ELECTRIO
ELEKTRONIK

LED EMERGENCY SPOTLIGHT
POLARIS

Features

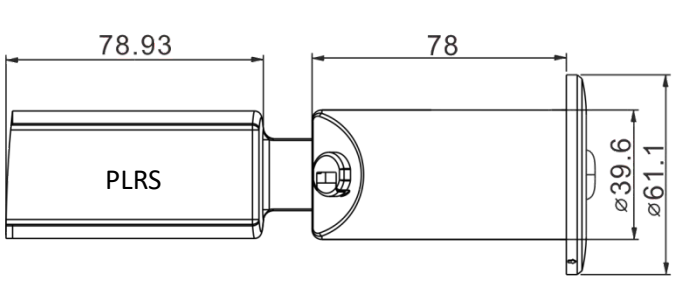
- Polaris series-recessed spot emergency lights
- LED emergency module suitable for direct installation in ceilings
- Complete set with integrated electronics, LED module, housing, and battery
- Open area and Corridor area
- For LED module with a forward voltage of 5-6Vdc
- SELV for output voltage
- Very low stand-by power loss
- Polycarbonate white RAL9016
- Plug-in Lithium Iron Phosphate battery
- 850℃ Glow-wiring Test
- 5 years guarantee for electronic part

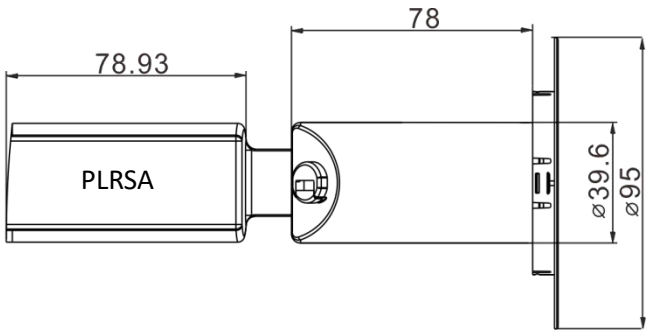
Functions

- Manual test and self-test function
- Non-maintained operation
- Electronic charge system
- Deep discharge protection
- Short-circuit-proof battery connection
- Open-circuit-proof
- Polarity reversal protection for battery

Dimensions

Unit: mm





Item Code	Carton size	QTY	Weight per pc.
PLRS	520*310*380	40PCS	223g
PLRSA	585*340*412	40PCS	240g

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Technical Data

Rated supply voltage	220-240VAC
AC voltage range	144-187VAC
Mains frequency	50/60Hz
Power factor	≥0.4
Starting time	＜1s
Ambient temperature ta	5-40℃
IP rating	IP20
In-rush current	1.5A
In-rush current duration	4ms
Mains surge capability (between L – N)	1KV
Maximum withstand voltage	2KV+4U
Withstand time	60s
CCT	6000-6500K

Item Code	Mains input current, min	Mains input current, max	Input power in mains operation, min	Input power in mains operation, max
PLRS PLRSA	5mA	30mA	0.5W	2.7W

Item Code	Fixture Luminous Flux	Mode	Clasification (AU)	LED module forward current range Min-Typ-Max	LED module forward power range Min-Typ-Max	Self-test	LED module forward voltage range Min-Max
PLRS-NN1WOBS-3H-LI	120lm±10%	Open Area	/	150-160mA	0.8-0.96W	○	5-6Vdc
PLRS-NN1WCBS-3H-LI	104lm±10%	Corridor					
PLRS-NN2WOBS-2H-LI	200lm±10%	Open Area	D40	220-250mA	1.1-1.5W		
PLRS-NN2WCBS-2H-LI	155lm±10%	Corridor	/				
PLRS-NN3WOBS-3H-LI	250lm±10%	Open Area	/	280-315mA	1.4-1.8W		
PLRS-NN3WCBS-3H-LI	185lm±10%	Corridor					
PLRS-NN4WOBS-2H-LI	320lm±10%	Open Area	D63	420-440mA	2.1.2.64W		
PLRS-NN4WCBS-2H-LI	251lm±10%	Corridor	/				
PLRS-NN1WOST-3H-LI	120lm±10%	Open Area	/	150-160mA	0.8-0.96W	●	
PLRS-NN1WCST-3H-LI	104lm±10%	Corridor					
PLRS-NN2WOST-2H-LI	200lm±10%	Open Area	D40	220-250mA	1.1-1.5W		
PLRS-NN2WCST-2H-LI	155lm±10%	Corridor	/				
PLRS-NN3WOST-3H-LI	250lm±10%	Open Area	/	280-315mA	1.4-1.8W		
PLRS-NN3WCST-3H-LI	185lm±10%	Corridor					
PLRS-NN4WOST-2H-LI	320lm±10%	Open Area	D63	420-440mA	2.1.2.64W		
PLRS-NN4WCST-2H-LI	251lm±10%	Corridor	/				

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Technical Data

Item Code	Fixture Luminous Flux	Mode	Clasification (AU)	LED module forward current range Min-Typ-Max	LED module forward power range Min-Typ-Max	Self-test	LED module forward voltage range Min-Max
PLRSA-NN1WOBS-3H-LI	120lm±10%	Open Area	/	150-160mA	0.8-0.96W	○	5-6Vdc
PLRSA-NN1WCBS-3H-LI	104lm±10%	Corridor					
PLRSA-NN2WOBS-2H-LI	200lm±10%	Open Area	D40	220-250mA	1.1-1.5W		
PLRSA-NN2WCBS-2H-LI	155lm±10%	Corridor	/				
PLRSA-NN3WOBS-3H-LI	250lm±10%	Open Area	/	280-315mA	1.4-1.8W		
PLRSA-NN3WCBS-3H-LI	185lm±10%	Corridor					
PLRSA-NN4WOBS-2H-LI	320lm±10%	Open Area	D63	420-440mA	2.1.2.64W		
PLRSA-NN4WCBS-2H-LI	251lm±10%	Corridor	/				
PLRSA-NN1WOST-3H-LI	120lm±10%	Open Area	/	150-160mA	0.8-0.96W	●	
PLRSA-M2N2WBS-3H-LI	104lm±10%	Corridor					
PLRSA-NN2WOST-2H-LI	200lm±10%	Open Area	D40	220-250mA	1.1-1.5W		
PLRSA-NN2WCST-2H-LI	155lm±10%	Corridor	/				
PLRSA-NN3WOST-3H-LI	250lm±10%	Open Area	/	280-315mA	1.4-1.8W		
PLRSA-NN3WCST-3H-LI	185lm±10%	Corridor					
PLRSA-NN4WOST-2H-LI	320lm±10%	Open Area	D63	420-440mA	2.1.2.64W		
PLRSA-NN4WCST-2H-LI	251lm±10%	Corridor	/				

Note:

1. All specifications are typical at 25°C unless otherwise stated.
2. All specifications are typical on the 230VAC unless otherwise stated.
3. ○Means “No”. ●Means "Yes".

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Testing/Commissioning(self test)

Functionality of the test button

1) A short press (>1s) on the button start a function test lasting 5 seconds (The battery's capacity should be more than 5%=charging 30mins
2)Holding down the button(>10s) resets the timer(System-reset)

Function test

The 5 second long, each 7 days' function test serves to check the functionality of the emergency unit, the batteries and LED module.

Duration test(Europe)

-First test: After 24 hours of AC mains power input, the emergency lighting unit will enter into a 3-hour duration test.
-Half year duration test: Conduct 3-hour duration test every 180-182 days to check the battery capacity.

Duration test(Europe)

-First time test: After 16 hours of AC mains power input, the emergency lighting unit will enter into a 2-hour duration test.
-Half year duration test: The test will be carried out on each 180-182days to check the capacity of batteries. The 2-hour duration test will be carried out at the first time; 1.5-hour duration test will be carried out in the following duration tests.

Notice.
-A function test&duration test shall only be started when the battery supply is fully charge if a mains supply failure occurs while a function test& duration test is in progress, the test shall be postponed and the system shall enter emergency operation. Following restoration of the mains supply , a postponed duration test shall re-commence automatically when the battery supply is fully re-charge,function test bettery≥3V,duration test bettery ≥3.55V
-The indicator will be slow flashing Green within 5 days if the duration test be carried out successfully.

Indıcator 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
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)℃ or below 0(+2)℃

Notice
Fault status:
If an error is detected, the indicator LED switches to RED. If the error has been corrected please re-connecting the battery after the mains power off, the indicator LED immediately switches back to GREEN when mains power on.

Notice
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.

Notice
When it is detected that the battery capacity is insufficient, power off and unplug the battery and power on again, which can be reset.

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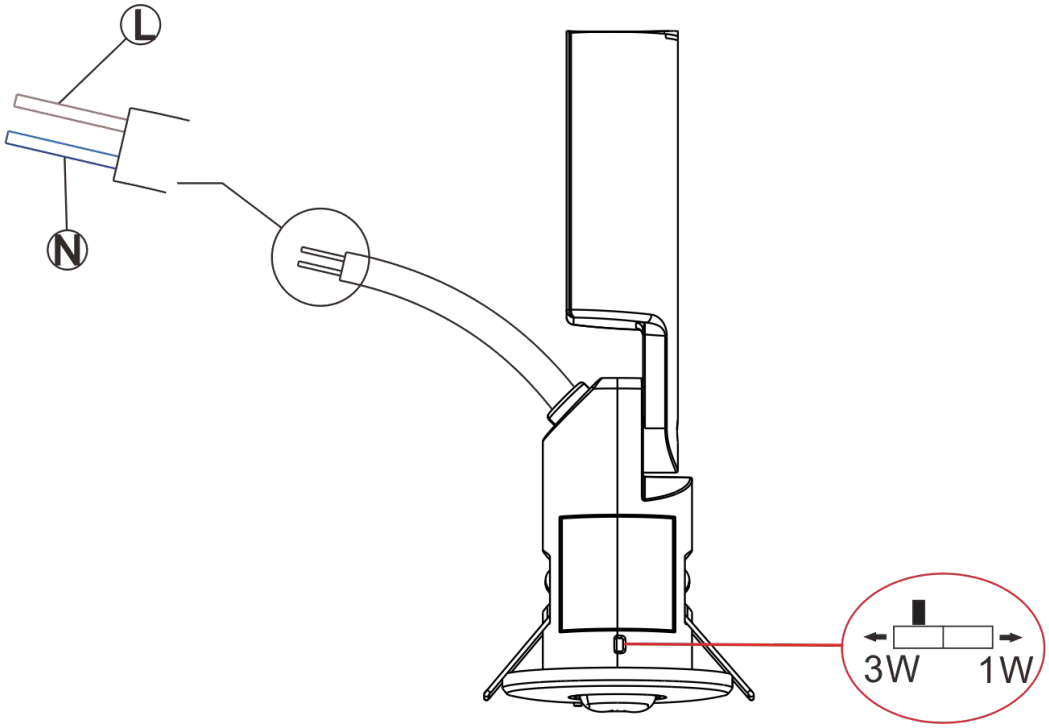
Wiring Diagram

Line:
L:BROWN
N:BLUE



Switching function mode:
Step 1: Switch the product emergency power through the dial switch shown by the arrow.
Step 2: Left:3/4W.
Step 3: Right:1/2W.

Notice.
1.Please noted that functions switching by dial switch would only be available when all the wiring is disconnected, including the AC input, DC output and the battery.
2.Please note that when using the emergency power switching function, the corresponding battery needs to be replaced, otherwise the emergency time may not be reached.

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Battery Data

Emergency power	Batteries	Emergency Duration	Battery discharge current Min-Max	Battery output power Min-Max	Battery fully charged time	Charge Current	Battery discharge voltage Min-Typ-Max
1W	18650/3.2V/1500mAhLiFePO4	3h	300-400mA	1.1-1.2W	24h	200mA±10%	2.65-3.65V
2W	18650/3.2V/1500mAhLiFePO4	2h	580-680mA	2-2.1W	16h		
3W	18650/3.2V/3000mAhLiFePO4	3h	700-800mA	2.5-2.6W	24h		
4W	18650/3.2V/3000mAhLiFePO4	2h	1000-1100mA	3.2-3.5W	16h		

Note.
Automatically charge when the voltage of a single battery drops below 3.4V. When the voltage of a single battery exceeds 3.65V, the charger turns off (0mA).
If the battery temperature is above 55 (± 2) or below 0 (+2), 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.

Capacity	1.5Ah/3Ah
International designation	IFpR 18/65
Battery voltage/cell	3.2V
Cell type	18650
Case temperature range to ensure	
4 years design life	+5°Cto+55°C
5 years design life	+5°Cto+45°C
6 years design life	+5°Cto+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℃ to +40℃
- Humidity: 45%- 85%
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.

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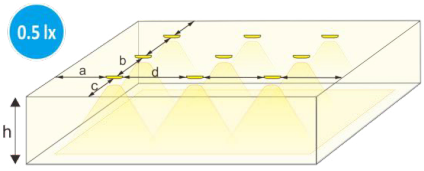
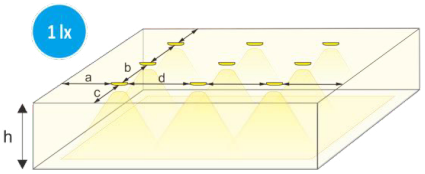
Photometric



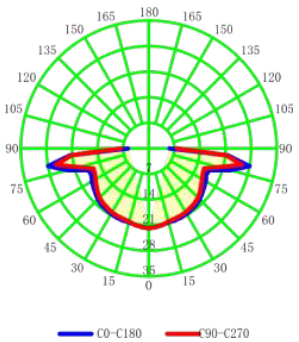


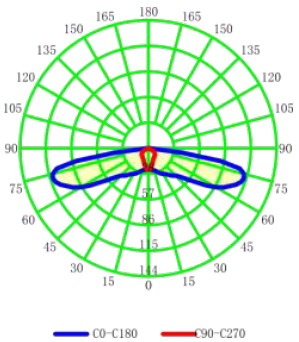
PLRS/PLRSA-NN1W

Open Area 120lm 0.5lux			Corridor Area 104lm 1lux			
Height(m)	(a)	(b)	(a)	(b)	(c)	(d)
2.8	4.55	12.1	6.2	6.2	5.4	16.1
3	4.6	12.25	6	6	5.2	8.9
4	4.6	12.7	3.85	3.85	4.6	9.6
5	4.4	12.85	/	/	3.6	10
6	3.9	12.7	/	/	/	10.1
7	2.9	12.2	/	/	/	9.7
8	/	11.2	/	/	/	/
9	/	9.7	/	/	/	/
10	/	6.1	/	/	/	/
11	/	2.3	/	/	/	/

PLRS/PLRSA-NN2W

Open Area 200lm 0.5lux			Corridor Area 155lm 1lux			
Height(m)	(a)	(b)	(a)	(b)	(c)	(d)
2.8	4.7	12.3	7.5	2.4	6.8	19
3	4.8	12.5	7.8	2.3	6.9	19.6
4	5	13.2	8	2	6.8	21.4
5	4.8	13.6	7.8	1.6	6.1	22.6
6	4.4	13.7	5.2	1.4	5.2	22.1
7	3.7	13.2	/	/	4.7	19.6
8	2.7	12.4	/	/	3.8	15.7
9	1.4	11.2	/	/	/	/
10	/	9.3	/	/	/	/
11	/	6.5	/	/	/	/
12	/	1.6	/	/	/	/





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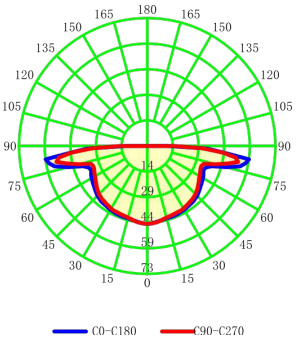
Photometric

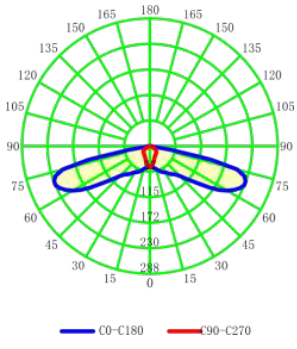
PLRS/PLRSA-NN3W

Open Area 250lm 0.5lux			Corridor Area 185lm 1lux			
Height(m)	(a)	(b)	(a)	(b)	(c)	(d)
2.8	6.2	15.5	8.15	2.72	7.3	20.05
3	6.3	16.1	8.3	2.69	7.5	20.05
4	6.5	17.2	8.8	2.35	7.5	22.8
5	6.6	17.7	8.8	1.8	7	24.2
6	6.5	18.1	5.3	1.3	6	24.9
7	6.3	18.2	/	/	5	22.5
8	5.8	18.1	/	/	4	20
9	5.1	17.8	/	/	2.5	16
10	3.9	17.2	/	/	/	/
11	1.8	16.3	/	/	/	/
12	/	15	/	/	/	/
13	/	12.5	/	/	/	/
14	/	9.5	/	/	/	/
15	/	6	/	/	/	/

PLRS/PLRSA-NN4W

Open Area 320lm 0.5lux			Corridor Area 251lm 1lux			
Height(m)	(a)	(b)	(a)	(b)	(c)	(d)
2.8	5.9	14.9	8.8	3.2	8.1	21.6
3	6	15.1	9	3.2	8.3	22.4
4	6.3	16.2	9.8	3	8.9	25.1
5	6.4	16.9	10.2	2.6	8.7	27
6	6.4	17.4	10.2	2.2	8.1	28.4
7	6.1	17.6	7.2	1.9	7.2	29.1
8	5.6	17.4	/	/	6.6	26.6
9	4.8	17	/	/	6	24.6
10	3.8	16.2	/	/	5	20.4
11	2.6	15.1	/	/	4	19
12	1.2	13.6	/	/	3	16
13	/	11.5	/	/	/	/
14	/	8.8	/	/	/	/
15	/	5	/	/	/	/





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Standard

This product meets the following standards:

- EN IEC60598-1
- EN IEC60598-2-1
- EN IEC60598-2-22
- AS/NZS 60598-2-1
- AS 2293.3
- EN IEC61347-1
- EN IEC61347-2-7
- EN 61000-3-2
- AS/NZS 60598-2-22
- AS/NZS CISPR 15
- EN 61000-3-3
- EN 61547
- EN 62034
- AS/NZS 61347-1
- EN 55015
- ROHS 2.0
- AS/NZS 60598-1
- AS/NZS 61347-2-7

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 16/24 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;