

High Power Solid-State LED Light Source

LUSTRON RV3

LUSTRON RV3 Part Number Matrix

Table.1

| Color | P/N |
|--------------------|------------|
| Warm White (3000K) | R306CLFGBA |
| Cold White (5000K) | R306NWFGBA |

LUSTRON RV3 Material

| | |
|---------------|----------|
| Chip Material | GaN Base |
|---------------|----------|

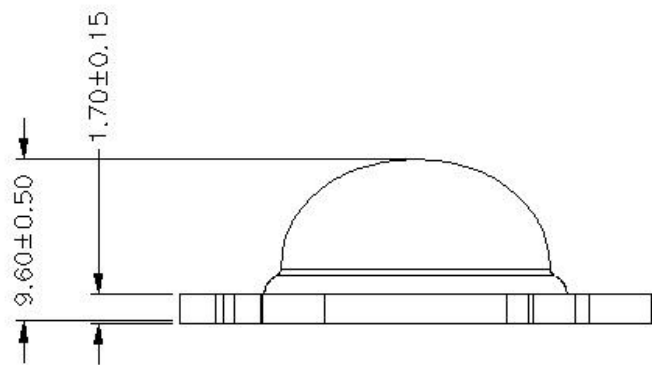
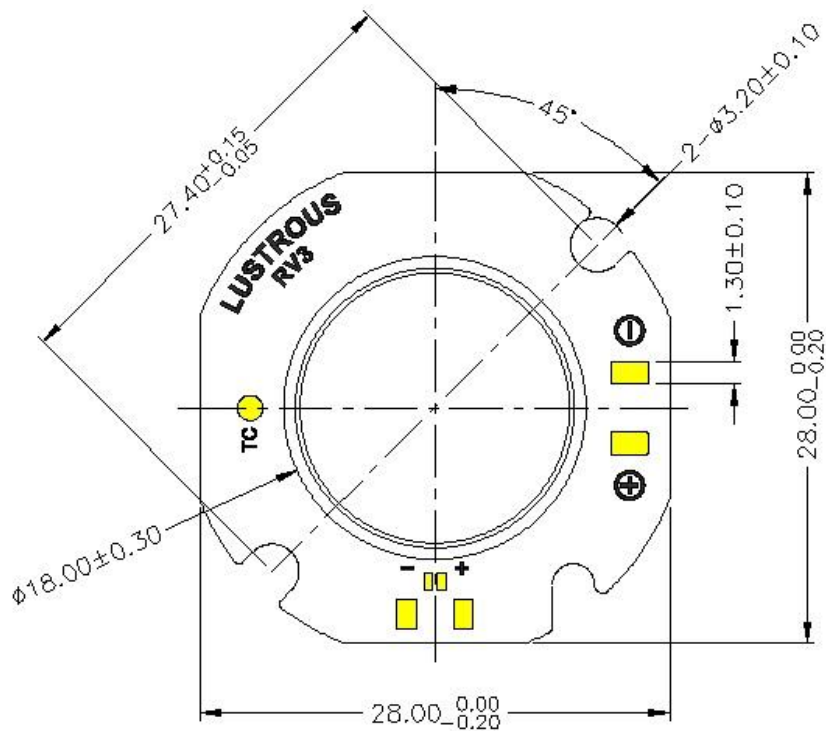
LUSTRON RV3 Chips Array

| |
|---------------|
| 7 Chips Array |
|---------------|

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Mechanical Dimensions

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Note: These drawings are not for scale. All dimensions are in millimeters.

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Flux Characteristics at 350mA , Junction Temperature Tj = 25^oC

Table.2

| Color | Luminous flux (lm) | | |
|----------------------|--------------------|---------|---------|
| | Minimum | Typical | Maximum |
| Warm White (3000K) | 480 lm | 530 lm | 580 lm |
| Cold White (5000K) | 550 lm | 610 lm | 660 lm |

Note1: Luminous flux is measured in total power with a tolerance rate of +/- 10%. Minimum luminous flux performance is guaranteed from the above data.

Note2: Higher luminous flux will be available in the future.

Optical Characteristics

Table.3

| Color | λ_d (nm) or CCT (K) | | | Viewing Angle (degrees) | CRI |
|------------|---------------------------------|-------|--------|------------------------------|-----|
| | Min | Typ | Max | | |
| Warm White | 2600K | 3000K | 3250K | 130 | 85 |
| Cold White | 4750K | 5000K | 10000K | | 80 |

Note: CRI value is measure with a tolerance rate of +/- 10%.

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Electrical Characteristics

Table.4

| Color | Forward Voltage (V) for 350 mA forward current | | |
|------------|--|------|------|
| | Min | Typ | Max |
| Warm White | 18.3 | 20.6 | 22.6 |
| Cold White | 20.8 | 23.2 | 25.2 |

Note1: Lustrous Technology allows a tolerance rate of +/- 10% for Lustrous products voltage measurement.

Note2: All figures are measured from the above forward current at 350mA.

Absolute Maximum Ratings

Table.5

| Parameters | For 350mA forward current | |
|---------------------------------|---------------------------|--|
| | Warm White/Cool White | |
| Advised DC Forward Current (mA) | 350 | |
| Max. DC Forward Current (mA) | 400 | |
| LED Junction Temperature (°C) | < 115 | |
| ESD Sensitivity | +/- 4kV (HBM) | |
| Thermal Resistance (°C/W) | ~2 | |
| Operating Temperature (°C) | -20 ~ +80 | |
| Storage Temperature (°C) | -20 ~ +80 | |

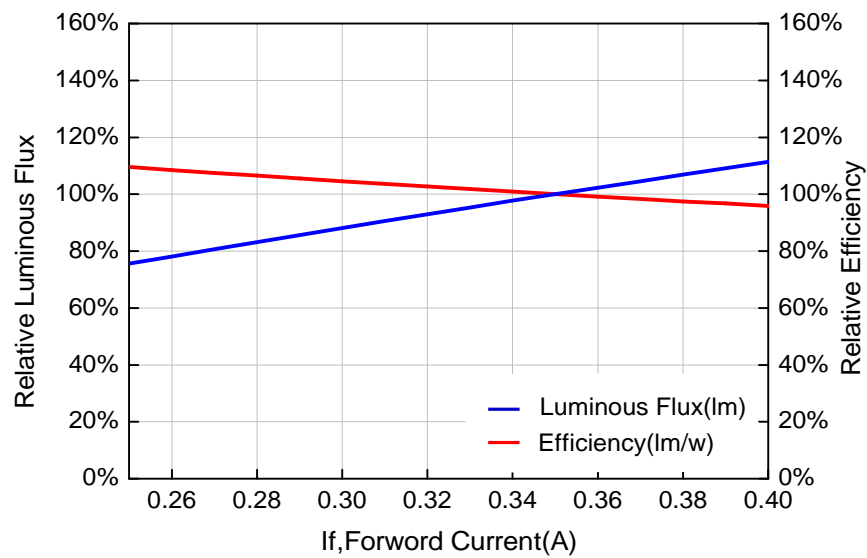
Note1: To avoid exceeding the maximum junction temperature, please set the forward current with caution.

Note2: If you decide to set the maximum DC current for Lustrous products, please pay attention on the thermal design of your luminaries.

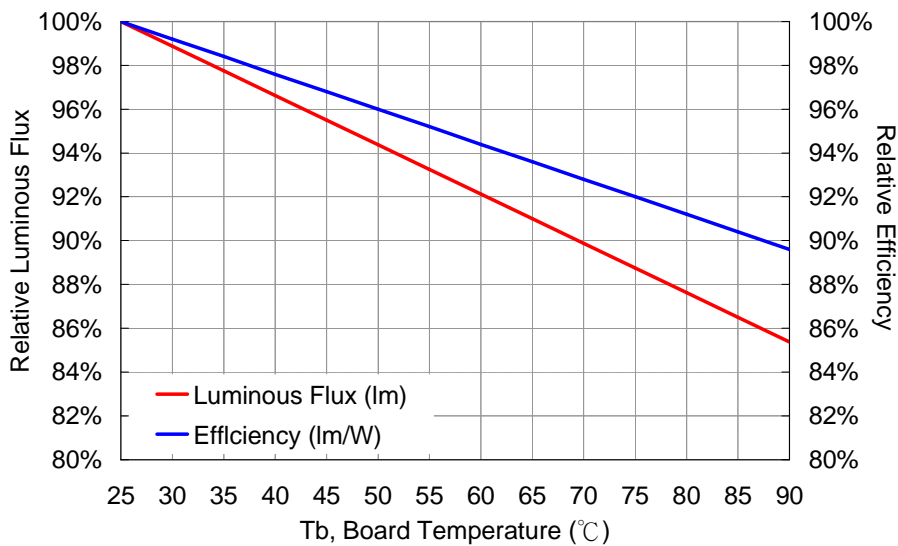
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Relative Intensity vs. Current (T_j = 25°C)



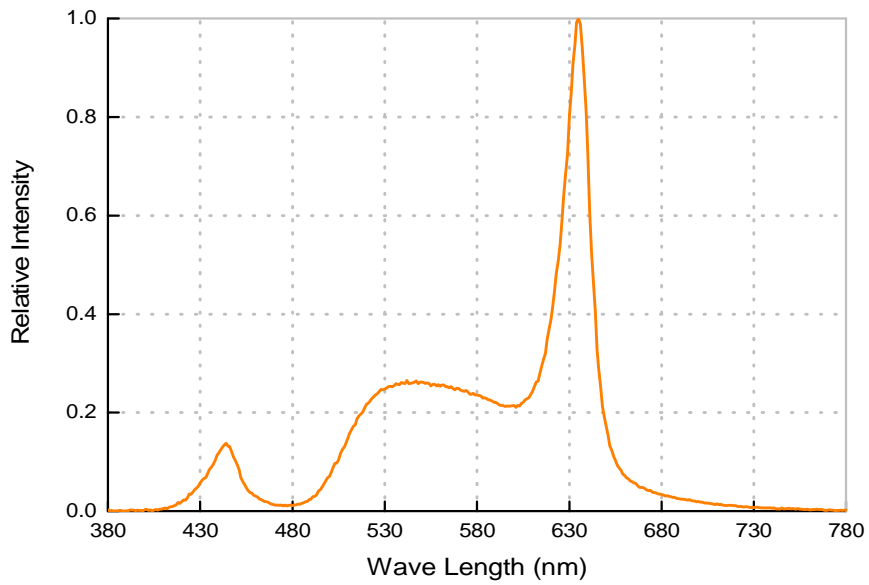
Photometric Output vs. Junction Temperature



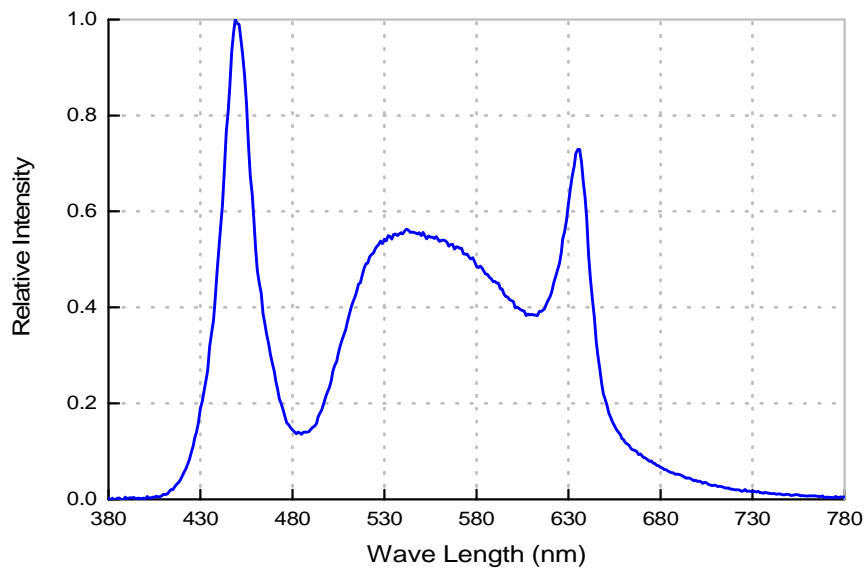
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Relative Spectral Power

Warm White (3000K)



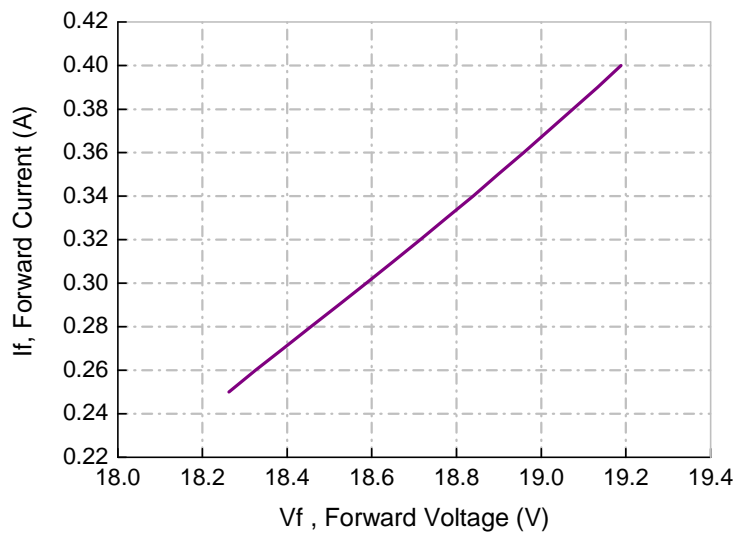
Cool White (5000K)



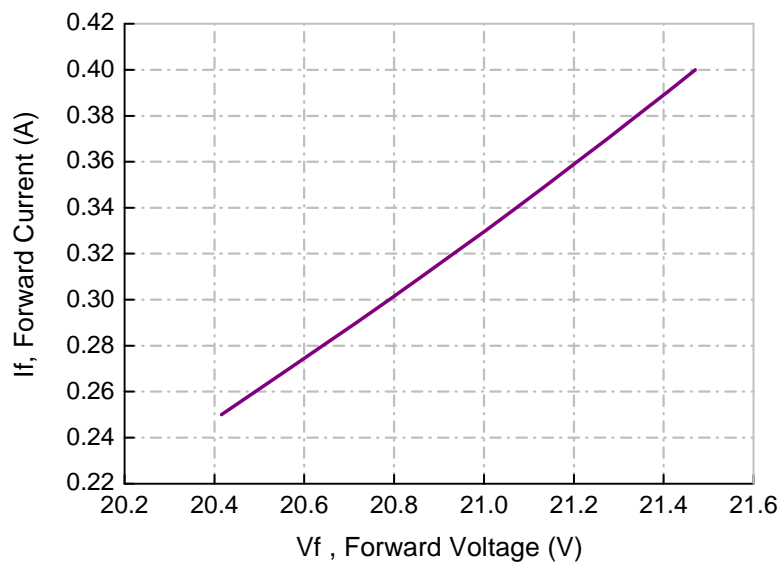
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Forward Voltage vs. Current (T_j = 25°C)

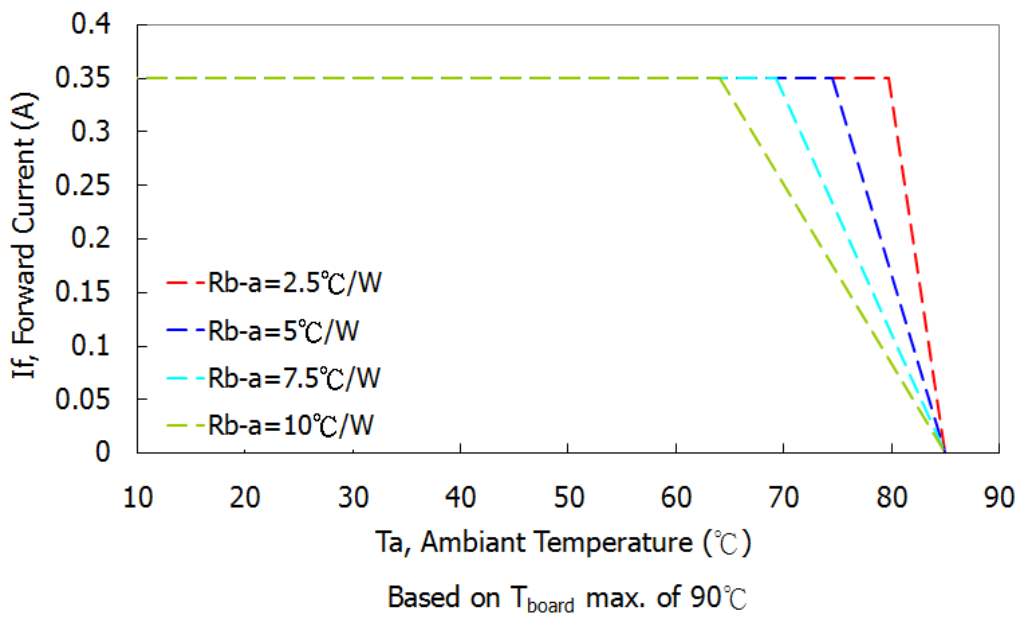
Warm White (3000K)



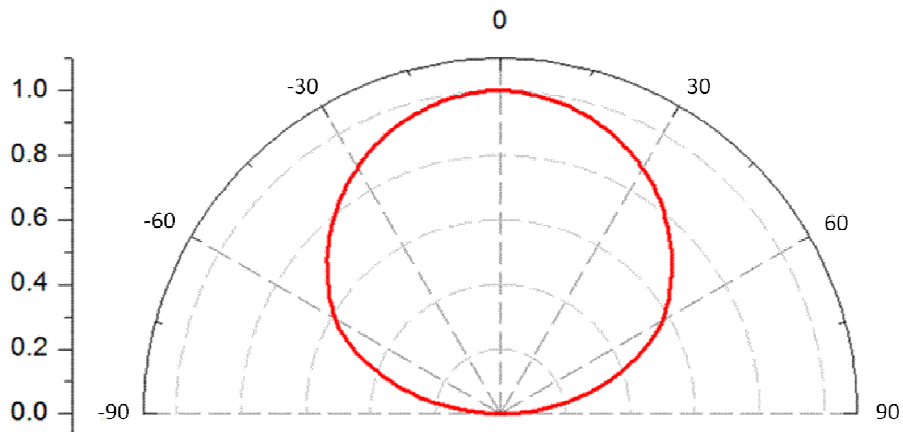
Cool White (5000K)



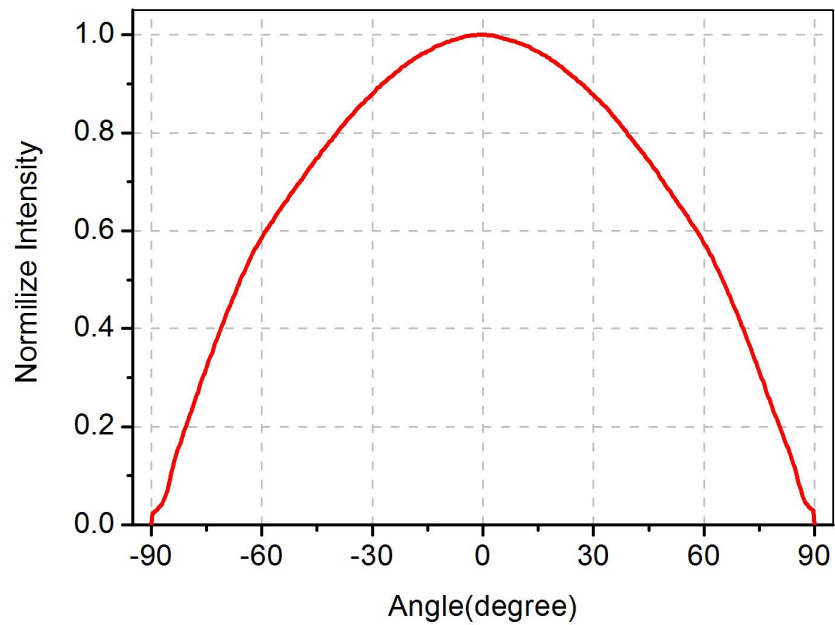
Operating Curve (Max. permissible forward current)



Typical Angular Beam Profile, T_j=25°C *



View Angle: 130 degree



* Note1 : Detail beam profile data can be provided to certain qualified customers

Product Binning

In the manufacturing process, there is a natural variation of specifications between LEDs. In order to minimize variation in the end product of application, Lustrous Technology uses the current ANSI code binning procedures to measure its products for performance in luminous flux and chromaticity.

The tables below list the standard photometric bins for Lustrous LED products (tested and binned at the indicated test current). **Product availability in a particular bin varies by product and production run. Please contact your Lustrous sales representative for further information regarding product availability.**

Binning Condition

Table.6

| Color | Forward Current (mA) |
|------------|----------------------|
| Warm White | 350 |
| Cold White | |

Luminous Flux Binning Information *

Table.7

| BIN Code | Lv (lm) | |
|----------|---------|------|
| | min. | max. |
| A | 5 | 20 |
| B | 20 | 40 |
| C | 40 | 60 |
| D | 60 | 80 |
| E | 80 | 110 |
| F | 110 | 140 |
| G | 140 | 170 |
| H | 170 | 200 |
| I | 200 | 240 |
| J | 240 | 280 |
| K | 280 | 320 |

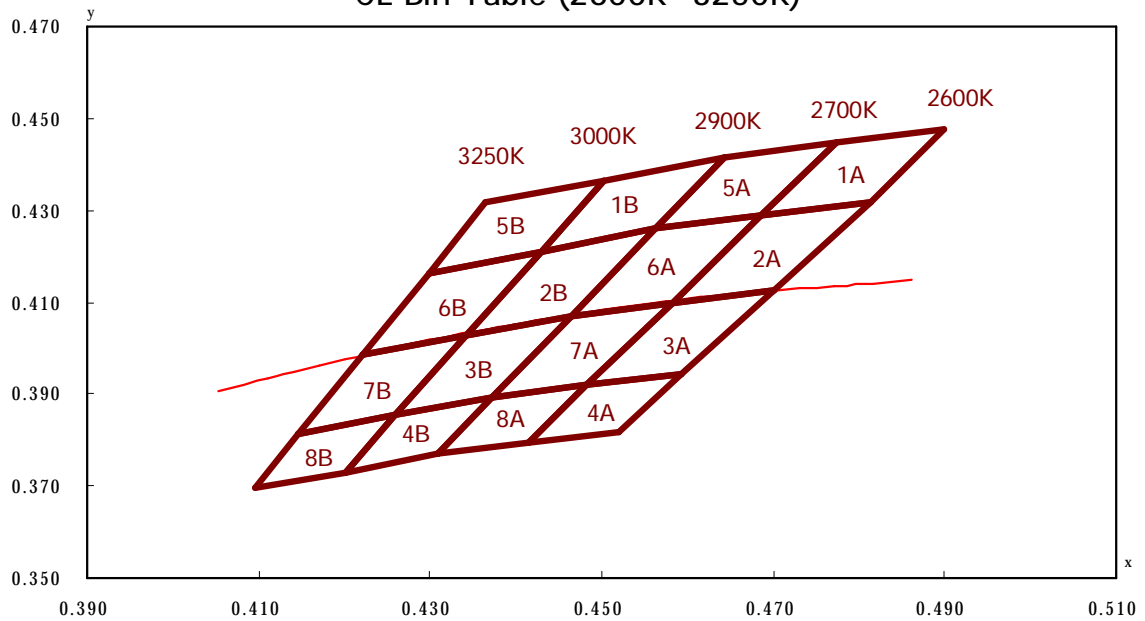
| BIN Code | Lv (lm) | |
|----------|---------|------|
| | min. | max. |
| L | 320 | 360 |
| M | 360 | 400 |
| N | 400 | 450 |
| O | 450 | 500 |
| P | 500 | 580 |
| Q | 580 | 660 |
| R | 660 | 740 |
| S | 740 | 860 |
| T | 860 | 980 |
| U | 980 | 1100 |
| V | 1100 | 1300 |

Note: Luminous flux is measured in total power with a tolerance rate of +/- 10%.

Chromaticity Binning Information **

Warm White

CL Bin Table (2600K~3250K)



Note: Chromaticity is measured in Chromaticity Coordinate (CIE 1931-xy) with a tolerance rate of +/- 10%.

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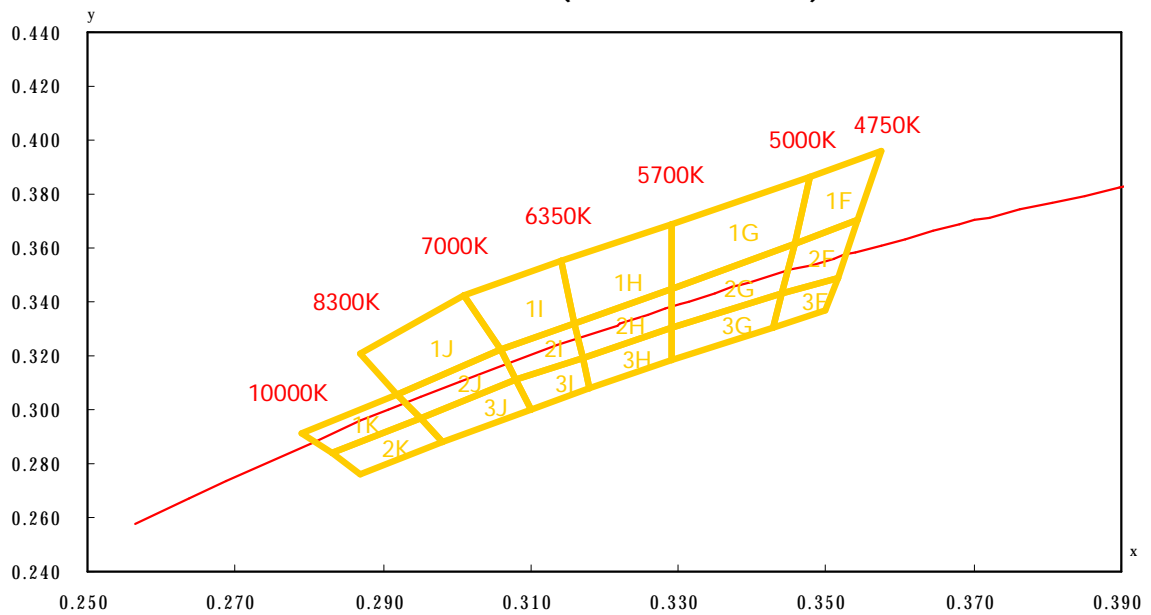
Table.8

| Warm-White Bin Coordinates | | | | | | | | | | | | |
|----------------------------|------|------|-------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| CCT (K) | | | BIN CODE | Chromaticity Coordinate (CIE 1931-xy) | | | | | | | | |
| Min | Typ. | Max | | x1 | y1 | x2 | y2 | x3 | y3 | x4 | y4 | |
| 2600 | 2700 | 2900 | A | 1A | 0.4687 | 0.4289 | 0.4774 | 0.4447 | 0.4900 | 0.4477 | 0.4813 | 0.4319 |
| | | | | 2A | 0.4582 | 0.4099 | 0.4687 | 0.4289 | 0.4813 | 0.4319 | 0.4700 | 0.4126 |
| | | | | 3A | 0.4483 | 0.3919 | 0.4582 | 0.4099 | 0.4700 | 0.4126 | 0.4593 | 0.3944 |
| | | | | 4A | 0.4414 | 0.3794 | 0.4483 | 0.3919 | 0.4593 | 0.3944 | 0.4519 | 0.3818 |
| | | | | 5A | 0.4562 | 0.4260 | 0.4642 | 0.4416 | 0.4774 | 0.4447 | 0.4687 | 0.4289 |
| | | | | 6A | 0.4465 | 0.4071 | 0.4562 | 0.4260 | 0.4687 | 0.4289 | 0.4582 | 0.4099 |
| | | | | 7A | 0.4373 | 0.3893 | 0.4465 | 0.4071 | 0.4582 | 0.4099 | 0.4483 | 0.3919 |
| | | | | 8A | 0.4309 | 0.3769 | 0.4373 | 0.3893 | 0.4483 | 0.3919 | 0.4414 | 0.3794 |
| 2900 | 3000 | 3250 | B | 1B | 0.4430 | 0.4212 | 0.4503 | 0.4366 | 0.4642 | 0.4416 | 0.4562 | 0.4260 |
| | | | | 2B | 0.4342 | 0.4028 | 0.4430 | 0.4212 | 0.4562 | 0.4260 | 0.4465 | 0.4071 |
| | | | | 3B | 0.4259 | 0.3853 | 0.4342 | 0.4028 | 0.4465 | 0.4071 | 0.4373 | 0.3893 |
| | | | | 4B | 0.4201 | 0.3731 | 0.4259 | 0.3853 | 0.4373 | 0.3893 | 0.4309 | 0.3769 |
| | | | | 5B | 0.4299 | 0.4165 | 0.4364 | 0.4316 | 0.4503 | 0.4366 | 0.4430 | 0.4212 |
| | | | | 6B | 0.4221 | 0.3984 | 0.4299 | 0.4165 | 0.4430 | 0.4212 | 0.4342 | 0.4028 |
| | | | | 7B | 0.4147 | 0.3814 | 0.4221 | 0.3984 | 0.4342 | 0.4028 | 0.4259 | 0.3853 |
| | | | | 8B | 0.4095 | 0.3694 | 0.4147 | 0.3814 | 0.4259 | 0.3853 | 0.4201 | 0.3731 |

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Cool White

NW Bin Table (4750K~10000K)



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Table.10

| Cool White Bin Table | | | | | | | | | | | | |
|----------------------|------|-------|-------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| CCT (K) | | | BIN CODE | Chromaticity Coordinate (CIE 1931-xy) | | | | | | | | |
| Min | Typ. | Max | | x1 | y1 | x2 | y2 | x3 | y3 | x4 | y4 | |
| 4750 | 4850 | 5000 | F | 1F | 0.3479 | 0.3867 | 0.3457 | 0.3617 | 0.3544 | 0.3704 | 0.3576 | 0.3957 |
| | | | | 2F | 0.3457 | 0.3617 | 0.3440 | 0.3429 | 0.3515 | 0.3487 | 0.3544 | 0.3704 |
| | | | | 3F | 0.3440 | 0.3429 | 0.3429 | 0.3307 | 0.3500 | 0.3371 | 0.3515 | 0.3487 |
| 5000 | 5300 | 5700 | G | 1G | 0.3290 | 0.3690 | 0.3290 | 0.3450 | 0.3457 | 0.3617 | 0.3479 | 0.3867 |
| | | | | 2G | 0.3457 | 0.3617 | 0.3440 | 0.3429 | 0.3290 | 0.3300 | 0.3290 | 0.3450 |
| | | | | 3G | 0.3290 | 0.3300 | 0.3290 | 0.3180 | 0.3429 | 0.3307 | 0.3440 | 0.3429 |
| 5700 | 6000 | 6350 | H | 1H | 0.3290 | 0.3690 | 0.3290 | 0.3450 | 0.3160 | 0.3320 | 0.3140 | 0.3550 |
| | | | | 2H | 0.3290 | 0.3450 | 0.3290 | 0.3300 | 0.3170 | 0.3190 | 0.3160 | 0.3320 |
| | | | | 3H | 0.3170 | 0.3190 | 0.3290 | 0.3300 | 0.3290 | 0.3180 | 0.3180 | 0.3080 |
| 6350 | 6500 | 7000 | I | 1I | 0.3140 | 0.3550 | 0.3160 | 0.3320 | 0.3060 | 0.3220 | 0.3010 | 0.3420 |
| | | | | 2I | 0.3160 | 0.3320 | 0.3170 | 0.3190 | 0.3080 | 0.3110 | 0.3060 | 0.3220 |
| | | | | 3I | 0.3080 | 0.3110 | 0.3170 | 0.3190 | 0.3180 | 0.3080 | 0.3100 | 0.3000 |
| 7000 | 7650 | 8300 | J | 1J | 0.3010 | 0.3420 | 0.3060 | 0.3220 | 0.2920 | 0.3060 | 0.2870 | 0.3210 |
| | | | | 2J | 0.3060 | 0.3220 | 0.3080 | 0.3110 | 0.2950 | 0.2970 | 0.2920 | 0.3060 |
| | | | | 3J | 0.2950 | 0.2970 | 0.3080 | 0.3110 | 0.3100 | 0.3000 | 0.2980 | 0.2880 |
| 8300 | 9000 | 10000 | K | 1K | 0.2920 | 0.3060 | 0.2950 | 0.2970 | 0.2830 | 0.2840 | 0.2790 | 0.2910 |
| | | | | 2K | 0.2830 | 0.2840 | 0.2950 | 0.2970 | 0.2980 | 0.2880 | 0.2870 | 0.2760 |

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Print Code Guideline

R3 06 CL F G B A
 1 2 3 4 5 6 7

XXXXXXXXXXXXXXXXXX
 8

V0 - O - 6A XX XX XX
 9 10 11 12 13 14

Table.11

| 1 Type | 2 Power | 3 Color | 4 Vf | 5 Current | 6 CRI |
|-----------|------------|------------------------------------|----------|--------------|-----------|
| R3 | 06 : 6W | CL : Warm White NW : Cool White | F : 21 V | G : 350 mA | B : 80~90 |

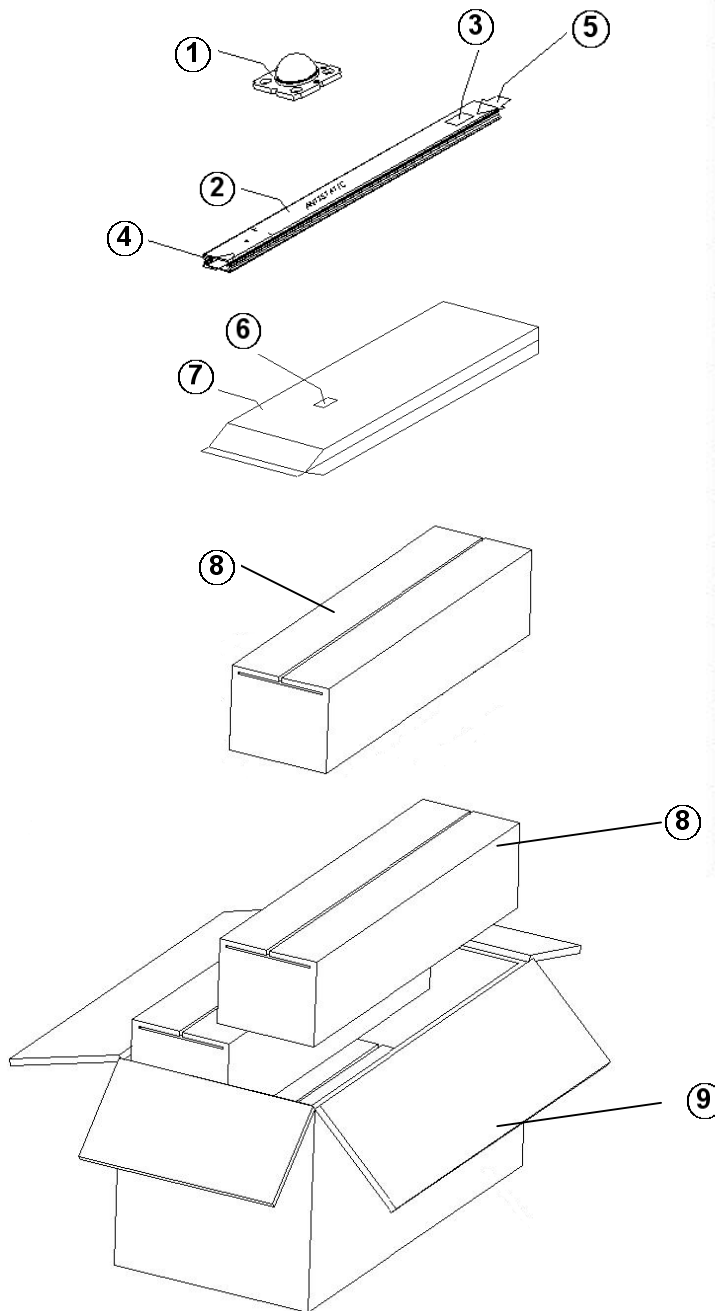
| 7 Customer Code | 8 Internal Code | 9 Bin Vf | 10 Luminous Flux | 11 Chromaticity |
|--------------------|--------------------|------------------------|----------------------------|----------------------------|
| | | V0 : Without Binned | See Bin Code Definition | See Bin Code Definition |

| 12 Year | 13 Month | 14 Week |
|------------------|---------------------|-----------------------------------|
| 09 : 2009 | 01 : January | 01 : 01 st Week |
| 10 : 2010 | 05 : May | 20 : 20 th Week |
| 11 : 2011 | 10 : October | 45 : 45 th Week |

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Standard Packaging



| ITEM | DESCRIPTION | |
|------------------------|------------------------|------------|
| ① | LED | |
| ② | PLASTIC TUBE | |
| ③ | ADHESIVE MAIN LABEL | |
| ④ | END-PLUG WHITE | |
| ⑤ | END-PLUG BLACK | |
| ⑥ | ADHESIVE MAIN LABEL | |
| ⑦ | MOISTURE BARRIER BAG | |
| ⑧ | SMALL BOX | |
| ⑨ | STANDARD BOX | |
| STACKING METHOD | | |
| PCS/TUBE | | 13 |
| TUBE/BAG | | 10 |
| BAG/SMALL BOX | | 2 |
| PCS/SMALL BOX | | 260 |
| SMALL BOX/STANDARD BOX | | 4 |
| PCS/STANDARD BOX | | 1040 |
| SIZE AND WEIGHT | | |
| | SIZE(mm ³) | WEIGHT(kg) |
| SMALL BOX | 560×130×130 | 3.7±0.5 |
| STANDARD BOX | 580×280×280 | 15.5±0.5 |

LUSTRON RV3

Precaution for Use

Over-current Proof

1. Do not reverse current the LEDs we suggest current limit resistors for extra protection.
2. The maximum overshoot current should be limited to 130% of normal drive current.
3. The ripple of driving current should not exceed +/-10% of normal driving current.
4. The typical driving current for this series is 350 mA.
5. When driving the products, the clamp voltage must be set at 22V in driver.

Storage

1. Do not open the Moisture Barrier Bag (MBB) before you are ready to install the LEDs.
2. Storage Condition (before opening the MBB) :
 - I Storage Temperature: -20~50°C
 - I Relative Humidity < 90% RH
 - I Please re-seal the MBB when storing longer than 3 weeks.
 - I The products should be used within half a year.
3. Storage Condition (after opening the MBB) :
 - I Storage Temperature: -20~50°C
 - I Relative Humidity < 90% RH
 - I The products should be used or installed as soon as possible after opening the MBB. Otherwise, the LED product must be baked at 80+/-5°C, 24 hours before installation.

Installation

Do not touch the lighting surface area during installation.

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Company Information

Founded in 2004, Lustrous Technology endeavors to bring in a new era of Solid-State Lighting (SSL). In order to promote innovative new designs and maintain superior quality we have located our R&D and production facilities in Taiwan. Our commitment to excellence has helped us earn quality awards and unique patents in many countries, such as Taiwan and US. Our finest LED lighting products are designed to provide the best in performance and reliability for your next LED applications. Besides high power LED products, our professional and experienced R&D team also provides excellent secondary optical services for customers to solve any lens problems. After years of accomplishment, we have successfully established long-term and trustful worthy business relationships with several most prestigious corporations, such as Delta Electronics, Inc. and Neng Tyi Co., Ltd. If your company is considering any Lustrous products, feel free to contact our sales personnel for a brief introduction or arrange a tour of our ISO 9000 facility in Taiwan.

**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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