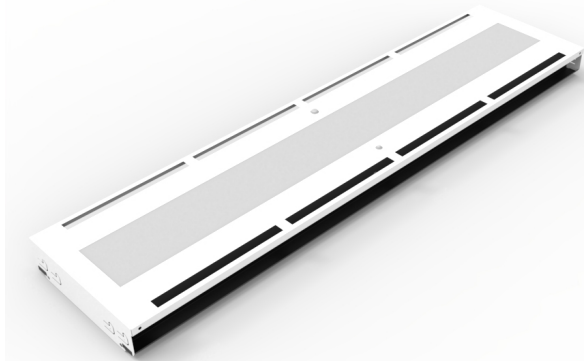




GUARDIAN AIR RETURN DIFF 2 DALI SENSOR EMERGENCY

GTBTAR2WD2DSE-12X3-84-22W

- 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 GTBTAR2WD2DSE-12X3-840-22 W
Fixture Type	Troffer Air Return Diff 2

ORDERING INFORMATION

Order code	GTBTAR2WD2DSE-12X3-84-22W
Description	GUARDIAN AIR RETURN DIFF 2 DALI SENSOR EMERGENCY Air Return Slotted 22.8W Troffer / 293mm x 1190mm - Two Way Grid / 4000k / 80cri / 2820lm / DALI
Driver Type	DALI DT1 & DT6 Dimmable
Included options	Wide Diffuser, Zencontrol DALI-2 Smart + EM + PIR Sensor, F&P 2C (1M), Driver 600 mA

EFFICIENCIES

Chip Efficiency	185 lm/W
Optical Efficiency	77 %
Luminare Efficiency	143 lm/W
Driver Efficiency	86 %
Total System Efficiency	123 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	1110 x 120 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	22.8 W
Power Factor	0.95
Working Temp Range	-25 to 40 °C



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 2820 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	600 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 AS/NZS 60598.2.2 AS/NZS 61347.1 AS/NZS 61347.2.13 IEC/TR 62778 IEC 62031 AS/NZS 61535.1 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.

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

Product Height

80 mm

Product Length

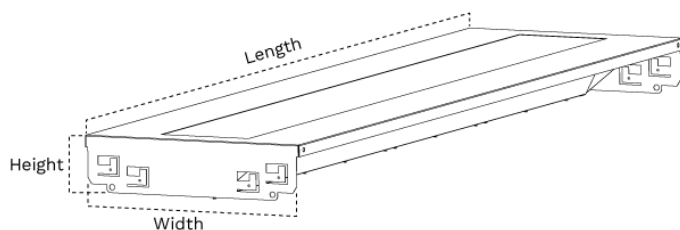
1190 mm

Product Width

293 mm

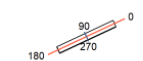
All dimensions are +/- 1mm.

LINE DRAWINGS



PHOTOMETRICS

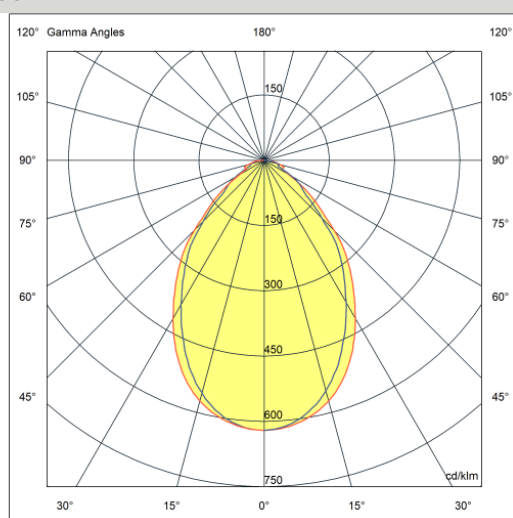
120mm x 1110mm



C Halfplanes



Flux 2822 lm
Maximum 620.32 cd/klm
Position C=0.00 G=0.00
Efficiency: 100.00%
Date: 15-02-2023
Sym. on planes 270-90





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	16.6	17.7	16.9	17.9	18.1	16.4	17.4	16.6	17.7	17.9
x=2H y=3H	17.3	18.3	17.6	18.5	18.8	17.0	17.9	17.3	18.2	18.4
x=2H y=4H	17.9	18.7	18.2	19.0	19.3	17.4	18.3	17.7	18.5	18.8
x=2H y=6H	18.3	19.2	18.7	19.5	19.8	17.7	18.6	18.1	18.9	19.2
x=2H y=8H	18.6	19.4	18.9	19.7	20.0	17.9	18.7	18.3	19.0	19.3
x=2H y=12H	18.8	19.5	19.1	19.8	20.2	18.0	18.8	18.4	19.1	19.4
x=4H y=2H	16.9	17.8	17.3	18.1	18.4	16.7	17.6	17.0	17.9	18.2
x=4H y=3H	17.9	18.6	18.2	19.0	19.3	17.6	18.4	18.0	18.7	19.0
x=4H y=4H	18.6	19.2	18.9	19.6	19.9	18.1	18.8	18.5	19.1	19.5
x=4H y=6H	19.2	19.8	19.6	20.2	20.6	18.7	19.2	19.1	19.6	20.0
x=4H y=8H	19.5	20.1	20.0	20.5	20.9	18.9	19.4	19.3	19.8	20.2
x=4H y=12H	19.8	20.3	20.2	20.7	21.1	19.1	19.6	19.5	20.0	20.4
x=8H y=4H	18.8	19.3	19.2	19.7	20.1	18.3	18.9	18.8	19.2	19.7
x=8H y=6H	19.6	20.0	20.0	20.4	20.9	19.1	19.5	19.5	19.9	20.4
x=8H y=8H	20.0	20.4	20.5	20.8	21.3	19.5	19.8	19.9	20.3	20.7
x=8H y=12H	20.4	20.7	20.9	21.2	21.7	19.7	20.1	20.2	20.5	21.0
x=12H y=4H	18.8	19.3	19.2	19.7	20.1	18.4	18.8	18.8	19.2	19.7
x=12H y=6H	19.7	20.0	20.1	20.5	21.0	19.2	19.5	19.7	20.0	20.5
x=12H y=8H	20.1	20.5	20.6	20.9	21.4	19.6	19.9	20.1	20.4	20.9
Variations										
S = 1.0 H	0.9 / -2.9					0.9 / -2.9				
S = 1.5 H	1.4 / -5.0					1.5 / -5.5				
S = 2.0 H	2.1 / -6.5					2.1 / -6.7				
Std. Table	BK05					BK04				
Addendum Cor.	2.4					1.5				

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.