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1. Product Description



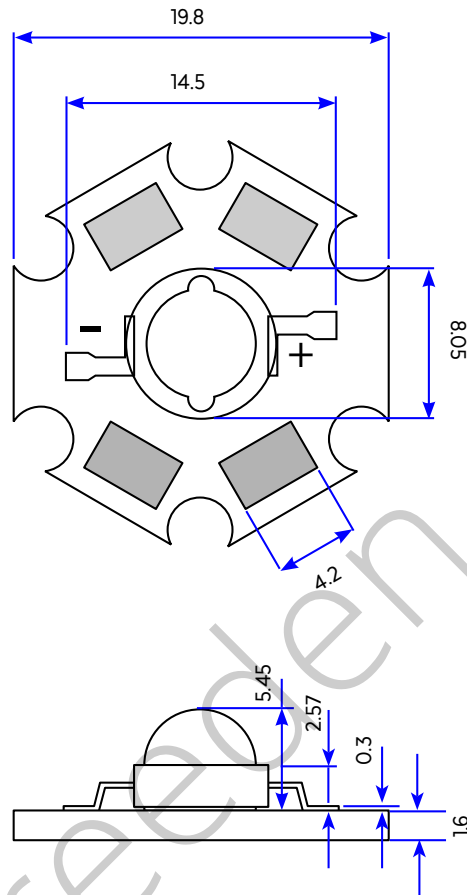
Product features:

- Super High Flux Output and Luminance
- Designed for high Current Operation
- Low Thermal Resistance : 12°C SMT Solder capability
- RoHs compliant and CE Certified
- 3 Year Warranty
- Manufactured in ISO9001 certified conditions

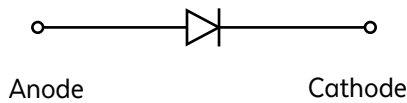
Applications:

- General Illumination
- Outdoor & Indoor Architectural Lighting
- Decorative Lighting
- Agricultural and Horticultural lighting
- Portable Lighting

2. Outline Dimensions



Internal Circuit



Notes:

- All dimensions in millimetres (tolerance : \pm 0.2)
- Appearances may vary slightly for improvement without notice.
- Chip Size 45mil Bridgelux - 6500-7500k

3. Electrical and Optical Characteristics

Electrical and Optical Characteristics at $I_F=750\text{mA}$ and $T_a=25^\circ\text{C}$

| Parameter | Symbol | Min | Typical | Max | Unit |
|-------------------------------|-----------------|------|---------|------|---------------------------|
| Luminous Flux | ϕ_v | 240 | ~ | 260 | lm |
| Correlated Colour Temperature | CCT | 6500 | ~ | 7500 | K |
| CRI | Ra | ~ | > 70 | ~ | ~ |
| Forward Voltage | V_F | 3.4 | ~ | 4.0 | V |
| Power Dissipation | PD | 2.55 | ~ | 3 | W |
| View Angle | $2\theta_{1/2}$ | ~ | 120 | ~ | deg |
| Thermal Resistance | $R\theta_{J-B}$ | ~ | 12 | ~ | $^\circ\text{C}/\text{W}$ |

Absolute Maximum Ratings

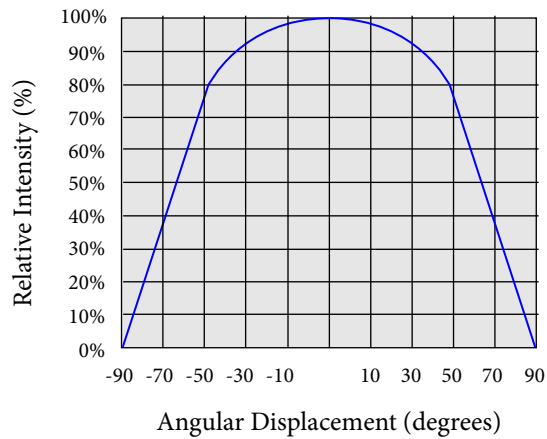
| Parameter | Symbol | Value | Unit |
|--|-----------|----------------------|----------------------|
| Forward Current | I_F | 750 | mA |
| Junction Temperature | T_j | 115 | $^\circ\text{C}$ |
| Operating Temperature | T_{opr} | -40~+60 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | 0~+60 | $^\circ\text{C}$ |
| ESD Sensitivity | ~ | +/- 2,000 V HBM | ~ |
| Temperature Coefficient of voltage | ~ | -5 | mV/ $^\circ\text{C}$ |
| DC Pulse Current(@ 1 KHz,10% duty cycle) | I_{FP} | 1000 | mA |
| Reverse Voltage | V_R | No reverse operation | |

Notes:

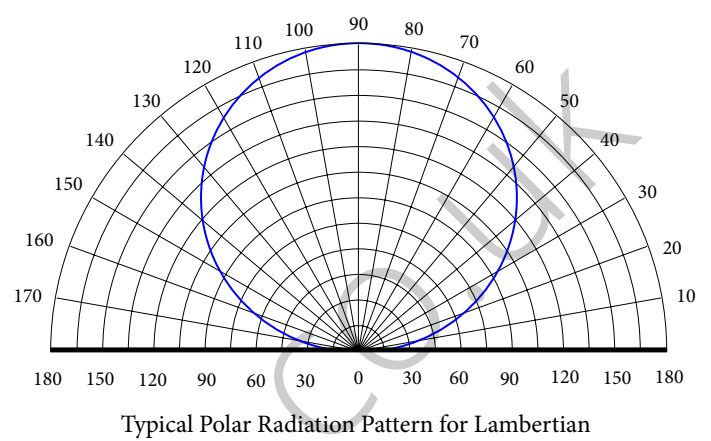
- Tolerance of Luminous Flux is +/- 3%
- Tolerance of Forward Voltage is +/- 0.1v

4. Typical Characteristic Curves

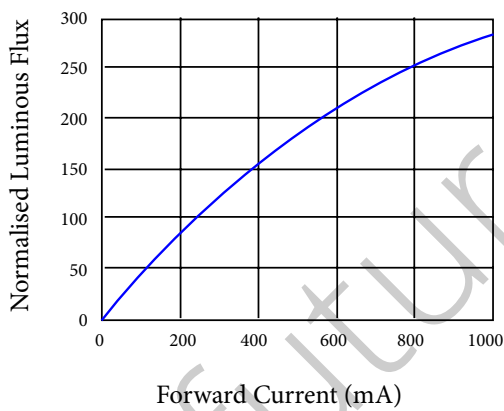
4.1 Typical Light Distribution



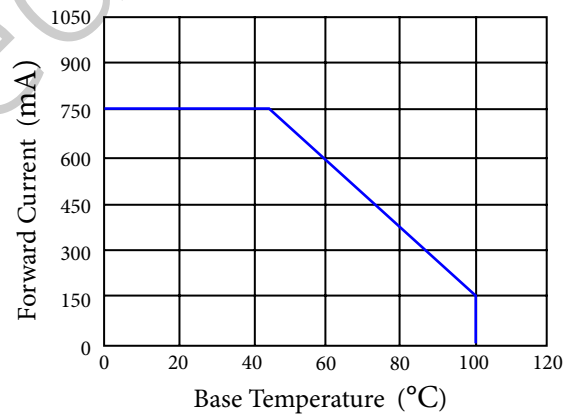
4.2 Typical Light-Emitting Angle Radiation Pattern



4.3 Forward Current vs Relative Luminous Flux Curve

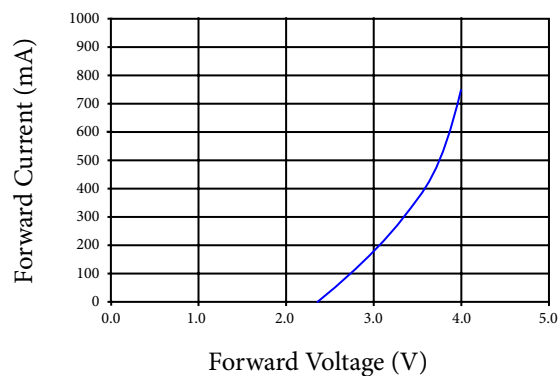


4.4 Forward Current Derating Curve, (Derating based on $t_{max} = 125^{\circ}\text{C}$)

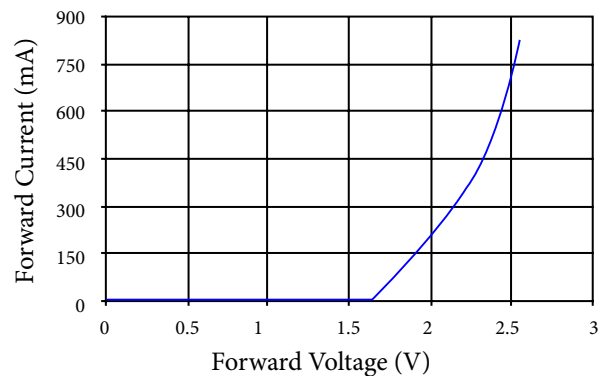


4.5 Electrical Characteristics

White, Royal Blue, Blue, Green, Violet

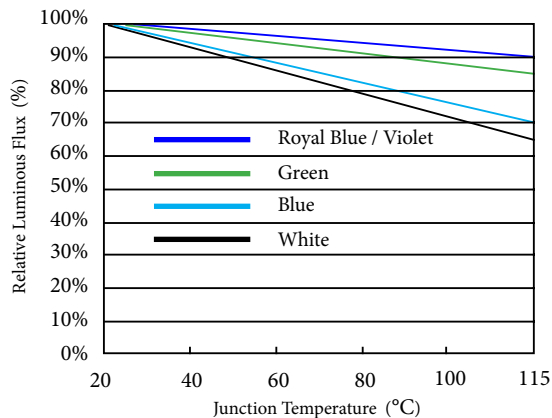


Amber, Red, Deep Red, Far Red



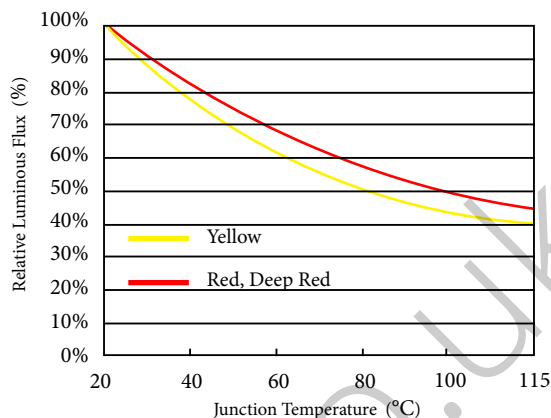
4.6 Relative Flux vs Junction Temperature (if 350mA)

White, Royal Blue, Blue, Green, Violet

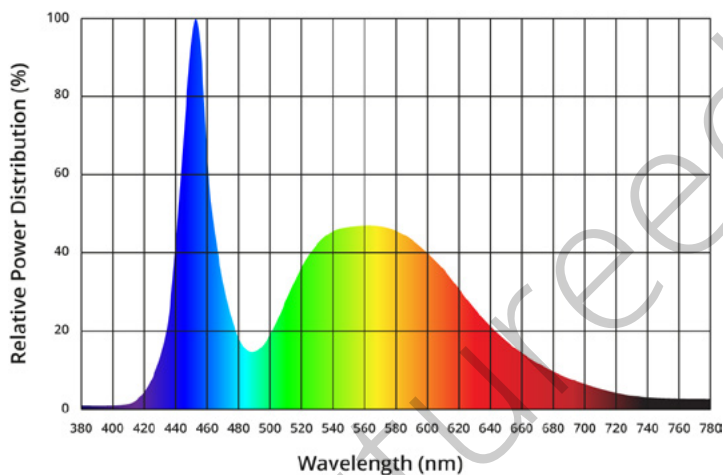


4.7 Relative Flux vs Junction Temperature (if 400mA)

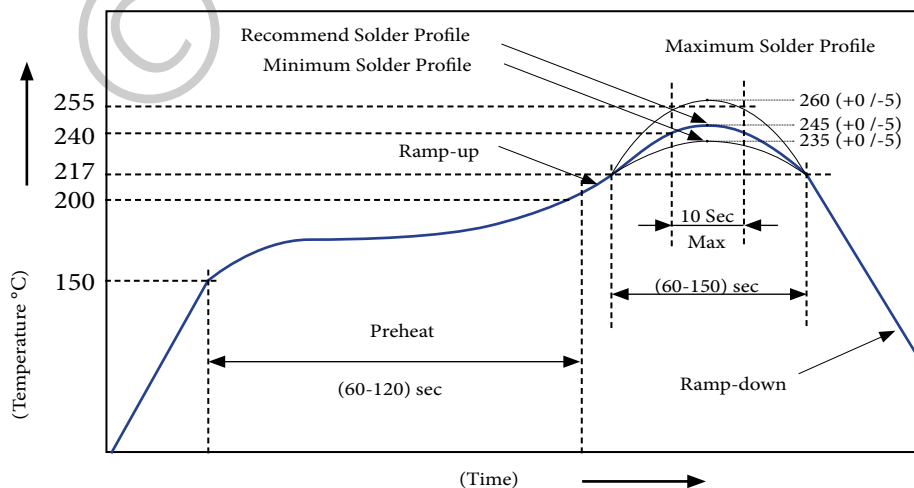
Amber, Red, Deep Red



4.8 Relative Spectral Power Distribution



4.9 Reflow Temperature Time Curve



5. Reliability Items and Test Conditions

| Test Items | Test Condition | Test Hours Cycle | Sample Size | Ac/Re |
|--------------------------------|------------------------------|------------------|-------------|-------|
| DC Aging | Ta = 25 °C if 750mA | 1000H | 22 | 0/1 |
| Hot and Cold Shock | -40°C/30min +100 °C/30min | 100 Cycles | 22 | 0/1 |
| High Temperature Storage | Ta=100 °C | 1000H | 22 | 0/1 |
| High Temperature High Humidity | 85 °C/85%RH | 1000H | 22 | 0/1 |
| Low Temperature Storage | Ta=-40 °C | 1000H | 22 | 0/1 |
| ESD (HBM) | 2000V HBM | 1Time | 10 | 0/1 |

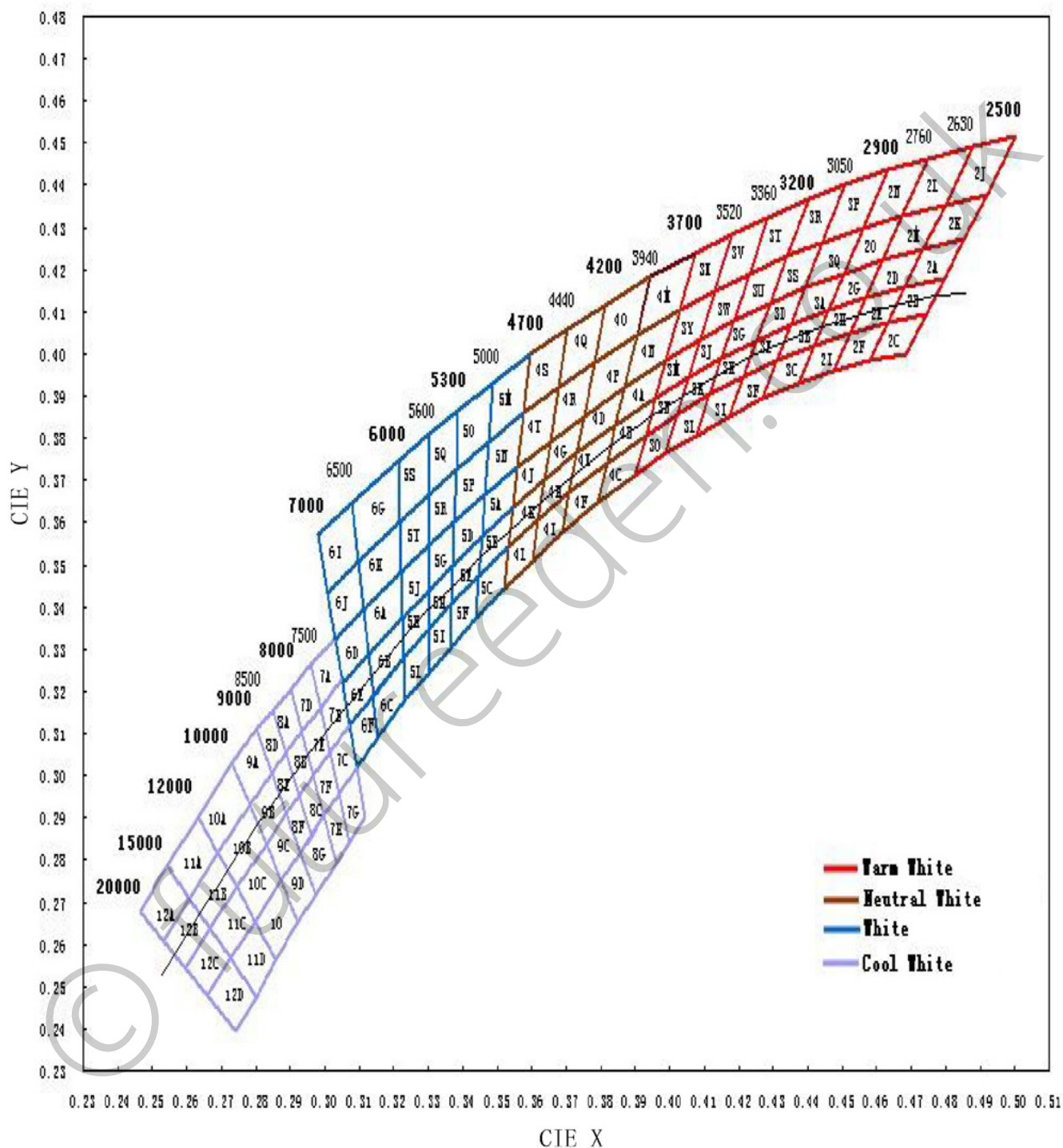
Criteria for Judging Damage

| Items | Symbol | Test Condition | Criteria for Judging Damage |
|-----------------|--------|----------------|---|
| Forward Voltage | VF | IF=750mA | Initial Data±10% |
| Reverse Current | IR | VR=5V | IR≤10μA |
| Luminous Flux | φv | IF=750mA | Average φv degradation ≤20% Single LED φv degradation ≤30% |

6. Soldering Conditions

| Reflow Soldering | | | Manual Welding | |
|-----------------------------|---------------------|-------------------|------------------|----------------|
| | High Temperature PC | Moulding Products | Temperature | Soldering Time |
| Preheat | 100-140 °C | 180-200 °C | Highest 350°C | 3sec once |
| Heat Up Time | 120sec Max | 120sec Max | | |
| Peak Temperature | 180 °C Max | 260°C Max | | |
| Condition of Soldering Time | 50sec Max | 10sec Max | | |

7. White Binning Information



Notes:

Black line is representative of the black body locus on CIE 1931 graph