



MODEL NO: 204UWC/1B

Device Number:DLE-020-208 REV:1.3

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■Features

- Fluorescence Type
- High Luminous Intensity
- High Efficiency
- Emission Color: $x=0.29,y=0.30$

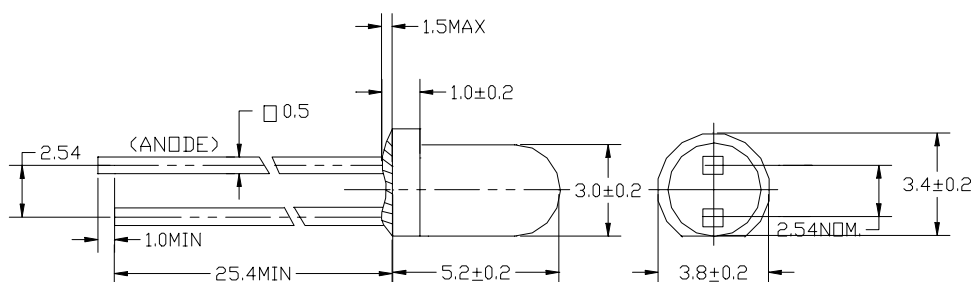
■Descriptions

The white LED which was fabricated using a blue LED and a phosphor, and the phosphor is excited by blue light and emits yellow fluorescence. The mixture of blue light and yellow light results in a white emission.

■Applications

- OA Equipment
- Backlighting of LCD
- Automotive Equipment
- Replacement of Conventional Light Bulbs and Fluorescent Lamps

■ Package Dimensions



■Notes:All dimensions are in millimeters.

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TEL : 886-2-2267-2000, 2267-9936

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<http://www.everlight.com>



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■ Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Rating | Units |
|-------------------------------------|------------------|------------|-------|
| Forward Current | I _F | 30 | mA |
| Pulse Forward Current ^{*1} | I _{FP} | 100 | mA |
| Reverse Voltage | V _R | 5 | V |
| Power Dissipation | P _D | 120 | mW |
| Operating Temperature | T _{opr} | -30 ~ +80 | °C |
| Storage Temperature | T _{stg} | -40 ~ +100 | °C |
| Soldering Temperature ^{*2} | T _{sol} | 260 | °C |

*1:I_{FP} Conditions--Pulse Width ≤ 10msec and Duty ≤ 1/10.

*2:Soldering time ≤ 5 seconds.

■ Electro-Optical Characteristics (Ta=25°C)

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Units |
|----------------------------|----------------|----------------------|------|------|------|-------|
| Forward Voltage | V _F | I _F =20mA | -- | 3.6 | 4.0 | V |
| Reverse Current | I _R | V _R =5V | -- | -- | 10 | μA |
| Luminous Intensity | I _v | I _F =20mA | 550 | 900 | -- | mcd |
| Viewing Angle | 2θ 1/2 | I _F =20mA | -- | 22 | -- | deg |
| Chromaticity ^{*1} | x | I _F =10mA | -- | 0.29 | -- | |
| Coordinates | y | | -- | 0.30 | -- | |

*The C.I.E. 1931 chromaticity diagram.

*The products are sensitive to static electricity and care must be fully taken when handling products.



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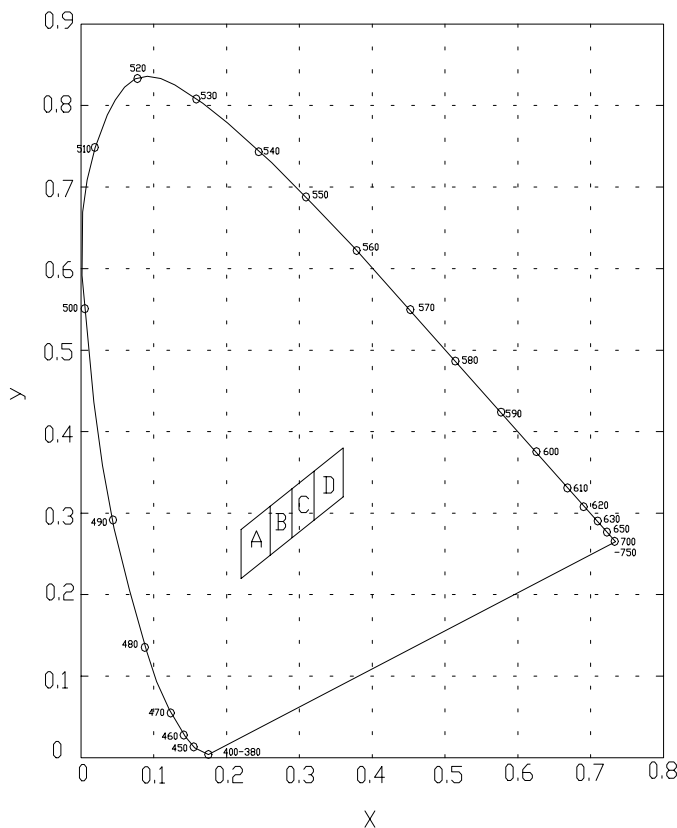
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■ Chromaticity Coordinates Specifications for Bin Grading

| Rank | Chromaticity Coordinates | | | | |
|-------------|--------------------------|--------------|-------|-------|--------------|
| | A | x | 0.220 | 0.220 | 0.260 |
| | y | 0.220 | 0.280 | 0.310 | 0.250 |
| B | x | 0.260 | 0.260 | 0.290 | 0.290 |
| | y | 0.250 | 0.310 | 0.330 | 0.270 |
| C | x | 0.290 | 0.290 | 0.320 | 0.320 |
| | y | 0.270 | 0.330 | 0.350 | 0.290 |
| D | x | 0.320 | 0.320 | 0.360 | 0.360 |
| | y | 0.290 | 0.350 | 0.380 | 0.320 |
| * Tolerance | | $x \pm 0.02$ | | | $y \pm 0.02$ |

■ CIE Chromaticity Diagram





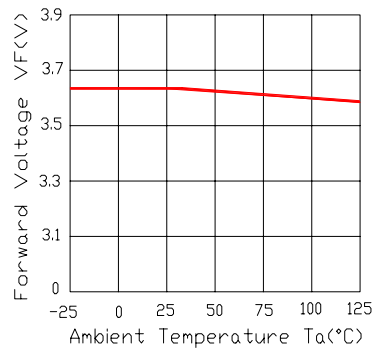
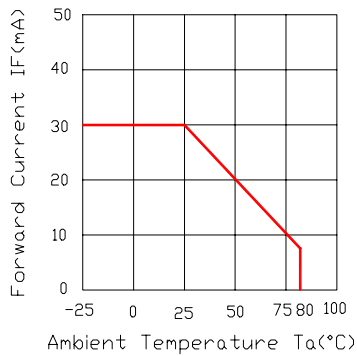
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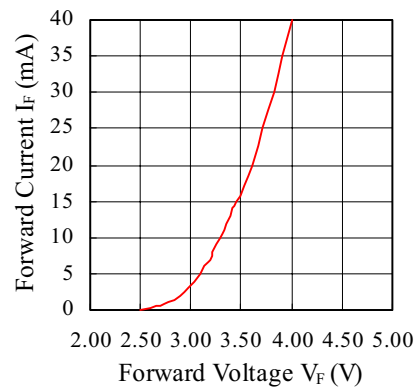
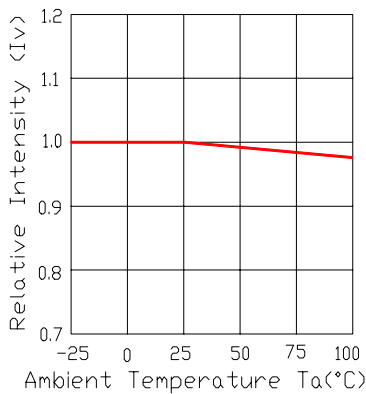
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■ Typical Electro-Optical Characteristics Curves

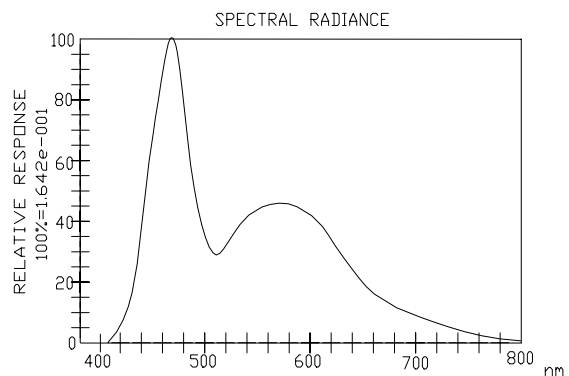
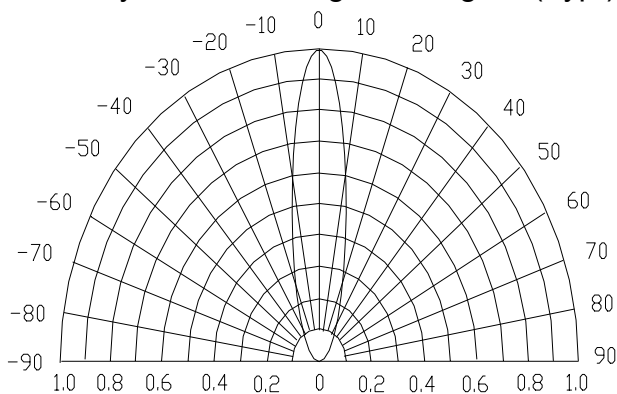
● Forward Current vs. Ambient Temperature ● Forward Voltage vs. Ambient Temperature



● Relative Intensity vs. Ambient Temperature ● Forward Current vs. Forward Voltage



● Directivity Radiation Angle: 22 degree (Typ.) ● Luminous Spectrum (Ta=25°C)





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■Reliability Test Item

| NO. | Item | Test Condition | Test Hour/ Cycle | Sample Size | AC/ RE |
|-----|---|---|---------------------|----------------|-----------|
| 1 | Room Temperature DC Operating Life | Ta=25°C ,I _F =20mA | 1000hrs | 76 | 0/1 |
| 2 | Thermal Shock | -10°C (5min)→ (10sec) →+100°C (5min) | 100cycles | 76 | 0/1 |
| 3 | Temperature Cycle | -40°C (30min)→ (5min) →+85°C (30min) | 100cycles | 76 | 0/1 |
| 4 | High Temp./ High Humi. Test | 85°C/85%RH | 1000hrs | 76 | 0/1 |
| 5 | High Temperature Storage | Ta=100°C | 1000hrs | 76 | 0/1 |
| | Low Temperature Storage | Ta=-40°C | 1000hrs | 76 | 0/1 |
| 7 | Solder Heat | 260°C± 5°C | 5seconds | 76 | 0/1 |

