
Soldering Temperature (°C)	260 (duration should be less than 5seconds)

1. Proper current derating must be observed to maintain junction temperature below the maximum

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Typical Angular Beam Profile, $T_j=25^{\circ}\text{C}$, for all type



View Angle: 140 degree

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

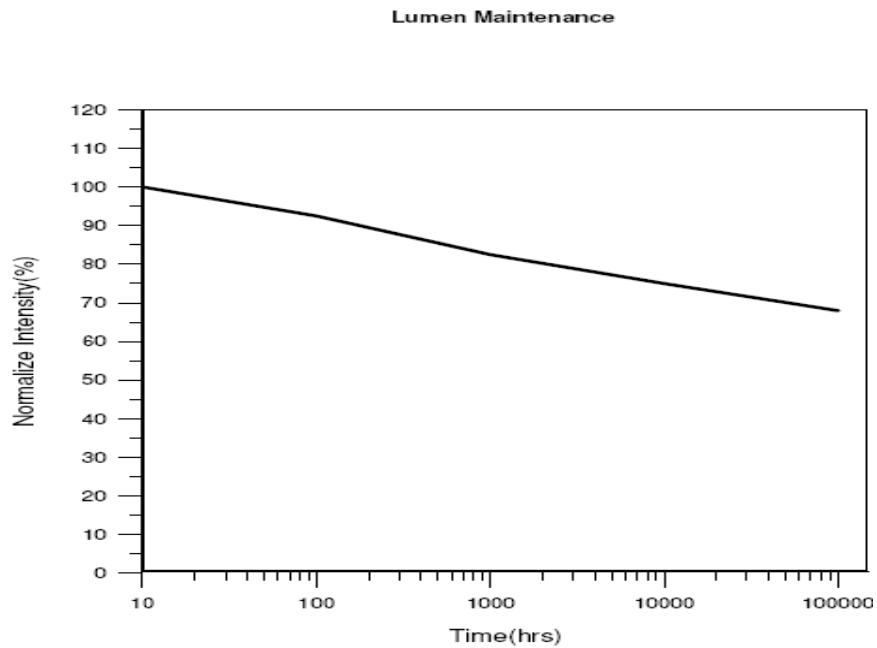
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Lumen Maintenance

The **LUSTRON X** will deliver 70% lumen maintenance at 50,000 hours of operation at a forward current of 350mA for LHS110XXC0B(1.05A for LAS110XXC0B). This is based on constant current operation with junction temperature maintained at or below 105°C.



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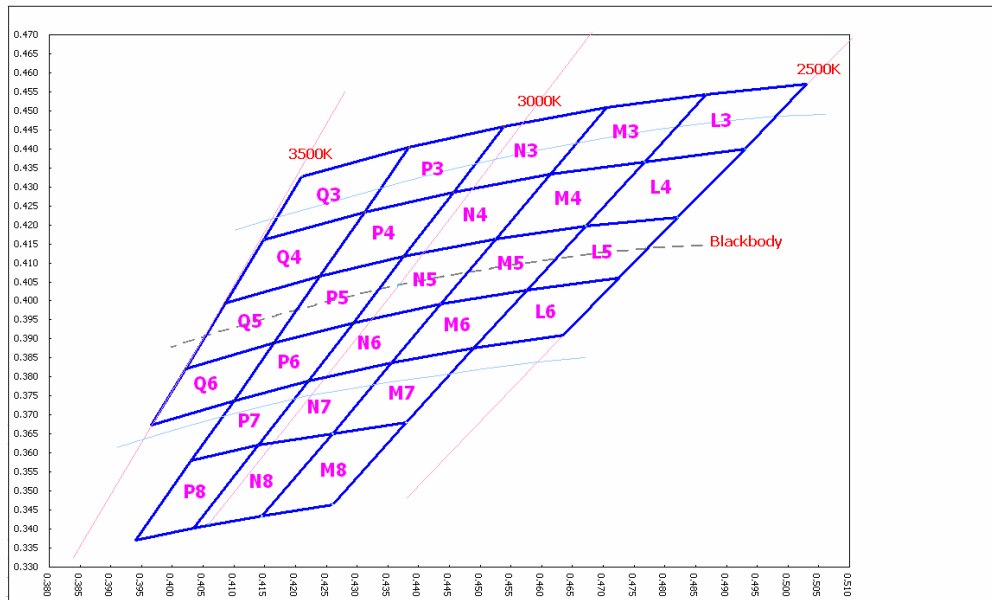
Bin Code

- Warm White (3200K) / LHS110CLC0B & LAS110CLC0B

Warm-White Bin Coordinates

CCT (K)			BIN CODE	Coordinates							
Min	Max	Typ.		x1	y1	x2	y2	x3	y3	x4	y4
2500	2660	2580	L3	0.50300	0.45700	0.49300	0.44000	0.47673	0.43663	0.48665	0.45419
			L4	0.49300	0.44000	0.48200	0.42200	0.46713	0.41963	0.47673	0.43663
			L5	0.48200	0.42200	0.47250	0.40600	0.45766	0.40287	0.46713	0.41963
			L6	0.47250	0.40600	0.46350	0.39100	0.44899	0.38752	0.45766	0.40287
2660	2850	2760	M3	0.47051	0.45083	0.48665	0.45419	0.47673	0.43663	0.46140	0.43333
			M4	0.46140	0.43333	0.47673	0.43663	0.46713	0.41963	0.45251	0.41624
			M5	0.45251	0.41624	0.46713	0.41963	0.45766	0.40287	0.44360	0.39911
			M6	0.44360	0.39911	0.45766	0.40287	0.44899	0.38752	0.43559	0.38371
			M7	0.44899	0.38752	0.43800	0.36800	0.42600	0.36500	0.43559	0.38371
			M8	0.43800	0.36800	0.42600	0.34650	0.41450	0.34350	0.42600	0.36500
			N3	0.45382	0.44598	0.47051	0.45083	0.46140	0.43333	0.44564	0.42868
			N4	0.44564	0.42868	0.46140	0.43333	0.45251	0.41624	0.43758	0.41163
2850	3050	2950	N5	0.43758	0.41163	0.45251	0.41624	0.44360	0.39911	0.42937	0.39428
			N6	0.42937	0.39428	0.44360	0.39911	0.43559	0.38371	0.42212	0.37895
			N7	0.43559	0.38371	0.42600	0.36500	0.41400	0.36200	0.42212	0.37895
			N8	0.42600	0.36500	0.41450	0.34350	0.40350	0.34025	0.41400	0.36200
			P3	0.43846	0.44040	0.45382	0.44598	0.44564	0.42868	0.43119	0.42339
			P4	0.43119	0.42339	0.44564	0.42868	0.43758	0.41163	0.42396	0.40647
			P5	0.42396	0.40647	0.43758	0.41163	0.42937	0.39428	0.41649	0.38900
			P6	0.41649	0.38900	0.42937	0.39428	0.42212	0.37895	0.41000	0.37381
3050	3250	3150	P7	0.42212	0.37895	0.41400	0.36200	0.40300	0.35800	0.41000	0.37381
			P8	0.41400	0.36200	0.40350	0.34025	0.39400	0.33700	0.40300	0.35800
			Q3	0.42094	0.43262	0.43846	0.44040	0.43119	0.42339	0.41478	0.41610
			Q4	0.41478	0.41610	0.43119	0.42339	0.42396	0.40647	0.40859	0.39953
			Q5	0.40859	0.39953	0.42396	0.40647	0.41649	0.38900	0.40211	0.38216
			Q6	0.40211	0.38216	0.41649	0.38900	0.41000	0.37381	0.39656	0.36728

Warm-White Bin Structure



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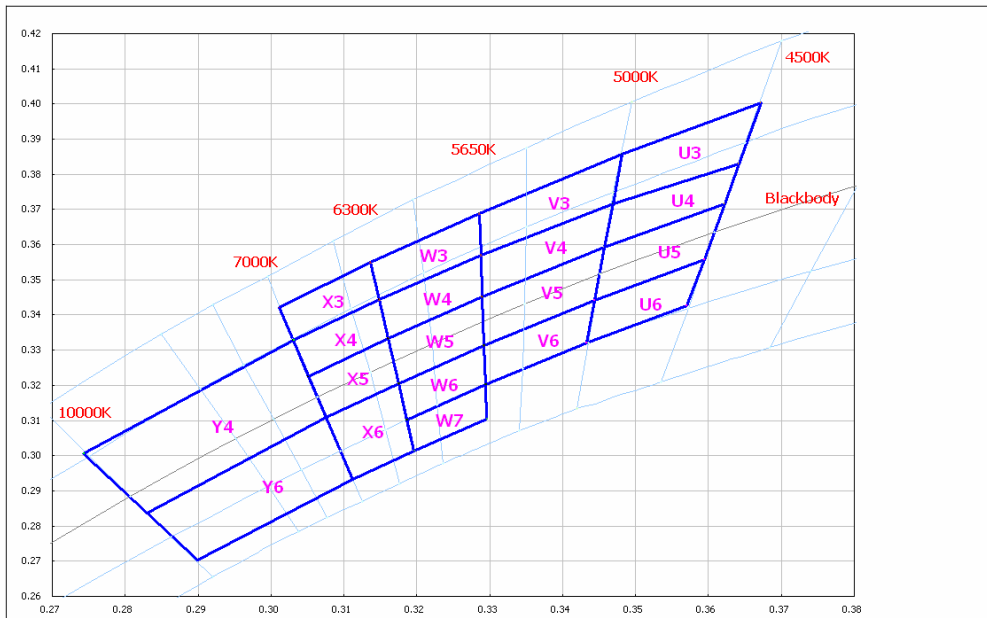
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■ White (6500K) / LHS110NWC0B & LAS110NWC0B

Cool-White Bin Coordinates

CCT (K)			BIN CODE	Coordinates							
Min	Max	Typ.		x1	y1	x2	y2	x3	y3	x4	y4
4500	5000	4750	U3	0.348147	0.385629	0.367294	0.400290	0.364212	0.382878	0.346904	0.371742
			U4	0.346904	0.371742	0.364212	0.382878	0.362219	0.371616	0.345781	0.359190
			U5	0.345781	0.359190	0.362219	0.371616	0.359401	0.355699	0.344443	0.344232
			U6	0.344443	0.344232	0.359401	0.355699	0.357079	0.342581	0.343352	0.332034
5000	5650	5300	V3	0.328636	0.368952	0.348147	0.385629	0.346904	0.371742	0.328823	0.356917
			V4	0.328823	0.356917	0.346904	0.371742	0.345781	0.359190	0.329006	0.345092
			V5	0.329006	0.345092	0.345781	0.359190	0.344443	0.344232	0.329220	0.331331
			V6	0.329220	0.331331	0.344443	0.344232	0.343352	0.332034	0.329393	0.320211
5650	6300	6000	W3	0.313617	0.354992	0.328636	0.368952	0.328823	0.356917	0.314792	0.344438
			W4	0.314792	0.344438	0.328823	0.356917	0.329006	0.345092	0.316042	0.333222
			W5	0.316042	0.333222	0.329006	0.345092	0.329220	0.331331	0.317466	0.320438
			W6	0.317466	0.320438	0.329220	0.331331	0.329393	0.320211	0.318606	0.310201
6300	7000	6700	W7	0.318606	0.310201	0.329393	0.320211	0.329544	0.310495	0.319597	0.301303
			X3	0.301093	0.342244	0.313617	0.354992	0.314792	0.344438	0.303051	0.332708
			X4	0.303051	0.332708	0.314792	0.344438	0.316042	0.333222	0.305170	0.322386
			X5	0.305170	0.322386	0.316042	0.333222	0.317466	0.320438	0.307553	0.310778
7000	10000	8000	X6	0.307553	0.310778	0.317466	0.320438	0.319597	0.301303	0.311163	0.293192
			Y4	0.274238	0.300667	0.303051	0.332708	0.307553	0.310778	0.282968	0.283772
			Y6	0.282968	0.283772	0.307553	0.310778	0.311163	0.293192	0.289922	0.270316

Cool-White Bin Structure

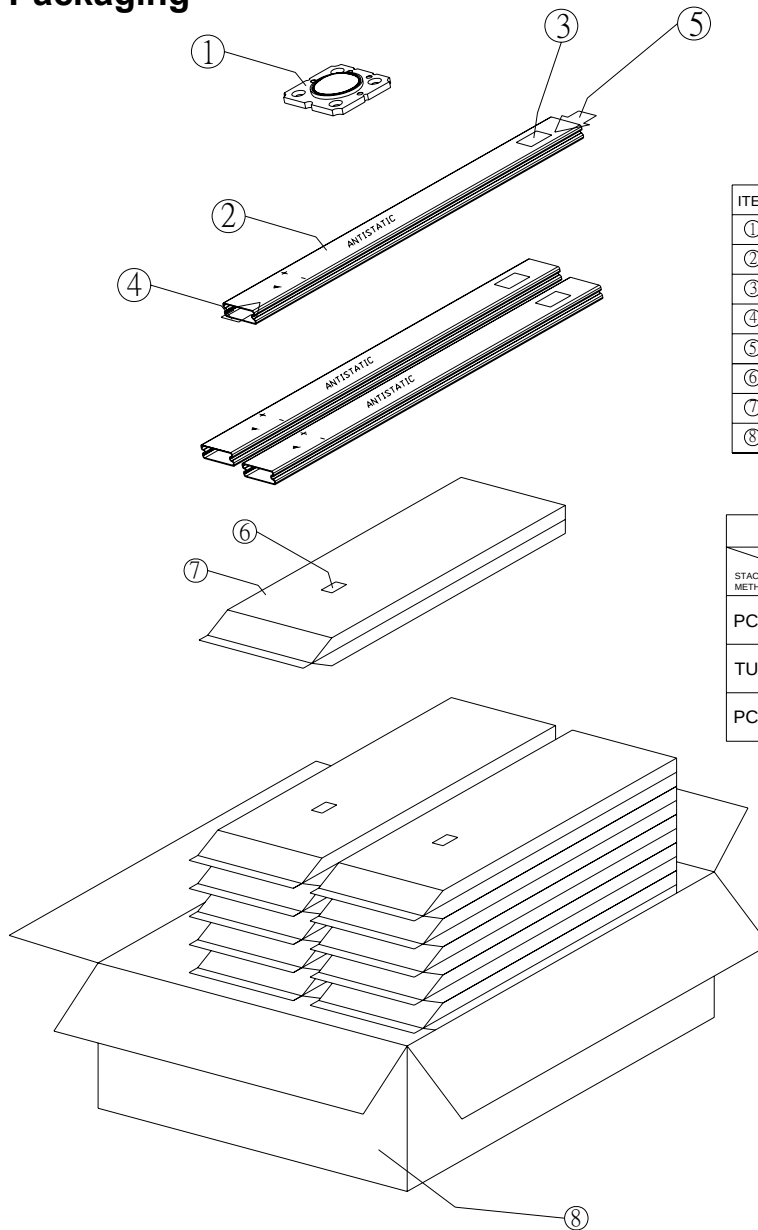


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- Neutral White(4100K) / LHS110MWC0B & LAS110MWC0B
N/A

Typical Packaging



ITEM	DESCRIPTION
①	LUSTRON X
②	PLASTIC TUBE
③	ADHESIVE MAIN LABEL
④	END-PLUG WHITE
⑤	END-PLUG BLACK
⑥	ADHESIVE MAIN LABEL
⑦	ALUMINUM MOISTURE BARRIER BAG
⑧	BOX

STACKING METHOD	
PROD NO.	LUSTRON X
STACKING METHOD	
PCS/TUB	10
TUB/BUNDLE	2
PCS/BOX	600 (20 x 30)

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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.



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Green Technology of Lightings

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