GUARDIAN-HO-BL-LX-DALI

ITEM NO. GUARDIAN - 44656

The Guardian High Output LED Emergency Downlight delivers an energy-efficient and high-performance 5.2W LED solution with an impressive high lumen output of up to 650LM, ideal for emergency lighting applications. Designed for open-area use, it features an integrated optic engineered for optimal light dispersion, ensuring safety and visibility in critical scenarios.
Perfect for plasterboard ceilings, this compact fixture includes a battery pack specifically designed to fit through the fixture's aperture for easy installation. The open-area optic is standard, with a corridor optic accessory included for added versatility.
Note: Please ensure that the appropriate optic is used during installation to meet your project requirements.

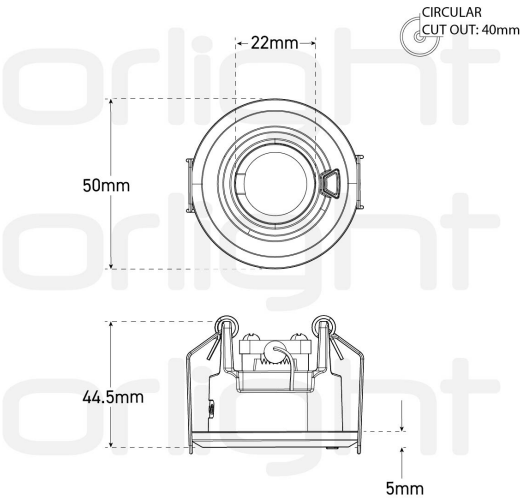
Features:

- Emergency lighting LED fixtures with DALI-2 interface and automatic testing function
- LED emergency lighting supply unit
- Open area lens (default) and Corridor area lens (included)
- LED module with a forward voltage of 30Vdc
- SELV output voltage
- Constant power output
- LiFePO4 battery pack
- 850°C Glow-wiring Test

Functions:

- DALI-2 Function
- Non-maintained operation
- Electronic charge system
- Deep discharge protection
- Short-circuit-proof battery connection
- Open-circuit-proof
- Polarity reversal protection for battery

Dimension



Technical Specification

Item Category	AMENITY	Product Family	GUARDIAN
Product Varient	GUARDIAN	Wattage	5.2W
CCT	6000K	Lumen Output	650LM
Efficacy (Lm/W)	125LM/W	Chipset	SMD 5050 LED
CRI	CRI > 80	Binning	2 STEP MACADAMS
Milliamp / Current	12MA-27MA	Voltage	220-240V
Control	DALI	Emergency	3HRS
Beam Angle	150˚	Compatible Light Source	SOLID STATE LED
Lamp Change	SOLID STATE LED	Operating Ambient Temperature	5˚C - 45˚C
Construction	ALUMINIUM & PC	Finish	BLACK
RAL	RAL 9005	IP Rating	IP20
IK Rating	IK07	Installation	CEILING RECESSED
Diameter	50 MM	Cutout	40 MM
Height	44.5 MM	Weight	0.6KG

W - www.orlight.com **T** - 01923 851 890 **E** - info@orlight.com

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In-rush current	3.5A
In-rush current duration	4ms
Mains surge capability (between L – N)	1KV
Maximum withstand voltage	2KV+4U
Withstand time	60s

Item	Mains input current, min	Mains input current, max	Input power in mains operation, min	Input power in mains operation, max
Guardian High Output	12mA	27mA	0.8W	3.8W

Item	Fixture Luminous Flux	Mode	LED module forward current range Min-Typ-Max	LED module forward power range Min-Typ-Max	LED module forward voltage range Min-Max
Guardian High Output	≥650lm	Open Area	170-176-182mA	4.8-5.1-5.46W	28-30Vdc
		Corridor			

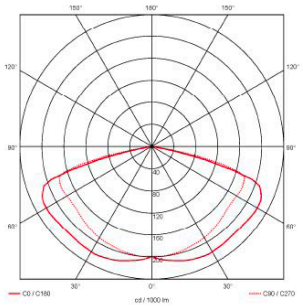
Note:

1. All specifications are typical at 25°C unless otherwise stated.
2. All specifications are typical on the 230VAC unless otherwise stated.

Polar Curve

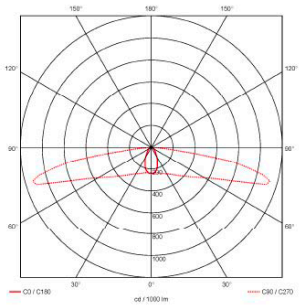
OPEN AREA VERSION

150°



CORRIDOR VERSION

150° x 55°



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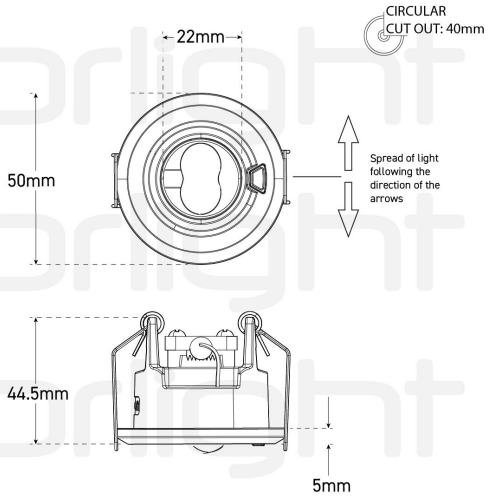
Additional Information

CORRIDOR VERSION

CORRIDOR VERSION



Testing

DALI Control:
A DALI command from a suitable control unit can be used to initiate function and duration tests at individually selected times. Status flags are set for report back and data logging of results.
When a DALI bus has not been connected or when a DALI bus is connected but the DALI default DELAY and INTERVAL times have not been reset by sending appropriate DALI commands, then the GUARDIAN will conduct self-tests in accordance with the default times set within the EEPROM. These default times are factory preset, in accordance with the DALI standard EN 62386-202, to conduct an automatic function test every 7 days and a duration test every 52 weeks. Since the DELAY time is factory preset to Zero, all units are tested at the same time. Test times can be changed with a command over the DALI bus.
The DELAY and INTERVAL time values must be reset when the emergency system test times are to be scheduled by a DALI control and monitoring system.
Note that once the default values have been set to Zero, tests will only be conducted following a command from the control system. If the DALI bus is disconnected the GUARDIAN does not revert to self-testing mode.

Addressing:
For single handed addressing using this method it is necessary to send a broadcast ident command every 3 to 9 seconds. During this command the LEDs will be switched off and the indication LED will flash the 6 bit binary address preceded by a 3 second start indication period.

Rest Mode / Inhibit Mode:
Emergency operation is automatically started when the mains supply is switched off.
If the Rest Mode is activated, the discharging of the battery will be minimized by switching off the LED output.
If the Inhibit Mode has been activated before the mains supply is switched off, Rest Mode will be automatically switched on if the mains supply is switched off within 15 minutes. REST Mode and Inhibit Mode can be initiated by the DALI controller. The REST command has to be sent after the mains supply has been discon-nected and whilst the GUARDIAN is in emergency operation.
The INHIBIT command has to be sent while the GUARDIAN is supplied by mains.
After a mains reset the GUARDIAN exits the Rest Mode.Rest Mode and Inhibit Mode can both be disabled by sending the RE-LIGHT/RESET INHIBIT command.

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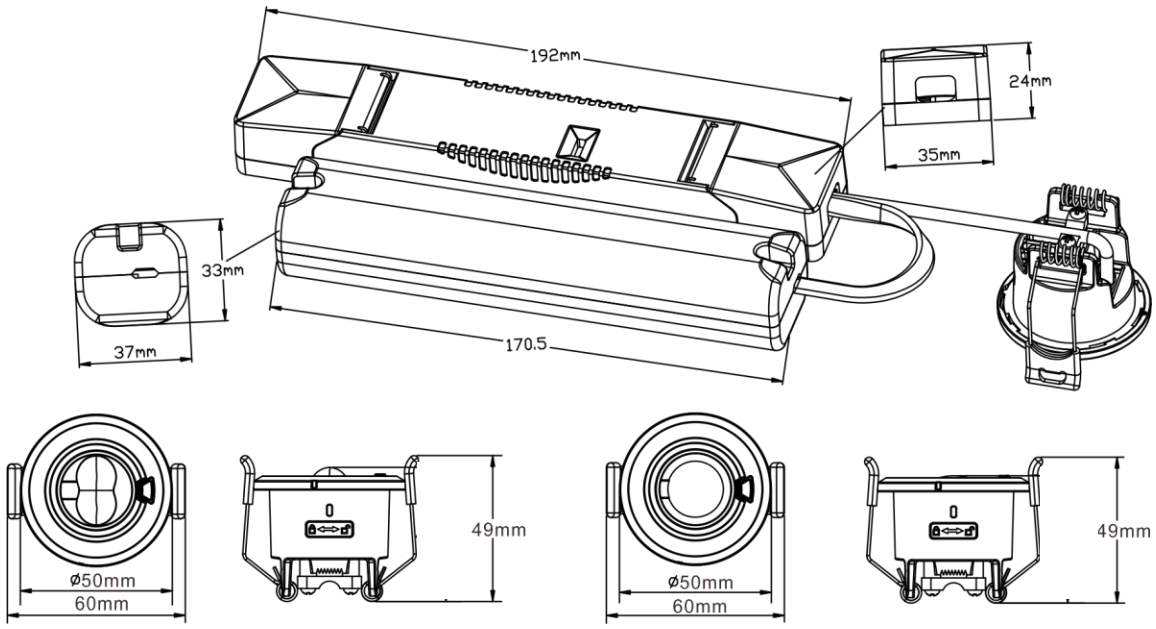
Indicator LED System status is locally by a bi-color indicator LED.

LED Indication	Status	Description	
Permanent Green	Standby, System OK	Mains Operation, battery is charged	**NOTICE** **Fault status:** If an error is detected, the indicator LED switches to RED. If the error has been corrected please reconnect the battery after the mains power off, the indicator LED immediately switches back to GREEN when mains power on. **Battery failed duration test:** After an exchange of the battery and holding down the button (>10S) reset the timer, the indicator LED switches to GREEN.
Fast flashing Green (0.25s on 0.25s off)	Function test underway	Function test underway	
Slow flashing Green (1s on 1s off)	Duration test underway	Duration test underway	
Permanent Red	Lamp failure	Open Circuit or Short circuit or LED failure	
Fast flashing Red (0.25s on 0.25s off)	Battery capacity failure	Battery failed duration test	
Slow flashing Red (1s on 1s off)	Battery fault	Incorrect battery voltage or Short circuit or Open Circuit	
Green and Red off	Battery Operation	Emergency mode: Mains disconnected or Mains failure	
Slow flashing Red (1s on 3s off)	Battery temperature error	When power on and battery temperature is above 55 (+2) °C or below 0 (+2) °C	

Wiring Diagram



Note:

1. Connect the L and N cables to corresponding connectors to finish AC wiring.
2. The battery should be changed when the battery be failed on charging's ability.
3. Building insulation may abut the sides of the luminaire.

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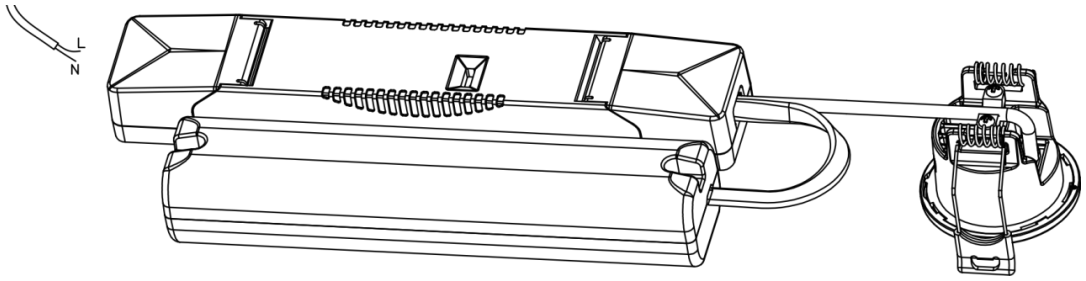
Wiring Diagram



Battery Data

Emergency power	5W
Batteries	26650/6.4V/3000mAh LiFePO4
Emergency Duration	3h
Battery discharge current Min-Typ-Max	800-900-1000mA
Battery output power Min-Typ-Max	6-6.5-7W
Battery fully charged time	16h
Charge Current	200mA±10%
Battery discharge voltage Min-Typ-Max	5.4-6.4-7.3V

Note:

Automatically charge when the voltage of a single battery drops below 3.4V. When the voltage of a single battery exceeds 3.6V, the charger turns off (0mA).

If the battery temperature is above 55(± 2 °C) or below 0 (+2 °C), the battery will stop charging.

The emergency lighting LED driver will recharge the battery normally after running the test of 61347-2-7 CL22.3 (abnormal operating conditions).

When the voltage of a single battery is below min 2.6 V, the battery will not enter an emergency state.

The minimum charging environment temperature of the battery is 5°C , to ensure that the battery can be charged.

Battery selection

Capacity	3.0Ah
International designation	IFpR 26/65
Battery voltage/cell	3.2V
Cell type	26650
Case temperature range to ensure	
4 years design life	+5°C to +55°C
5 years design life	+5°C to +45°C
6 years design life	+5°C to +35°C
Max. short term battery case temperature (shorter than 1 month over the battery lifetime)	70°C
Max. number discharge cycles	50 cycles total
Max. storage time	6 months

Notice: Storage condition

- Batteries should be stored within the specified temperature range in low humidity conditions.

Optimal storage conditions are

- Temperature: -20°C to +40°C
- Humidity: 45% - 85%

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Battery selection

- Avoid atmosphere with corrosive gas
- It is recommended to disconnect the battery before storage or delivery
- Battery should be charged every three months in order to keep it's initial performance.

Standard

This product meets the following standards:

- EN IEC60598-1
- EN IEC60598-2-1
- EN IEC60598-2-22
- EN IEC61347-1
- EN IEC61347-2-7
- EN 61000-3-2
- EN 61000-3-3
- EN 61547
- EN 62034
- EN 55015
- ROHS 2.0
- DALI standard EN 62386-202

Service Life

Average life-time 50,000 hours under rated conditions with a failure rate of less than 10% for the emergency converter as rated power. Average failure rate of 0.2% per 1000 operating hours.

Important

The electric source for safety service is not a user serviceable item and shall only be replaced by the manufacturer service agent or a similar qualified person.
The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.
The company accept no responsibility for incorrect installation, incorrect operation or improper maintenance.
After installation of the fitting, the battery must be charged for 24 hours for duration test.
The drawing in the fitting may vary to the actual product, connect as per label on fitting.
When fitting a flush fitting, refer to installation instruction, including any ceiling manufacturer's instructions.
The recharging device will recharge the battery ESSS normally after removal the short circuit link and reconnecting the ESSS.
Double or recinforce insulation between supply and battery/ESS circuits and based on a working voltage of 250V;

Disclaimer

This product must be installed by a skilled or instructed person in accordance with the current edition of the IET Wiring Regulations BS 7671 "Requirements for Electrical Installations" and the Buildings Regulations, as may be applicable subject to the location and country of the installation.

Should this product be modified, misused or not installed as per the instructions given, the product warranty shall be rendered void.

All information contained within these installation instructions manual is provided in good faith. Orlight shall not be held responsible for any losses incurred as a result of the Customer's failure to follow the instructions manual thoroughly and in its entirety or failing to inspect the product for missing parts and/or any defects prior to installation.

For full Terms and Conditions, please visit our website at: **https://www.orlight.com/en/terms-and-conditions.html**

Wiring:
Disconnect the mains supply before installation. Ensure that the unit is installed and maintained by a certified professional and that installation conforms to any local building control standard applicable.

Accessories:
Please ensure that any accessory used in conjunction with these products is approved by Orlight. Failure to do so will void any product guarantee. Orlight will not be held responsible for any loss incurred be it direct or consequential.

Note: Light fittings in general can become hot whilst in operation. It is advisable that they do not come into contact with any flammable materials such as fabrics, furniture, soft furnishings or touched during/after operation.