

# TX-3850RGBW120D180-001

## PRODUCT SPECIFICATION

### Features:

- ◆Excellent transiting heat from LED chip operating under 1.6 A.
- ◆Mixing any two colors of light, there will be no partial color and color spots uneven phenomenon.
- ◆High luminous output.
- ◆No UV.
- ◆Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆Red: AlGaInP
- ◆Green: GaInN
- ◆Blue: GaN
- ◆White: GaN

### Emitting Color:

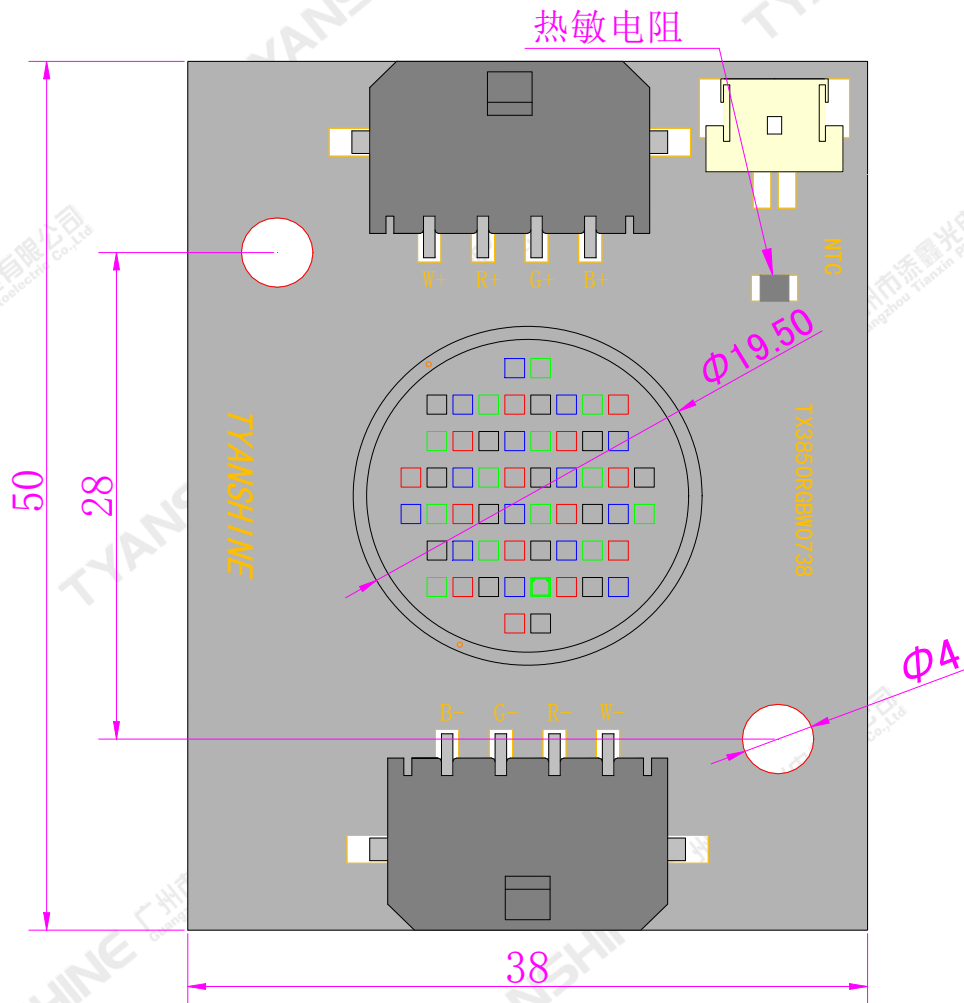
- ◆Red
- ◆Green
- ◆Blue
- ◆white

### Applications:

- ◆Entertainment lighting
- ◆Landscape lighting
- ◆Commercial lighting
- ◆Decorative lighting

|          |                        |          |            |      |        |
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## Package Dimensions:



### Notes:

- 1.All dimensions are in millimeters .
- 2.Tolerances unless otherwise mentioned are  $\pm 0.1\text{mm}$  .

**Absolute Maximum Ratings (Tc=25°C)**

| Parameter                               | Symbol | Ratings                            | Unit  |    |
|---|--------|------------------------------------|-------|----|
| Forward Current                         | IF     | 1.6                                | A     |    |
| Reverse Voltage                         | VR     | Not designed for reverse operation | V     |    |
| Power Dissipation                       | PD     | R                                  | 28000 | mW |
|   |        | G                                  | 36000 |    |
|   |        | B                                  | 36800 |    |
|   |        | W                                  | 36800 |    |
| Junction Temperature                    | Tj     | R                                  | 115   | °C |
|   |        | G                                  | 150   |    |
|   |        | B                                  | 150   |    |
|   |        | W                                  | 150   |    |
| Electrostatic Discharge Threshold (ESD) | ESD    | 2000                               | V     |    |
| Storage Temperature                     | Tstg   | -40~+70                            | °C    |    |
| Operation Temperature                   | Topr   | -30~+100                           |       |    |

**Notes:**

- Specifications are subject to change without notice.
- The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.
- Precautions for ESD:  
STATIC SHIELD Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

**Electrical Optical Characteristics (Tc=25°C)**

| Parameter                           | Symbol           | Condition | Emitting Color | Min. | Typ. | Max. | Units |
|-------------------------------------|------------------|-----------|----------------|------|------|------|-------|
| Luminous Flux                       | $\phi_v$         | If=1.4A   | R              | 900  | 1100 | —    | lm    |
|                                     |                  |           | G              | 2000 | 2250 | —    |       |
|                                     |                  |           | B              | 500  | 550  | —    |       |
|                                     |                  |           | W              | 2300 | 2650 | —    |       |
| Dominant Wavelength                 | $\lambda_d$      |           | R              | 620  | 625  | 628  | nm    |
|                                     |                  |           | G              | 524  | 528  | 532  |       |
|                                     |                  |           | B              | 455  | 457  | 461  |       |
| Correlated Colour Temperature       | CCT              |           | W              | 6000 | 6500 | 7000 | K     |
| Peak-emission Wavelength            | $\lambda_p$      |           | R              | 632  | 637  | 640  | nm    |
|                                     |                  |           | G              | 520  | 524  | 530  |       |
|                                     |                  |           | B              | 445  | 451  | 456  |       |
| Spectral Line Half-Width            | $\Delta\lambda$  |           | R              | 15   | 17.5 | 20   | nm    |
|                                     |                  | G         | 30             | 35   | 40   |      |       |
|                                     |                  | B         | 20             | 23   | 26   |      |       |
|                                     |                  | W         | 24             | 28   | 30   |      |       |
| Forward Voltage                     | $V_f$            | R         | 14.5           | 16   | 17.5 | V    |       |
|                                     |                  | G         | 19.5           | 21   | 22.5 |      |       |
|                                     |                  | B         | 20             | 21.5 | 23   |      |       |
|                                     |                  | W         | 20             | 21.5 | 23   |      |       |
| Viewing Angle at 50 % IV            | $2\theta_{1/2}$  | —         | —              | —    | 120  | —    | Deg   |
| Thermal Resistance Junction to Case | $R_{\theta J-C}$ | —         | R              | —    | 0.08 | —    | K/W   |
|                                     |                  | —         | G              | —    | 0.07 | —    |       |
|                                     |                  | —         | B              | —    | 0.07 | —    |       |
|                                     |                  | —         | W              | —    | 0.07 | —    |       |
| Temperature Coefficient of Voltage  | $V\Delta F/T$    | —         | R              | —    | -10  | —    | mV/°C |
|                                     |                  | —         | G              | —    | -22  | —    |       |
|                                     |                  | —         | B              | —    | -14  | —    |       |
|                                     |                  | —         | W              | —    | -13  | —    |       |

**Notes:**

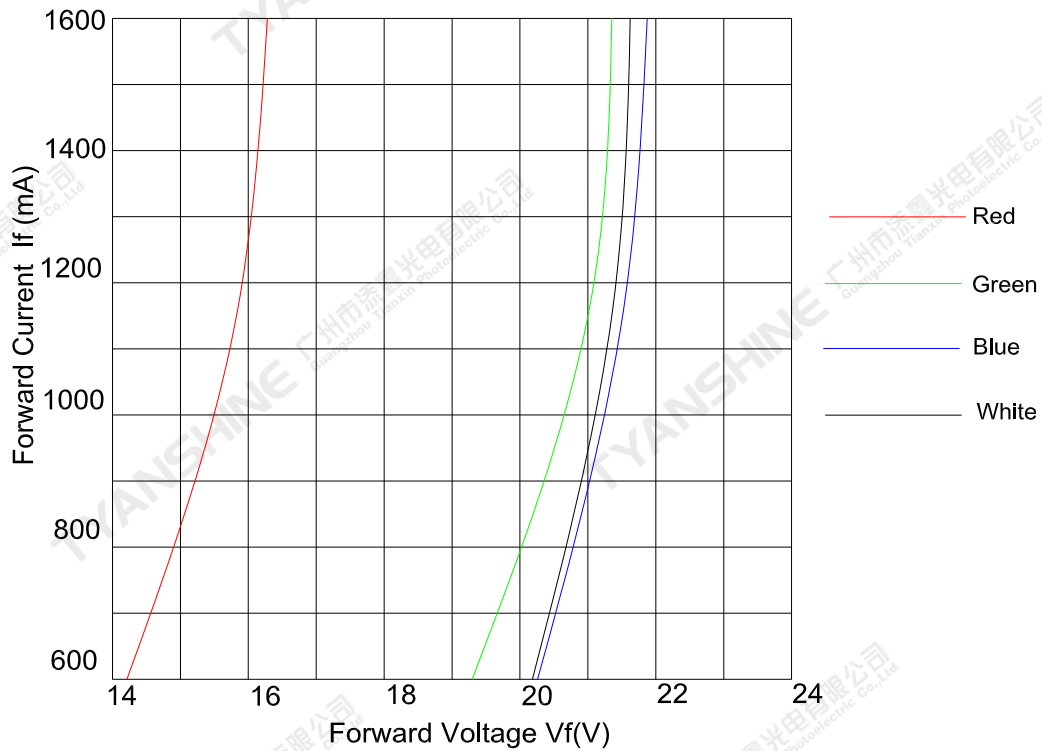
- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.Luminous flux measurement tolerance:±15%.
- 4.Forward voltage measurement tolerance:±0.15V.

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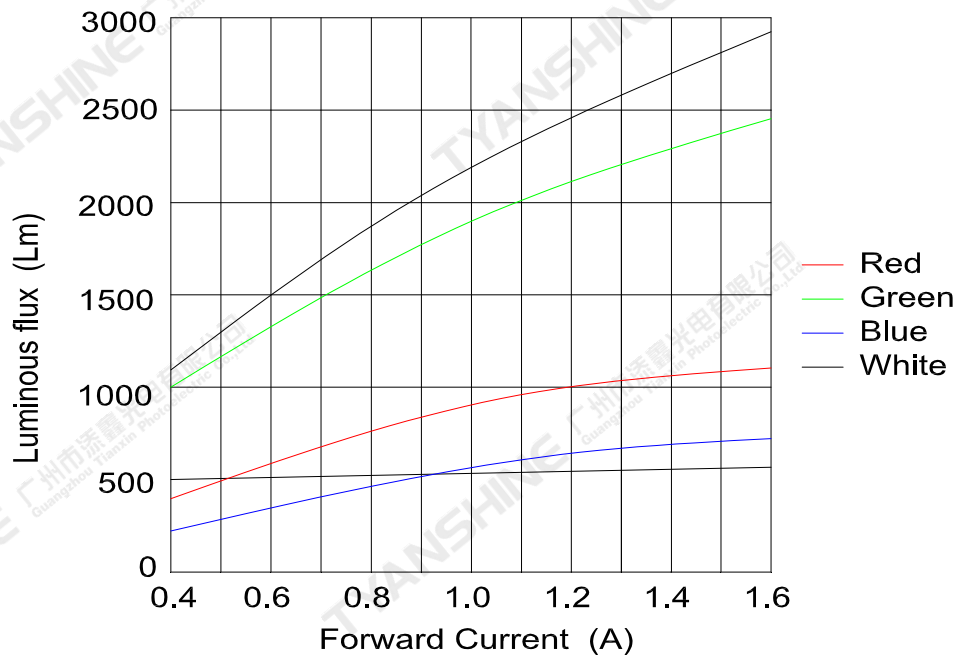
## Typical Electrical/Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

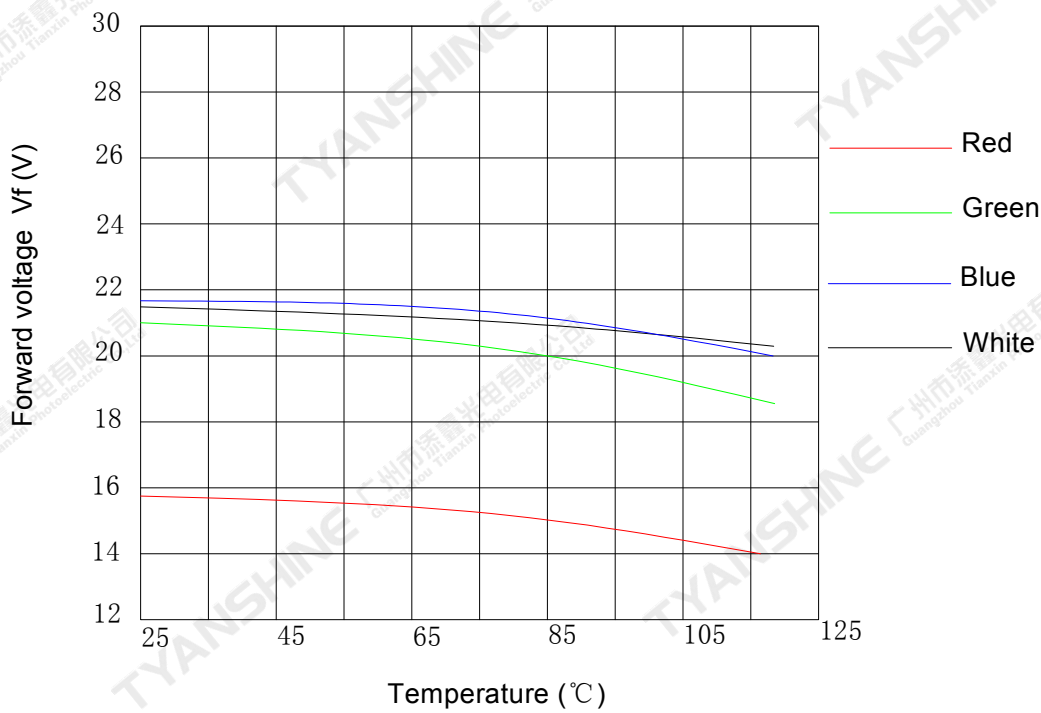
Forward Current VS. Forward Voltage



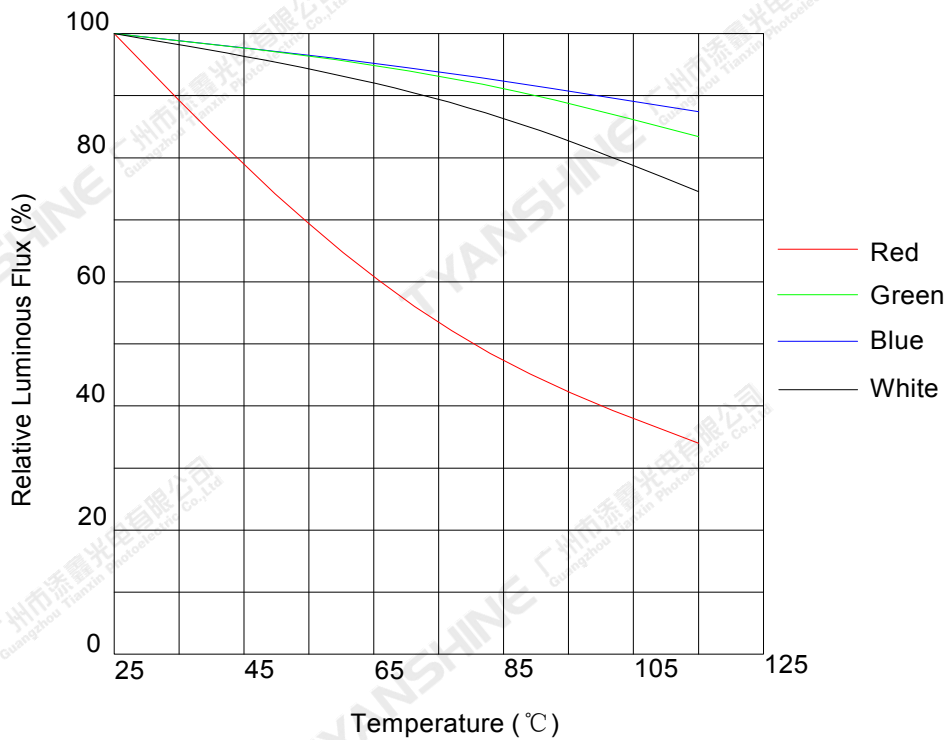
Forward Current VS. Luminous flux



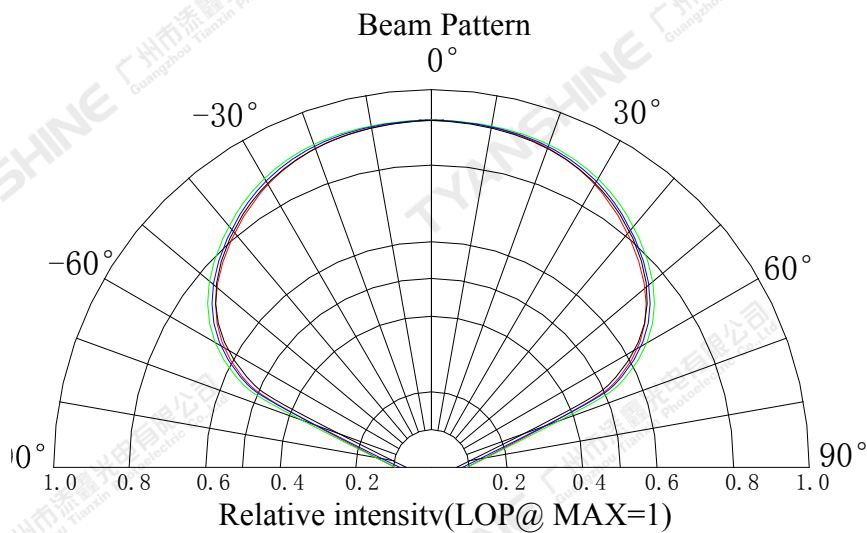
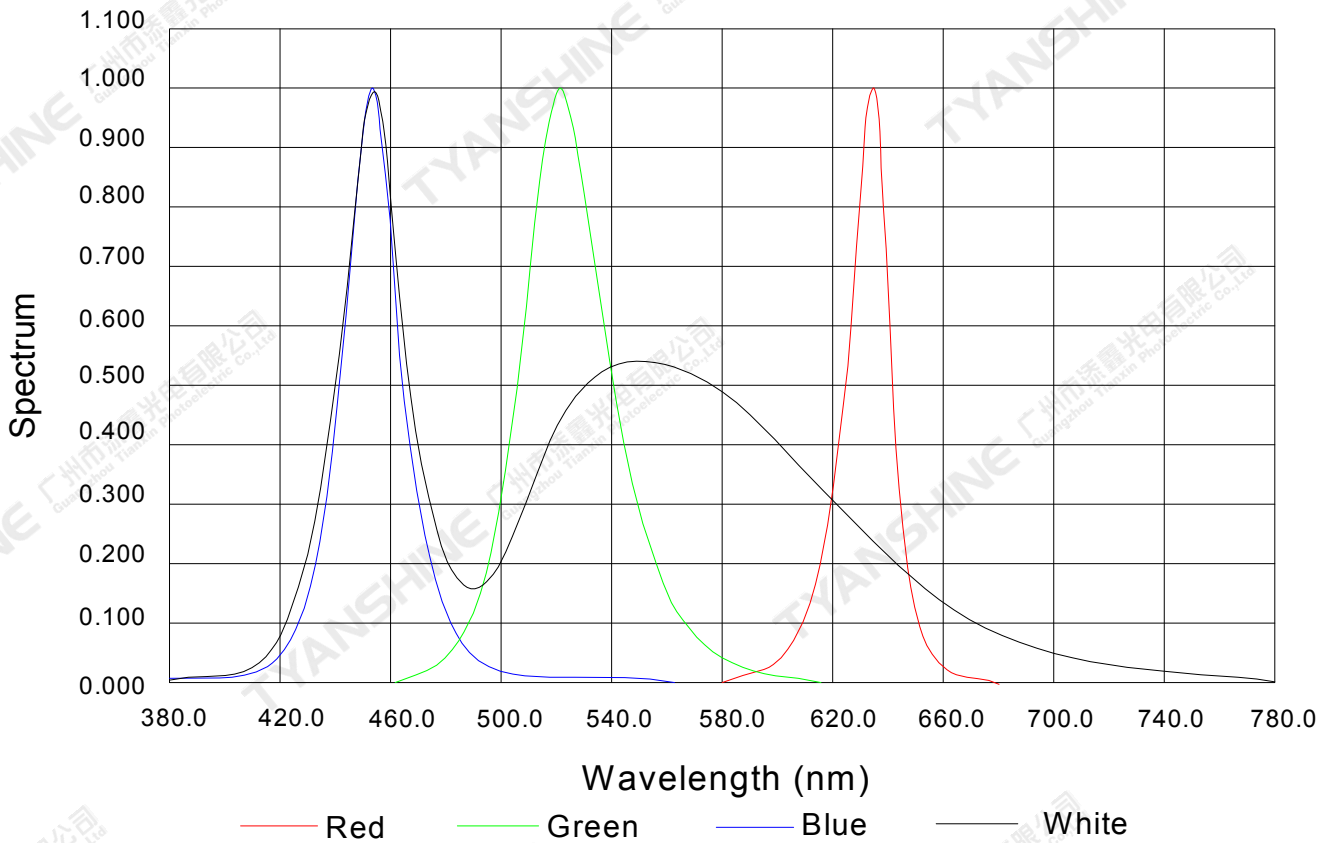
Temperature VS. Forward Voltage (IF=1.4A)



Temperature VS. Relative Luminous Flux (IF=1.4A)



**Relative Spectral Distribution**

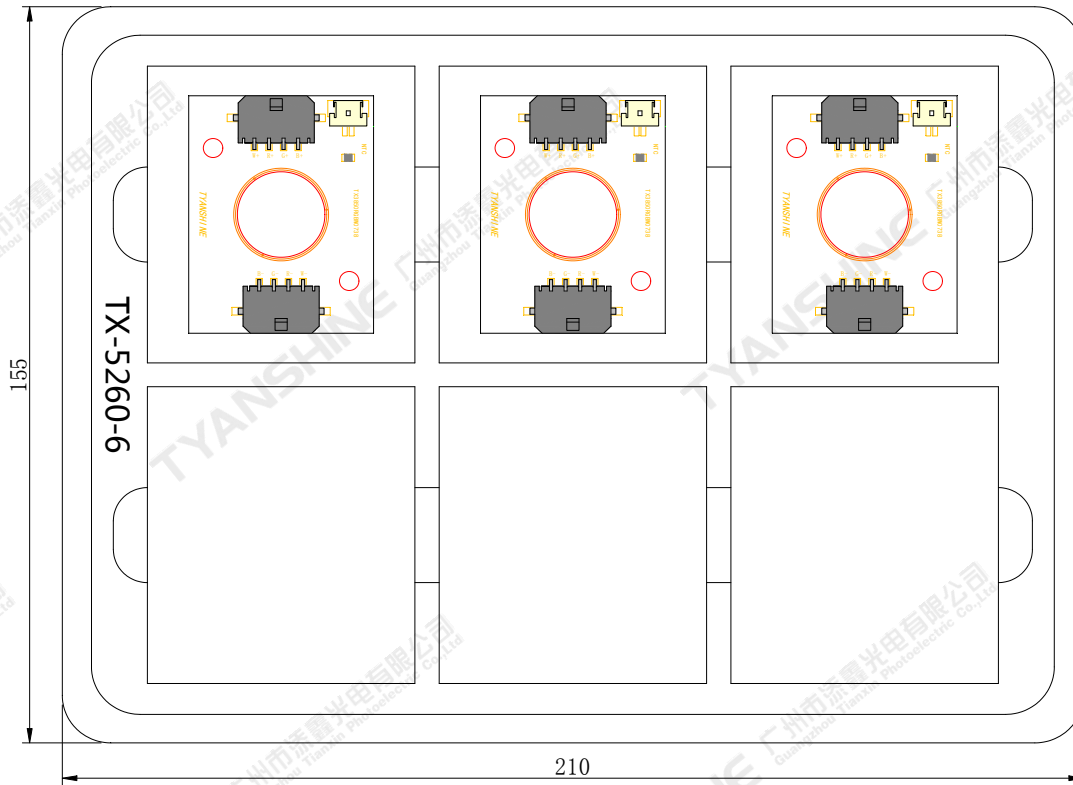


**Notes:**

1.  $2\theta_{1/2}$  is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is  $\pm 5^\circ$ .

**Dimensions For Cannulation And Packaging**

**Quantity: 6PCS**



**Notes:**

1. All dimensions are in millimeters.
2. Tolerances are  $\pm 2.0$  mm unless otherwise noted.
3. The products are packaged together with silica gel, Transport, not to the weight of welding LED light-emitting area, As a result of the weight of LED light-emitting zone in the quality of, Irresponsible of the Company.

|          |                        |          |            |      |        |
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