



MODEL NO: **383-2UWC/C470**

Device Number: DLE-038-168 REV: 1.0

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■Features

- Fluorescence Type
- Superior SiC Substrate Technology
- High Reliability
- Emission Color: $x=0.30, y=0.31$

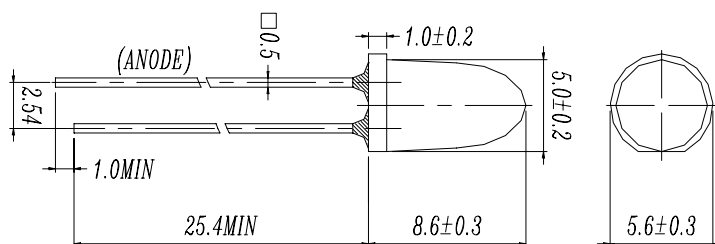
■Descriptions

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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<http://www.everlight.com>

**MODEL NO: 383-2UWC/C470**Device Number: DLE-038-168 REV: 1.0Page: 2/5 ECN: _____**■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}	-20 ~ +80	°C
Storage Temperature	T_{stg}	-30 ~ +100	°C
Soldering Temperature ^{*2}	T_{sol}	260	°C
Electrostatic Discharge Threshold (HBM) ^{*3}	ESD	1000	V

*1: Peak Forward Current (1/10 duty cycle @1kHz)

*2: Soldering time $\leq$ 5 seconds.

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

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage	V_F	$I_F=20\text{mA}$	--	3.5	4.0	V
Reverse Current	I_R	$V_R=5\text{V}$	--	--	10	μA
Luminous Intensity	I_V	$I_F=20\text{mA}$	700	1000	--	mcd
Viewing Angle	2θ	$I_F=20\text{mA}$	--	13	--	deg
Chromaticity ^{*1}	x	$I_F=20\text{mA}$	--	0.30	--	
Coordinates	y		--	0.31	--	

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



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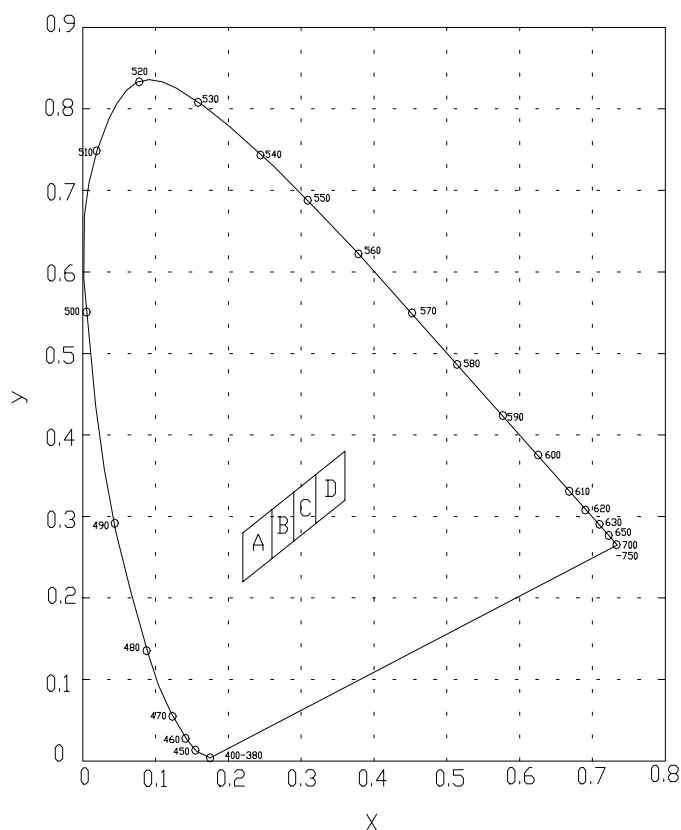
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■Chromaticity Coordinates Specifications for Bin Grading

Rank	Chromaticity Coordinates				
A	x	0.220	0.220	0.260	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





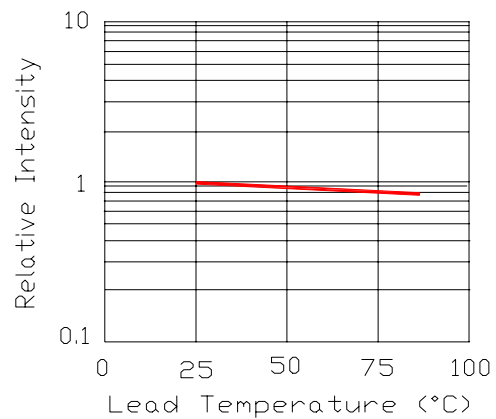
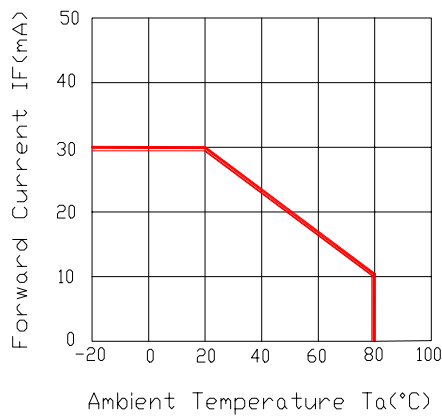
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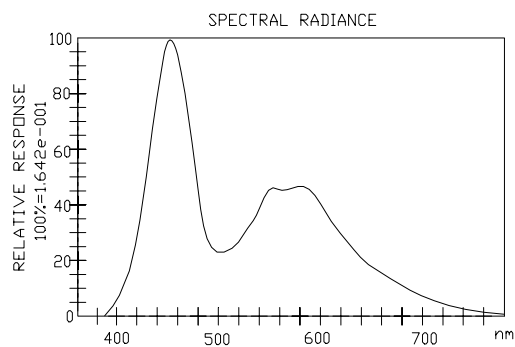
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■ Typical Electro-Optical Characteristics Curves

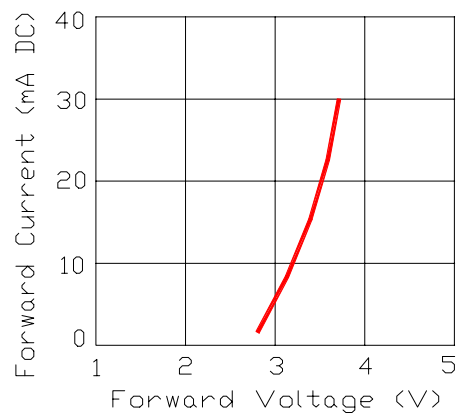
● Forward Current vs. Ambient Temperature ● Relative Intensity vs. Lead Temperature



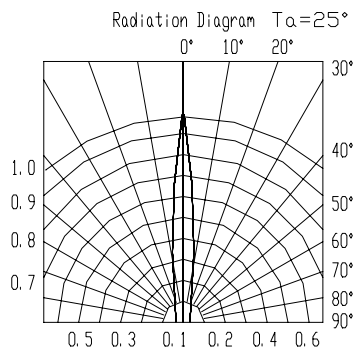
● Luminous Spectrum ($T_a=25^\circ\text{C}$)



● Forward Current vs. Forward Voltage



● Directivity Radiation Angle: 12 degree (Typ.)





EVERLIGHT ELECTRONICS CO., LTD.

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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	22	0/1
2	Thermal Shock	-10°C (5min)→ (10sec) →+100°C (5min)	100cycles	22	0/1
3	Temperature Cycle	-40°C (30min)→ (5min) →+85°C (30min)	100cycles	22	0/1
4	High Temp./ High Humi. Test	85°C/85%RH	1000hrs	22	0/1
5	High Temperature Storage	Ta=85°C	1000hrs	22	0/1
6	Low Temperature Storage	Ta=-55°C	1000hrs	22	0/1
7	Solder Heat	260°C± 5°C	5seconds	22	0/1