

Entry / ECO

Standard / STD

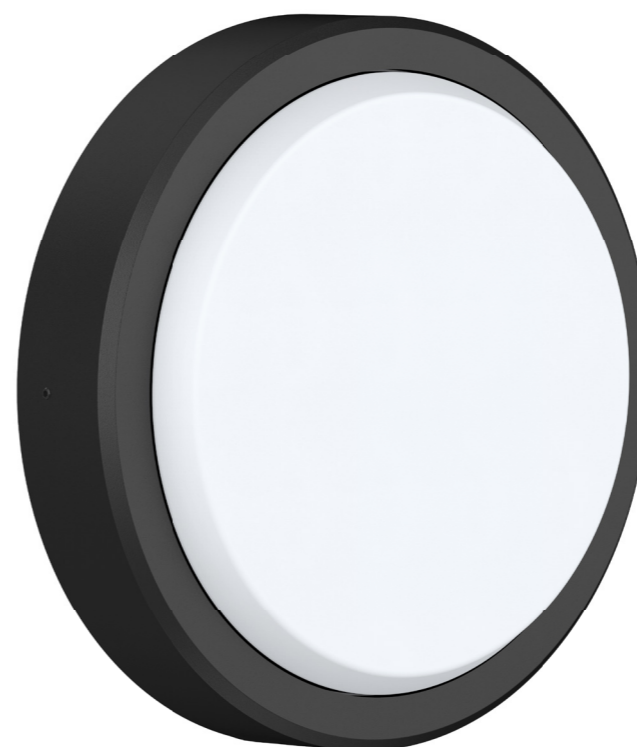
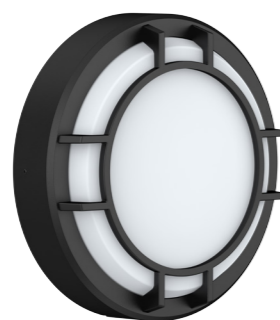
Professional / PRO

ODM & OEM

Intelligent / INT



**STD**  
Specifications



LED Ceiling Light  
AL104 Series

**luzon**  
lighting™



## Introduction

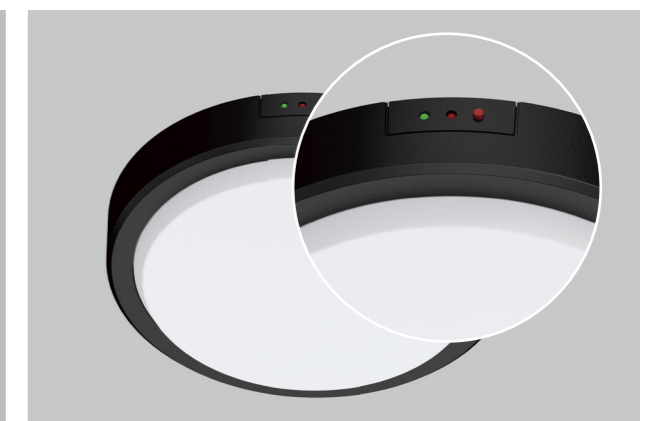
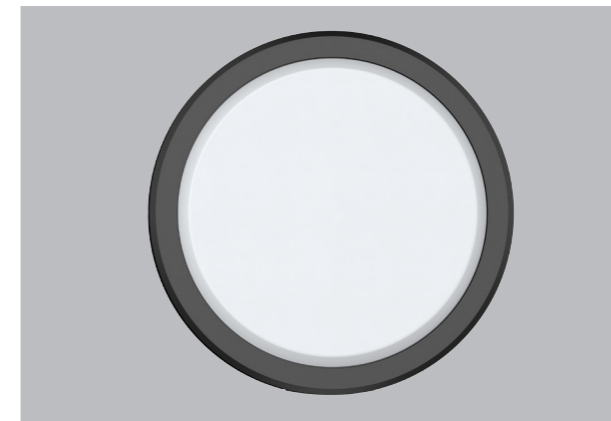
AL104 is a high cost performance ceiling light, it has three frames for option, can meet a wider application demand. Adopt high lumen 2835 SMD light source and PC diffuser, it has a high transmittance and uniform light output, the whole design has a large lighting area and light weight. Easy to install: labour saving with fast connector. High waterproof level with multiple functions.

## Features

- Vandal-proof design
- Four types of frame design: round, cross, eyelid, eaves.
- High protection level, IK10, IP65.
- High lumen efficiency, 120lm/W.
- Interchangeable CCT (3000K+4000K+5700K) with slide switch.
- Interchangeable power 20W/25W with slide switch for 12inch only.
- Function: Adjustable sensor, interchangeable CCT+adjustable power, emergency.
- Dimming way: Triac dimming, DALI dimming, 0-10V dimming.

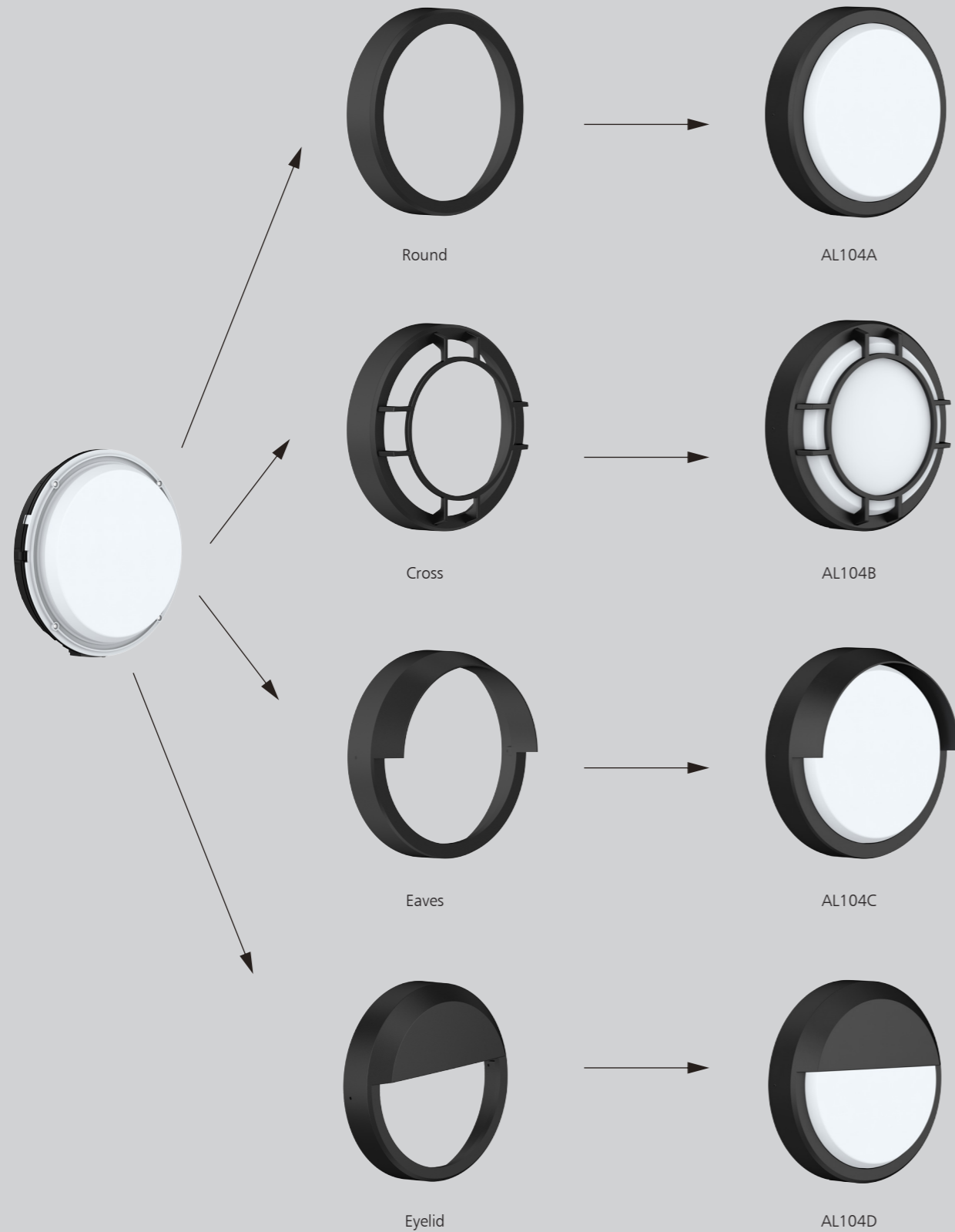
## Application Areas

Corridor, Backyard, Front yard, hotel, house Etc...





# DIY Design



## Measurement

Trim Type	Code	Dimension(mm)		Product Weight (Kg)		Package weight (Kg)		Carton Size(cm)	Qty/CTN	20GP (pcs)	40HQ (pcs)
		L	H	N.W/PC	G.W/PC	N.W/CTN	G.W/CTN				
	AL104A-10	Ø250	63	1.05	1.35	10.5	14.4	59*44*29.5	10PCS	3570	8400
	AL104A-12	Ø300	63	1.58	1.92	9.5	12.8	54.5*35*35.5	6PCS	2304	5628
	AL104B-10	Ø250	68	1.15	1.45	11.5	15.3	59*44*29.5	10PCS	3570	8400
	AL104B-12	Ø300	68	1.69	2.03	10.2	13.2	54.5*35*35.5	6PCS	2304	5628
	AL104C-10	Ø250	83	1.19	1.49	11.9	15.8	59*54*29.5	10PCS	2840	6820
	AL104C-12	Ø300	83	1.73	2.1	10.4	13.6	63.5*35*35.5	6PCS	2070	4974
	AL104D-10	Ø250	67	1.38	1.68	15.8	17	59*54*29.5	10PCS	2840	6820
	AL104D-12	Ø300	67	2.045	2.445	16.1	17.5	63.5*35*35.5	6PCS	2070	4974

## Technical Data Sheet

Code No.	AL104-10-15W				AL104-12-25W (Wattage Changeable)				
Dimension(mm)	Ø250*63MM	Ø250*68MM	Ø250*83MM	Ø250*67MM	Ø300*63MM	Ø300*68MM	Ø300*83MM	Ø300*67MM	
Watt(W)	15W				20W/25W				
Rated Input Voltage(V)	AC230V								
Input Voltage(V)	AC200-240V								
Light Source	SMD2835 0.2W								
SDCM	<6								
CCT(K)	1-CCT: 3000K/4000K/5000K/5700K    3-CCT: 3000K + 4000K + 5700K								
CCT Selection DIP Switch	YES								
Luminous Flux (lm) ±5%									
1-CCT	Non-DIM	1550-1750	1300-1500	1400-1600	1000-1100	20W:2050-2350 25W:2550-2950	20W:1750-2100 25W:1800-2150	20W:1900-2150 25W:1950-2150	20W:1300-1400 25W:1800-1900
	DIM	1500-1700	1250-1450	1350-1550	1000-1100	20W:2100-2350 25W:2600-3000	20W:1750-2100 25W:1800-2150	20W:1950-2150 25W:2350-2600	20W:1300-1400 25W:1800-1900
3-CCT	Non-DIM	1550-1750	1300-1500	1400-1600	1000-1100	20W:2050-2350 25W:2550-2950	20W:1750-2100 25W:1800-2150	20W:1900-2150 25W:1950-2150	20W:1300-1400 25W:1800-1900
	DIM	1500-1700	1250-1450	1350-1550	1000-1100	20W:2100-2350 25W:2600-3000	20W:1750-2100 25W:1800-2150	20W:1950-2150 25W:2350-2600	20W:1300-1400 25W:1800-1900
CRI	≥80								
Beam Angle (°)	120°								
LED Driver	Driver built-in								
Dimming Option	Triac / DALI / 0-10V								
Sensor	YES								
Emergency Kits	YES								
Electrical Class	Class I								
Ingress Protection (IP Rating)	IP65								
Impact Resistance (IK Rating)	IK10								
Product Finishing(Base)	BLACK RAL 9005+WHITE RAL 9016								
Materials of Optics	Polycarbonate opal diffuser								
Materials of Housing	Die-casting								
Lifetime (hr)	50,000hours at 25°C								
Glow wire test (°C)	850°C								
Operating Temp. (°C)	-20°C ~45°C								
Storage Temp. (°C)	-20°C ~65°C								
Installation	Wall mount / Surface mount								

## Driver Datasheet (Non-dimmable )

Total load wattage		15W	20W/25W
Output	Output Voltage range	DC60-75V	28-40V
	Rated output current	180mA±5%	470mA/640mA
	Line Regulation	±5%	
	Setup, Rise Time	<0.5S	
	Flickering Index	≤3%(NO RISK)	≤10%
Input	Input Voltage	AC200-240V	
	Rated Input Voltage(V)	AC230V	
	Frequency	50/60Hz	
	Input Current	0.09A	0.12A/0.15A
	Rated Input Current	0.08A	0.11/0.14
	Power Factor	≥0.9	
	THD	-	≤20%
	Efficiency	≥86%	≥84%
	No load wattage	≤0.5W	≤1W
	Protection	Short circuit protection	Pass
Over voltage protection		Pass	
Over temperature protection		Pass	
Safety &EMC	Withstand voltage	I/P-O/P:3.75KVac, <5mA 60S	
	Isolation Resistance	I/P-O/P: 500VDC, ≥100M Ω	
	Surge	IEC61000-4-5(L-N:0.5KV,)	
	EMC Emission	EN55015, EN61000-3-2	
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11; EN61547	

## Driver Datasheet (0-10V Dimmable )

Total load wattage		15W	20W/25W
Output	Output Voltage range	30-38V	28-40V
	Rated output current	400mA	470mA/640mA
	Line Regulation	±5%	
	Setup, Rise Time	≤0.5S	
	Flickering Index	<10% (NO RISK)	
Input	Input Voltage	AC180-264V	AC200-240V
	Rated Input Voltage(V)	AC200-240V	AC230V
	Frequency	50/60Hz	
	Input Current	0.1A	0.12A/0.15A
	Rated Input Current	0.09A	0.11/0.14
	Power Factor	0.9	≥0.9
	THD	<20%	
	Efficiency	84%	
	No load wattage	≤1W	
	Protection	Short circuit protection	Pass
Over voltage protection		Pass	
Over temperature protection		Pass	
Safety &EMC	Withstand voltage	I/P-O/P:3.75KVac, <5mA 60S	
	Isolation Resistance	I/P-O/P: 500VDC, ≥100M Ω	
	Surge	IEC61000-4-5(L-N:0.5KV,)	
	EMC Emission	EN55015, EN61000-3-2	
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11; EN61547	

## Driver Datasheet (Triac Dimmable )

Total load wattage		15W	20W/25W
Output	Output Voltage range	DC60-75V	
	Rated output current	180mA	240mA/320mA
	Line Regulation	±5%	
	Setup, Rise Time	≤0.5S	≤1S
	Flickering Index	≤7%(LOW RISK)	≤7%
Input	Input Voltage	AC200-240V	AC200-240V
	Rated Input Voltage(V)	AC230V	AC230V
	Frequency	50Hz	
	Input Current	≤0.09A	≤0.12A/≤0.14A
	Rated Input Current	0.08A	0.1A/0.13A
	Power Factor	0.9	
	THD	-	<20% @230V
	Efficiency	> 84%	> 83%/ > 86%
	No load wattage	≤1W	
	Protection	Short circuit protection	Pass
Over voltage protection		Pass	
Over temperature protection		Pass	
Safety &EMC	Withstand voltage	-	
	Isolation Resistance	-	
	Surge	IEC61000-4-5(L-N:0.5KV,)	IEC61000-4-5(L-N:0.5KV,)/IEC61000-4-5(L-N:1 KV,)
	EMC Emission	EN55015, EN61000-3-2	
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11; EN61547	

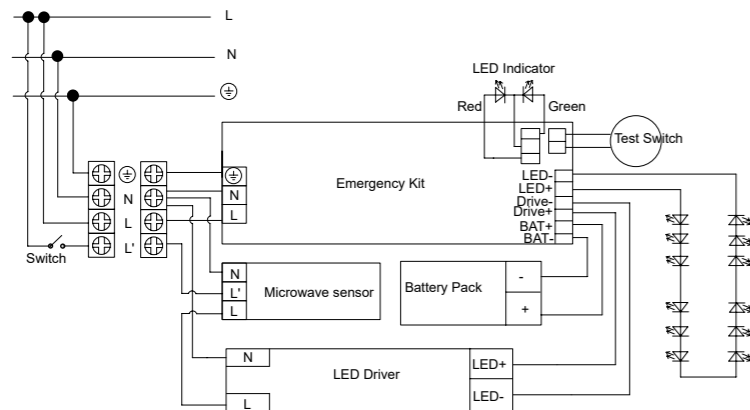
## Driver Datasheet (DALI Dimmable )

Total load wattage		15W	20W/25W
Output	Output Voltage range	30-38V	28-40V
	Rated output current	400mA	470mA/640mA
	Line Regulation	±5%	
	Setup, Rise Time	≤0.5S	
	Flickering Index	<10% (NO RISK)	
Input	Input Voltage	AC180-264V	AC200-240V
	Rated Input Voltage(V)	AC200-240V	AC230V
	Frequency	50/60HZ	
	Input Current	0.1A	0.12A/0.15A
	Rated Input Current	0.09A	0.11/0.14
	Power Factor	≥0.9	
	THD	≤20%	
	Efficiency	84%	
	No load wattage	≤1W	
	Protection	Short circuit protection	Pass
Over voltage protection		Pass	
Over temperature protection		Pass	
Safety &EMC	Withstand voltage	I/P-O/P:3.75KVac, <5mA 60S	
	Isolation Resistance	I/P-O/P: 500VDC, ≥100M Ω	
	Surge	IEC61000-4-5(L-N:0.5KV,)	
	EMC Emission	EN55015, EN61000-3-2	
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11; EN61547	

## Emergency Kits

Power	3W
Rated Input Voltage(V)	AC230V
Frequency	50/60Hz
Input Voltage	AC200-240V
Total load wattage	3W±0.5W
Rated Input Current	≤0.03A
Battery	6.4V 1500mAh (LiFePO4)
Lifetime	Over 2000 cycles
Battery duration	≥3hrs
Charge Period	≅ 24hrs
Emergency switching time	≅ 1S

## Wiring Diagram:



### Instructions for automatic test option

#### 1. Once the unit is powered up it will automatically initiate a self test and diagnostics as follows:

- Every 4seconds: Check for battery disconnection, charger board fault, lamp failure and transformer failure.
- Every month: Perform a 3minute duration test.
- Every year: Perform a 1 Hour or 3 Hours duration test.

All test functions are factory preset and do not need field adjustment.

#### 2. Dual Colour Indicator LED Status Mesnings

- Green Solid On Ready/Normal Operation
- Red Requires Service

•	One flash, 4 second pause	Battery not connected
• •	Two flashes, 4 second pause	Battery short or low battery voltage
• • •	Three flashes, 4 second pause	Charger board fault
• • • •	Four flashes, 4 second pause	Transformer fault
• • • • •	Five flashes, 4 second pause	LED lamp fault

**NOTE:** After repairing a service fault, press and hold the test button for 2 seconds to reset the flashing indicator light to green.

#### 3. Manual Test

Press test button once	30 second duration test
Press test button twice within 2 seconds	3 minute duration test
Press test button 3 times within 2 seconds	30 minutes duration test
Press test button 4 times within 2 seconds	1 or 3 hours duration test

**Note:** DALI & 0-10V driver specification, please refer to individual driver datasheet.

## Sensor Setting



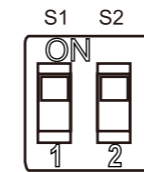
### Default setting

SENS:10M TIME:10S LUX:10lux



SK605B	
Operating voltage	220~240Vac, 50/60Hz
Transmission power	<0.2mW
Rated load	1200W/5A, Max, tungsten (cosφ=1) 600W/2.5A, Max, fluorescent (cosφ=0.5)
HF system	5.8GHz CW electric wave, ISM band
Detection angle	360°
Detection range	2m/5m/8m/10m (radii) (adjustable)
Time setting	10sec±3sec/1min±10sec/5min±30sec/ 10min±1min/15min±1min/20min±2min/ 25min±2min/30min±3min (adjustable)
Installation site	Indoors, ceiling mounting
Working temperature	-15°C ~ +70°C
Power consumption	approx. 0.5W

## Detection range setting (sensitivity)



SENS: S1, S2

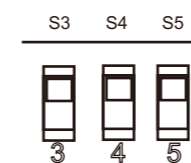
S1	S2	detection range
0	0	2m
0	1	5m
1	0	8m
1	1	10m

Detection range is the term used to describe the radii of the more or less circular detection zone produced on the ground after mounting the sensor light at a height of 2.5m, pull switch to the ON position as "1", pull switch to the OFF position as "0", switch location and detection range of the corresponding table is as follows:

**Note:** the above detection range is gained if the detected person is between 1.6m~1.7m tall with middle figure and moves at a speed of 1.0~1.5m/sec. if person's stature, figure and moving speed change, the detection distance will also change.

**ATTENTION:** When use the product, please adjust the sensitivity to an appropriate position you need, please do not adjust the sensitivity to maximum, in case the product works abnormally because of wrong motion detection, including blowing leaves & curtains small animals, or even power grid & electrical equipment. All the above factors can lead to abnormal work. When the product does not work normally, please try to lower the sensitivity appropriately, and then test it.

## Sensor Setting



SENS: S3, S4, S5

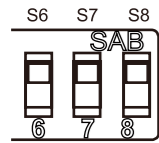
S3	S4	S5	TIME
0	0	0	10s
0	0	1	1min
0	1	0	5min
0	1	1	10min
1	0	0	15min
1	0	1	20min
1	1	0	25min
1	1	1	30min

The light can be set to stay ON for any period of time between approx. 10sec and a maximum of 30min. Any movement detected before this time elapse will re-start the timer. It is recommended to select the shortest time for adjusting the detection zone and for performing the walk test.

Pull switch to the ON position as "1", pull switch to the OFF position as "0", switch location and detection range of the corresponding table is as follows:

**NOTE:** after the light switches OFF, it takes approx. 4sec before it is able to start detecting movement again. The light will only switch on in response to movement once this period has elapsed.

## Light-control setting

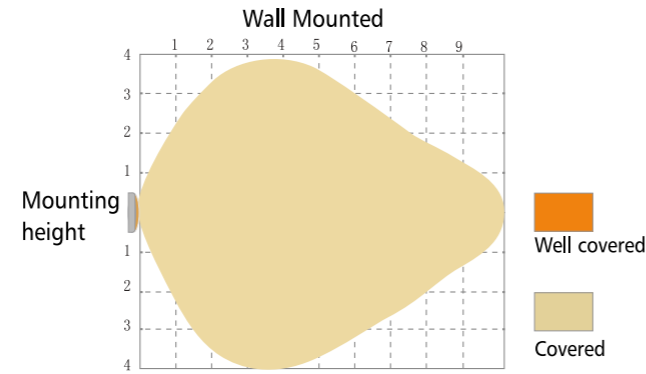
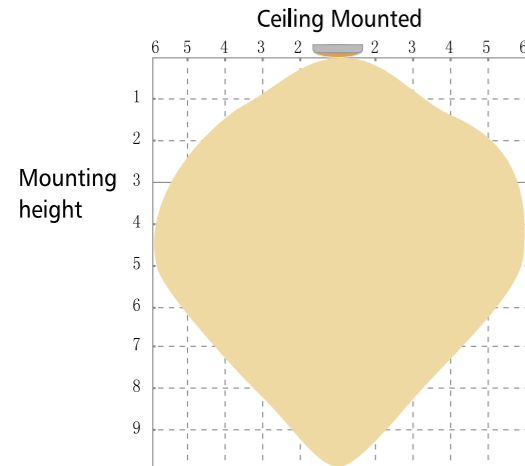


LUX: S6, S7, S8

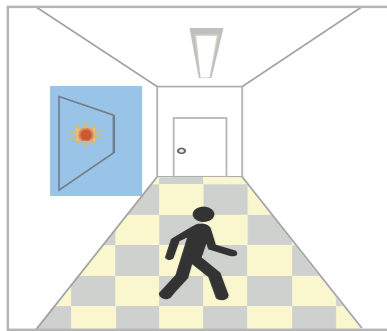
S6	S7	S8	LUX
0	0	0	Disable
0	0	1	10LUX
0	1	0	20LUX
0	1	1	50LUX
1	0	0	100LUX
1	0	1	200LUX
1	1	0	300LUX
1	1	1	500LUX

The chosen light response threshold can be infinitely from approx. 10-500lux, pull switch to the ON position as "1", pull switch to the OFF position as "0", switch location and light-control of the corresponding table is as follows:

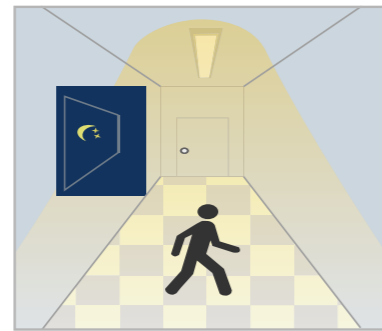
## Detection coverage



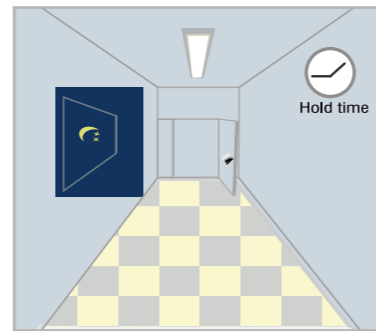
## Application (Function Demo-On/off control)



With sufficient daylight, even when motion detected, light remains OFF.



With insufficient daylight, when motion detected, light ON.



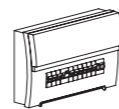
After the last detection and the present hold time elapsed, light OFF.

## Installation Procedure

### WARNING ⚡

1. Switch off before installation / maintenance.
2. Switch on only after complete installation and examination of the circuit.
3. Professional electrician for installation and maintenance only.

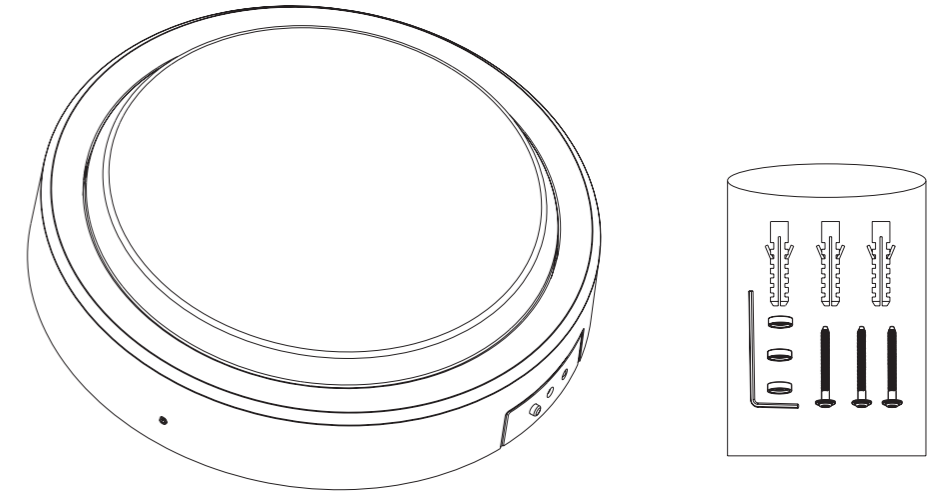
Turn Off power supply before starting any installation. Read instructions & check you have all the tools & accessories to complete the installation correctly.



## How to install

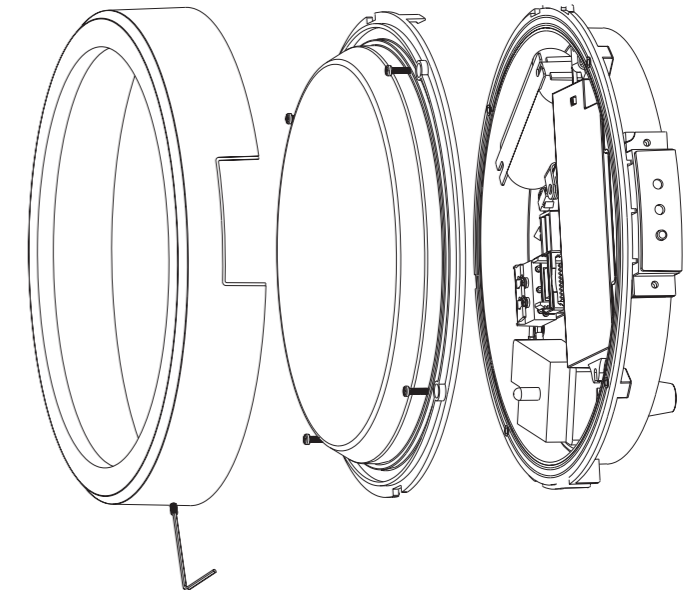
### Step 1

Take out the lamp and accessory.



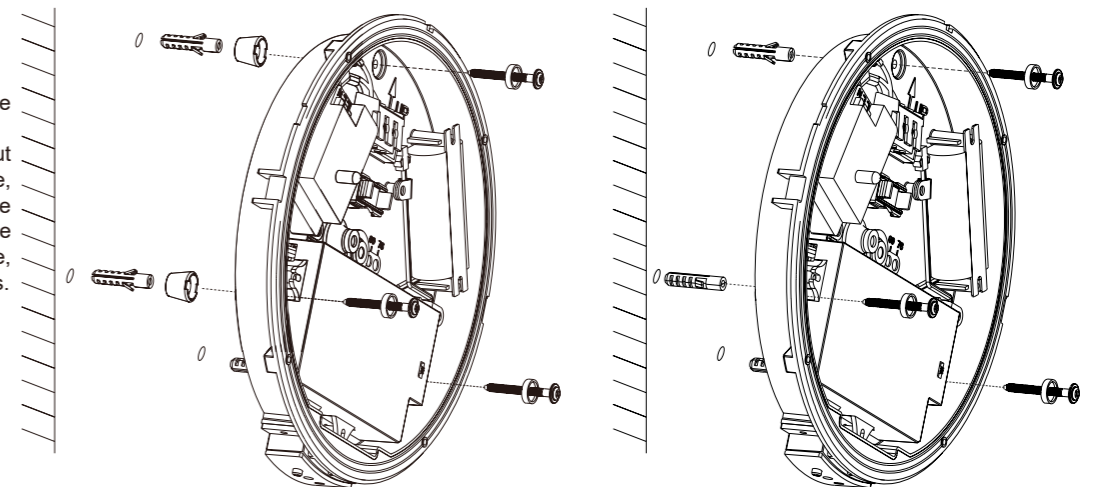
### Step 2

Separate frame and lamp shade.



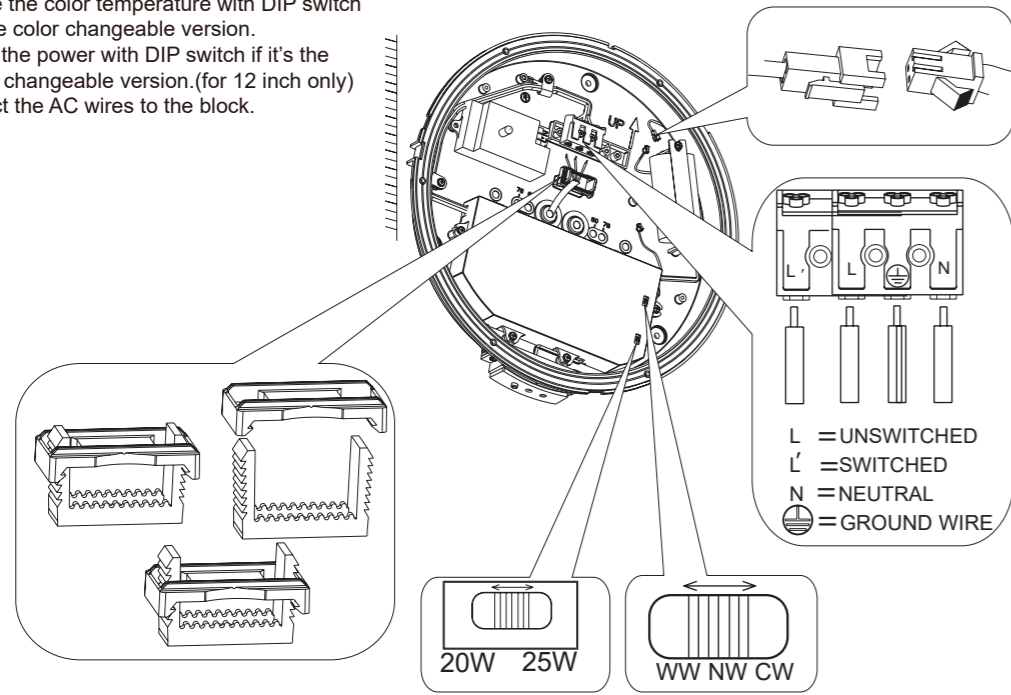
### Step 3

Fix the back housing on the wall or ceiling by screws. Drill holes in the ceiling, put plastic anchor into the hole, put the silicone pad into the screw, then aim the base wad at the lamp base hole, fix the base wad by screws.



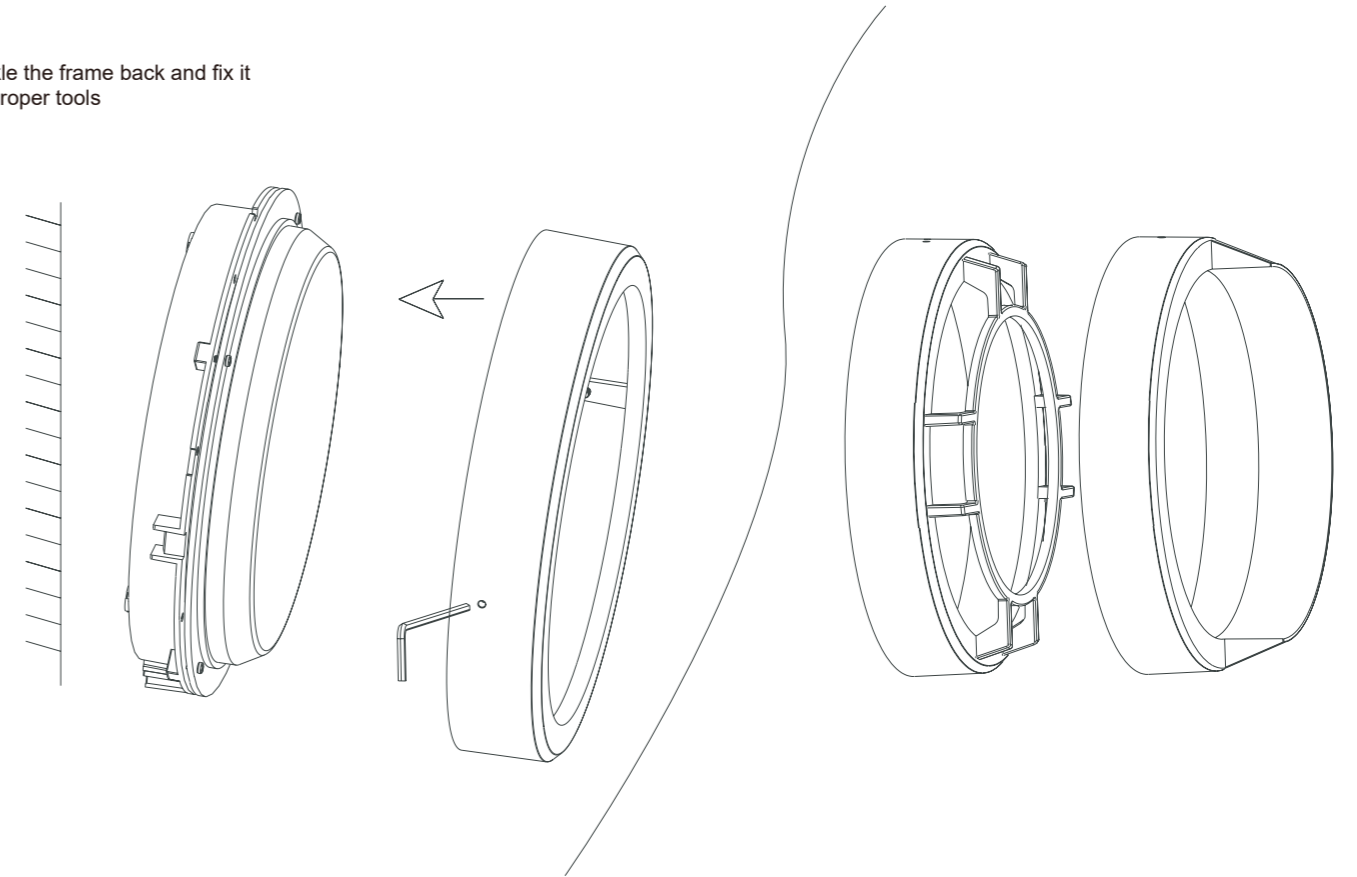
**Step 4**

- a. Connect the plugs between the battery and driver if with Emergency function.
- b. Choose the color temperature with DIP switch if it's the color changeable version.
- c. Choose the power with DIP switch if it's the wattage changeable version. (for 12 inch only)
- d. Connect the AC wires to the block.



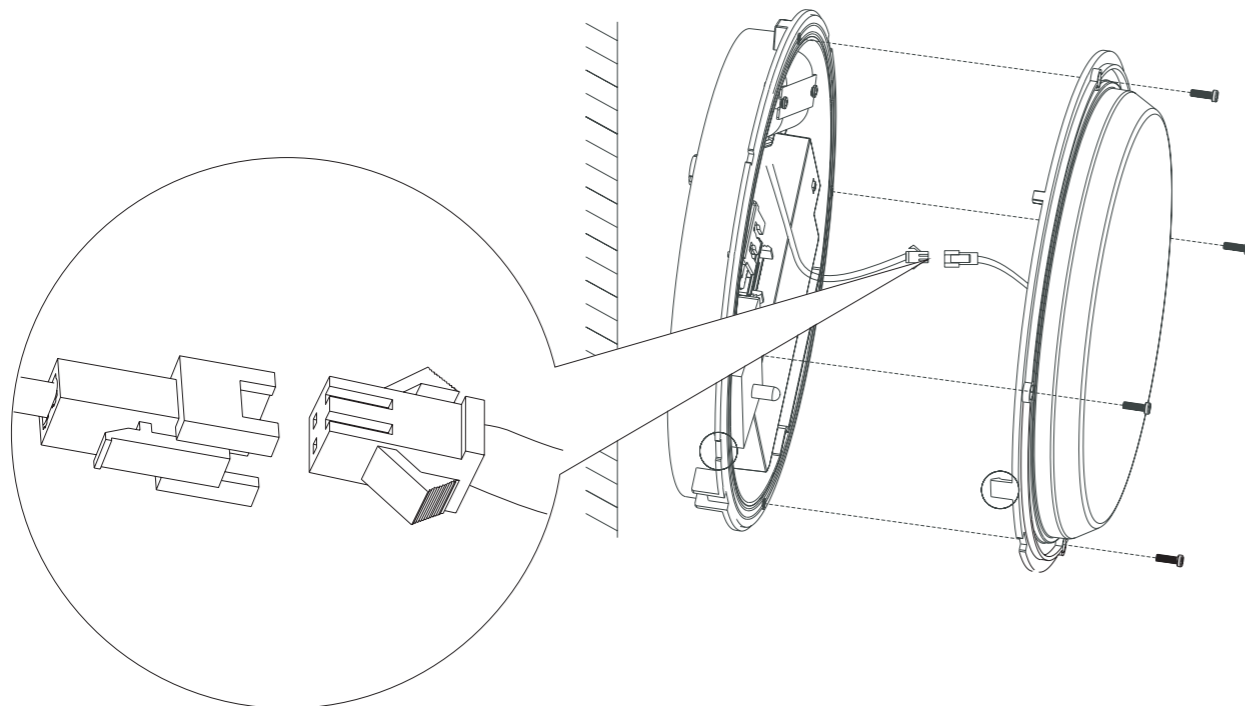
**Step 6**

Buckle the frame back and fix it by proper tools



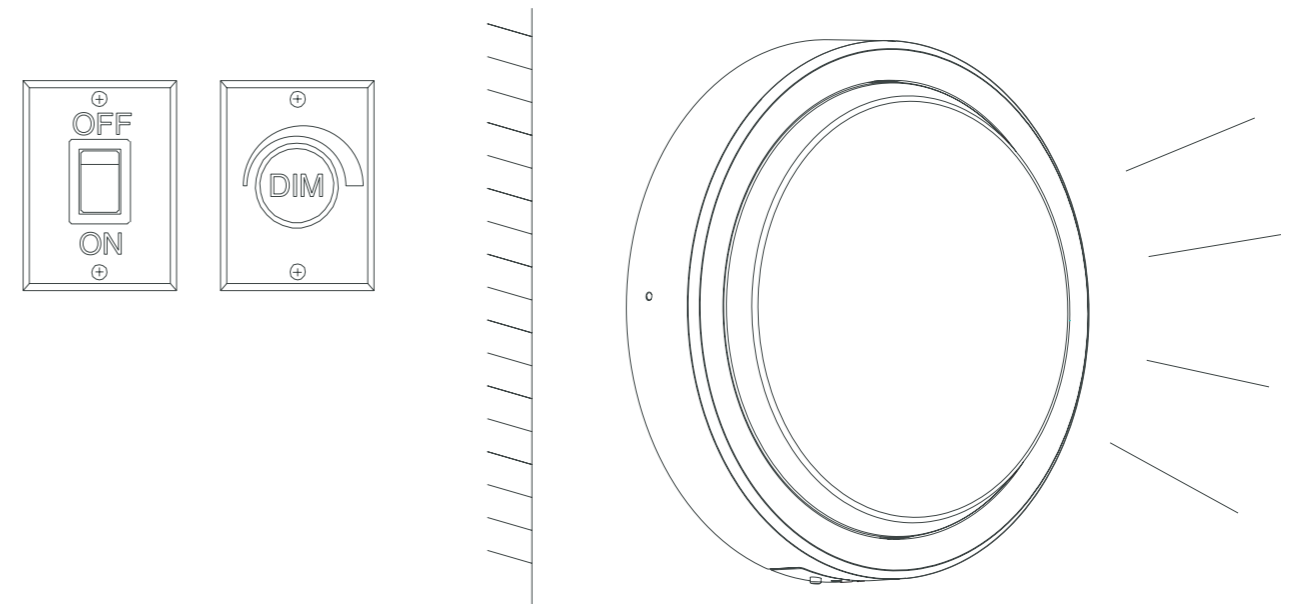
**Step 5**

Connect the DC plugs, put back the cover to the back plate and fix it by screws.



**Step 7**

Installation finished, turn on the switch.



**ECO**  
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**ODM**  
Specifications

  
**INT**  
Intelligent