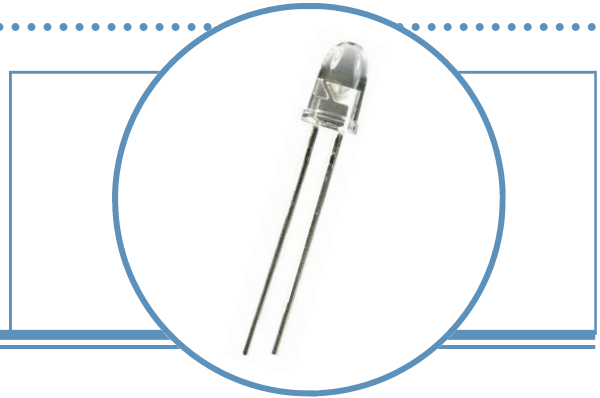


White High-Intensity LED Lamp (5 mm, 15° Viewing Angle)

OVLEW1CB9

- Narrow beam angle
- High luminous intensity
- Water clear plastic package
- InGaN White
- Pb-free

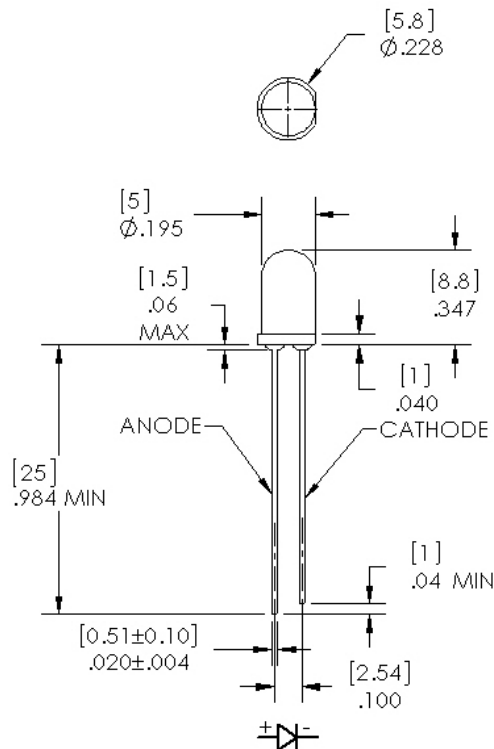


The round **OVLEW1CB9** is designed for applications that require a focused high luminous output, such as indoor and outdoor displays, marker lights and optical indicators. The phosphor used in the reflector converts the blue emission of the InGaN chip to the ideal white light.

Applications

- Indoor/outdoor displays and applications
- Message boards
- Store front signage
- Indicators
- Retail display lighting

| Part Number | Material | Emitted Color | Intensity Typ. mcd | Lens Color |
|-------------|----------|---------------|--------------------|------------|
| OVLEW1CB9 | InGaN | White | 35,000 | Clear |

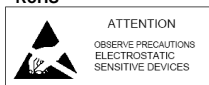


ALL DIMENSIONS ARE IN INCHES [MM].

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE ± 0.10 [.25].



RoHS



**DO NOT LOOK DIRECTLY
AT LED WITH UNSHIELDED
EYES OR DAMAGE TO
RETINA MAY OCCUR.**

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Absolute Maximum Ratings $T_A = 25^\circ\text{C}$

| | |
|--|---------------|
| Storage Temperature Range | -40 ~ +100 °C |
| Operating Temperature Range | -40 ~ +95 °C |
| Reverse Voltage | 5 V |
| Continuous Forward Current | 30 mA |
| Peak Forward Current (10% Duty Cycle, 1 KHz) | 100 mA |
| Power Dissipation | 120 mW |
| Lead Soldering Temperature (3 mm from the base of the epoxy bulb / 3 seconds max). | 260°C |
| Electrostatic Discharge Classification (JEDEC-JESD22-A114F) | Class 2 |

Electrical Characteristics $T_A = 25^\circ\text{C}$

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | CONDITIONS |
|-----------------|--------------------------|--------|--------|------|---------------|----------------------|
| I_V | Luminous Intensity | 16,800 | 35,000 | | mcd | $I_F = 20\text{ mA}$ |
| V_F | Forward Voltage | ---- | 3.2 | 4.0 | V | $I_F = 20\text{ mA}$ |
| I_R | Reverse Current | ---- | ---- | 100 | μA | $V_R = 5\text{ V}$ |
| $2\theta_{1/2}$ | 50% Power Angle | ---- | 15 | ---- | deg | $I_F = 20\text{ mA}$ |
| x | Chromaticity Coordinates | ---- | 0.2895 | ---- | ---- | $I_F = 20\text{ mA}$ |
| y | | ---- | 0.2905 | ---- | ---- | $I_F = 20\text{ mA}$ |

Standard Bins ($I_F = 20\text{mA}$)

LEDs are sorted to luminous intensity (I_V), forward voltage (V_F) and chromaticity coordinates (x, y) bins listed in the following tables. Each bag consists of a single luminous intensity bin, single forward voltage bin and a single chromaticity bin. Orders are filled using all intensity and chromaticity bins listed in the following tables. Optek will not accept orders for single intensity bins, single forward voltage bins or single chromaticity bins.

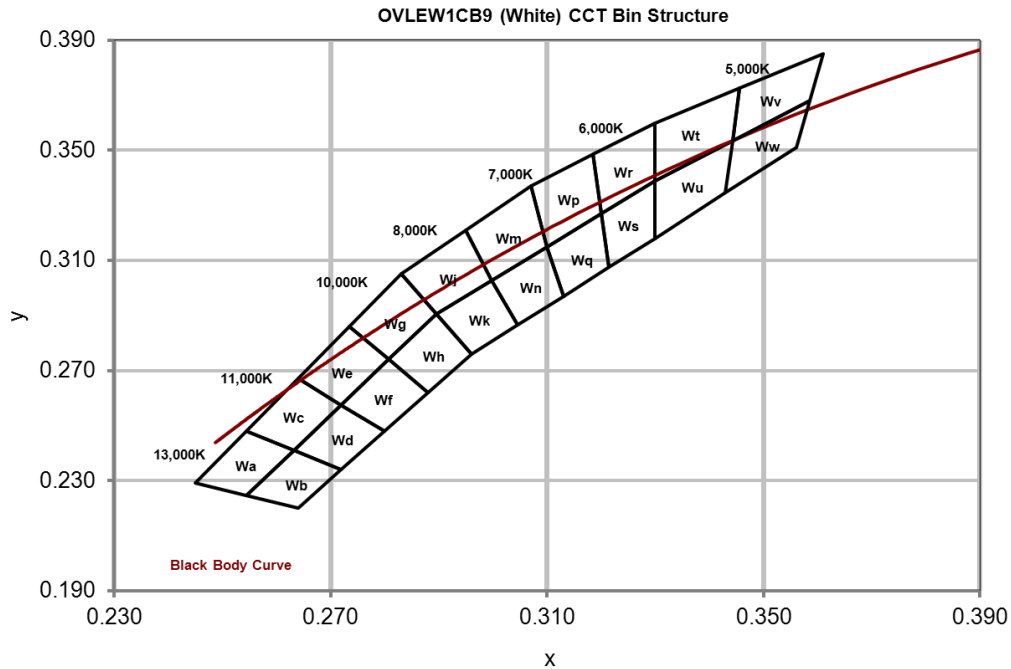
| IV | Luminous Intensity | |
|----|--------------------|-----------------------|
| | Code | Min (mcd) Max (mcd) |
| Ba | 16,800 | 20,150 |
| Bb | 20,150 | 23,500 |
| Ca | 23,500 | 28,200 |
| Cb | 28,200 | 32,900 |
| Da | 32,900 | 39,500 |
| Db | 39,500 | 46,100 |

| V_F | Forward Voltage | |
|-------|-----------------|-------------------|
| | Code | Min (V) Max (V) |
| 27 | 2.8 | 3.0 |
| 28 | 3.0 | 3.2 |
| 29 | 3.2 | 3.4 |
| 2a | 3.4 | 3.6 |
| 2b | 3.6 | 3.8 |
| 2c | 3.8 | 4.0 |

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Standard Bins ($I_F = 20\text{mA}$)

LEDs are sorted to luminous intensity (I_V), forward voltage (V_F) and chromaticity coordinates (x, y) bins listed in the following tables. Each bag consists of a single luminous intensity bin, single forward voltage bin and a single chromaticity bin. Orders are filled using all intensity and chromaticity bins listed in the following tables. Optek will not accept orders for single intensity bins, single forward voltage bins or single chromaticity bins.



Chromaticity Coordinates (x, y)

| Rank | Wa | | | | Wb | | | | Wc | | | | Wd | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Cx | 0.2545 | 0.2633 | 0.2545 | 0.2450 | 0.2633 | 0.2720 | 0.2640 | 0.2545 | 0.2545 | 0.2640 | 0.2720 | 0.2633 | 0.2633 | 0.2720 | 0.2800 | 0.2720 |
| Cy | 0.2480 | 0.2410 | 0.2245 | 0.2290 | 0.2410 | 0.2340 | 0.2200 | 0.2245 | 0.2480 | 0.2670 | 0.2575 | 0.2410 | 0.2410 | 0.2575 | 0.2480 | 0.2340 |
| Rank | We | | | | Wf | | | | Wg | | | | Wh | | | |
| Cx | 0.2640 | 0.2735 | 0.2808 | 0.2720 | 0.2720 | 0.2808 | 0.2880 | 0.2800 | 0.2735 | 0.2830 | 0.2895 | 0.2808 | 0.2808 | 0.2895 | 0.2960 | 0.2880 |
| Cy | 0.2670 | 0.2860 | 0.2740 | 0.2575 | 0.2575 | 0.2740 | 0.2620 | 0.2480 | 0.2860 | 0.3050 | 0.2905 | 0.2740 | 0.2740 | 0.2905 | 0.2760 | 0.2620 |
| Rank | Wj | | | | Wk | | | | Wm | | | | Wn | | | |
| Cx | 0.2830 | 0.2950 | 0.2998 | 0.2895 | 0.2895 | 0.2998 | 0.3045 | 0.2960 | 0.2950 | 0.3070 | 0.3100 | 0.2998 | 0.2998 | 0.3100 | 0.3130 | 0.3045 |
| Cy | 0.3050 | 0.3210 | 0.3028 | 0.2905 | 0.2905 | 0.3028 | 0.2865 | 0.2760 | 0.3210 | 0.3370 | 0.3150 | 0.3028 | 0.3028 | 0.3150 | 0.2970 | 0.2865 |
| Rank | Wp | | | | Wq | | | | Wr | | | | Ws | | | |
| Cx | 0.3070 | 0.3185 | 0.3200 | 0.3100 | 0.3100 | 0.3200 | 0.3215 | 0.3130 | 0.3185 | 0.3300 | 0.3300 | 0.3200 | 0.3200 | 0.3300 | 0.3300 | 0.3215 |
| Cy | 0.3370 | 0.3485 | 0.3270 | 0.3150 | 0.3150 | 0.3270 | 0.3075 | 0.2970 | 0.3485 | 0.3600 | 0.3390 | 0.3270 | 0.3270 | 0.3390 | 0.3180 | 0.3075 |
| Rank | Wt | | | | Wu | | | | Wv | | | | Ww | | | |
| Cx | 0.3300 | 0.3455 | 0.3443 | 0.3300 | 0.3300 | 0.3443 | 0.3430 | 0.3300 | 0.3455 | 0.3610 | 0.3585 | 0.3443 | 0.3443 | 0.3585 | 0.3560 | 0.3430 |
| Cy | 0.3600 | 0.3725 | 0.3535 | 0.3390 | 0.3390 | 0.3535 | 0.3345 | 0.3180 | 0.3725 | 0.3850 | 0.3680 | 0.3535 | 0.3535 | 0.3680 | 0.3510 | 0.3345 |

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Typical Electro-Optical Characteristics Curves

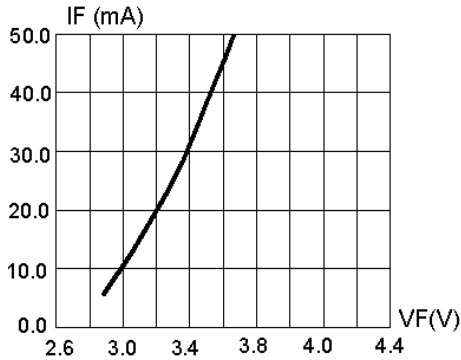


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

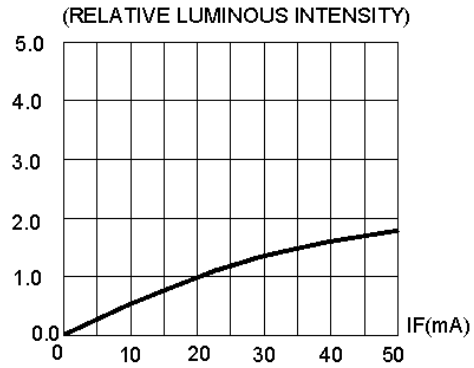


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

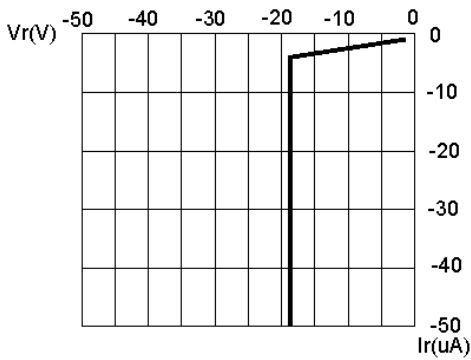


FIG.3 REVERSE CURRENT VS. REVERSE VOLTAGE.

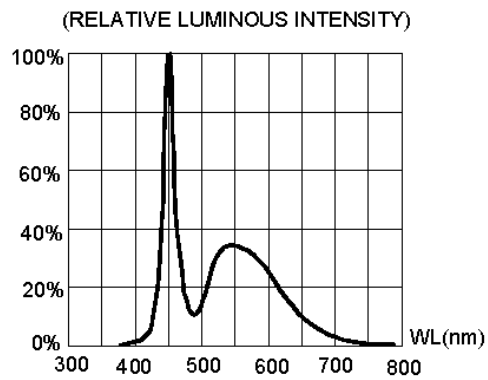


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

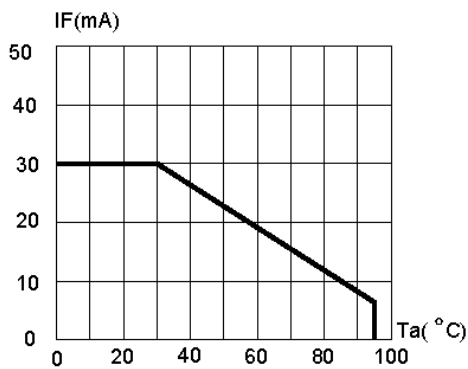


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE (Tjmax=105°C)

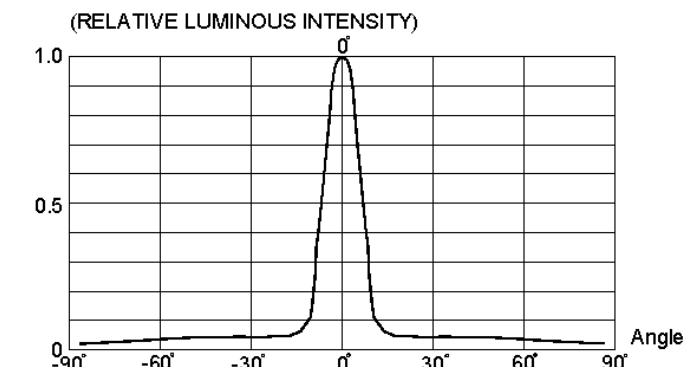
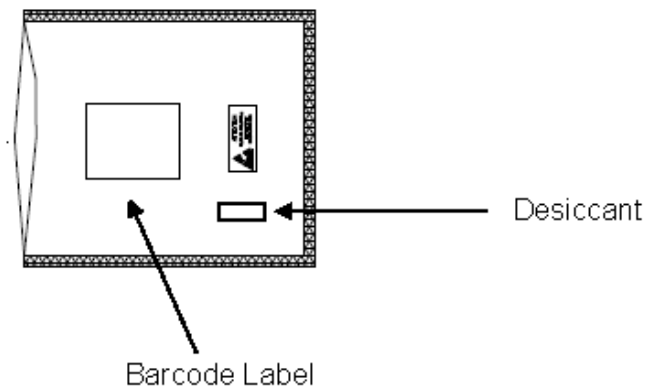


FIG.6 FAR FIELD PATTERN

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White High-Intensity LED Lamp OVLEW1CB9

Packaging: 500 pcs per anti-static bag with desiccant



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