

DATA SHEET

● DEVICE NUMBER : BWL-8A10A21

SHEET DATE	1	2	3	4	5	6	7				CONTENTS
2008.12.02	1.0	1.0	1.0	1.0	1.0	1.0	-				Preliminary
2009.05.14	1.1	1.1	1.1	1.1	1.1	1.1	1.1				Assembling Demonstration
2009.05.22	1.2	1.2	1.2	1.2	1.2	1.2	1.2				Add inch
2009.06.17	1.3	1.3	1.3	1.3	1.3	1.3	1.3				CCT Range

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BRIGHT LED ELECTRONICS CORP.

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APPROVED	DRAWER
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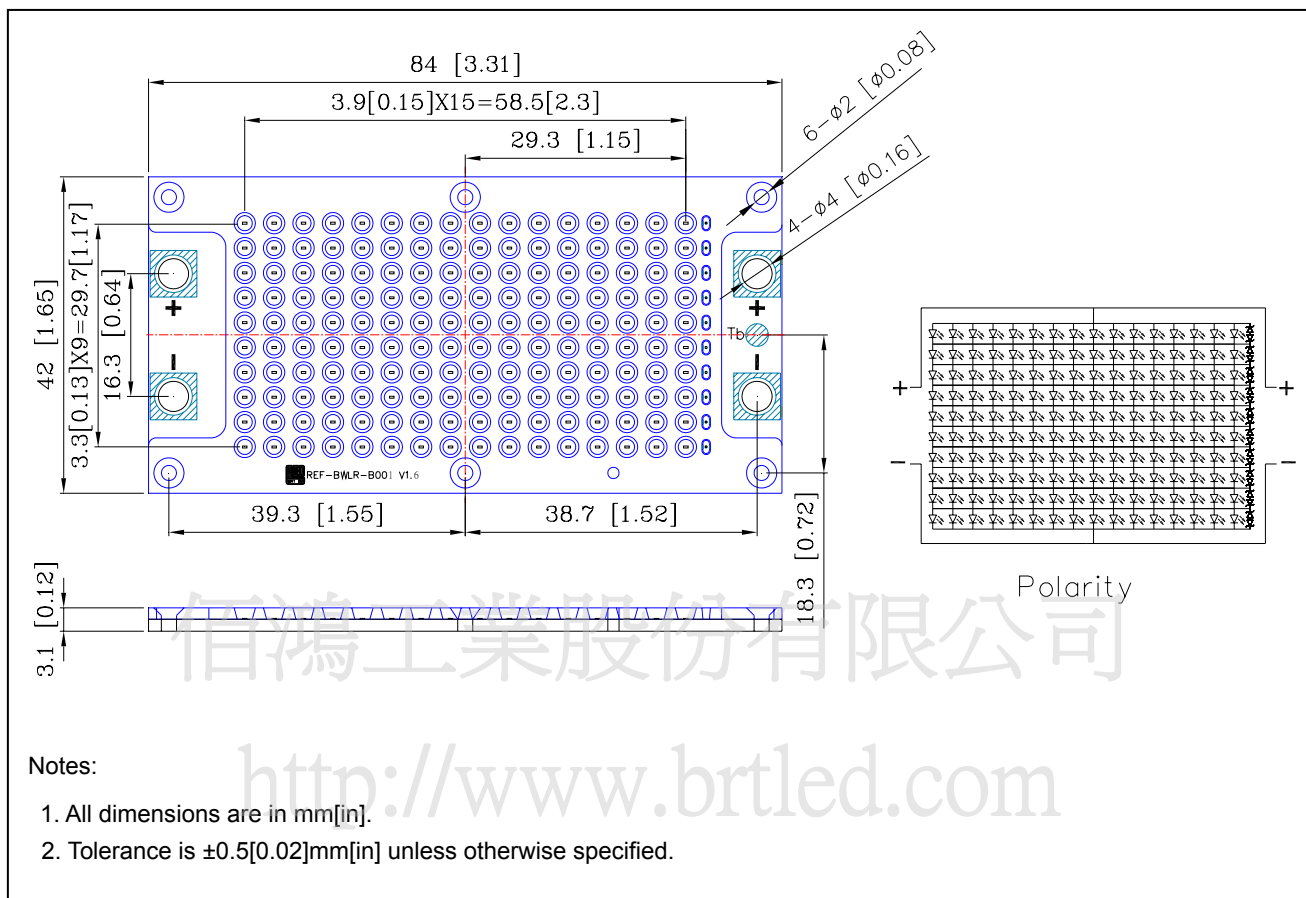
● Features:

1. Constant current supply: 320mA (at 36 V DC, max.)
2. Input power: 10 W.
3. Chip material: InGaN.
4. Emitted color: White.
5. High lumen output.
6. High light output efficiency (lm/w).
7. Excellent thermal management: Self-mounted on Al MCPCB.
8. Easy to be assemblies with heat sink.
9. Long life (if the temperature of the Al MCPCB (Tb) is kept under 50 , by using a suitable heat sink).

● Applications:

1. Outdoor Lightings: street light, tunnel light.
2. Indoor Lightings: Recessed can light, suspension ceiling light, wall light.

● Package dimensions :



● Absolute maximum ratings

Parameter	Symbol	Rating	Unit
DC Input Forward Current *	I_{IN}	360	mA
Power Dissipation	P_D	10	W
Reverse input voltage	V_r	36	V DC
ESD	HBM	2000	V
Storage Temperature	T_{stg}	-40~80	
Temperature of Al MCPCB	T_b	70	

* Proper current derating must be followed to keep the temperature of Al MCPCB(T_b) below 70 .

● Electrical & Optical Characteristics ($T_b=25^{\circ}\text{C}$)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage*	V_F	$I_F = 320\text{mA}$	-	-	36	V
Total Flux	Φ_v	$I_F = 320\text{mA}$	-	800	-	lm
Light Efficient	η	$I_F = 320\text{mA}$	-	80	-	lm/W
Color Temperature	CCT	$I_F = 320\text{mA}$	4745	-	7040	K
Viewing Angle	$2\theta_{1/2}$	$I_F = 320\text{mA}$	-	120	-	degree
Life Time	t	at $T_b \leq 50$	-	30,000	-	hrs

* A power supply with maximum constant current source of 320mA is highly recommended.

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● Typical electro-optical characteristics curves

Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

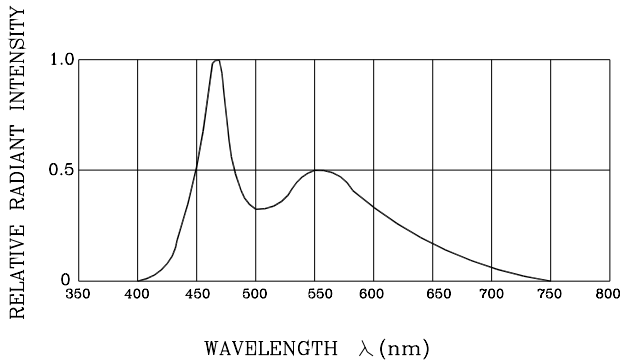


Fig.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

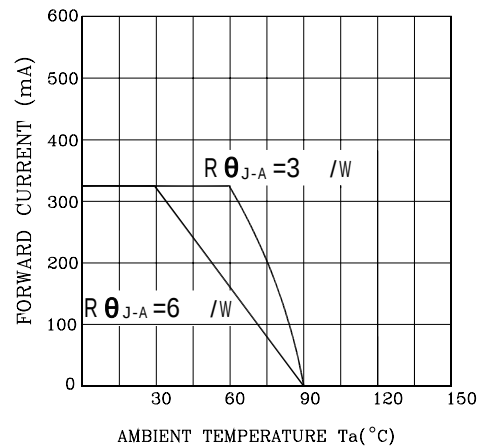


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

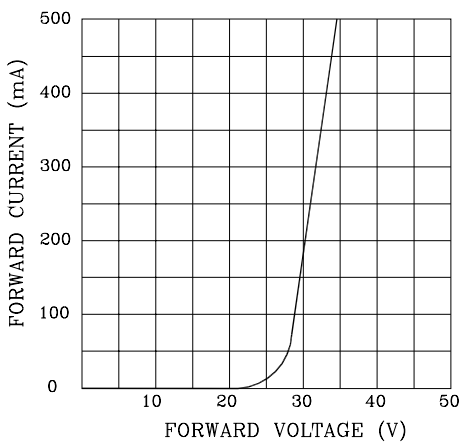


Fig.4 RELATIVE LUMINOUS INTENSITY VS. JUNCTION TEMPERATURE

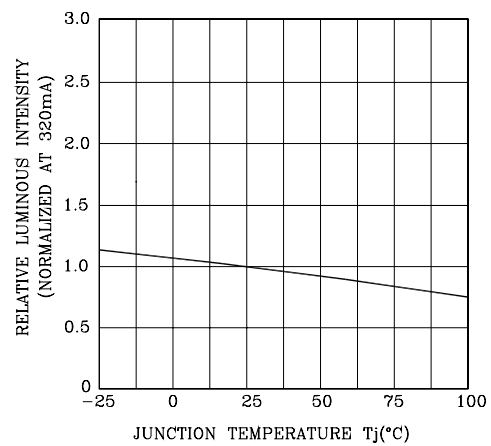


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

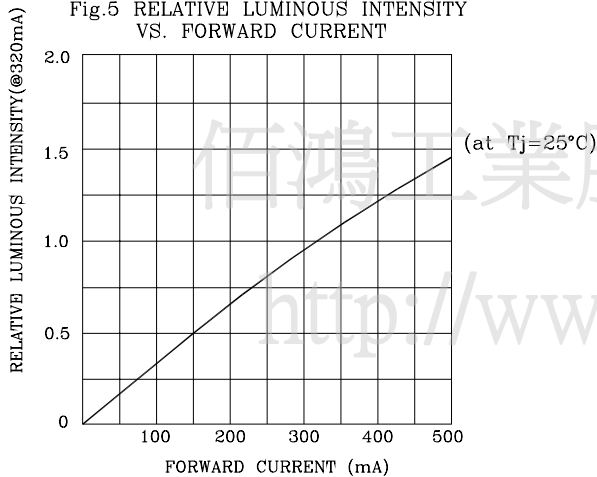
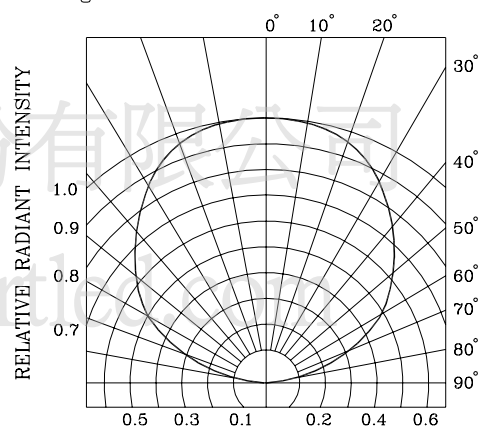
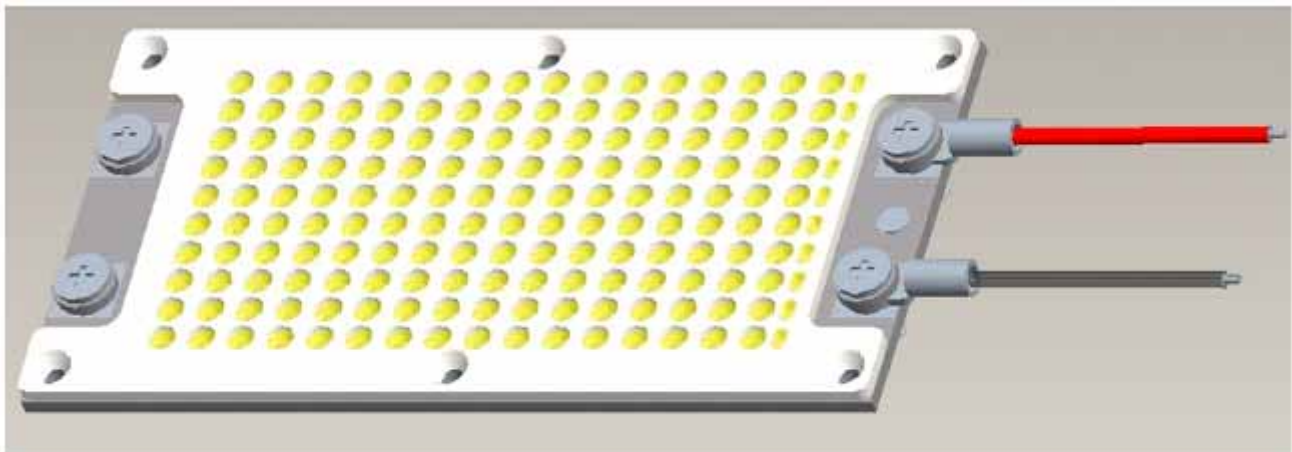
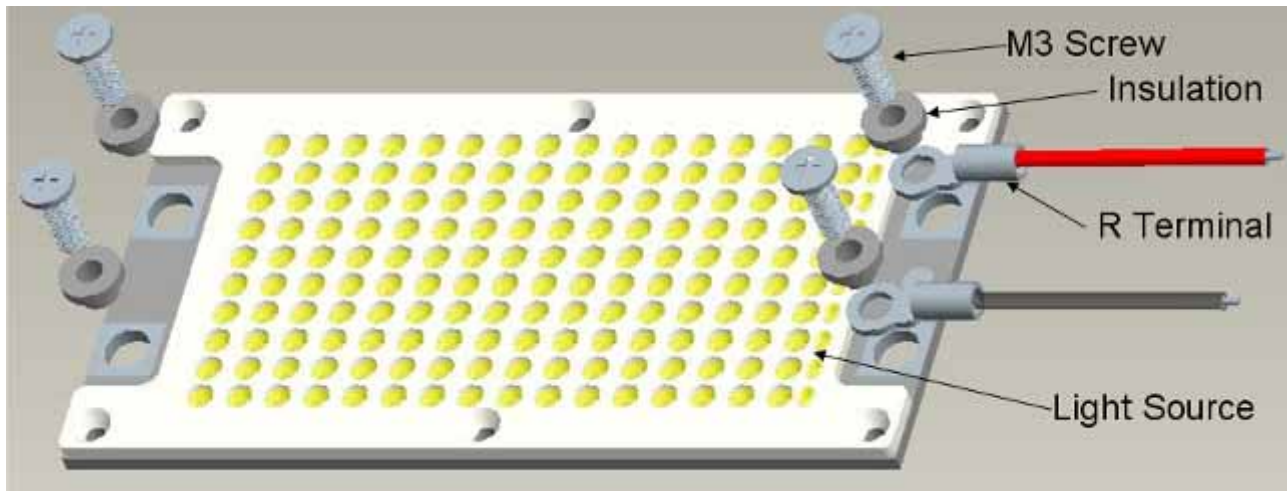


Fig.6 RADIATION DIAGRAM

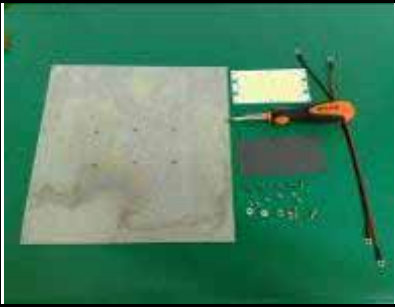
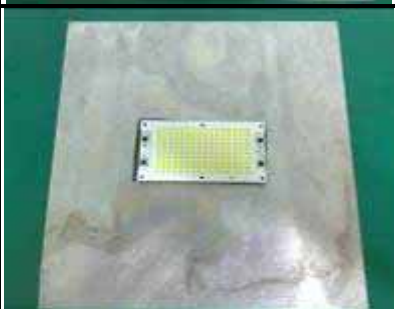
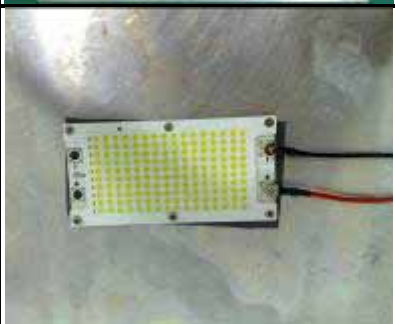


● Components Assembling Demonstration :



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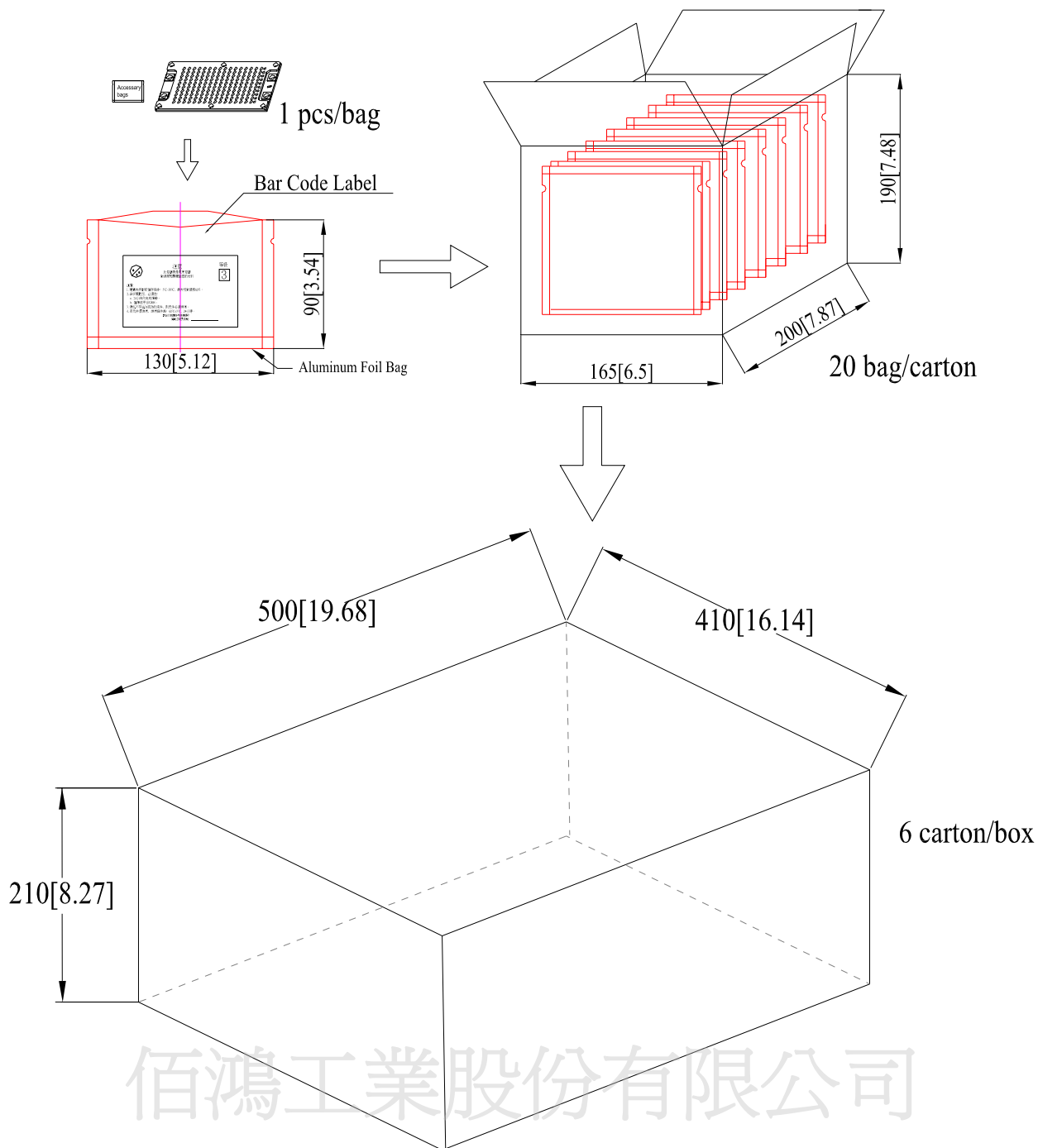
Steps	Pictures	Instructions	Remarks
1		Items to prepare: light source, heat dispersion tape, heat dispersion plate, screwdriver, screws, nuts, washers, and R terminal wires	Screws, nuts, and washers may be required to firmly attach the heat dispersion module in it's fixed position.
2		Attach the heat dispersion tape on the heat dispersion plate at its fixed and locked position.	Heat dispersing paste may be applied to the back of the light source.
3		Attach the light source to the heat dispersion plate.	
4		1. Connect all R terminal wires to the heat dispersion plate. 2. Evenly tighten all screws.	Failure is possible if force is applied to improperly positioned screws.

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Notes:

1. A Components bag is excluded : R Terminal with 50cm red wire×1 、 R Terminal with 50cm black wire×1.
2. A Components bag is included : Insulating WashersX4 、 M3 ScrewsX4 、 M2 ScrewsX6.

● Packing(unit: mm[in]):



Notes:

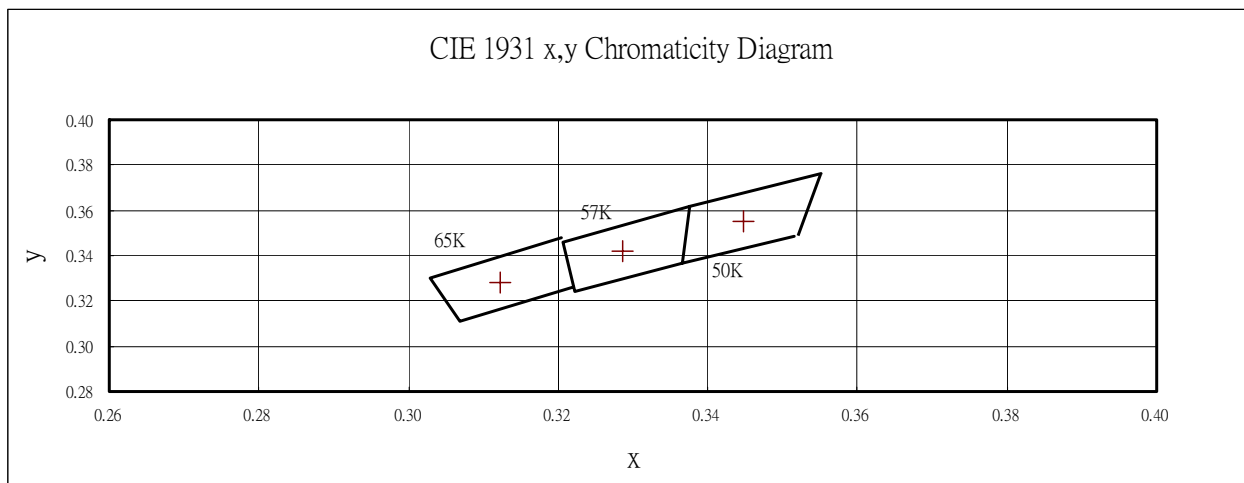
1. Dimension : mm[in].
2. Tolerance : $\pm 10[0.39]$ mm[in].

● Total Flux Bin Limits (at $I_F = 320\text{mA}$)

BIN CODE	Min. (lm)	Max. (lm)
X	600	759
Y	759	987
Z	987	1283

Tolerance for each Bin limit is $\pm 15\%$

● Color Temperature Bin Limits (at $I_F = 320\text{mA}$)



BIN CODE	Nominal CCT	CCT Range	Chromaticity Coordinates			
			x	y	z	u
K50	5000K	4745-5310	0.3447	0.3553	0.3376	0.3366
			0.3551	0.3760	0.3616	0.3369
K57	5700K	5310-6020	0.3287	0.3417	0.3207	0.3222
			0.3376	0.3616	0.3462	0.3243
K65	6500K	6020-7040	0.3123	0.3282	0.3028	0.3068
			0.3205	0.3481	0.3304	0.3113

● BIN : $\frac{x}{x}$ $\frac{x}{x}$

Color Temperature BIN CODE

Total Flux BIN CODE

Notes:

- Bin categories are established for classification of products.
Products may not be available in all bin categories.