# GUARDIAN TROFFER DIFF 3 DALI SENSOR EMERG

GTBT2WD3DSE-6X3-14W

- Perfect solution for office installations
- Australian made and engineered
- High lumen efficacy
- Zhaga LED arrays allow for easy maintenance
- Excellent colour tolerance of 3-step MacAdam Ellipse
- Long LED lifetime >53000 hours L90B10
- Made from quality zinc-plated cold-rolled steel
- This fitting can be engineered to meet the installation requirements with custom lengths, widths and air slot positions
- Selected models covered under IPART (NSW) and REES (SA)

| PROJECT INFORMATION | |
|---|---|
| **Project Name** | LED DIRECT-GTBT2WD3DSE-6X3-14W |
| **Fixture Type** | Troffer Diff 3 |

| ORDERING INFORMATION | |
|---|---|
| **Order code** | GTBT2WD3DSE-6X3-14W |
| **Description** | GUARDIAN TROFFER DIFF 3 DALI SENSOR EMERG 14W Troffer / 293mm x 590mm - Two Way Grid / 4000k / 80cri / 1630lm / DALI |
| **Driver Type** | DALI DT1 & DT6 Dimmable |
| **Included options** | Ultra Wide, Zencontrol DALI-2 Smart + EM + PIR Sensor, F&P 2C (1M), Driver 350 mA |

| EFFICIENCIES | |
|---|---|
| **Chip Efficiency** | 183 lm/W |
| **Optical Efficiency** | 77 % |
| **Luminare Efficiency** | 141 lm/W |
| **Driver Efficiency** | 82 % |
| **Total System Efficiency** | 116 lm/W |

The performance of each component of a luminaire is demonstrated through its efficiencies, which together determine the total system efficiency of the product. The output of the LED chip is first multiplied by the optical and thermal efficiencies to calculate the Luminaire efficiency. However, this calculation does not consider the driver efficiency. To determine the overall efficiency of the system, the Luminaire efficiency must be multiplied by the driver efficiency, which accounts for all losses in the system.

| MECHANICAL | |
|---|---|
| **Body Material** | Zinc Annealed Steel |
| **Diffuser Dimensions** | 555 x 190 mm |
| **Diffuser Material** | PMMA |
| **Product Finish** | Powder coated |
| **Fitting Colour** | Mannex White |
| **Installation Type** | Recessed |

| ELECTRICAL | |
|---|---|
| **Electrical Rating** | Class II |
| **Input Frequency** | 50 Hz |
| **Input voltage** | 230Vac |

In Australia the Input voltage is defined as 230Vac -6%/+10%. This effectively means that the voltage range of these products are 216Vac - 253Vac or 240V +6%

| | |
|---|---|
| **Maximum Wattage** | 14 W |
| **Power Factor** | 0.95 |
| **Working Temp Range** | -25 to 40 °C |



0438787878 info@leddirectsolutions.com.au

## LAMP

| | |
|---|---|
| **Macadam Steps (SDCM)** | 3-step MacAdam Ellipse |
| **CCT Configuration** | Single |
| **Colour Rendering Index (CRI)** | >80 |
| **Light Output Ratio (LOR)** | 77 % |

## LED LIFETIME

| | |
|---|---|
| **LED Lifetime** | >54,000 hrs |

This is the Reported LED Lifetime in Hours based on TM-21. LED DIRECT SOLUTIONS does not list the projected or calculated LED lifetime, which is normally longer as TM-21 Addendum B explicitly states "The Calculated and Projected Lp(Dk) are not to be reported". This Lifetime refers to the life of a single LED however the system life is longer since the probability and binomial distribution of all LEDs in the system means that the average led is performing above the specification and compensates for the LEDs falling below.

| | | |
|---|---|---|
| **Ambient Temp (°C)** | 25 °C | 40 °C |
| **L90B10** | 53000 hrs | 53000 hrs |

This rating defines the performance of the led within its lifetime. L relates to lumen depreciation, where the proceeding number gives the resultant lumen output at the end of it reported lifetime. L70, would mean 30% lumen depreciation which means 70% of its initial output and is tested accordingly to TM-21. The B part refers to failures, which can be define as the percentage of LEDs which fall below the L value in the projected lifetime. A value of B10 refers to 10% failure and a value of B50 refers to 50% failure. After the defined lifetime, the system will reach the defined lumen depreciation and the average led failures is defined by the B rating. The B rating is defined in and tested to IEC62717.

| | |
|---|---|
| **TM-21 Test Hours** | 9000 hrs |

## COLOUR TEMPERATURE

| | |
|---|---|
| **CCT** | 4000 K |
| **Luminaire Lumens** | 1630 lm |

All photometric data has a tolerance of ±10%. Luminaire lumens refers to the exit lumens or delivered lumens from the luminaire.

## DRIVER

| | |
|---|---|
| **Dimmable** | Yes |
| **Driver Included** | Yes |
| **Driver Mode** | Constant Current |
| **Driver Type** | DALI DT1 & DT6 Dimmable |
| **Flex & Plug or Lead Length** | 1000 mm |
| **Wiring Type** | F&P 2C (1M) |
| **Driver Current** | 350 mA |

## SENSOR (S SUFFIX)

| | |
|---|---|
| **Adjustable Detection Area / Sensitivity** | No |
| **Adjustable Hold Time** | Yes |
| **Adjustable Standby Level** | Yes |
| **Adjustable Standby Period** | Yes |
| **Corridor Function** | Yes |
| **Detection Range** | 8 m |
| **Detection Angle** | 360 |
| **Dusk Mode** | Yes |
| **Lux Adjustment** | Yes |
| **Lux Range** | 0-1000 lx |
| **Manual Override** | No |
| **Sensor Communication** | DALI-2 |
| **Sensor Type** | PIR |

## EMERGENCY (EM SUFFIX)

| | |
|---|---|
| **Replacement Battery Code** | zc-batt-2A1-CAA |
| **Emergency Classification** | C0:D32, C90:D32 |
| **Emergency Control** | DALI Monitored (DT1) |

DALI Monitored ~ Supports Emergency test and monitoring over DALI (IEC62386) with full compliance to IEC62386-202.

| | |
|---|---|
| **Emergency Duration** | 90 mins |
| **Emergency Lumen Output** | 185 lm |
| **Emergency Mode** | Combined |
| **Emergency Output Power** | 1000 mW |

## COMPLIANCE

| | |
|---|---|
| **Product Design Life** | 10 years |

The product design life relates to the total product life which includes LEDs, drivers and the enclosure. This is different to the LED lifetime which only refers to the economical lifetime of the LEDs at which time the lumen output has dropped below the L Value. The product design life is calculated at the maximum ambient or working temperature of the product and takes into account the Daily Use.

| | |
|---|---|
| **Daily Use** | 13 hrs |

The Daily Use is the recommended time required to meet the product's design life. Installations can exceed this time, however the product design life will be reduced proportionally.

| | |
|---|---|
| **Standards** | AS/NZS 60598.1<br>AS/NZS 60598.2.2<br>AS/NZS 61347.1<br>AS/NZS 61347.2.13<br>IEC/TR 62778<br>IEC 62031<br>AS/NZS 61535.1<br>AS CISPR 15 |

## WARRANTY

| | |
|---|---|
| **Commercial Use Warranty** | 7 RTB (Total 7 Years) Control gear & LEDs. 5 Year for body |

7 Year Return to base warranty on the Control Gear and LEDs which is subject to the hours of operation and use. All other components are covered by a return to base 3 year workmanship and defect warranty.

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| **Warranty Operating Hours** | 40000 hrs |

This product is provided with a warranty up until the stated warranty period or until the stated warranty operating hours has been reached (whichever occurs first).

## DIMENSIONS

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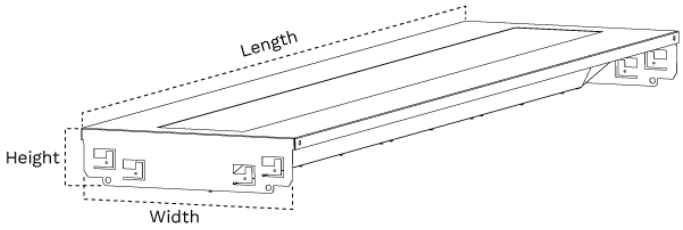
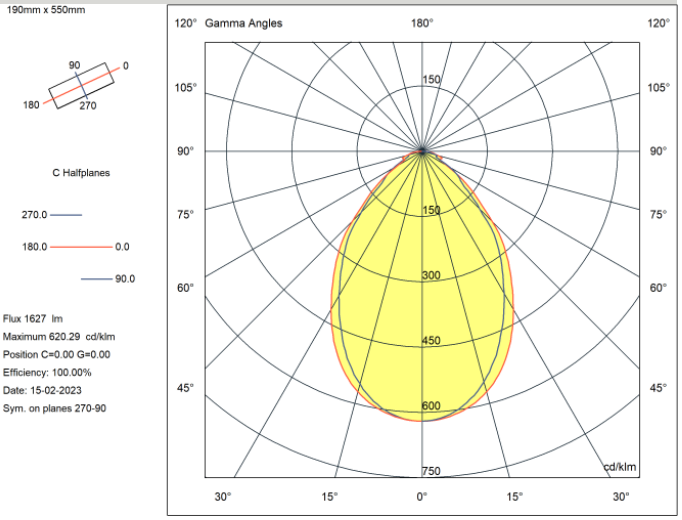
| **Product Height** | 80 mm |
| **Product Length** | 590 mm |
| **Product Width** | 293 mm |

All dimensions are +/- 1mm.

## LINE DRAWINGS




## PHOTOMETRICS



# UGR

| Reflectancies | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ceiling/Cavity | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Walls | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| WorkingPlane | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| **Room Dim.** | **Viewed Crosswise** | | | | | **Viewed Endwise** | | | | |
| x=2H y=2H | 15.5 | 16.6 | 15.8 | 16.8 | 17.0 | 15.3 | 16.4 | 15.6 | 16.6 | 16.8 |
| x=2H y=3H | 16.3 | 17.2 | 16.6 | 17.5 | 17.7 | 15.9 | 16.9 | 16.2 | 17.1 | 17.4 |
| x=2H y=4H | 16.8 | 17.7 | 17.1 | 17.9 | 18.2 | 16.3 | 17.2 | 16.6 | 17.4 | 17.7 |
| x=2H y=6H | 17.3 | 18.1 | 17.6 | 18.4 | 18.7 | 16.7 | 17.5 | 17.0 | 17.8 | 18.1 |
| x=2H y=8H | 17.5 | 18.3 | 17.9 | 18.6 | 18.9 | 16.8 | 17.6 | 17.2 | 17.9 | 18.3 |
| x=2H y=12H | 17.7 | 18.5 | 18.1 | 18.8 | 19.1 | 17.0 | 17.7 | 17.3 | 18.1 | 18.4 |
| x=4H y=2H | 15.9 | 16.8 | 16.2 | 17.0 | 17.3 | 15.6 | 16.5 | 16.0 | 16.8 | 17.1 |
| x=4H y=3H | 16.8 | 17.6 | 17.2 | 17.9 | 18.2 | 16.5 | 17.3 | 16.9 | 17.6 | 17.9 |
| x=4H y=4H | 17.5 | 18.2 | 17.9 | 18.5 | 18.9 | 17.0 | 17.7 | 17.4 | 18.0 | 18.4 |
| x=4H y=6H | 18.1 | 18.7 | 18.6 | 19.1 | 19.5 | 17.6 | 18.2 | 18.0 | 18.5 | 18.9 |
| x=4H y=8H | 18.5 | 19.0 | 18.9 | 19.4 | 19.8 | 17.8 | 18.4 | 18.3 | 18.7 | 19.2 |
| x=4H y=12H | 18.7 | 19.2 | 19.2 | 19.6 | 20.0 | 18.0 | 18.5 | 18.5 | 18.9 | 19.3 |
| x=8H y=4H | 17.7 | 18.2 | 18.1 | 18.6 | 19.0 | 17.3 | 17.8 | 17.7 | 18.2 | 18.6 |
| x=8H y=6H | 18.5 | 18.9 | 19.0 | 19.4 | 19.8 | 18.0 | 18.4 | 18.5 | 18.9 | 19.3 |
| x=8H y=8H | 19.0 | 19.3 | 19.4 | 19.8 | 20.3 | 18.4 | 18.8 | 18.9 | 19.2 | 19.7 |
| x=8H y=12H | 19.3 | 19.6 | 19.8 | 20.1 | 20.6 | 18.7 | 19.0 | 19.2 | 19.5 | 20.0 |
| x=12H y=4H | 17.7 | 18.2 | 18.2 | 18.6 | 19.0 | 17.3 | 17.8 | 17.7 | 18.2 | 18.6 |
| x=12H y=6H | 18.6 | 19.0 | 19.1 | 19.4 | 19.9 | 18.1 | 18.5 | 18.6 | 18.9 | 19.4 |
| x=12H y=8H | 19.1 | 19.4 | 19.6 | 19.9 | 20.4 | 18.5 | 18.8 | 19.0 | 19.3 | 19.8 |
| **Variations** | | | | | | | | | | |
| S = 1.0 H | 0.9 / -3.1 | | | | | 0.9 / -3.1 | | | | |
| S = 1.5 H | 1.5 / -5.6 | | | | | 1.6 / -6.1 | | | | |
| S = 2.0 H | 2.2 / -7.2 | | | | | 2.2 / -7.5 | | | | |
| **Std. Table** | BK05 | | | | | BK04 | | | | |
| **Addendum Cor.** | 1.4 | | | | | 0.4 | | | | |

AS/NZS 1680.2 specifies the UGR value is rounded by +/- 1.5. For example values between 20.5 and 23.5 are considered to be UGR 22. The data in the table below lists the corrected UGR values.