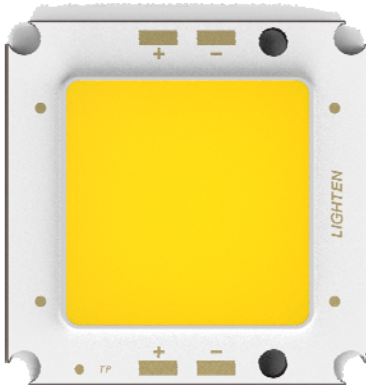


恆日”青龍系列” Lighten®Azure Dragon® Series –LTHX1212-060-005



產品簡介 PRODUCT DESCRIPTION

恆日”青龍系列”為一結合高導熱(銅基板)、高信賴性、寬可視角、COB 多晶封裝、易組裝、無暗區專為

投光燈、天井燈、路燈等面光源燈具所設計之高效能模組。

Lighten Azure Dragon Series is a high performance LED module and design with high thermal conductivity、high reliability、wide view angle、multichip COB package、easy to assembly、Non dark area for Flooding light、Street light or High Bay … etc for surface light application.

特徵 FEATURES

- 電壓 Forward Voltage:36V
- 電流 Drive Current:1600mA
- 最大電流 Max. Drive Current:1760mA
- 可視角 View Angle:120°
- 芯片直接與銅基板鍵結 Die Direct bonding to copper
- 高導熱 High thermal conductivity: 401W/(m·K)
- 溫度量測點 Thermocouple attach point
- 通過六項重金屬檢驗 ROHS compliant
- 容易組裝 Easy for Fixture assembly:最少只鎖兩顆螺絲 Only need to lock two screw

特性 CHARACTERISTIC

| 特性 Characteristics | 最小值 Minimum | 額定值 Typical | 最大值 Maximum | 單位 Unit |
|-----------------------------|----------------|----------------|----------------|------------|
| 輸入電流 DC Forward Current | | 1600 | 1760 | mA |
| 逆電流 Reverse Current | | | 0.1 | mA |
| 輸入電壓 Forward Voltage | 32.4 | 36 | 39.6 | V |
| 結溫 LED Junction Temperature | | | 120 | °C |

光通量特性及標準編碼原則

FLUX CHARACTERISTICS, STANDARD CODES AND BINS

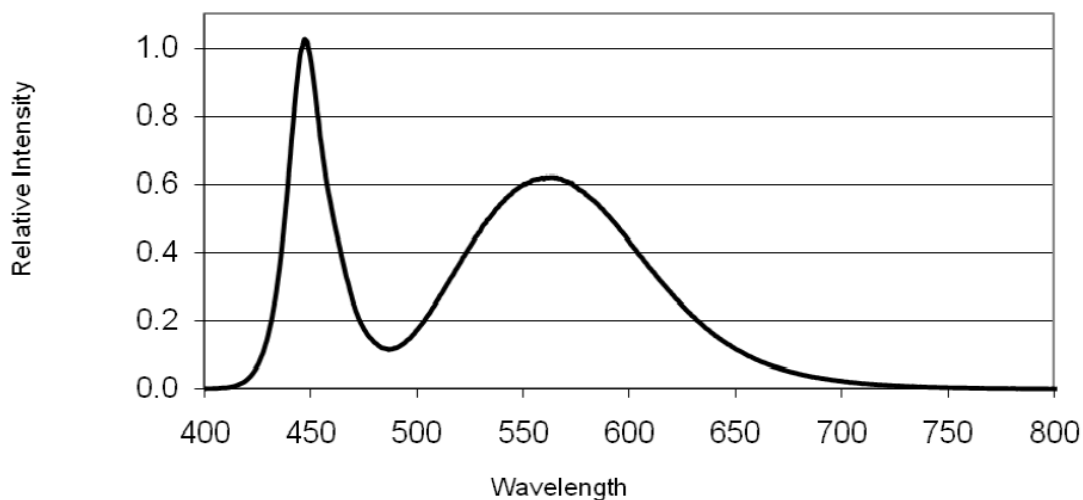
| Group | 最低亮度 Min. flux(lm/W) | 最高亮度 Max. flux(lm/W) |
|-------|----------------------|----------------------|
| N1 | 55 | 62 |
| N2 | 62 | 70 |
| O1 | 70 | 77 |
| O2 | 77 | 85 |
| P1 | 85 | 92 |
| P2 | 92 | 100 |
| Q1 | 100 | 107 |
| Q2 | 107 | 115 |
| R1 | 115 | 122 |
| R2 | 122 | 130 |
| S1 | 130 | 137 |
| S2 | 137 | 145 |
| T1 | 145 | 152 |
| T2 | 152 | 160 |
| U1 | 160 | 167 |
| U2 | 167 | 175 |
| X1 | 175 | 182 |
| X2 | 182 | 190 |

注意事項

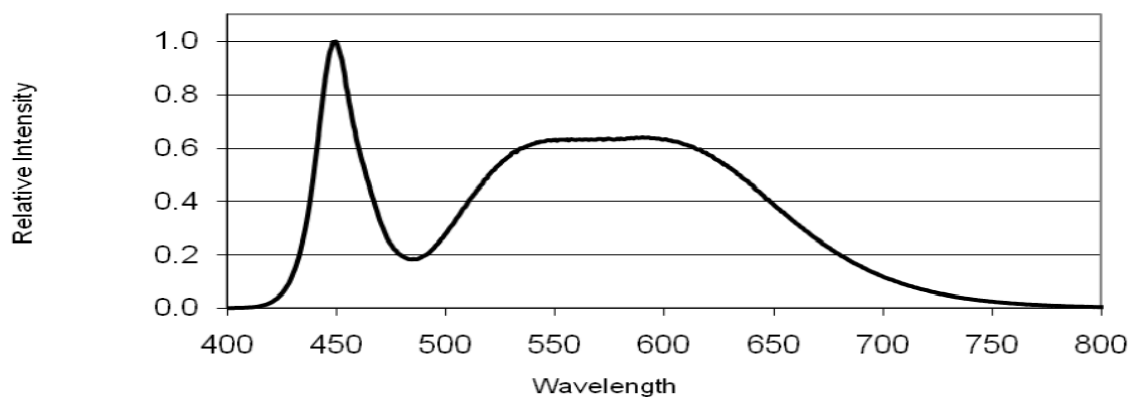
- 恆日維持光通量之量測誤差為 $\pm 7\%$, 色彩飽和度量測誤差為 ± 2 .
Lighten maintains a tolerance of $\pm 7\%$ on flux and power measurements and a tolerance of ± 2 on CRI measurements.
- 以上色溫及演色性為恆日標準規格, 可依客戶需求調整
- Above CCT and CRI spec for Lighten Standard product, different CCT and CRI are available upon customer's

波長特性(額定電流, $T_a=25^{\circ}\text{C}$) WAVELENGTH CHARACTERISTICS AT RATED TEST
CURRENT, $T_a=25^{\circ}\text{C}$

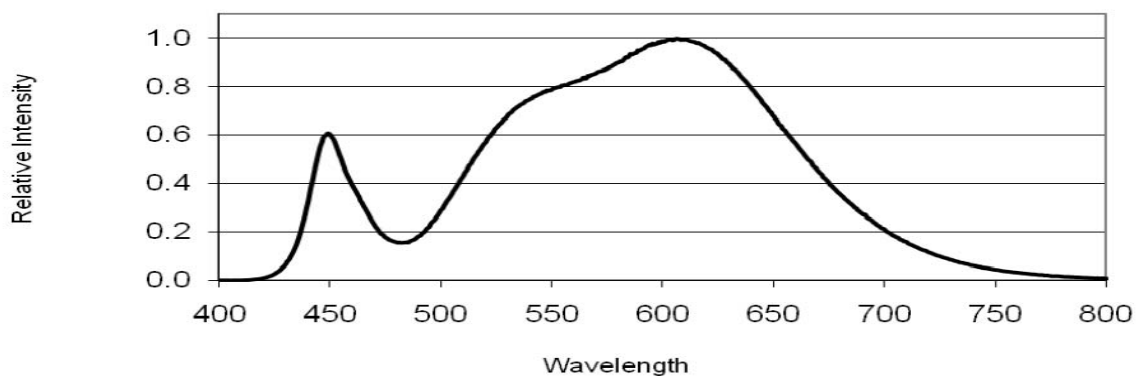
Typical Cool White Color Spectrum



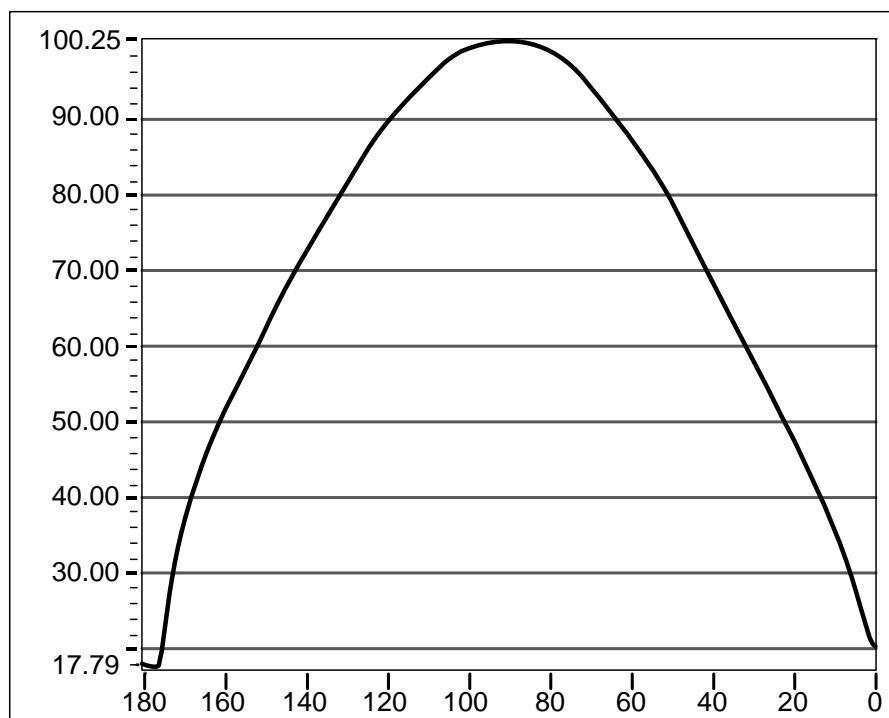
Typical Neutral White Color Spectrum



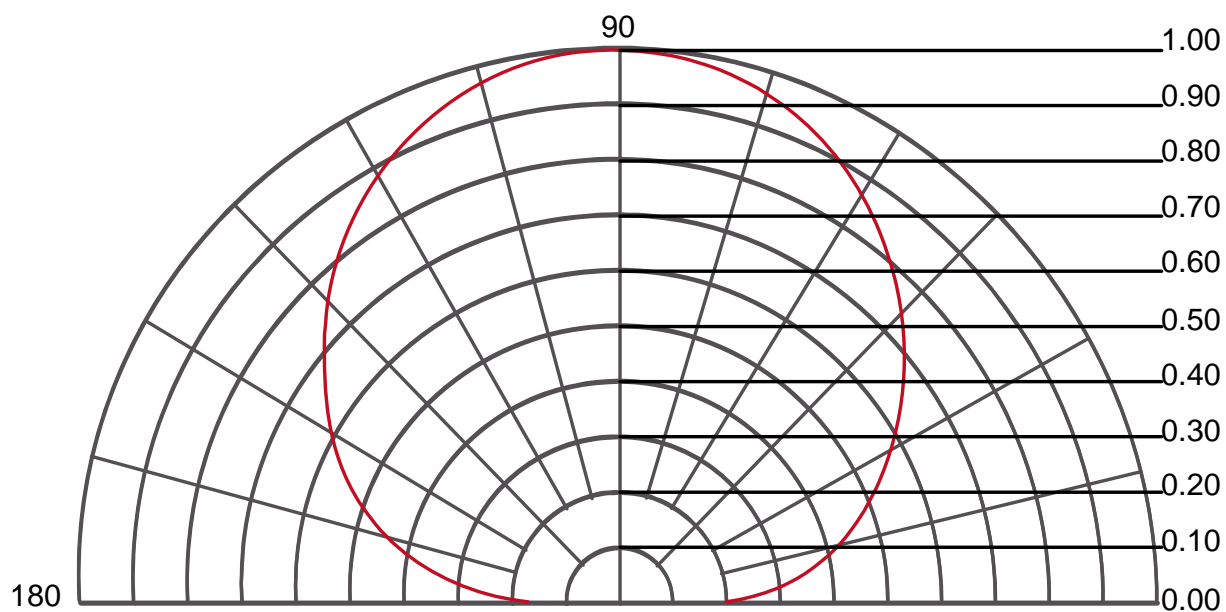
Typical Warm White Color Spectrum



空間分布 TYPICAL SPATIAL DISTRIBUTION

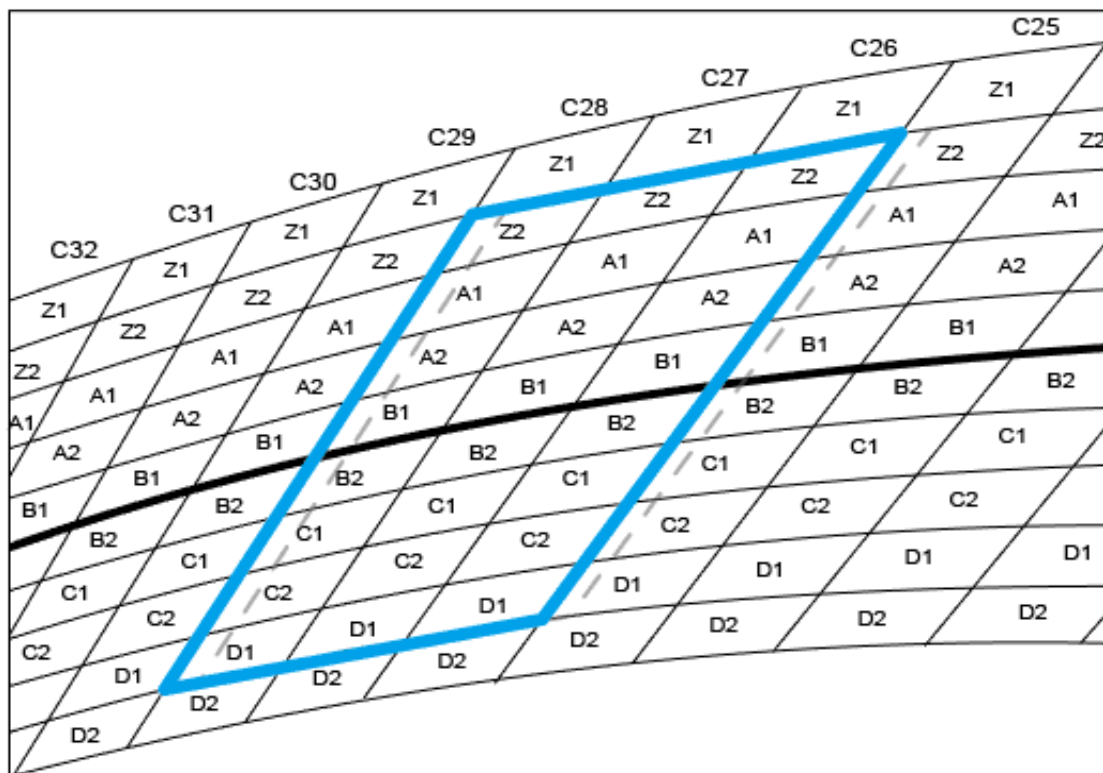


光形圖 TYPICAL POLAR RADIATION PATTERN

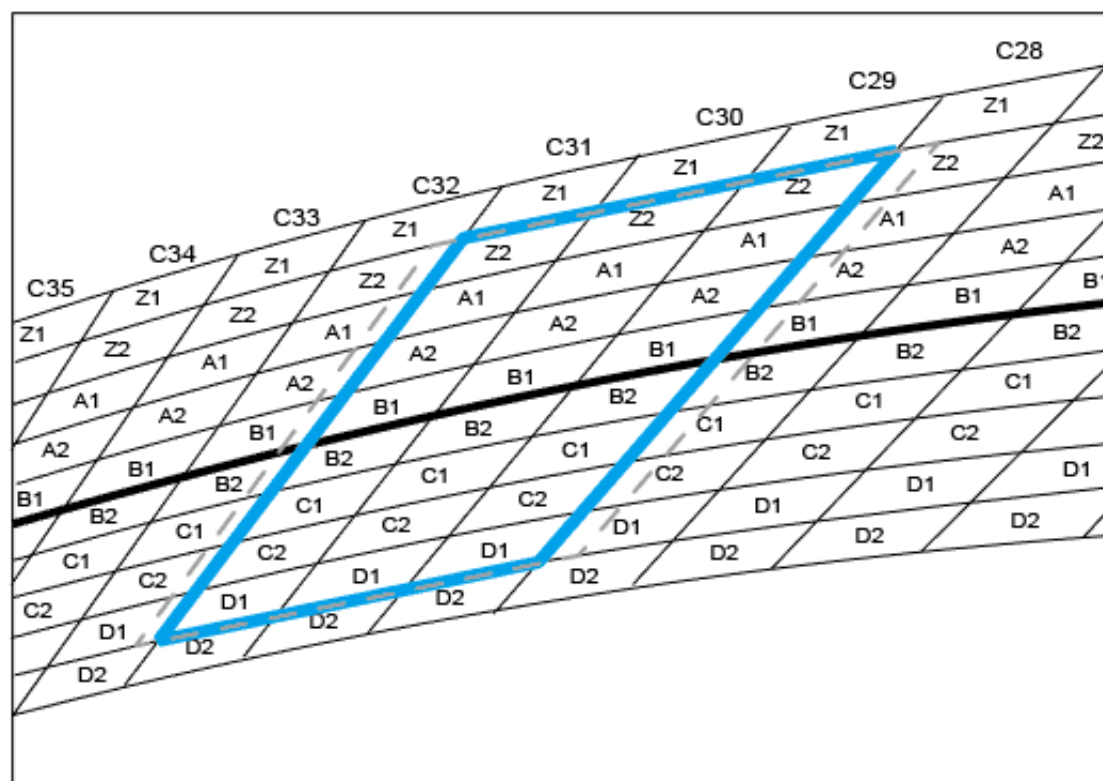


色溫 BIN 區範圍

CCT 2700K

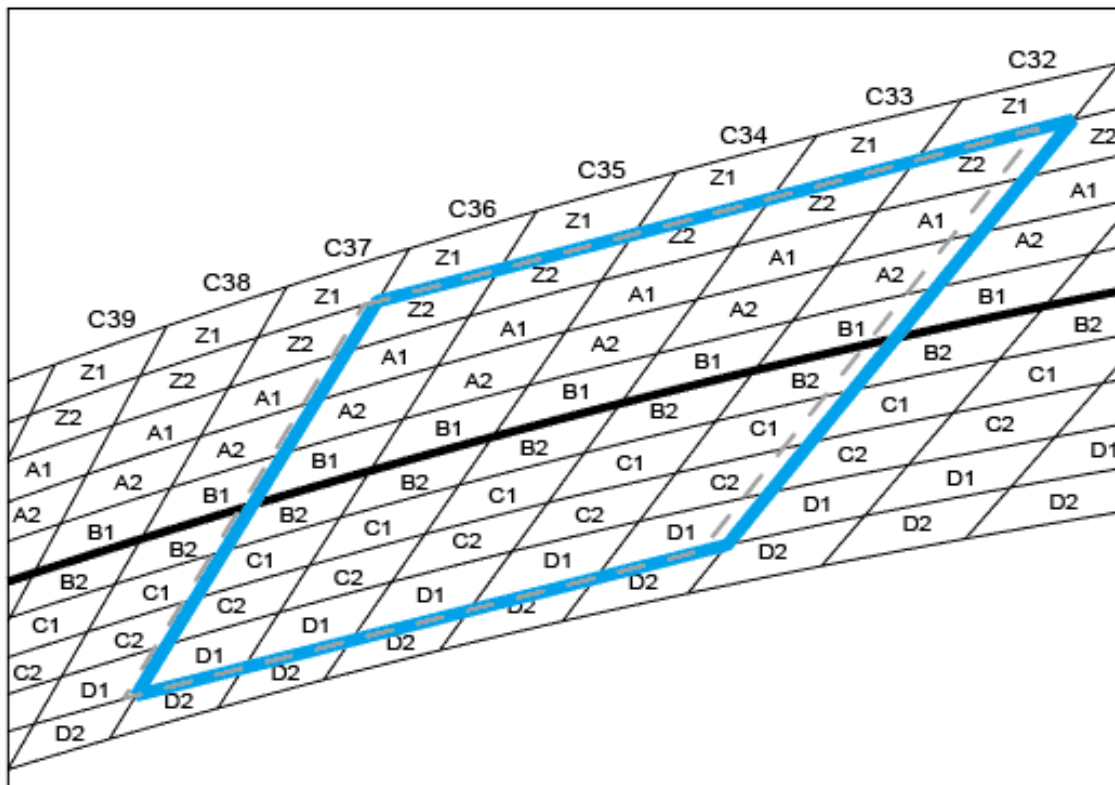


CCT 3000K

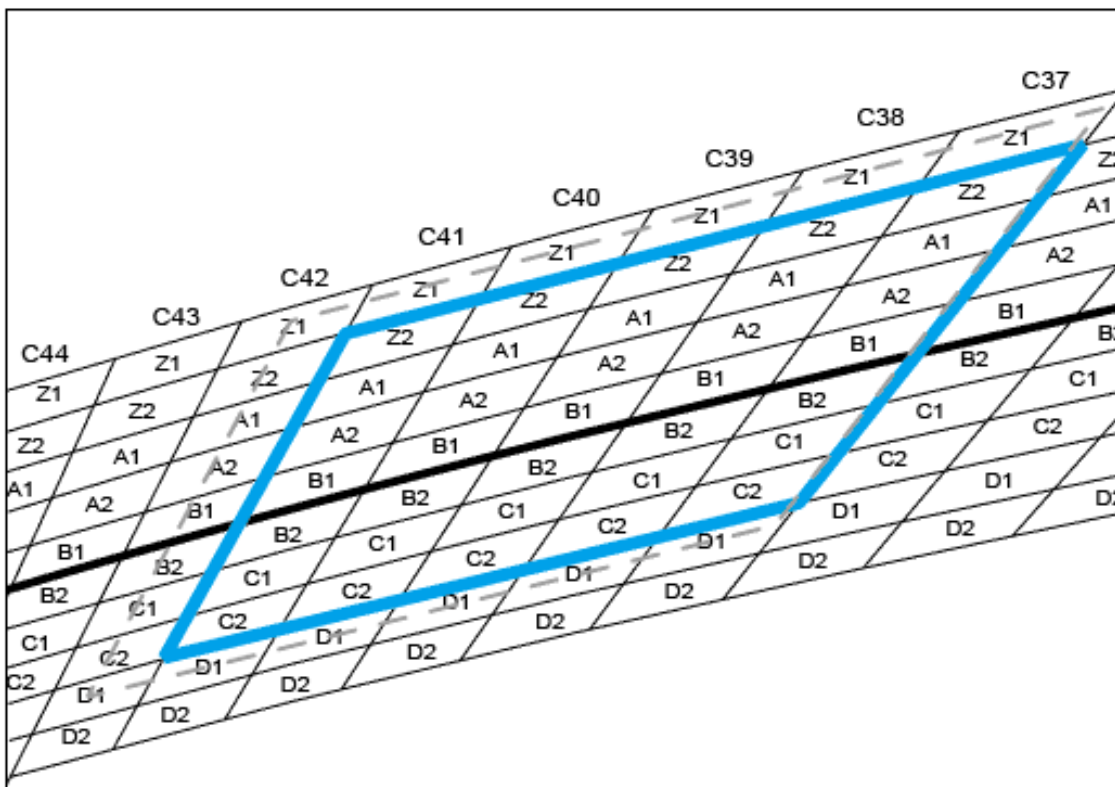


色溫 BIN 區範圍

CCT 3500K

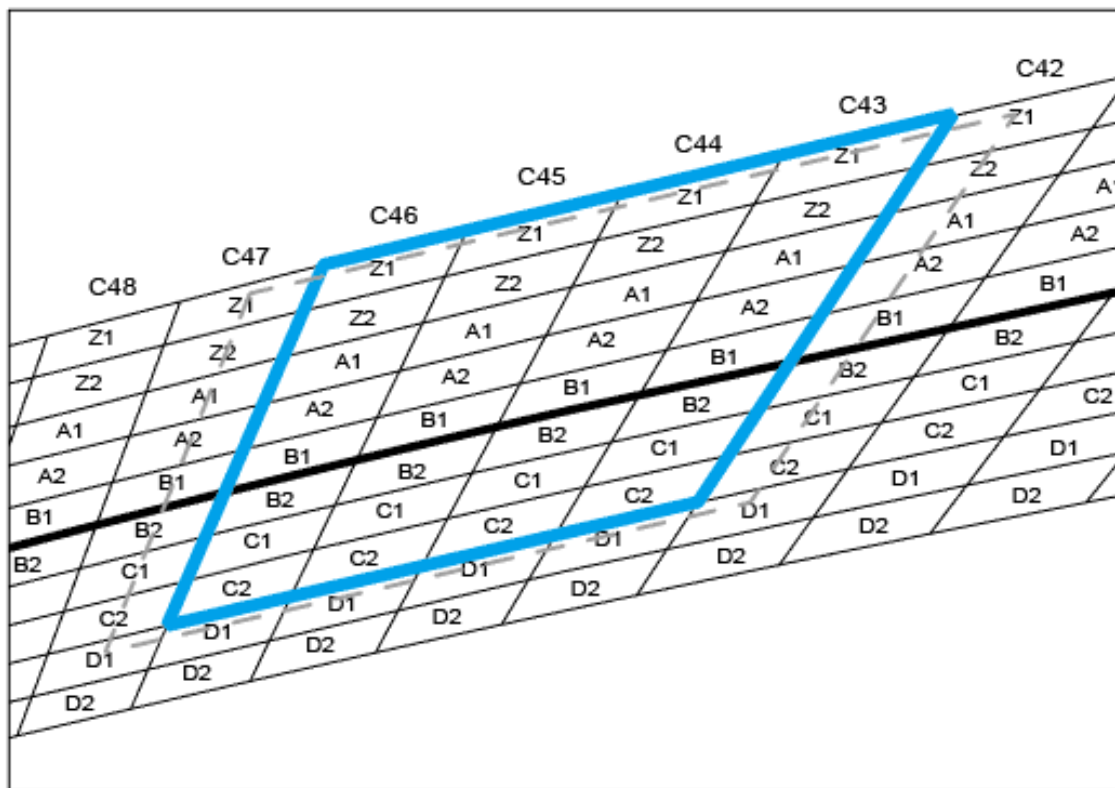


CCT 4000K

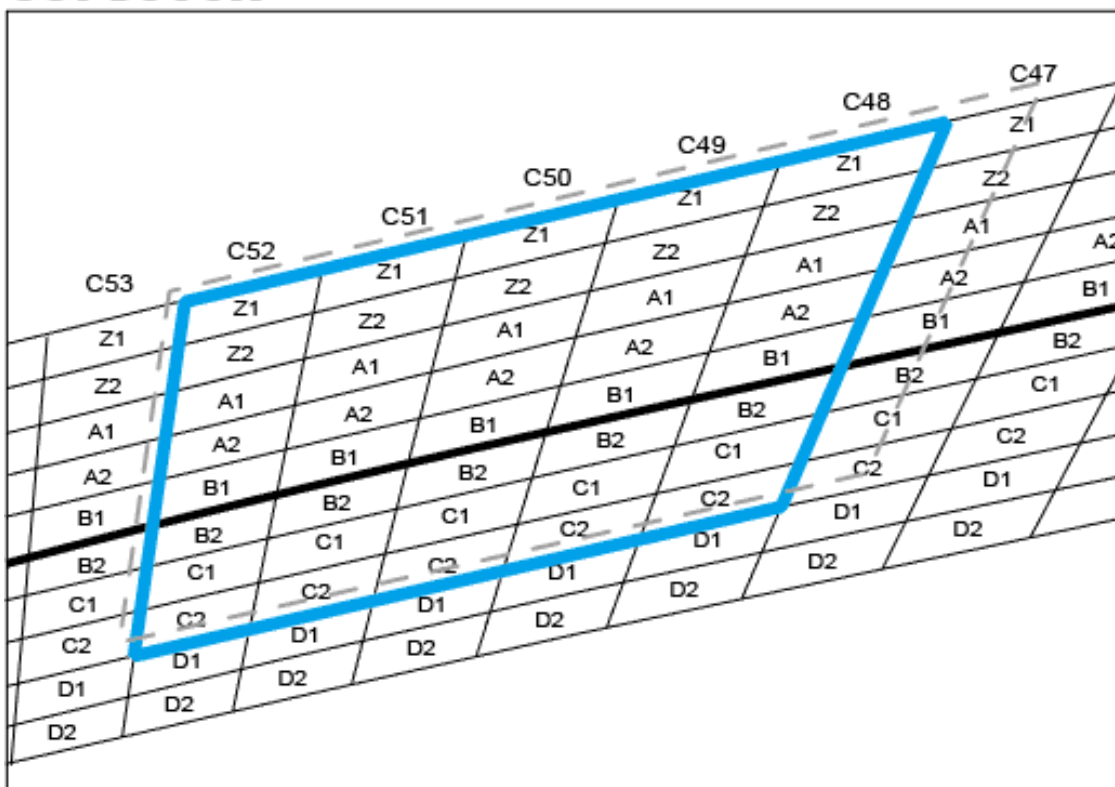


色溫 BIN 區範圍

CCT 4500K

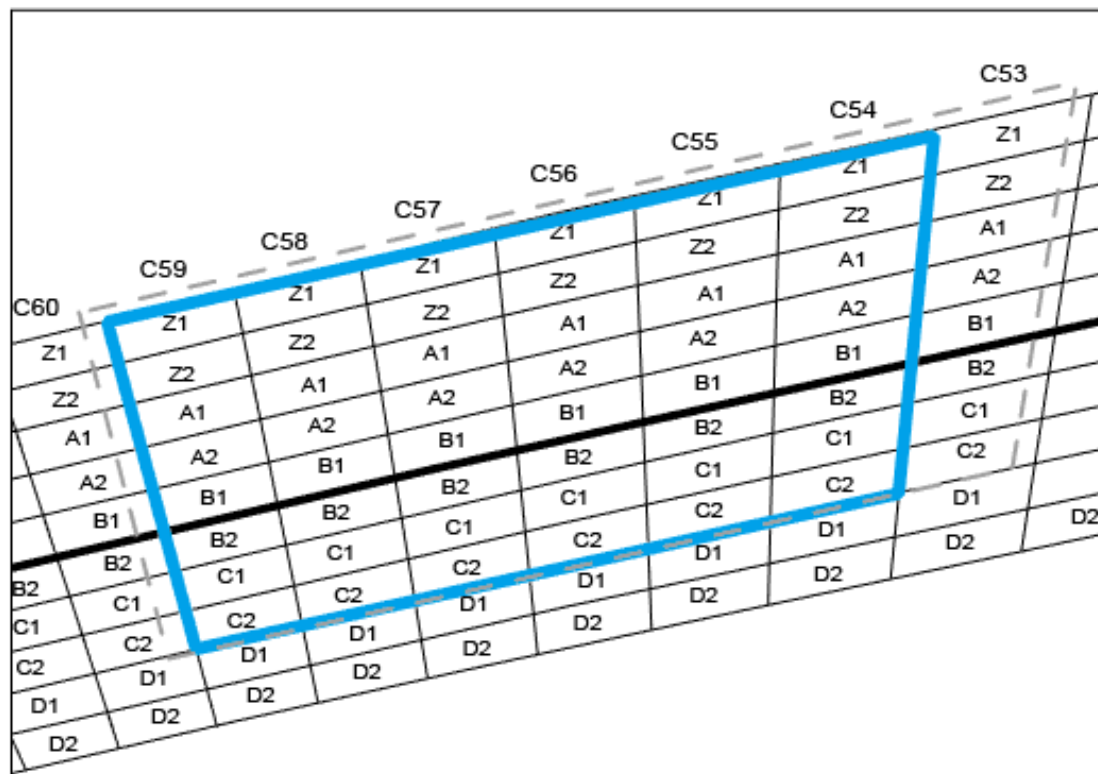


CCT 5000K



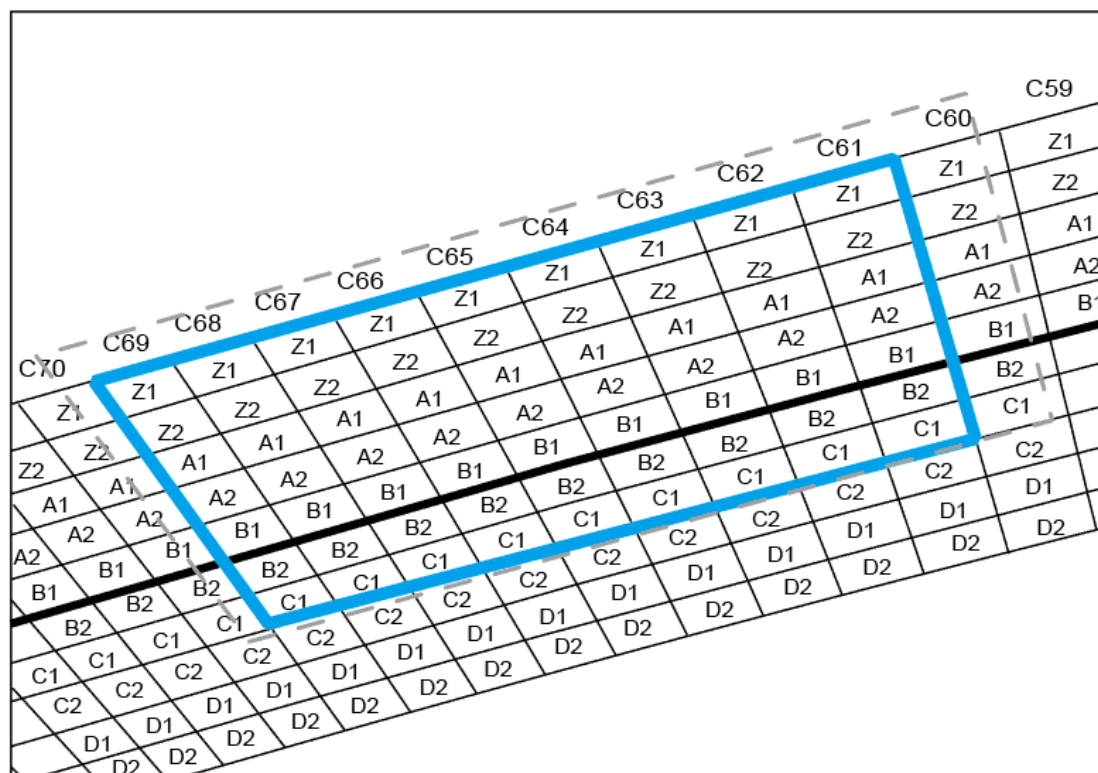
色溫 BIN 區範圍

CCT 5700K



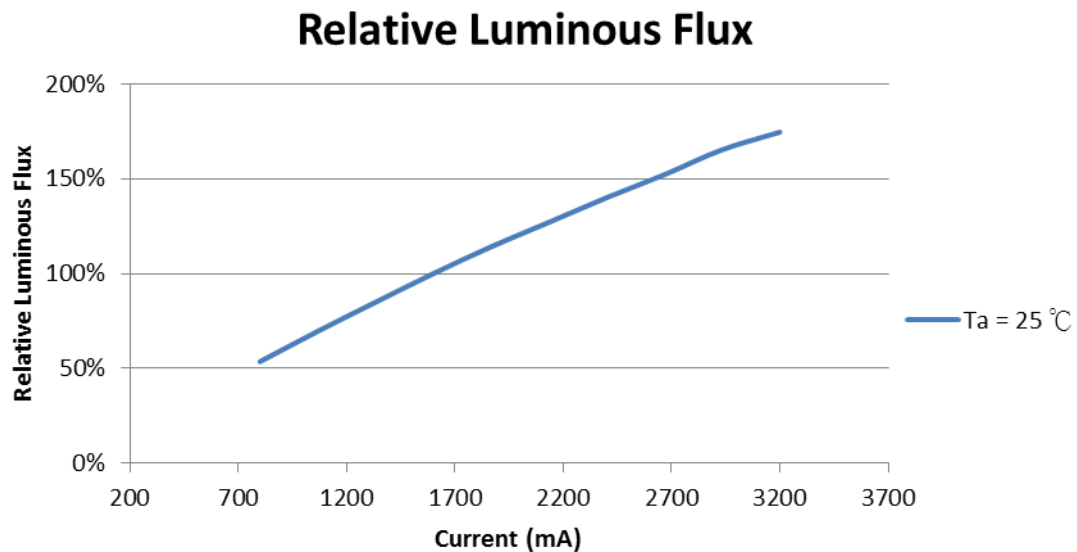
A diagram showing the CCT 5700K BIN range. It features a grid of cells labeled with Z1, Z2, A1, A2, B1, B2, C1, C2, D1, and D2. A blue line outlines the specific BIN range for CCT 5700K, starting from the top-left corner and extending towards the bottom-right. The grid is tilted, and the labels are arranged in a specific pattern across the cells.

CCT 6500K

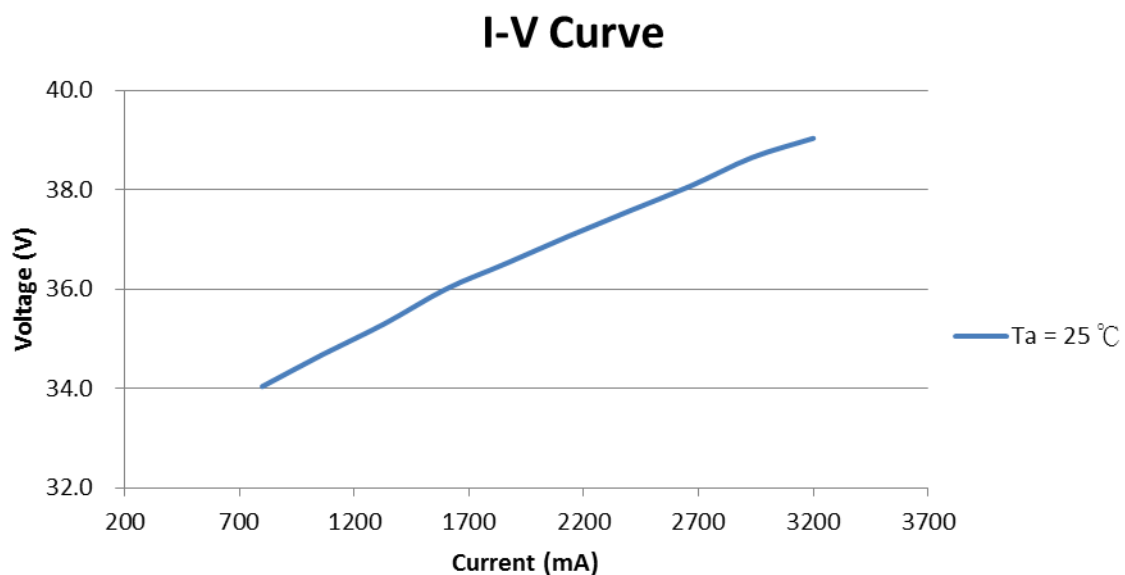


A diagram showing the CCT 6500K BIN range. It features a grid of cells labeled with Z1, Z2, A1, A2, B1, B2, C1, C2, D1, and D2. A blue line outlines the specific BIN range for CCT 6500K, starting from the top-left corner and extending towards the bottom-right. The grid is tilted, and the labels are arranged in a specific pattern across the cells.

不同電流下之 相對光通量百分比 Relative Luminous Flux vs Current (Ta=25°C)



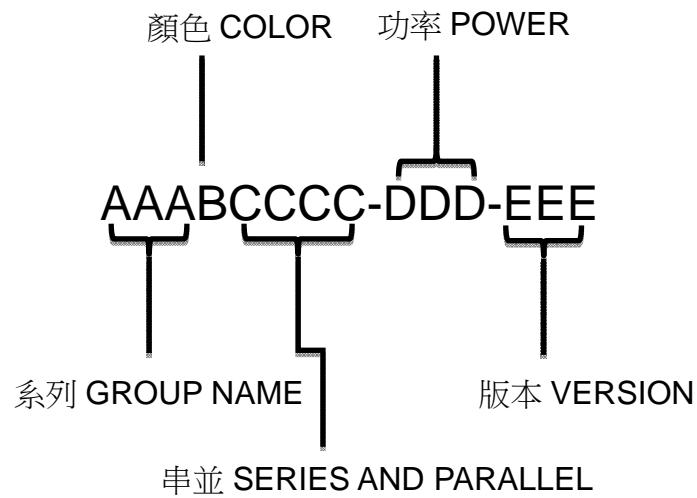
不同電流下之電壓值 I-V Curve (Ta=25°C)



注意事項 Notice:

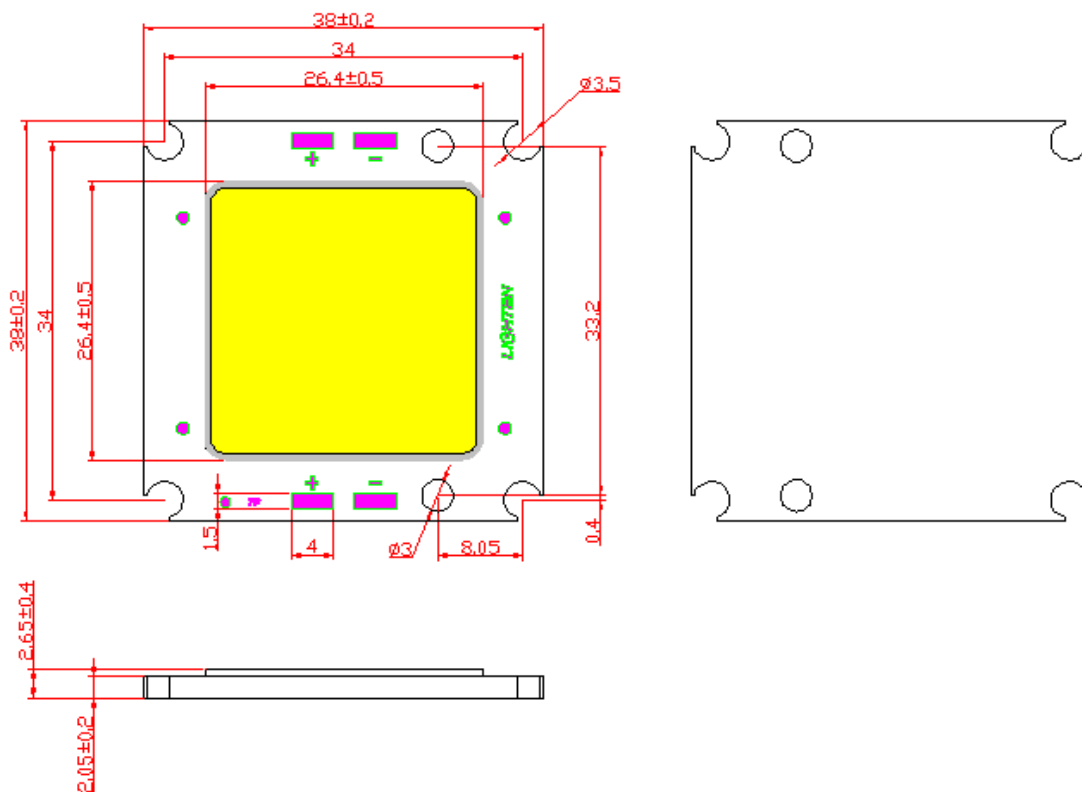
1. 當操作電流為標準電流時, Tp 點須控制在 75°C 下 Tp should be controlled below 75°C under typical current .
2. 當操作電流為最大電流時, Tp 點須控制在 65°C 下 Tp should be controlled below 65°C under maximum current .

訂單碼格式 ORDER CODES FORMAT



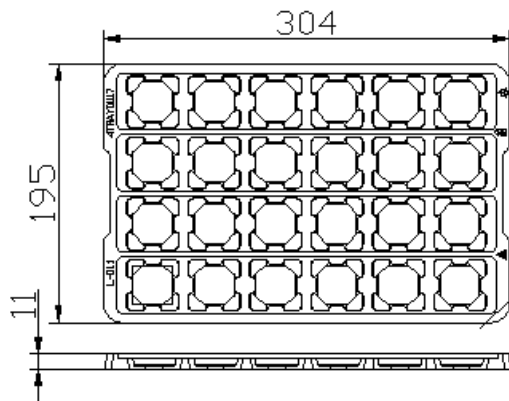
注意事項 NOTES

外觀尺寸(單位：公釐) EMITTER OUTLINE DIMENSION(UNIT:mm)

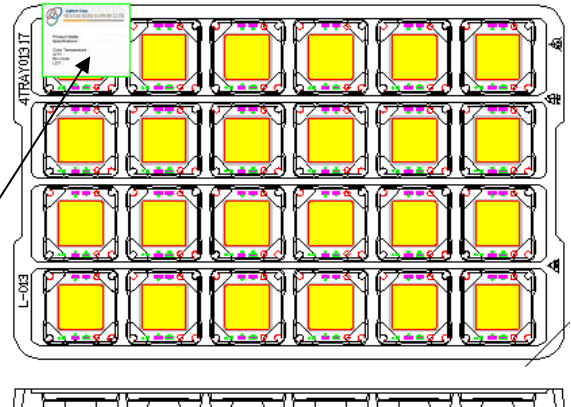


包裝方式 PACKING SPEC.

包裝盤尺寸 PET TRAY dimension



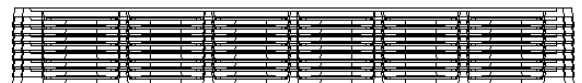
燈芯擺入包裝盤 Put Emitter onto tray
最上層貼標籤不同 Bin 或 Lot 亦需貼標
Tape label on top cover (also applied
on different Bin or Lot)



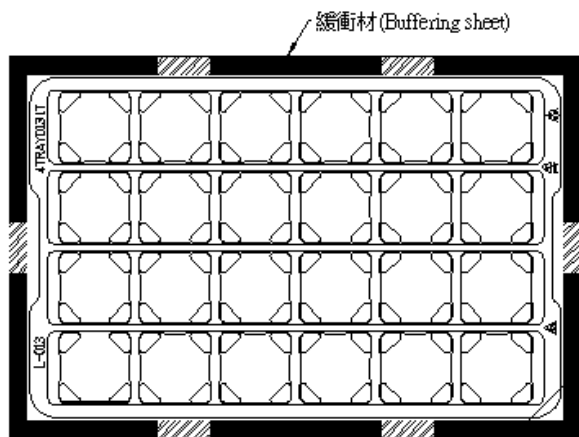
外標籤格式 Label format



堆疊至滿箱並加 1 片上蓋
Stack up with 1 cover (full)



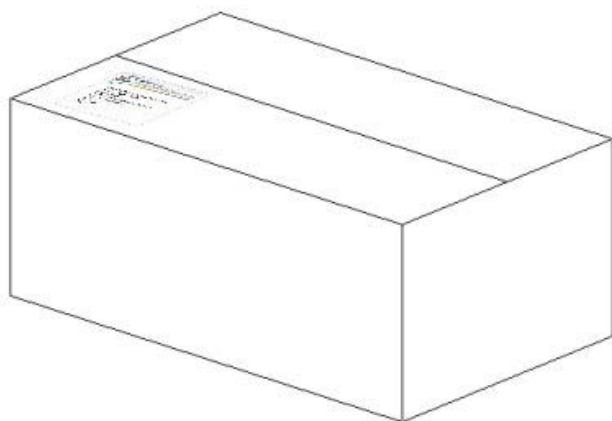
裝入緩衝材 Put tray into Buffering sheet



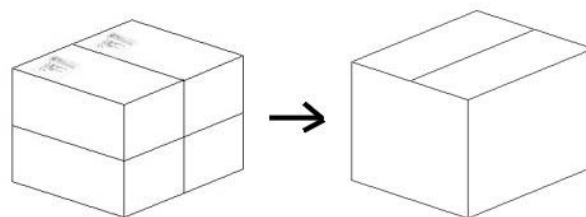
蓋上緩衝材上 Add buffering sheet cover



裝入小箱並貼標
Put into Carton and add label outside



裝入外箱(外箱=4 小箱)
Put into Outer Box (4 cartons)



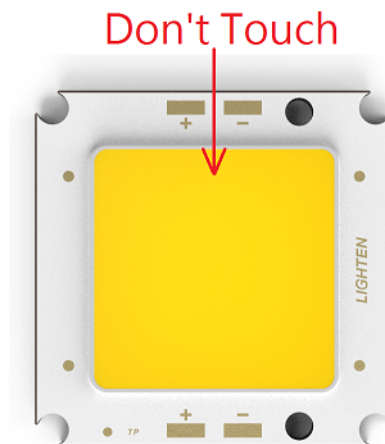
使用方式及注意事項 ASSEMBLY NOTE

禁止碰觸發光區域

Do not touch emitting area

禁止碰觸或破壞發矽膠外型區域 會造成晶片或者是金線鍵結力，進而造成損壞現象

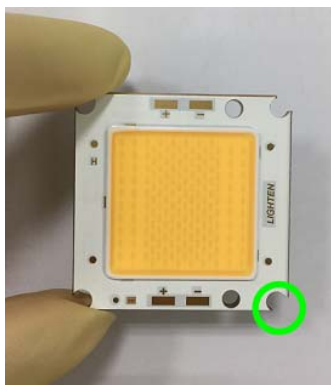
Do not touch or scratch silicon forming matrix area since it could damage the bonding of LED chips or wires and cause dead zone



建議 Recommended

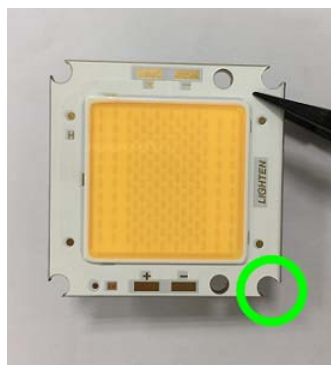
燈芯需要手動挑選及放置的產品,建議拿取時帶塑膠手套或使用塑膠鑷子拿取

Emitter needs manually pick and place , recommend to use plastic tweezers or plastic gloves



帶塑膠手套拿取

Use plastic gloves



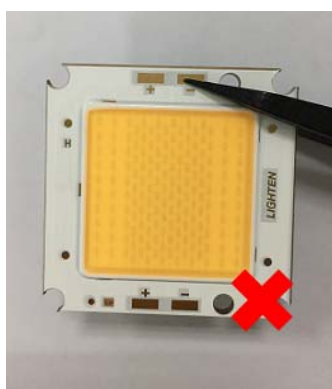
使用塑膠鑷子拿取

Use plastic tweezers



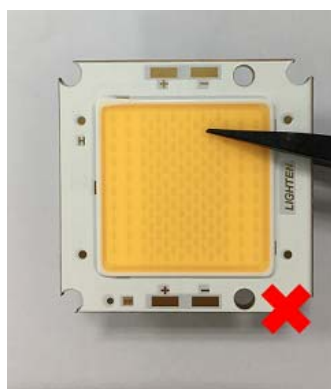
不可徒手拿取

Don't use hand without plastic gloves



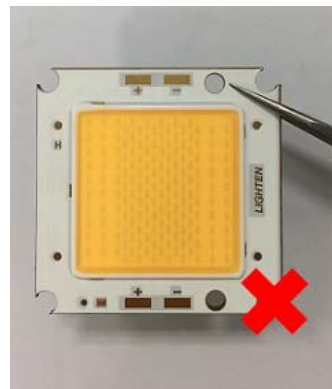
不可夾電極處

Don't clip both electrode



不可夾到發光區

Don't clip emitting area



不可使用鐵製鑷子

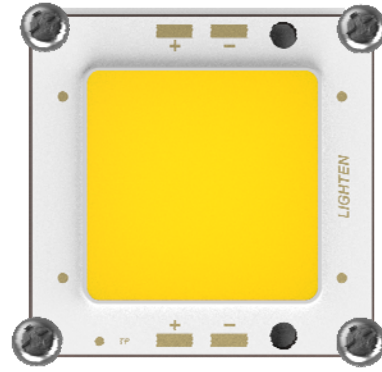
Don't use iron tweezers

組裝方式

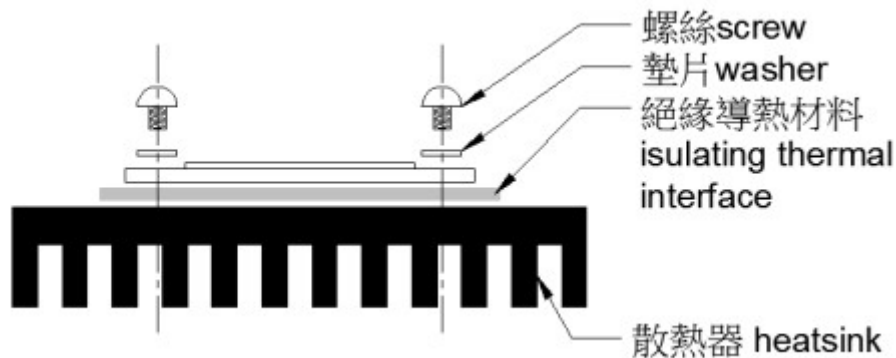
Assembly guide line

先將電線焊上燈芯正面之正負極,再於孔位鎖附螺絲於鋁擠上

Wiring emitter's anode/cathode pad, then fix emitter with screws onto heat sink



為減低熱阻與散熱器保持絕緣，建議燈芯與散熱器中間介面加上高導熱絕緣材質，散熱膏或貼片皆可
To reduce thermal resistance and keep insulation of heatsink , high thermal insulating material is recommended to be used uniformly between emitter and heatsink . Either thermal sheet or paste are fine.



焊接條件 Soldering method

- ★ 設定焊頭溫度 $400\pm 10^{\circ}\text{C}$
Setup the temperature of welding head to $400\pm 10^{\circ}\text{C}$ when soldering
- ★ 將燈芯放在 $100\pm 10^{\circ}\text{C}$ 熱盤上，將焊槍溫度設為 $300\pm 10^{\circ}\text{C}$
Put emitter on a $100\pm 10^{\circ}\text{C}$ hot plate and setup welding head temperature to $300\pm 10^{\circ}\text{C}$
以上兩者皆可(either is ok)

電線:

- ★ 燈芯外接電源建議使用絞線（及軟性電線），勿使用單芯線（較硬）
Suggested using strand wires (softer) to connect power , don't use solid wires .