

# EdiLine III Series

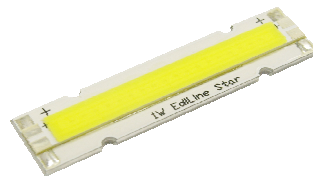
The linear structure of EdiLine III Series results in an easier heat dissipation requirement, making versatile fixtures design possible as well as an overall cost saving benefit. The special twin connectors design allows EdiLine to be assembled easily with screws in either serial order as a linear light source or parallel order as a planar light source.

## Features

- Linear Packaging Design
- High Efficiency
- Low Power Consumption
- Long Operating Lifespan
- Easy Installation with Screws

## Typical Applications

- General lighting
- Contour lights
- Ceiling lights
- Decoration lights
- Architectural lighting



---

## Table Of Contents

|  |    |
|--|----|
| EdiLine III Nomenclature.....  | 2  |
| Product dimensions .....   | 3  |
| Absolute Maximum Ratings .....   | 4  |
| Luminous Flux Characteristics ( $T_J=25^{\circ}\text{C}$ ).....                            | 4  |
| Forward Voltage Characteristics ( $T_J=25^{\circ}\text{C}$ ).....                          | 5  |
| Dominant Wavelength or Color Temperature Characteristics ( $T_J=25^{\circ}\text{C}$ )..... | 6  |
| Emission Angle Characteristics ( $T_J=25^{\circ}\text{C}$ ) .....                          | 7  |
| Typical Radiation Pattern .....  | 8  |
| Operating life, mechanical, and environmental tests performed on EdiLine III package ..... | 9  |
| Substrate Temperature Measurement Point.....   | 9  |
| Optical Curves-Spectrum .....  | 10 |
| Package Specifications.....  | 11 |

## EdiLine III Nomenclature

EdiLine III Series



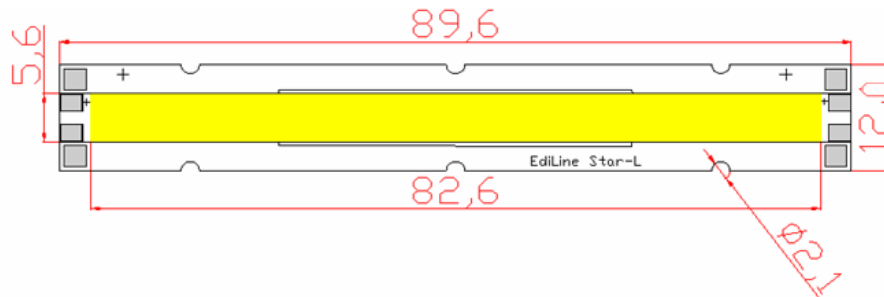
E L B W - 1 S A 0 - B 00

X1 X2 X3 X4 X5 X6 X7 X8 X9

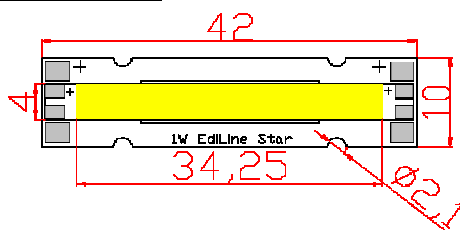
| X1<br>LED Item |             | X2<br>Module |            | X3<br>Emitting Color |               | X4<br>Power |      | X5<br>Serial No. |      | X6<br>Circuit Type |                           | X7-X9<br>Serial No. |      |
|----------------|-------------|--------------|------------|----------------------|---------------|-------------|------|------------------|------|--------------------|---------------------------|---------------------|------|
| Code           | Type        | Code         | Type       | Code                 | Type          | Code        | Type | Code             | Type | Code               | Type                      | Code                | Type |
| EL             | EdiLine III | B            | Type III-1 | W                    | Cool White    | 1           | 1W   |                  |      | B                  | 18 Parallel with 3 Serial |                     |      |
|                |             | C            | Type III-2 | H                    | Neutral White | 3           | 3.5W |                  |      | C                  | 18 Parallel with 1 Serial |                     |      |
|                |             |              |            | X                    | Warm White    |             |      |                  |      |                    |                           |                     |      |

## Product dimensions

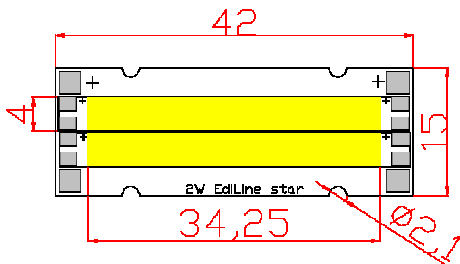
### ELCx-3SB0



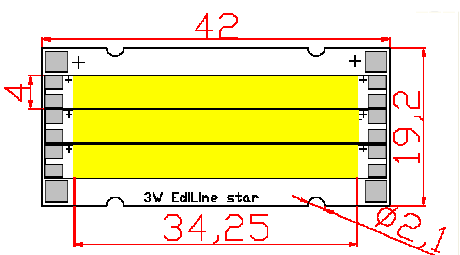
### ELBx-1SC0



### ELBx-2SC0



### ELBx-3SC0



#### Notes:

1. All dimensions are in mm.
2. Al Substrate thickness is 1 mm
3. Drawings are not to scale.
4. **It is strongly recommended that the temperature of Ts be not higher than 55°C.**  
(Ts: Substrate Temperature, refer to [Substrate Temperature Measurement Point at page 8](#))
5. 1SA0 and 1SC0 represent different type of emitters in use.
6. General tolerance is 0.2mm.

## Absolute Maximum Ratings

| Parameter                |           | Symbol    | Rating     | Units  |
|--------------------------|-----------|-----------|------------|--------|
| Transient Surge Voltage  | ELCx-3SB0 | $V_{TS}$  | 12         | V      |
|                          | ELBx-1SC0 |           | 5          |        |
| DC Forward Current       |           | $I_F$     | 350        | mA     |
| LED Junction Temperature |           | $T_J$     | 80         | °C     |
| Operating Temperature    |           | $T_{opr}$ | -40 ~ +50  | °C     |
| Storage Temperature      |           | $T_{stg}$ | -40 ~ +120 | °C     |
| Allowable Reflow Cycles  |           | n/a       | 3          | cycles |

## Luminous Flux Characteristics ( $T_J=25^{\circ}\text{C}$ )

| Part Name | Color         | Test Current | Flux Typ. | Units |
|-----------|---------------|--------------|-----------|-------|
| ELCW-3SB0 | Cool White    | 350mA        | 330       | lm    |
| ELCH-3SB0 | Neutral White | 350mA        | 260       | lm    |
| ELCX-3SB0 | Warm White    | 350mA        | 230       | lm    |
| ELBW-1SC0 | Cool White    | 350mA        | 100       | lm    |
| ELBH-1SC0 | Neutral White | 350mA        | 80        | lm    |
| ELBX-1SC0 | Warm White    | 350mA        | 70        | lm    |
| ELBW-2SC0 | Cool White    | 700mA        | 200       | lm    |
| ELBH-2SC0 | Neutral White | 700mA        | 160       | lm    |
| ELBX-2SC0 | Warm White    | 700mA        | 140       | lm    |
| ELBW-3SC0 | Cool White    | 1050mA       | 300       | lm    |
| ELBH-3SC0 | Neutral White | 1050mA       | 240       | lm    |
| ELBX-3SC0 | Warm White    | 1050mA       | 210       | lm    |

### Forward Voltage Characteristics ( $T_J=25^{\circ}\text{C}$ )

| Part Name        | Color         | Test Current | $V_F$<br>Typ. | Units |
|------------------|---------------|--------------|---------------|-------|
| <b>ELCW-3SB0</b> | Cool White    | 350mA        | <b>10.2</b>   | V     |
| <b>ELCH-3SB0</b> | Neutral White | 350mA        | <b>10.2</b>   | V     |
| <b>ELCX-3SB0</b> | Warm White    | 350mA        | <b>10.2</b>   | V     |
| <b>ELBW-1SC0</b> | Cool White    | 350mA        | <b>3.4</b>    | V     |
| <b>ELBH-1SC0</b> | Neutral White | 350mA        | <b>3.4</b>    | V     |
| <b>ELBX-1SC0</b> | Warm White    | 350mA        | <b>3.4</b>    | V     |
| <b>ELBW-2SC0</b> | Cool White    | 700mA        | <b>3.4</b>    | V     |
| <b>ELBH-2SC0</b> | Neutral White | 700mA        | <b>3.4</b>    | V     |
| <b>ELBX-2SC0</b> | Warm White    | 700mA        | <b>3.4</b>    | V     |
| <b>ELBW-3SC0</b> | Cool White    | 1050mA       | <b>3.4</b>    | V     |
| <b>ELBH-3SC0</b> | Neutral White | 1050mA       | <b>3.4</b>    | V     |
| <b>ELBX-3SC0</b> | Warm White    | 1050mA       | <b>3.4</b>    | V     |

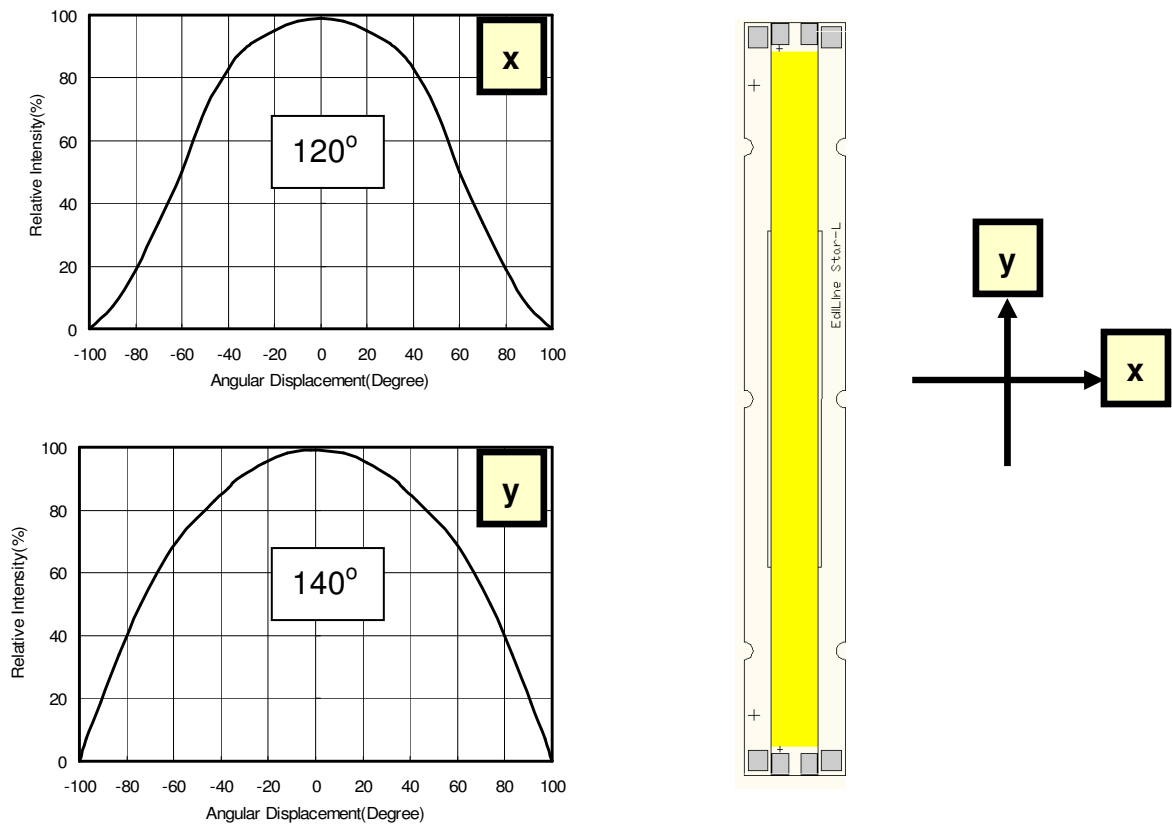
### Dominant Wavelength or Color Temperature Characteristics (T<sub>J</sub>=25°C)

| Part Name        | Color         | Test Current | λ <sub>d</sub> /CCT |               | Units |
|------------------|---------------|--------------|---------------------|---------------|-------|
|                  |               |              | Min.                | Max.          |       |
| <b>ELCW-3SB0</b> | Cool White    | 350mA        | <b>5,000</b>        | <b>10,000</b> | K     |
| <b>ELCH-3SB0</b> | Neutral White | 350mA        | <b>3,800</b>        | <b>5,000</b>  | K     |
| <b>ELCX-3SB0</b> | Warm White    | 350mA        | <b>2,670</b>        | <b>3,800</b>  | K     |
| <b>ELBW-1SC0</b> | Cool White    | 350mA        | <b>5,000</b>        | <b>10,000</b> | K     |
| <b>ELBH-1SC0</b> | Neutral White | 350mA        | <b>3,800</b>        | <b>5,000</b>  | K     |
| <b>ELBX-1SC0</b> | Warm White    | 350mA        | <b>2,670</b>        | <b>3,800</b>  | K     |
| <b>ELBW-2SC0</b> | Cool White    | 700mA        | <b>5,000</b>        | <b>10,000</b> | K     |
| <b>ELBH-2SC0</b> | Neutral White | 700mA        | <b>3,800</b>        | <b>5,000</b>  | K     |
| <b>ELBX-2SC0</b> | Warm White    | 700mA        | <b>2,670</b>        | <b>3,800</b>  | K     |
| <b>ELBW-3SC0</b> | Cool White    | 1050mA       | <b>5,000</b>        | <b>10,000</b> | K     |
| <b>ELBH-3SC0</b> | Neutral White | 1050mA       | <b>3,800</b>        | <b>5,000</b>  | K     |
| <b>ELBX-3SC0</b> | Warm White    | 1050mA       | <b>2,670</b>        | <b>3,800</b>  | K     |

## Emission Angle Characteristics ( $T_J=25^{\circ}\text{C}$ )

| Part Name        | Color         | Test Current | $2\Theta^{1/2}$ (Typ.)<br>X direction | $2\Theta^{1/2}$ (Typ.)<br>Y direction | Units   |
|------------------|---------------|--------------|---------------------------------------|---------------------------------------|---------|
| <b>ELCW-3SB0</b> | Cool White    | 350mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELCH-3SB0</b> | Neutral White | 350mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELCX-3SB0</b> | Warm White    | 350mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBW-1SC0</b> | Cool White    | 350mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBH-1SC0</b> | Neutral White | 350mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBX-1SC0</b> | Warm White    | 350mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBW-2SC0</b> | Cool White    | 700mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBH-2SC0</b> | Neutral White | 700mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBX-2SC0</b> | Warm White    | 700mA        | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBW-3SC0</b> | Cool White    | 1050mA       | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBH-3SC0</b> | Neutral White | 1050mA       | <b>120</b>                            | <b>140</b>                            | Degrees |
| <b>ELBX-3SC0</b> | Warm White    | 1050mA       | <b>120</b>                            | <b>140</b>                            | Degrees |

## Typical Radiation Pattern



### Notes

1. Flux is measured with an accuracy of  $\pm 10\%$ .
2. CCT selection acc. to CCT groups and an accuracy of  $\pm 300K$
3. Forward Voltage is measured with an accuracy of  $\pm 0.2V$
4. Wavelength is measured with an accuracy of  $\pm 1nm$
5. Cool White 、 Neutral White 、 Warm White emitters are built with InGaN

## Operating life, mechanical, and environmental tests performed on EdiLine III package

| Stress Test                     | Stress Conditions                           | Stress Duration | Failure Criteria |
|---------------------------------|---|-----------------|------------------|
| Room Temperature Operating Life | 25°C, I <sub>F</sub> = max DC (Note 1)      | 1,000 hours     | Note 2           |
| High Temperature High Humidity  | 85°C / 85%RH                                | 1,000 hours     | Note 2           |
| Thermal Shock                   | -40 / 120°C, 20 min dwell < 10 sec transfer | 600 cycles      | No catastrophic  |
| Low Temperature Storage Life    | -40°C                                       | 1,000 hours     | Note 2           |

### Notes:

#### Failure Criteria:

##### Electrical failures

VF shift  $\geq$  10%

##### Light Output Degradation

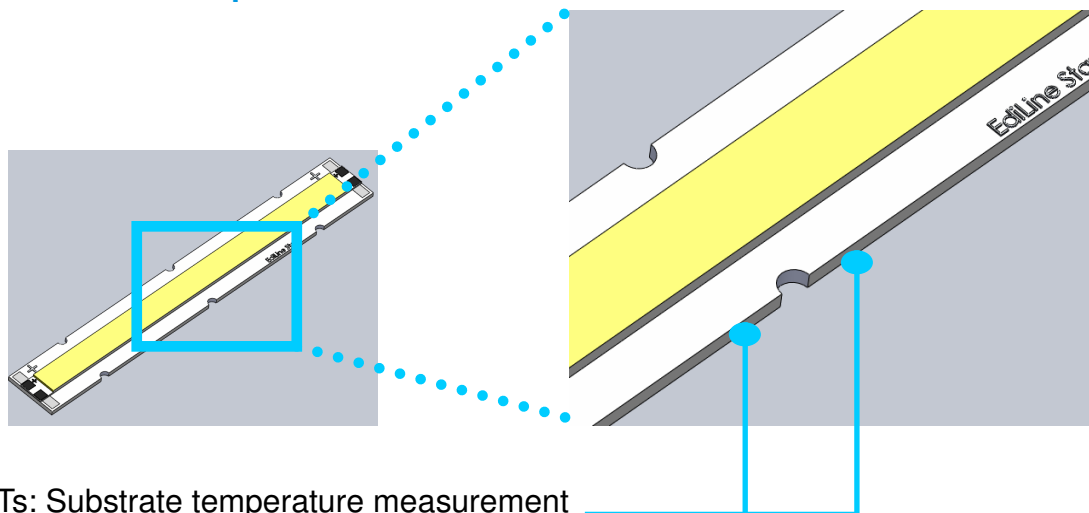
% Iv shift  $\geq$  30% @1,000hrs

##### Visual failures

Broken or damaged package

Dimension out of tolerance

## Substrate Temperature Measurement Point



Ts: Substrate temperature measurement

### Note:

1. It strongly recommend to check the temperature of Ts be below 55°C while thermal design.
2. For thermal design advice, please refer to [EdiLine III series Lighting Application Guide](#).

## Optical Curves-Spectrum

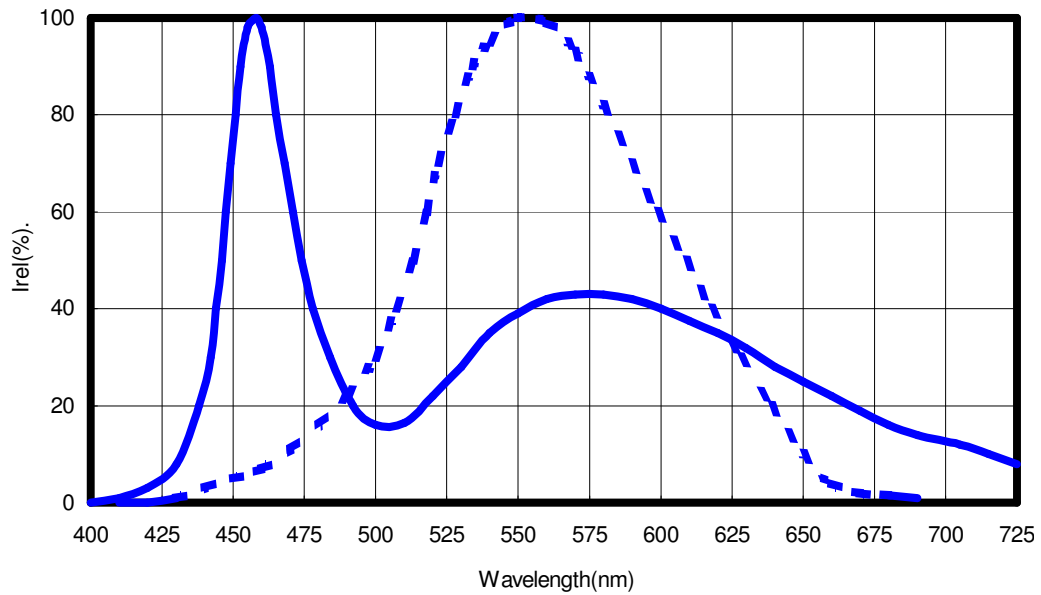


Figure 1. White color spectrum of typical CCT 、 standard eyes response to dotted curve line and CRI ≒ 70 at  $T_J=25^{\circ}\text{C}$  .

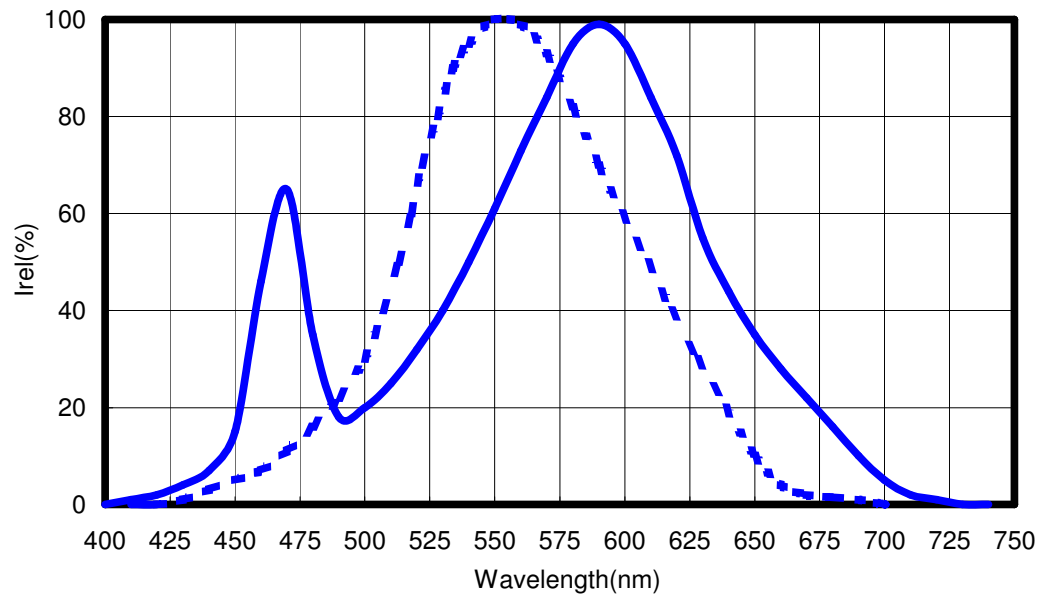
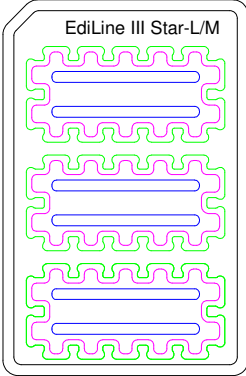
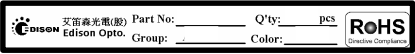
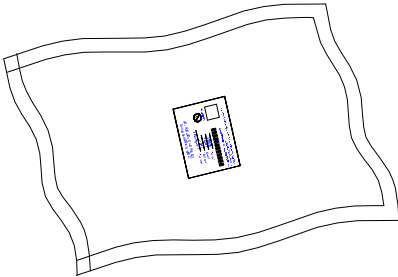

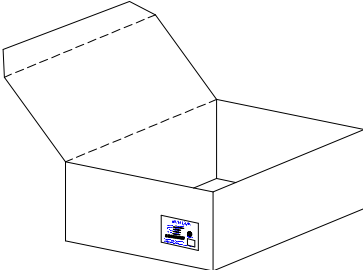

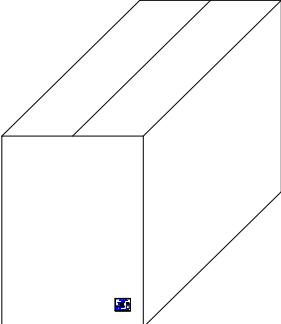

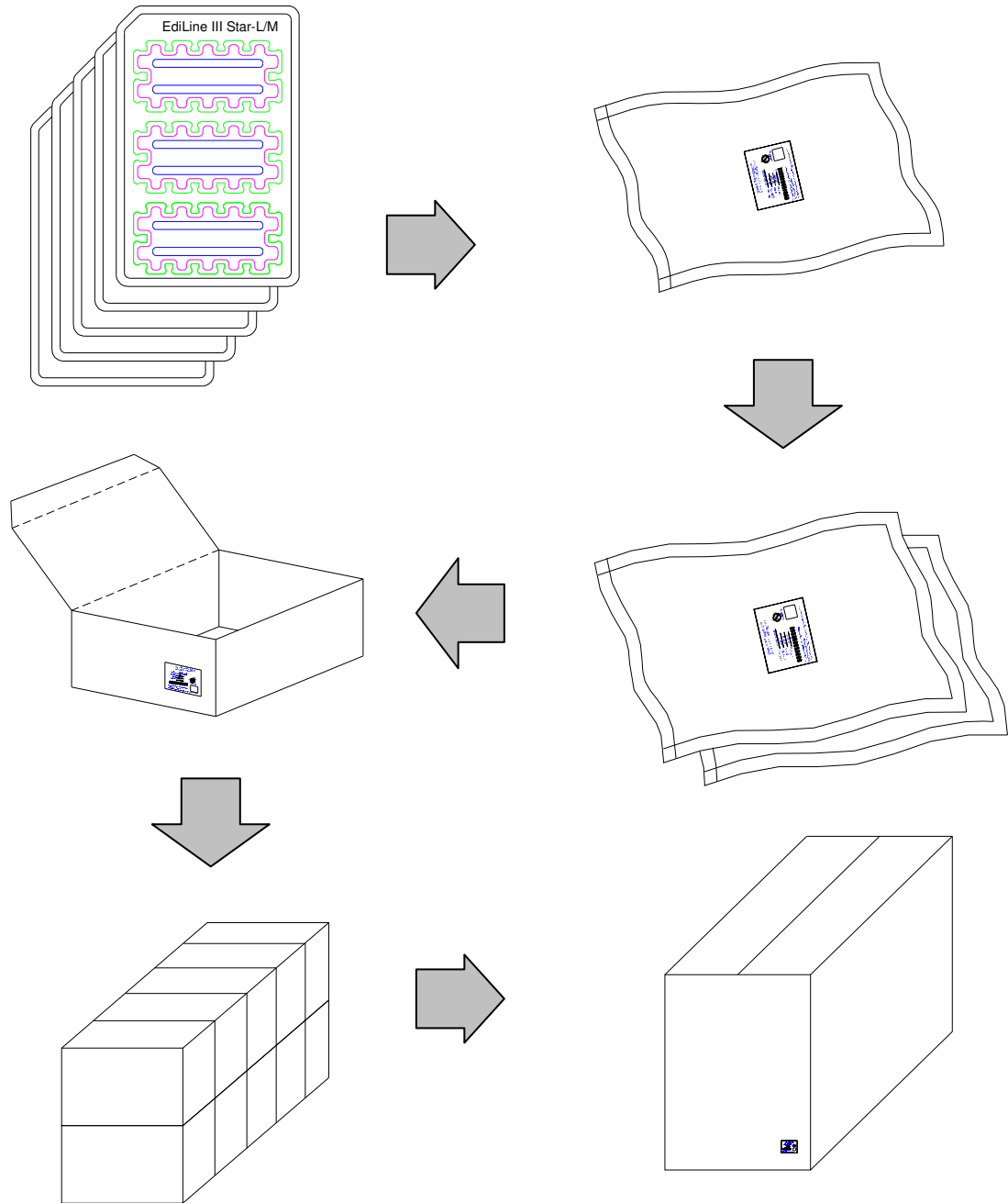


Figure 2. Warm white color spectrum of typical CCT 、 standard eyes response to dotted curve line and CRI ≒ 80 at  $T_J=25^{\circ}\text{C}$  .

## Label explanation

| Level                                      | Sign  | Label  |
|--|---|--|
| <p>Tray<br/>Label</p>                      |    |    |
| <p>ESD<br/>Shielding<br/>Bag<br/>Label</p> |   |   |
| <p>Inner<br/>Box<br/>Label</p>             |  |  |
| <p>Outer<br/>Box<br/>Label</p>             |  |  |

## Package Step



## Packaging Information

| Item              | Emitter | Quantity                 | Total   | Dimensions( L * W * H ) |
|-------------------|---------|--------------------------|---------|-------------------------|
| Tray              | 1W      | 15 pcs/tray              | 15 pcs  | 174*114*12.8 mm         |
|                   | 3.5W    | 6 pcs/tray               | 6 pcs   |                         |
| ESD Shielding Bag | 1W      | 5 trays/bag              | 45 pcs  | 200*330*0.1 mm          |
|                   | 3.5W    |                          | 30 pcs  |                         |
| Inner Box         | 1W      | 2 bags/box               | 90 pcs  | 240*170*95 mm           |
|                   | 3.5W    |                          | 60 pcs  |                         |
| Outer Box         | 1W      | 10 inner boxes/outer box | 900 pcs | 488*260*36.4 mm         |
|                   | 3.5W    |                          | 600 pcs |                         |