

## Round Type LED lamp

BL-L314UWD

### Features:

- 3mm Round Type LED Lamps.
- Ultra brightness.
- Choice of various viewing angles.
- Diffused, Transparent and Water clear lens are available.
- IC compatible /Low current capability.
- RoHs Compliance



### ■ Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=20mA)

| Part Number | Chip          |          |         | Lens Type | Forward Voltage(VF)<br>Unit:V |     | Luminous Intensity (Iv)<br>Unit:mcd |      | Viewing Angle<br>2θ1/2 (deg) |
|-------------|---------------|----------|---------|-----------|-------------------------------|-----|-------------------------------------|------|------------------------------|
|             | Emitted Color | Material | λP (nm) |           | Typ                           | Max | Min.                                | Typ. |                              |
|             |               |          |         |           |                               |     |                                     |      |                              |

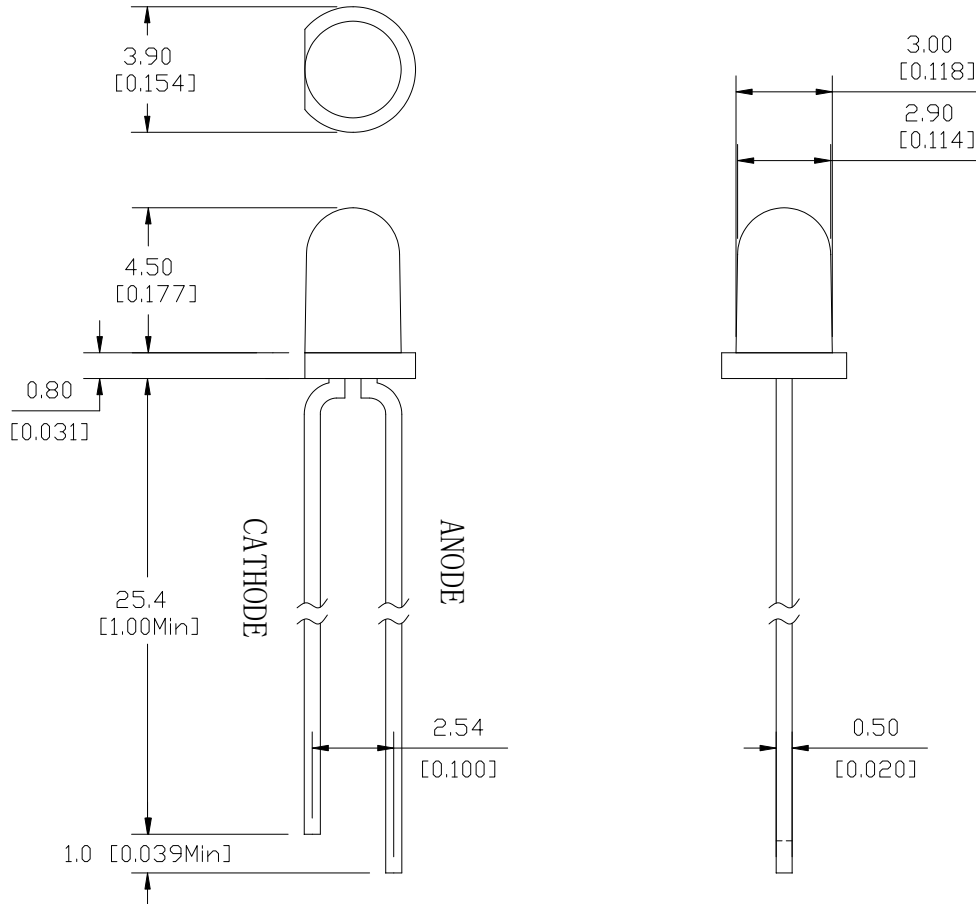
### ■ Absolute maximum ratings (Ta=25°C)

| Parameter                                                 | UW                                                                    | Unit |
|-----------------------------------------------------------|-----------------------------------------------------------------------|------|
| Forward Current I <sub>F</sub>                            | 30                                                                    | mA   |
| Power Dissipation P <sub>d</sub>                          | 120                                                                   | mW   |
| Reverse Voltage V <sub>R</sub>                            | 5                                                                     | V    |
| Peak Forward Current I <sub>PF</sub><br>(Duty 1/10 @1KHZ) | 100                                                                   | mA   |
| Operation Temperature T <sub>OPR</sub>                    | -40 to +80                                                            | °C   |
| Storage Temperature T <sub>STG</sub>                      | -40 to +85                                                            | °C   |
| Lead Soldering Temperature<br>TSOL                        | Max.260±5°C for 3 sec Max.<br>(1.6mm from the base of the epoxy bulb) | °C   |

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### ■ Package configuration & Internal circuit diagram



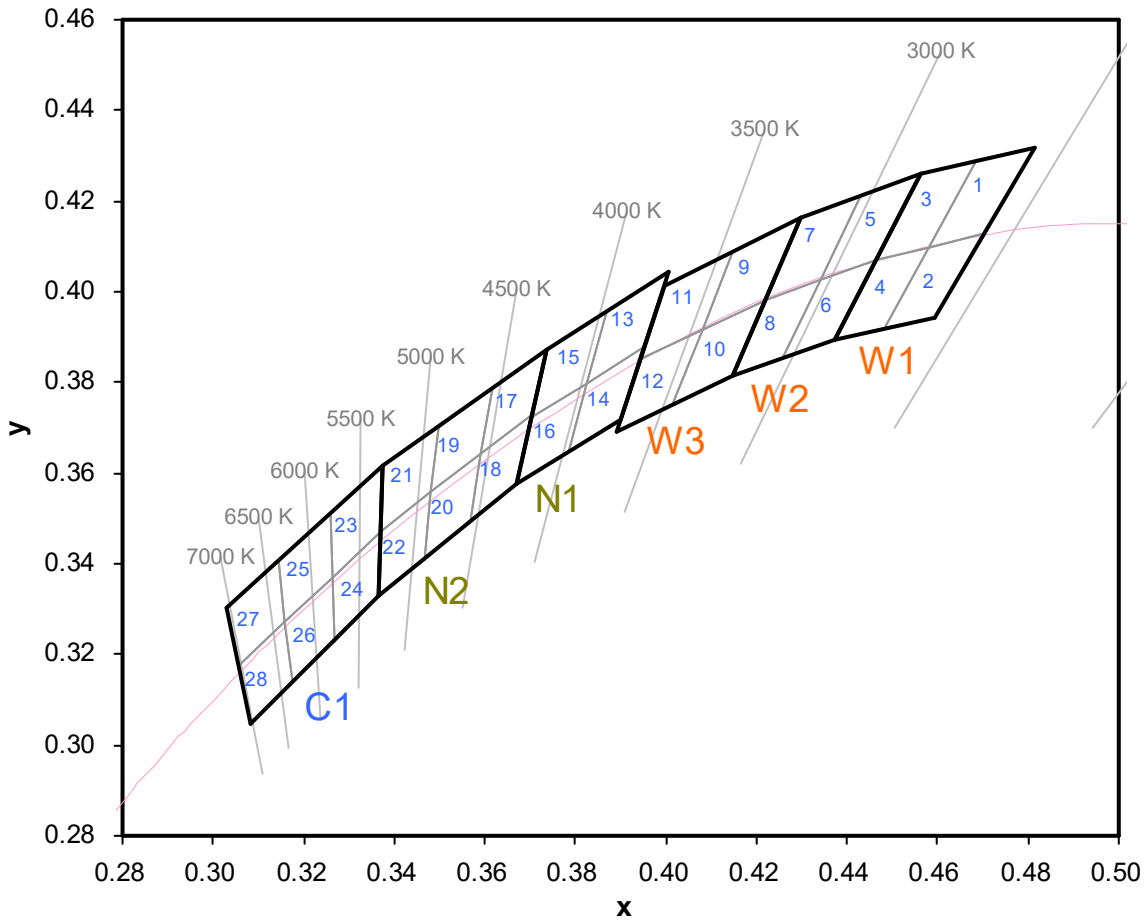
#### Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Specifications are subject to change without notice.

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Color Temperature Bin



| CODE | x      | y      |
|------|--------|--------|
| W1   | 0.4373 | 0.3893 |
|      | 0.4562 | 0.4260 |
|      | 0.4813 | 0.4319 |
|      | 0.4593 | 0.3944 |
|      | X      | Y      |
| W2   | 0.4147 | 0.3814 |
|      | 0.4299 | 0.4165 |
|      | 0.4562 | 0.4260 |
|      | 0.4373 | 0.3893 |
|      | X      | Y      |
| W3   | 0.3889 | 0.3690 |
|      | 0.3996 | 0.4015 |
|      | 0.4299 | 0.4165 |
|      | 0.4147 | 0.3814 |

| CODE | X      | Y      |
|------|--------|--------|
| N1   | 0.3670 | 0.3578 |
|      | 0.3736 | 0.3874 |
|      | 0.4006 | 0.4044 |
|      | 0.3898 | 0.3716 |
|      |        |        |
|      | X      | Y      |
| N2   | 0.3481 | 0.3557 |
|      | 0.3376 | 0.3616 |
|      | 0.3592 | 0.3641 |
|      | 0.3670 | 0.3578 |
|      |        |        |
|      | X      | Y      |
| C1   | 0.3160 | 0.3274 |
|      | 0.3028 | 0.3304 |
|      | 0.3265 | 0.3371 |
|      | 0.3364 | 0.3328 |

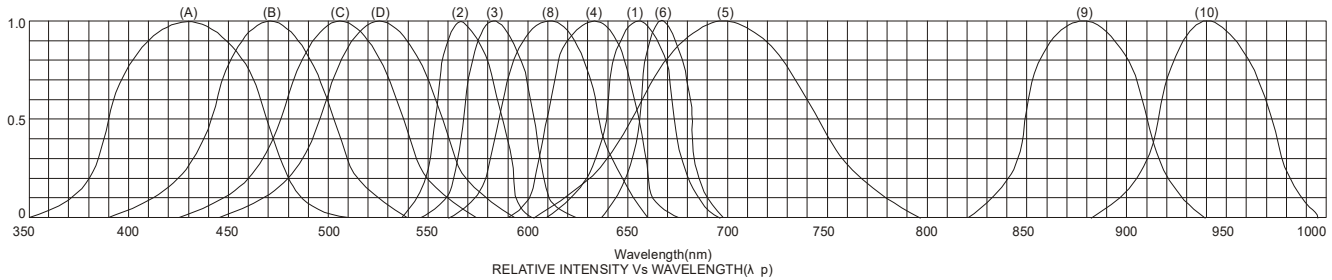
**Round Type LED lamp**
**BL-L314UWD**

| CODE | x      | y      | CODE | x      | y      | CODE | x      | y      | CODE | x      | y      |
|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| 1    | 0.4582 | 0.4099 | 8    | 0.4147 | 0.3814 | 15   | 0.3702 | 0.3722 | 22   | 0.3481 | 0.3557 |
|      | 0.4687 | 0.4289 |      | 0.4221 | 0.3984 |      | 0.3736 | 0.3874 |      | 0.3370 | 0.3472 |
|      | 0.4813 | 0.4319 |      | 0.4342 | 0.4028 |      | 0.3869 | 0.3958 |      | 0.3364 | 0.3328 |
|      | 0.4700 | 0.4126 |      | 0.4259 | 0.3853 |      | 0.3825 | 0.3798 |      | 0.3466 | 0.3411 |
| 2    | 0.4483 | 0.3919 | 9    | 0.4080 | 0.3916 | 16   | 0.3670 | 0.3578 | 23   | 0.3376 | 0.3616 |
|      | 0.4582 | 0.4099 |      | 0.4146 | 0.4089 |      | 0.3702 | 0.3722 |      | 0.3260 | 0.3512 |
|      | 0.4700 | 0.4126 |      | 0.4299 | 0.4165 |      | 0.3825 | 0.3798 |      | 0.3265 | 0.3371 |
|      | 0.4593 | 0.3944 |      | 0.4221 | 0.3984 |      | 0.3783 | 0.3646 |      | 0.3370 | 0.3472 |
| 3    | 0.4465 | 0.4071 | 10   | 0.4017 | 0.3751 | 17   | 0.3736 | 0.3874 | 24   | 0.3370 | 0.3472 |
|      | 0.4562 | 0.4260 |      | 0.4080 | 0.3916 |      | 0.3616 | 0.3788 |      | 0.3265 | 0.3371 |
|      | 0.4687 | 0.4289 |      | 0.4221 | 0.3984 |      | 0.3592 | 0.3641 |      | 0.3270 | 0.3230 |
|      | 0.4582 | 0.4099 |      | 0.4147 | 0.3814 |      | 0.3703 | 0.3726 |      | 0.3364 | 0.3328 |
| 4    | 0.4373 | 0.3893 | 11   | 0.3941 | 0.3848 | 18   | 0.3703 | 0.3726 | 25   | 0.3260 | 0.3512 |
|      | 0.4465 | 0.4071 |      | 0.3996 | 0.4015 |      | 0.3592 | 0.3641 |      | 0.3144 | 0.3408 |
|      | 0.4582 | 0.4099 |      | 0.4146 | 0.4089 |      | 0.3568 | 0.3495 |      | 0.3160 | 0.3274 |
|      | 0.4483 | 0.3919 |      | 0.4080 | 0.3916 |      | 0.3670 | 0.3578 |      | 0.3265 | 0.3371 |
| 5    | 0.4342 | 0.4028 | 12   | 0.3889 | 0.3690 | 19   | 0.3616 | 0.3788 | 26   | 0.3265 | 0.3371 |
|      | 0.4430 | 0.4212 |      | 0.3941 | 0.3848 |      | 0.3496 | 0.3702 |      | 0.3160 | 0.3274 |
|      | 0.4562 | 0.4260 |      | 0.4080 | 0.3916 |      | 0.3481 | 0.3557 |      | 0.3175 | 0.3139 |
|      | 0.4465 | 0.4071 |      | 0.4017 | 0.3751 |      | 0.3592 | 0.3641 |      | 0.3270 | 0.3230 |
| 6    | 0.4259 | 0.3853 | 13   | 0.3825 | 0.3798 | 20   | 0.3592 | 0.3641 | 27   | 0.3144 | 0.3408 |
|      | 0.4342 | 0.4028 |      | 0.3869 | 0.3958 |      | 0.3481 | 0.3557 |      | 0.3028 | 0.3304 |
|      | 0.4465 | 0.4071 |      | 0.4006 | 0.4044 |      | 0.3466 | 0.3411 |      | 0.3055 | 0.3177 |
|      | 0.4373 | 0.3893 |      | 0.3950 | 0.3875 |      | 0.3568 | 0.3495 |      | 0.3160 | 0.3274 |
| 7    | 0.4221 | 0.3984 | 14   | 0.3783 | 0.3646 | 21   | 0.3496 | 0.3702 | 28   | 0.3160 | 0.3274 |
|      | 0.4299 | 0.4165 |      | 0.3825 | 0.3798 |      | 0.3376 | 0.3616 |      | 0.3055 | 0.3177 |
|      | 0.4430 | 0.4212 |      | 0.3950 | 0.3875 |      | 0.3370 | 0.3472 |      | 0.3081 | 0.3049 |
|      | 0.4342 | 0.4028 |      | 0.3898 | 0.3716 |      | 0.3481 | 0.3557 |      | 0.3175 | 0.3139 |

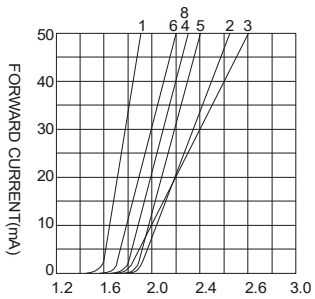
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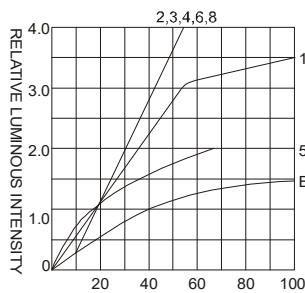
## Typical electrical-optical characteristics curves:



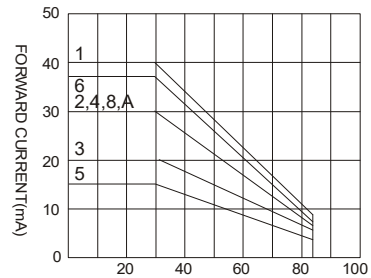
- (1) - GaAsP/GaAs 655nm/Red
- (2) - GaP 570nm/Yellow Green
- (3) - GaAsP/GaP 585nm/Yellow
- (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) - GaP 700nm/Bright Red
- (6) - GaAlAs/GaAs 660nm/Super Red
- (8) - GaAsP/GaP 610nm/Super Red
- (9) - GaAlAs 880nm
- (10) - GaAs/GaAs & GaAlAs/GaAs 940nm
- (A) - GaN/SiC 430nm/Blue
- (B) - InGaN/SiC 470nm/Blue
- (C) - InGaN/SiC 505nm/Ultra Green
- (D) - InGaAl/SiC 525nm/Ultra Green



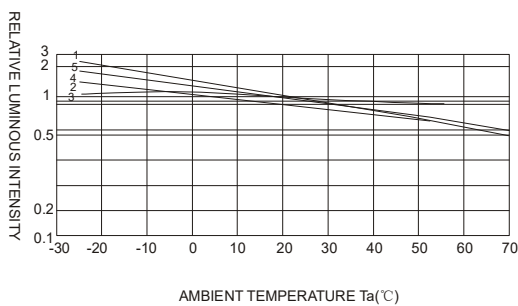
FORWARD VOLTAGE (Vf)  
FORWARD CURRENT VS.  
FORWARD VOLTAGE



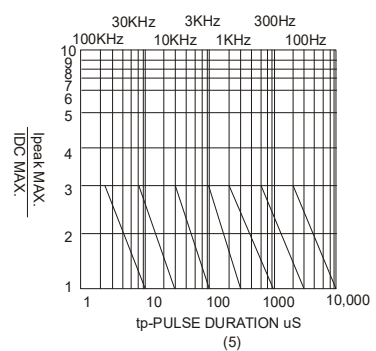
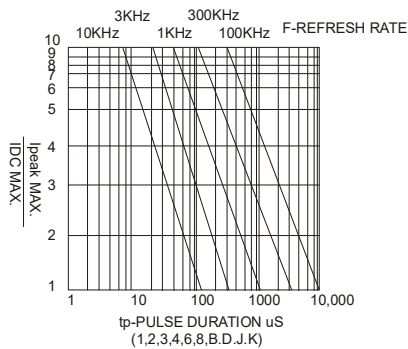
FORWARD CURRENT (mA)  
RELATIVE LUMINOUS  
INTENSITY VS. FORWARD  
CURRENT



AMBIENT TEMPERATURE Ta(°C)  
FORWARD CURRENT VS. AMBIENT  
TEMPERATURE



AMBIENT TEMPERATURE Ta(°C)



NOTE: 25°C free air temperature unless otherwise specified

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■ Packing and weighting

