

# МОЩНЫЙ СВЕТОДИОД ARPL-31W-TFA-1919-90

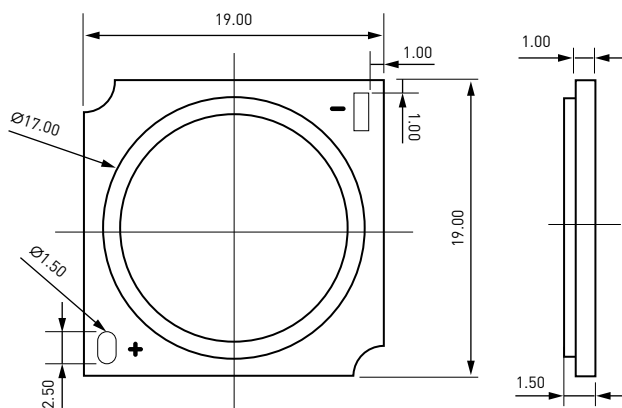
## FEATURES

- 2700K, CRI90, 130-140 lm/W
- For indoor general lighting: spotlights, track lights, downlights
- For Industrial lighting: floodlight, high bay light, streetlight
- Low thermal resistance
- RoHS and REACH compliant

## SUPERIORITY

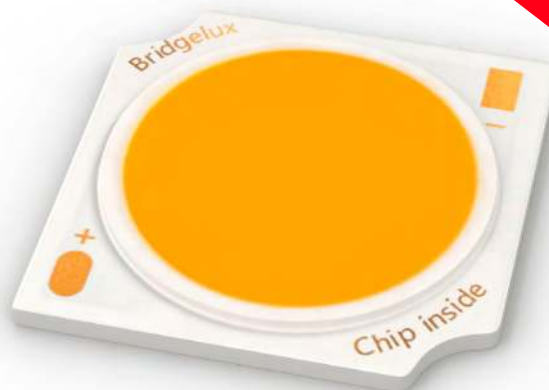
- High brightness and light efficiency.
- High color saturation.
- Easy to use with solar and wind energy saving systems.
- Enhanced optical control.
- Greatly reduce the thermal resistance of the light source, improve the weather resistance quality of the light source.
- Reduce the cost of use.
- Reduce maintenance costs.
- No environmental disposal issues.

## MECHANICAL DIMENSION



Notes:

1. All dimension tolerance is  $\pm 0.2\text{mm}$  unless otherwise noted.



## ABSOLUTE MAXIMUM RATINGS

| Item                  | Symb.            | Min.                           | Typ | Max.          | Unit |
|-----------------------|------------------|--------------------------------|-----|---------------|------|
| Power                 | P                | -                              | 31  | 36            | W    |
| Forward Voltage       | VF               | 33                             | 35  | 37            | V    |
| Forward Current       | I <sub>F</sub>   | -                              | 830 | 960           | mA   |
| Operating Temperature | TC               | -40                            | -   | 85            | °C   |
| Junction Temperature  | T <sub>J</sub>   | -                              | -   | 125           | °C   |
| Storage Temperature   | T <sub>STG</sub> | -40                            | -   | 105           | °C   |
| ESD Sensitivity       | ESD              | -                              | -   | 2000          | V    |
| Reverse Voltage       | VR               | Reverse testing is not allowed |     |               | /    |
| Reverse Current       | IR               |                                |     | 5             | uA   |
| Soldering Temperature | T <sub>SLD</sub> |                                |     | 350 °C/3-5sec | °C/S |

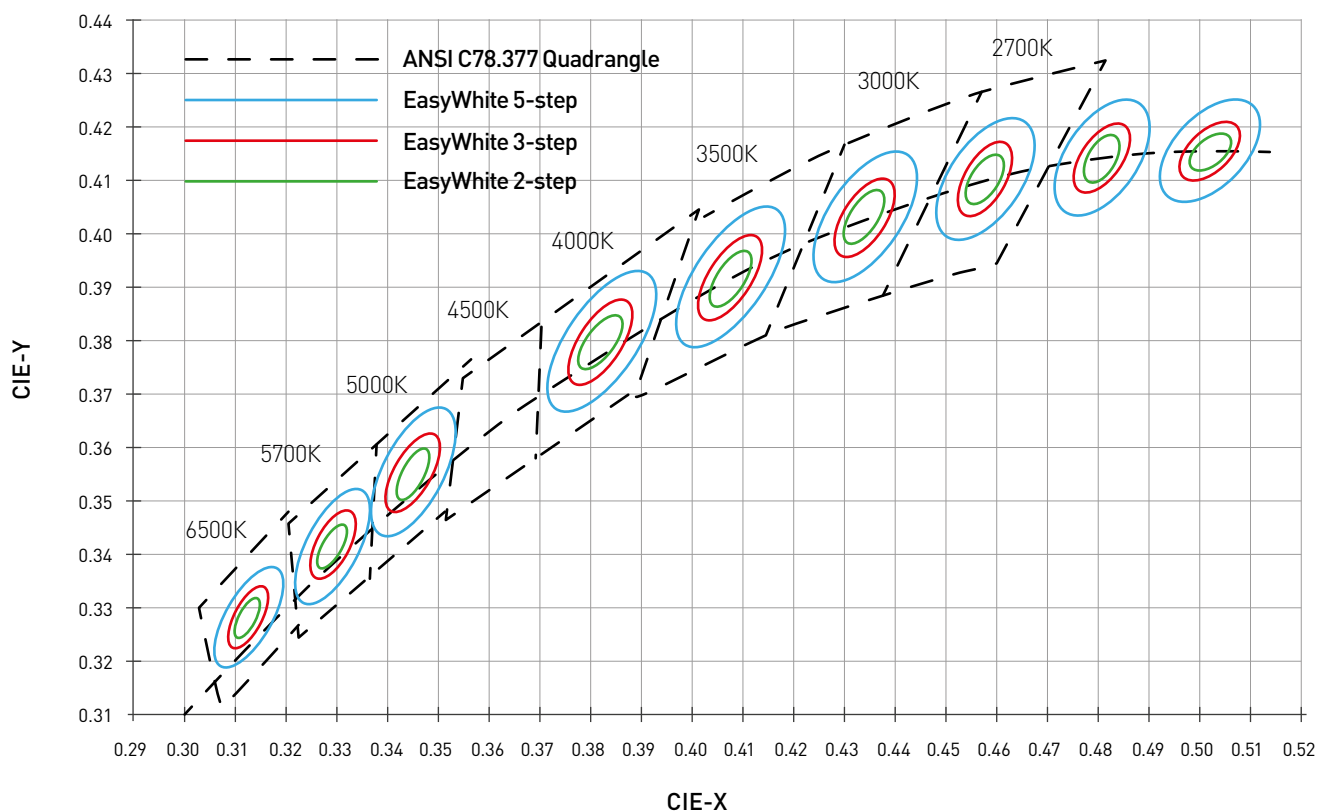
Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.  
Connection error and off-limits voltage may damage LED chip.

## ELECTRO-OPTICAL CHARACTERISTICS AT T<sub>J</sub>=25 °C

| Product                                            | RA | CCT  | Luminous Flux<br>(lm) 670mA | Efficacy<br>(lm/W)<br>670mA | Voltage<br>(V)<br>VF670mA | Part Number                |
|----------------------------------------------------|----|------|-----------------------------|-----------------------------|---------------------------|----------------------------|
| ARPL-31W-TFA-1919-<br>Warm2700-90<br>(36v, 830 mA) | 90 | 2700 | 3900-4200                   | 130-140                     | 33-37                     | TP1-1917B-<br>1206P5-H27A0 |

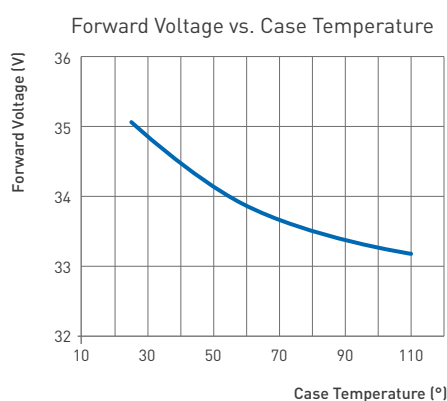
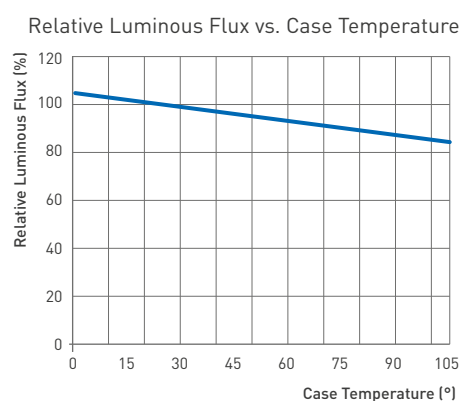
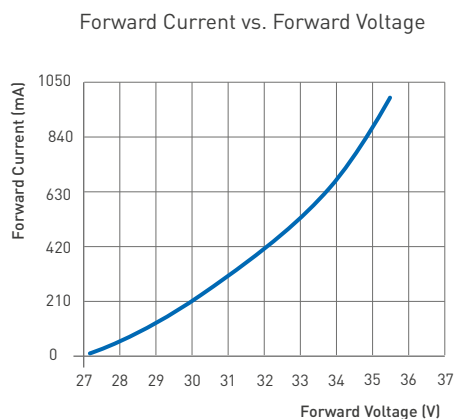
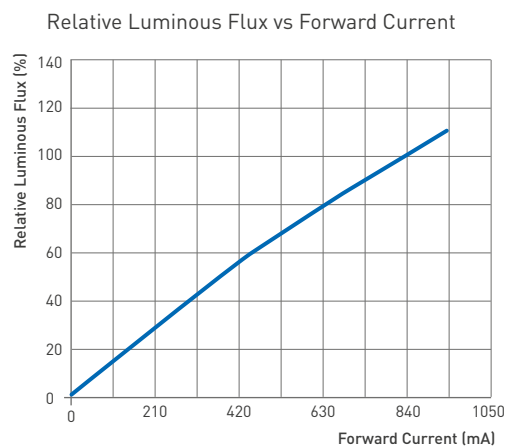
Testing environment temperature 25 °C, and CCT and voltage will be changed if tested in different current and environment temperature.  
Tolerance among different testing machine: Voltage:  $\pm 0.1\text{V}$ , Lumen:  $\pm 5\%$ , CRI:  $\pm 2$ , Color coordinate  $\pm 0.005$ .

## THE REFERENCE MAP COLOR AREA

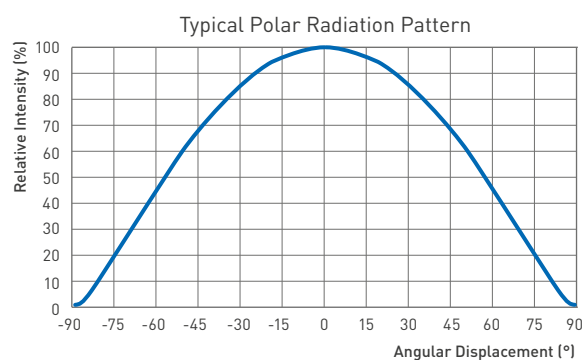
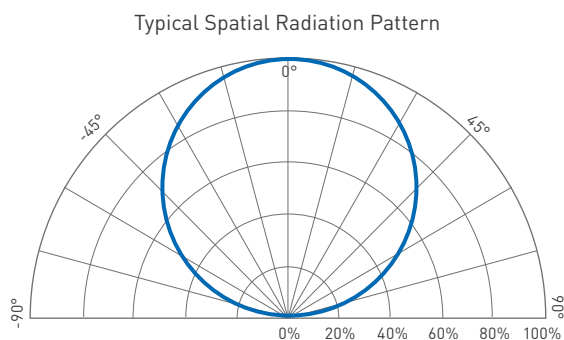


| Nominal CCT | Center Point |        | MAJOR AXIS (a , b) |                  |                 | Ellipse Rotation |
|-------------|--------------|--------|--------------------|------------------|-----------------|------------------|
|             | X            | Y      | 2-Step             | 3-Step           | 5-Step          |                  |
| 2700 K      | 0.4578       | 0.4101 | [0.0054, 0.0028]   | [0.0081, 0.0042] | [0.0135, 0.007] | 53.7             |

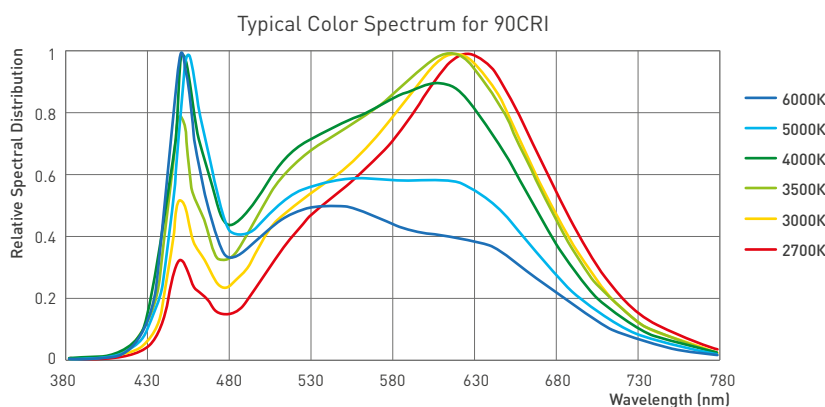
## CHARACTERISTIC CURVES



## OPTICAL CURVES



Typical viewing angle is 120°. The viewing angle is defined as the off axis angle from the center line where intensity is 1/2 of the peak value.



1. Color spectra measured at nominal current for  $T_j = T_c = 25^\circ\text{C}$ .
2. Color spectra shown is 2700K and 6000K with CRI90.

## RELIABILITY TEST

| Test Item                              | REF. Standard | Test condition                                                       | Sample quantity | Failure quantity |
|----------------------------------------|---------------|----------------------------------------------------------------------|-----------------|------------------|
| Thermal Shock                          | JESD22-A104E  | -40 °C (15min) ~ 120 °C (15min),<br>200 cycles                       | 22              | 0                |
| High Temperature Storage               | JESD22-A103D  | Ta=100 °C, 1000h                                                     | 22              | 0                |
| Low Temperature Storage                | JESD22-A119   | Ta=-40 °C, 1000h                                                     | 22              | 0                |
| Temperature, High Humidity, Aging Test | JESD22-A101C  | Ta=85 °C, RH>=85%, IF=830mA<br>1000h                                 | 22              | 0                |
| High-temperature operation             | IES LM80-2015 | Ta=105 °C, IF=830mA<br>1000h                                         | 22              | 0                |
| Low temperature operation              | JESD22-A108D  | T=40 °C, IF=830mA<br>1000h                                           | 22              | 0                |
| Moisture/Reflow Sensitivity Test       | J-STD-020E    | Precondition:<br>60 °C, 60%RH, 168H<br>Tsld=260 °C. 10sec. 3 Reflows | 22              | 0                |