



Exiway Smartled

LED emergency lighting offer






Emergency lighting
Catalogue | 10/2017

schneider-electric.com

Life Is On

Schneider
Electric

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Simplicity

P146738



100 to 800 lumens in only 1 product size.
More universal with less product and accessory references.

Thickness

P146766



Only a few millimeters below the ceiling.

Aesthetic

P146736



P146737



With or without the provided frame.
Just a question of choice.

P146767



Discreet and aesthetic product.

TBS remote control

P146738-P146739



Fault report on the front face on the TBS-Smartled 150 and TBS-Smartled 250 remote control.

P146737



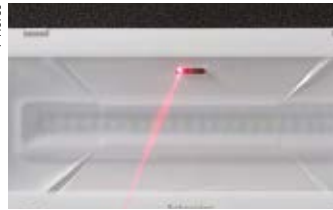
[Product delivered non-assembled.]



1. Best for maintenance



Product installed at a height?
Laser beam to launch the test. Result on led and sent to the TBS.



Test button. Direct result on the test leds.

2. Customised

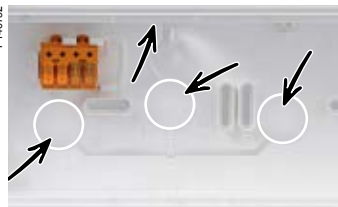


The aesthetic frame is used to customise the product shape. Provided with each product.



"Running man" pictogram displayed with aesthetic devices.

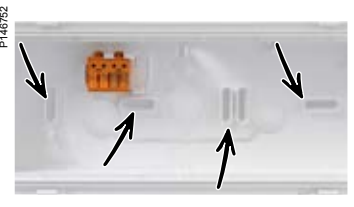
3. Fast, secure cabling



4 bi-material cable glands for Ø 16 mm and Ø 20 mm tubes and for cables.



4. Easy to fasten and align



Several easy ways of fastening the light fitting. Easy to replace most of the existing products of the market.



Screwless connector 2 x 2.5 mm² per input.



False ceiling kit for numerous types and thicknesses of ceiling plates. Very thin product.

5. Fast installation



The body can be pre-installed. Just insert the cable through the cable gland, insert the wires into the screwless connector and just click the reflector into place.

Exiway Smartled

Technical specifications

Product catalogue numbers



CE



Technical specifications

- Available for maintained and non-maintained operation: the maintained product can be used in non-maintained mode. The selection is made on the connector
- Installation: quick fixing plate-body
- Compliant with IEC EN 60598-2-22 standard
- ENEC certification
- Standard and Self-diagnosis versions (Activa): can be inhibited with rest mode via TBS of remote controls
- Protection rating: IP65, IK07
- Insulation class: II □
- Installation even on flammable surfaces
- Fire behaviour (IEC 60695-2-10), incandescent wire: 850°C
- Operating temperature: 0...40°C
- Case of self-extinguishing polycarbonate 94V-2 (UL 94)
- Long-lasting LED light source (> 10 years expected in typical environment temperature* condition)
- Power supply: 220/230 V, 50/60 Hz
- Complete recharge:
 - in 12 h for model with 1 and 2 h autonomy
 - in 24 h for model with 3 autonomy.
- Standard and Activa products are delivered with an additional removable aesthetic frame (OVA53156)
- Vetrosignal OVA53159 is delivered with 5 removable pictograms (Left/Right/Up/Down/Opaline).

(*) Typical environment temperature: 25°C.


Standard products

Exiway Smartled Standard	Protection rating IP, IK	Autonomy (h)	Average flux (lm) in		Consumption N.M/M		Battery			Control (1)	Cat. no.	It	Be	Others
			emergency condition	maintained mode	(VA)	(W)	Type	(V)	(Ah)					
Non-maintained														
	IP65, IK07	1	300	-	3.3	0.7	Ni-Cd	4.8	1.5	TBS	OVA48101	■		■
			610	-	4.2	1.1	Ni-Cd	7.2	1.5	TBS	OVA48104	■		■
		800	-	4.9	0.6	LiFePO4	6.4	3.2	TBS	OVA48105	■	■	■	
		1000	-	4.9	0.6	LiFePO4	6.4	3.2	TBS	OVA48107	■	■	■	
	2	400	-	3.4	0.4	Ni-Mh	6.0	2.0	TBS	OVA48103	■		■	
		800	-	4.9	0.6	LiFePO4	6.4	3.2	TBS	OVA48106	■	■	■	
Maintained														
	IP65, IK07	1	300	160	3.8/7.5	0.8/3.7	Ni-Cd	4.8	1.5	TBS	OVA48102	■		■
		2	250	160	4.1/7.7	1.0/3.7	Ni-Cd	6.0	1.5	TBS	OVA48100	■		■

Note: The maintained product can be used in Non-maintained mode. The selection is made on the connector.
All products are delivered with the aesthetic frame OVA53156.


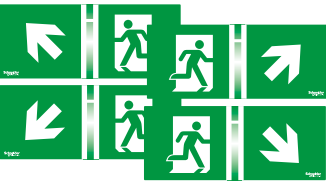




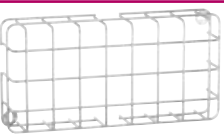




(1)TBS: TBS150 or TBS250

Activa products




Exiway Smartled Activa	Protection rating IP, IK	Autonomy (h)	Average flux (lm) in		Consumption N.M/M		Battery			Control (1)	Cat. no.	It	Be	Others
			emergency condition (N.M)	maintained mode (M)	(VA)	(W)	Type	(V)	(Ah)					
Non-maintained														
	IP65, IK07	1	180	-	2.8	0.6	Ni-Cd	3.6	1.6	TBS	OVA48301	■	■	■
			200	-	2.8	0.3	Ni-Mh	3.6	2.0	TBS	OVA48305	■	■	■
			300	-	3.3	0.7	Ni-Cd	4.8	1.6	TBS	OVA48308	■	■	■
			450	-	3.3	0.4	Ni-Mh	4.8	2.0	TBS	OVA48310	■	■	■
			460	-	3.4	1.0	Ni-Cd	6.0	1.6	TBS	OVA48309	■	■	■
			600	-	3.4	0.4	Ni-Mh	6.0	2.0	TBS	OVA48313	■	■	■
			610	-	4.2	1.1	Ni-Cd	7.2	1.6	TBS	OVA48312	■	■	■
			800	-	4.8	0.9	Ni-Mh	7.2	2.0	TBS	OVA48316	■	■	■
			1000	-	4.9	0.6	LiFePO4	6.4	3.2	TBS	OVA48318	■	■	■
			2	180	-	3.3	0.7	Ni-Cd	4.8	1.6	TBS	OVA48302	■	■
		270	-	4.1	1.0	Ni-Cd	7.2	1.6	TBS	OVA48307	■	■	■	
		490	-	3.3	0.3	Ni-Mh	4.8	4.0	TBS	OVA48311	■	■	■	
		800	-	4.9	0.6	LiFePO4	6.4	3.2	TBS	OVA48317	■	■	■	
		3	120	-	2.8	0.3	Ni-Mh	3.6	2.0	TBS	OVA48300	■	■	■
Maintained														
	IP65, IK07	1	180	160	3.5/7.6	0.7/3.7	Ni-Cd	3.6	1.6	TBS	OVA48303	■	■	■
			250	160	3.5/7.6	0.4/3.3	Ni-Mh	3.6	2.0	TBS	OVA48306	■	■	■
			700	330	3.9/9.4	0.4/4.5	Ni-Mh	7.2	2.0	TBS	OVA48315	■	■	■
			700	330	3.9/9.4	0.4/4.5	Ni-Mh	7.2	2.0	TBS	OVA48314	■	■	■
		2	180	160	3.8/7.5	0.8/3.7	Ni-Cd	4.8	1.6	TBS	OVA48304	■	■	■

Note: The maintained product can be used in Non-maintained mode. The selection is made on the connector.
All products are delivered with the aesthetic frame OVA53156.

Accessories

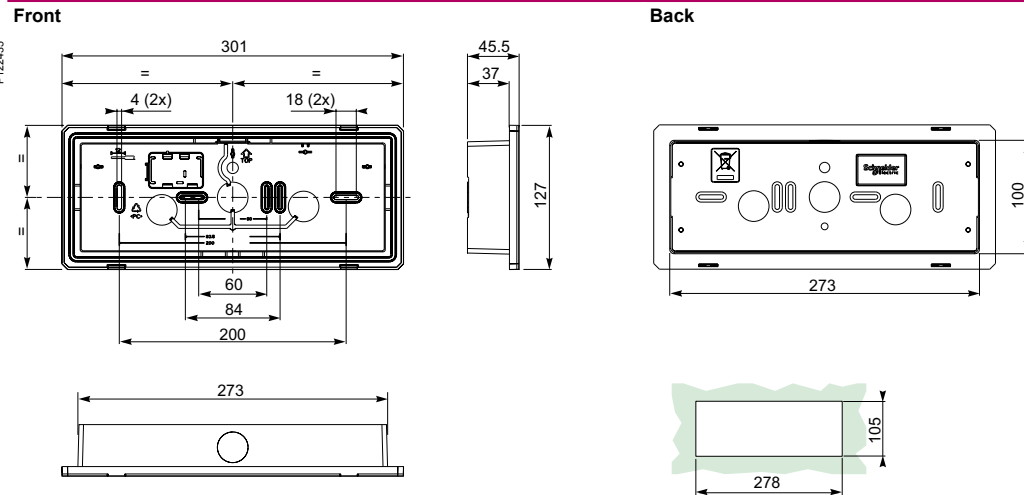
			Compatibility	Dimensions (mm) height x width x depth	Cat. no.	It	Be	Others
Picto Screen + 3 pictograms Visibility: 24 m With 1 set of 3 removable pictograms: Left/Right/Down	ISO	P148935 	All	127 x 304 x 30.5	OVA53158	■	■	■
Pictogram for Picto Screen Visibility: 24 m Removable 1 set of 4: 45° Up Left/ 45° Up Right/ 45° Down Left/45° Down Right	ISO	P122463-P122464-P122465-P122466 	OVA53158	121 x 297 x 0.5	OVA53165	■	■	■
Flush mounting box	White	P148934 	All	123 x 296 x 47	OVA53157	■	■	■
Aesthetic frame (Delivered with each product)	White	P148933 	All without flush mounting box	127 x 301 x 37	OVA53156	■	■	■
False ceiling kit with 4 screws: 2 long and 2 short ones		P146734 	All	-	OVA59823	■	■	■
Kit tube - connector IP65 kit cable gland + metallic nut + rubber washer		P122464 	All	Ø 20, M20	OVA53163	■	■	■
Protective grid IK10		P148937 	All	178 x 356 x 73	OVA53160	■	■	■
Vetrosignal + 5 pictograms Visibility: 30 m With 1 set of 5 removable pictograms: Left/Right/Up/Down/Opaline	ISO	P148936 	All	188 x 330 x 10	OVA53159	■	■	■
45° pictograms for Vetrosignal Visibility: 30 m Removable 1 set of 4: 45° Up Left/ 45° Up Right/ 45° Down Left/45° Down Right	ISO	P122463-P122469 	OVA53159	187 x 330 x 0.5	OVA53164	■	■	■
TBS-Smartled 150		P148938 	All models (for 150 luminaires)	90 x 85 x 68 5 mod. of 18mm	OVA53161	■	■	■
TBS-Smartled 250		P148939 	All models (for 250 luminaires)	90 x 85 x 68 5 mod. of 18mm	OVA53162	■	■	■

Spare parts

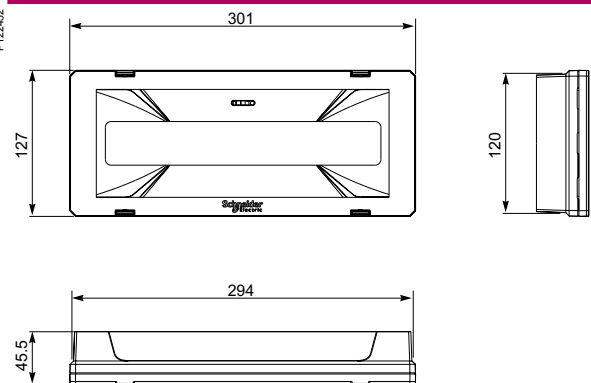
	Description	Compatibility	Cat. no.	It	Be	Others
Batteries (Ni-Cd)  P118934	3.6 V, 1.6 Ah	OVA48301, OVA48303	OVA51143	■		■
	4.8 V, 1.5 Ah	OVA48101, OVA48102	OVA51144	■		■
	4.8 V, 1.6 Ah	OVA48302, OVA48304, OVA48308	OVA51145	■		■
	6.0 V, 1.5 Ah	OVA48100	OVA51146	■		■
	6.0 V, 1.6 Ah	OVA48309	OVA51147	■		■
	7.2 V, 1.5 Ah	OVA48104	OVA51148	■		■
	7.2 V, 1.6 Ah	OVA48307, OVA48312	OVA51149	■		■
Batteries (Ni-Mh)  P101287	3.6 V, 2.0 Ah	OVA48300, OVA48305, OVA48306	OVA51150		■	
	4.8 V, 2.0 Ah	OVA48310	OVA51141		■	
	4.8 V, 4.0 Ah	OVA48311	OVA51151	■		■
	6.0 V, 2.0 Ah	OVA48103, OVA48313	OVA51152	■	■	■
	7.2 V, 2.0 Ah	OVA48314, OVA48315, OVA48316	OVA51153	■	■	■
Batteries (LiFePO4)  P147381	6.4 V, 3.2 Ah	OVA48105, OVA48106, OVA48107, OVA48317, OVA48318	OVA51165	■	■	■

Mounting dimensions

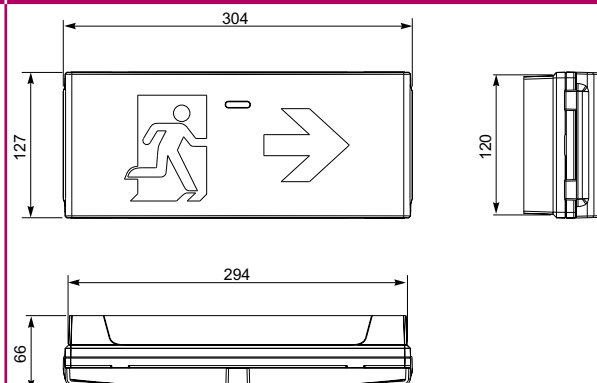
Base alone



Base with aesthetic frame

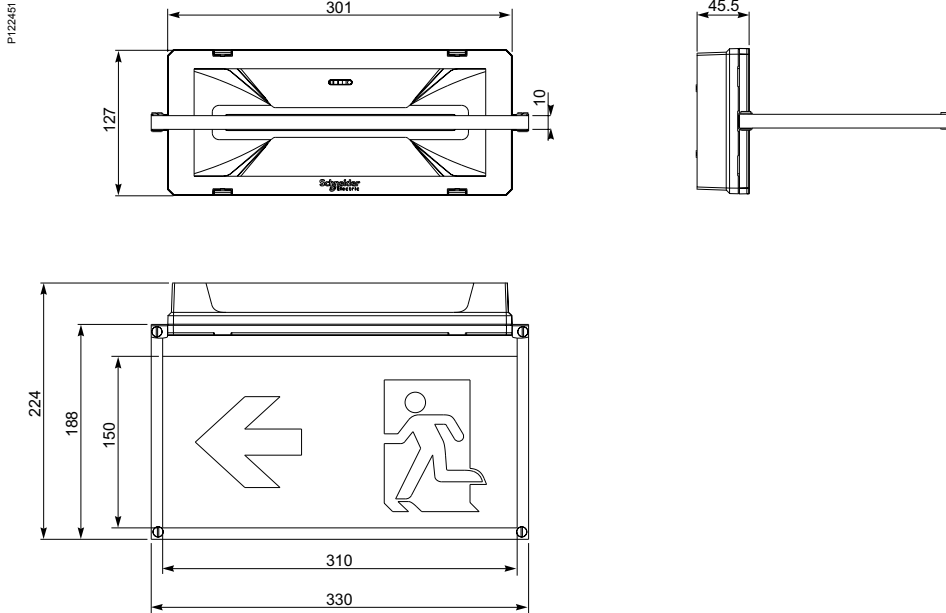


Base with Picto Screen

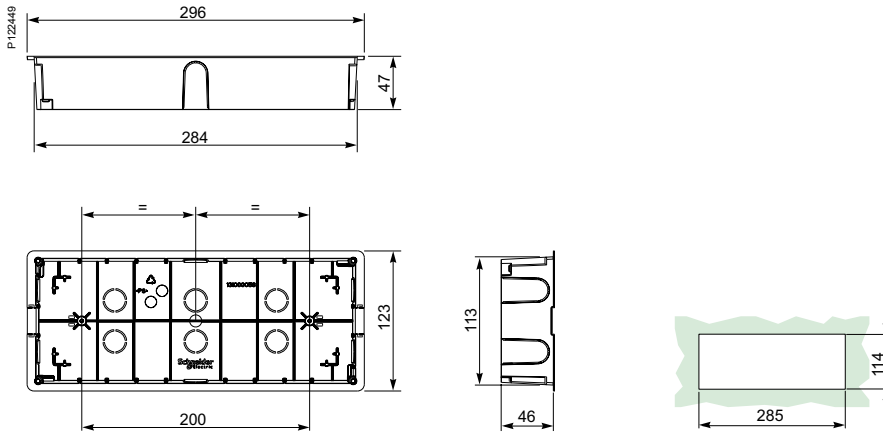


Mounting dimensions (cont.)

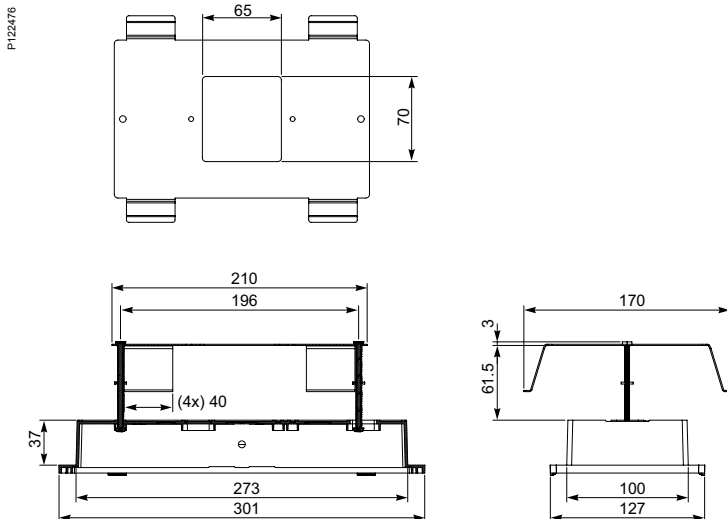
Base with Vetrosignal



Mounting box alone



Base with False ceiling kit



Emergency lighting and other systems

When we refer to emergency lighting, we mean the auxiliary lighting that is triggered when the standard lighting fails.

Emergency lighting is subdivided as follows (EN 1838):

Safety lighting

It originates from the emergency lighting and is intended to provide lighting for people to evacuate an area safely or for those who try to finish a potentially dangerous operation before leaving the area. It is intended to illuminate the means of evacuation and ensure continuous visibility and ready usage in safety when standard or emergency lighting is needed.

Safety lighting may be further subdivided as follows:

Safety lighting for escape routes

It originates from the safety lighting, and is intended to ensure that the escape means can be clearly identified and used safely when the area is busy.

Anti-panic lighting in extended areas

It originates from the safety lighting, and is intended to avoid panic and to provide the necessary lighting to allow people to reach a possible escape route area.

Emergency lighting and safety signs for escape routes

The emergency lighting and safety signs for escape routes are very important for all those who design emergency systems. Their suitable choice helps improve safety levels and allows emergency situations to be handled better.

Standard EN 1838 ("Lighting applications. Emergency lighting") gives some fundamental concepts concerning what is meant by emergency lighting for escape routes:

"The intention behind lighting escape routes is to allow safe exit by the occupants, providing them with sufficient visibility and directions on the escape route ..."

The concept referred to above is very simple:

the safety signs and escape route lighting must be two separate things.

Functions and operation of the luminaires

The manufacturing specifications are covered by standard EN 60598-2-22, "Particular Requirements - Luminaires for Emergency Lighting", which must be read with EN 60598-1, "Luminaires – Part 1: General Requirements and Tests".

Duration

A basic requirement is to determine the duration required for the emergency lighting. Generally it is 1 hour but some countries may have different duration requirements according to statutory technical standards.

Operation

We should clarify the different types of emergency luminaires:

■ Non-maintained luminaires:

- the lamp will only switch on if there is a fault in the standard lighting
- the lamp will be powered by the battery during failure
- the battery will be automatically recharged when the mains power supply is restored

■ Maintained luminaires:

- the lamp can be switched on in continuous mode
- a power supply unit is required with the mains, especially for powering the lamp, which can be disconnected when the area is not busy
- the lamp will be powered by the battery during failure.

Design

Presentation, standards

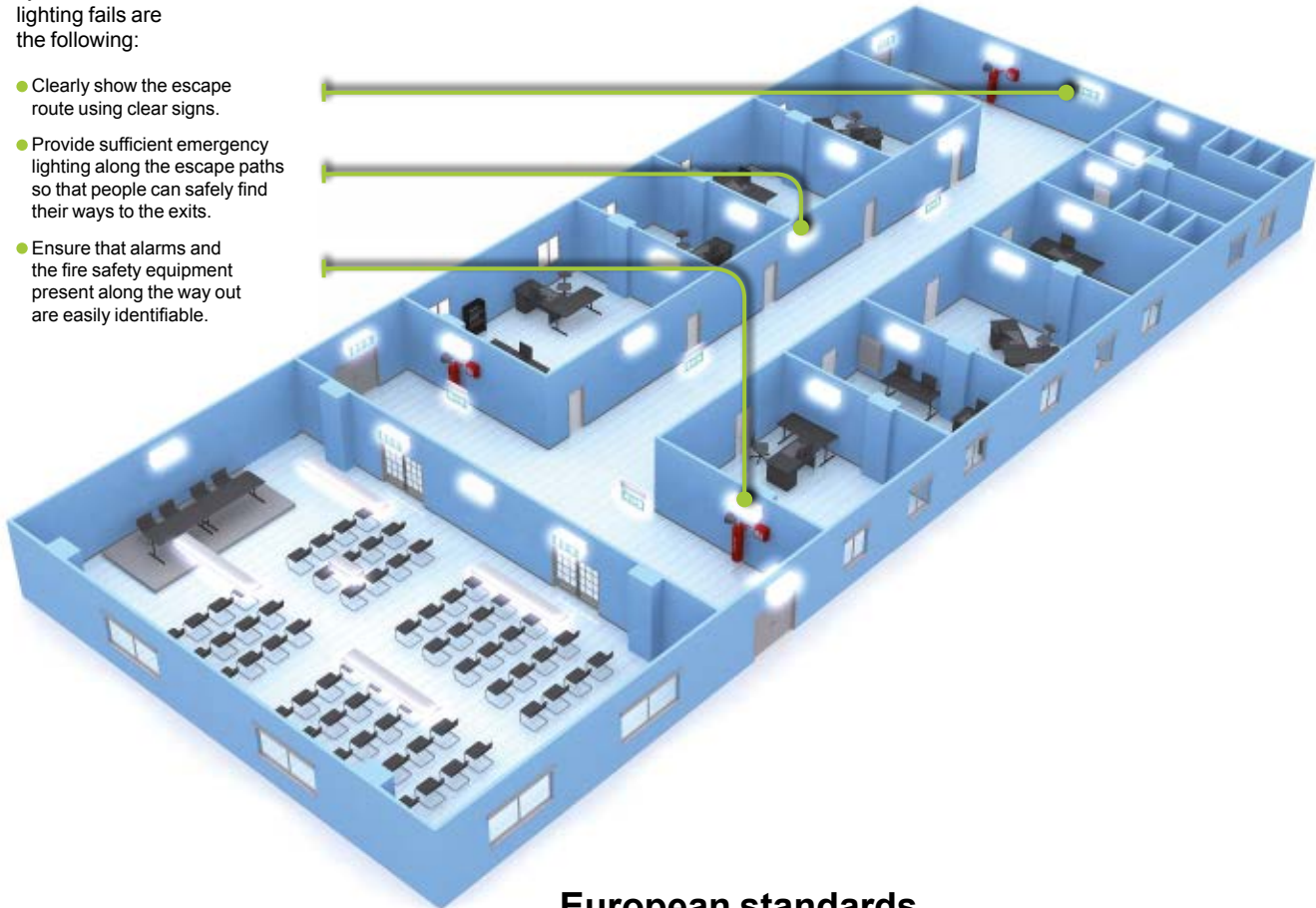
Introduction

The integration of emergency lighting with standard lighting must comply strictly with electrical system standards in the design of a building or particular place.

All regulations and laws must be complied with in order to design a system which is up to standard.

The main functions of an emergency lighting system when standard lighting fails are the following:

- Clearly show the escape route using clear signs.
- Provide sufficient emergency lighting along the escape paths so that people can safely find their ways to the exits.
- Ensure that alarms and the fire safety equipment present along the way out are easily identifiable.



European standards

The design of emergency lighting systems is regulated by a number of legislative provisions that are updated and implemented from time to time by new documentation published on request by the authorities that deal with European and international technical standards and regulations.

Each country has its own laws and regulations, in addition to technical standards which govern different sectors. Basically they describe the places that must be provided with emergency lighting as well as its technical specifications.

The designer's job is to ensure that the design project complies with these standards.

EN 1838

A very important document on a European level regarding emergency lighting is the standard EN 1838, "Lighting applications. Emergency lighting". This standard presents specific requirements and constraints regarding the operation and the function of emergency lighting systems.

CEN and CENELEC standards

With the CEN (Comité Européen de Normalisation) and CENELEC standards (Comité Européen de Normalisation Electrotechnique), we are in a standardised environment of particular interest to the technician and the designer. A number of sections deal with emergencies. An initial distinction should be made between luminaire standards and installation standards.

EN 60598-2-22 and EN-60598-1

Emergency lighting luminaires are subject to European standard EN 60598-2-22, "Particular Requirements - Luminaires for Emergency Lighting", which is an integrative text (of specifications and analysis) of the Standard EN-60598-1, Luminaires – "Part 1: General Requirements and Tests".

The lighting design

Certain fundamental elements must be considered for the initial stage of the design job. One of the more important is the plan of the area which is used to determine:

- The areas to light. It is also important to consider the position of the fire safety points on the plan to project the area properly.
- The exit paths to see if they are escape routes or open spaces.
- Areas outside the exit paths such as lifts, toilets and plant rooms.
- Outside areas, to determine the lighting necessary outside the exit.
- Luminaire operating mode, maintained or non-maintained.
- During operation, 1 hour or 3 hours according to the applicable standards.

In order to identify these areas, it is very important to apply certain principles based on safety logic, taking points from the EN 1838 standard.

In addition, the standard is fundamental to decide where and how to install the luminaires for the emergency lighting. The national laws should be used to decide the lighting parameters for the different areas.

Design stages

The following diagram can be used to simplify the various steps taken to perform design:

> Stage 1

Install the luminaires and the safety signs where necessary

- Standard 1838, section 4.1, requires the luminaires to be installed at least 2 metres from the floor. This is so that they can be seen if the area needs to be evacuated; the same paragraph explains where and how to install the emergency system luminaires.
- Installation of the luminaire signs and safety lighting according to EN 1838.



At every exit door planned to be used in an emergency.



At the safety exits and depending on where the safety signs are installed.



Near and immediately each outside exit.



Near the stairs so that each step receives direct light.



At each point where there is a change of direction.



Near every first-aid zone.



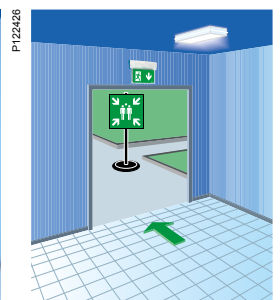
Near every change in floor level.



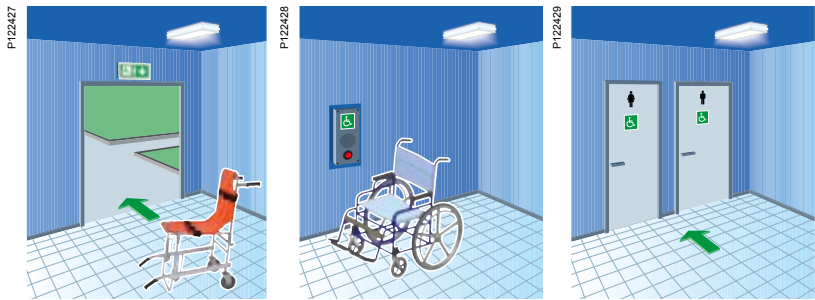
At every corridor intersection.



Near every fire safety device and call point.



Near to each final exit and outside the building to a place of safety.



Near escape equipment provided for the disabled.

Near disabled refuges and call point. Also to include disabled refuge two way communication systems including disabled toilet alarm call position.



The most common format.

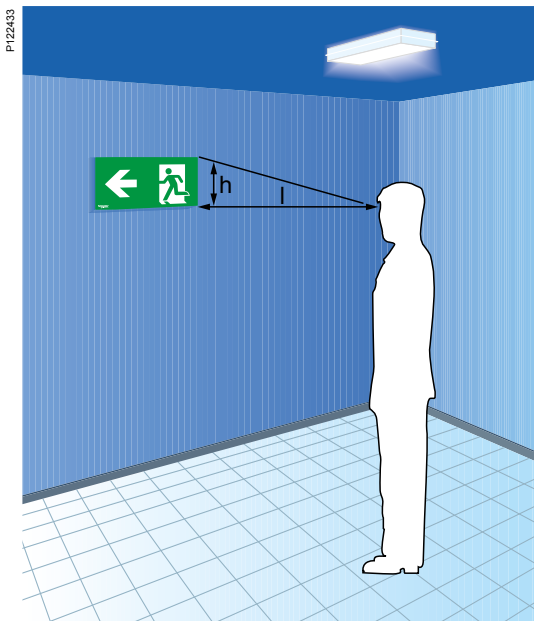
> Stage 2

Safety signs for escape routes

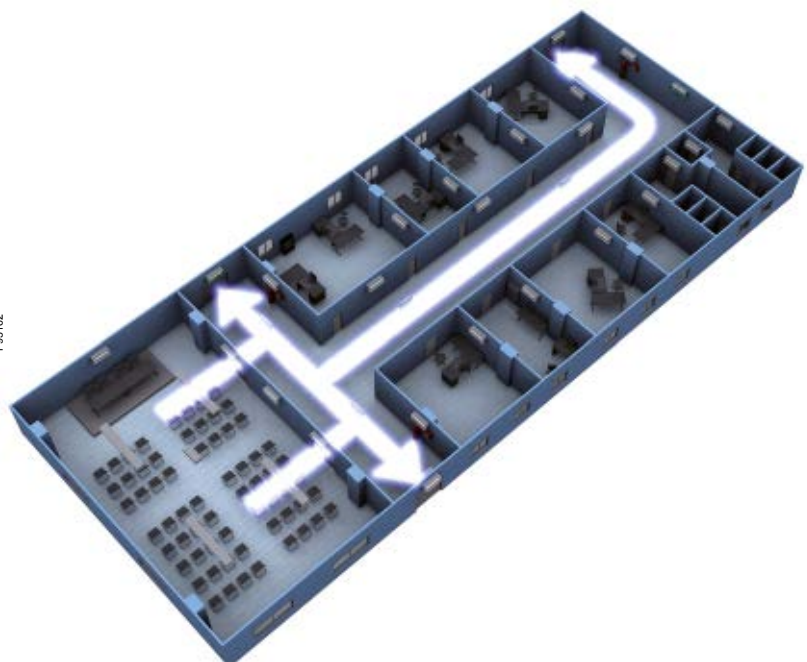
- It is very important for the best escape route be very clearly marked, allowing fast and safe evacuation of the areas and the buildings.
- The effectiveness of the sign basically depends on the size, the colour, the placing and how well the sign can be seen.
- European standards have established that word formats, for example "EXIT", should now be considered obsolete, and have decided in favour of pictograms which show a design in white with a green background (the so-called "running man in door").

Maximum viewing distance

- It is important to ensure that the signs which mark the escape routes are visible from all sides. This depends on the size of the sign as well as its position.
- To this end, the regulations provide the following formula: $l = z \times h$, where:
 - "l" is the maximum viewing distance
 - "h" is the height of the pictogram
 - "z" = 100 for externally lighted signs
= 200 for internally lighted signs.



Typical example of measuring position.

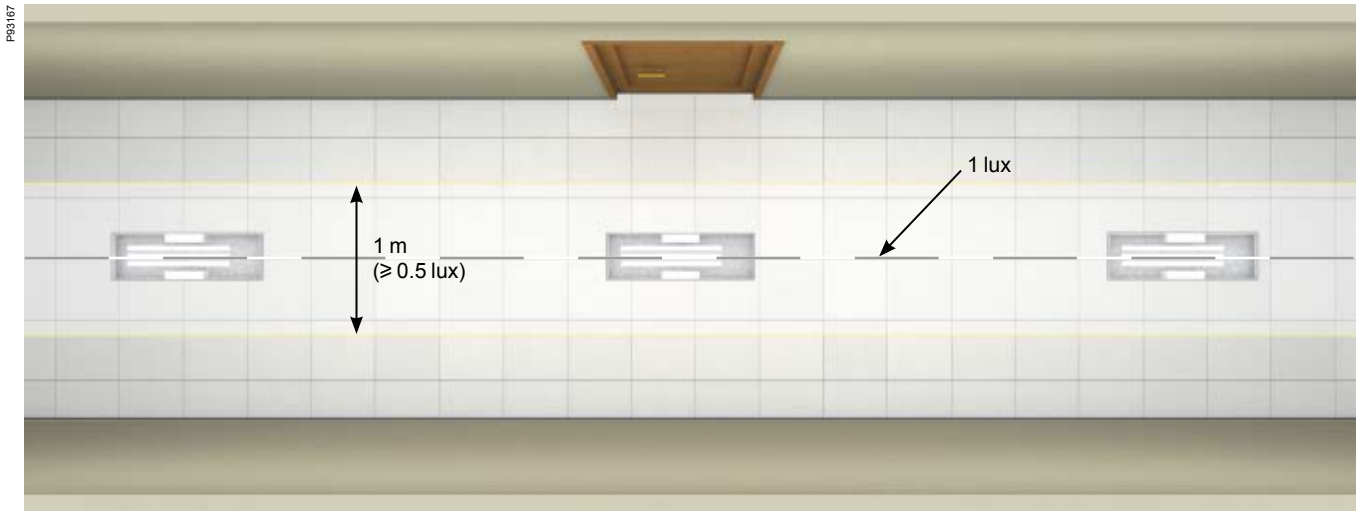


> Stage 3

Safety lighting for escape routes

- Where the escape routes are up to 2 m wide (according to EN 1838), luminaires must be provided to ensure a minimum level of lighting of 1 lux on the floor along the central line of the escape path.
- The lighting should not be less than 0.5 lux along the central section which should not be less than half the width of the escape path.

Example: 2 m wide corridor.



In some countries there are country-specific divergences that replace the European standard regulations.

- We should note two comment notes from EN 1838 on this topic:
 - Note 1: wider escape routes must be considered as groups of 2 m wide routes or else be provided with lighting for extended areas (anti-panic).
 - Note 2: countries that require different levels of lighting are listed in appendix B.
- Emergency luminaire response time should be 0.5 seconds. 50 % of the minimum lighting required should be supplied within 5 seconds, while the lighting should be fully functional within 60 seconds.

> Stage 4

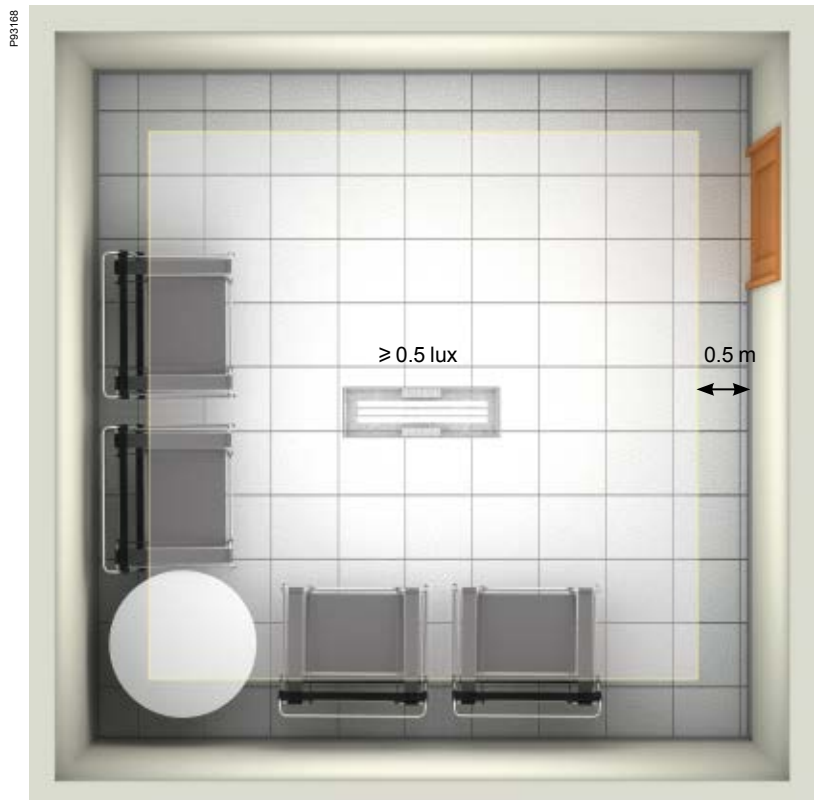
Anti-panic area lighting

- For open areas or those crossed by escape routes, commonly known as Extended Areas or Anti-panic areas, a minimum value of 0.5 lux horizontal lighting on the floor must be guaranteed on the whole non-covered area, excluding a section of 0.5 m on the edge of the area.
- The other parameters are similar to those already referred to for lighting escape routes.

> Stage 5

Place the luminaires in the important locations in the building

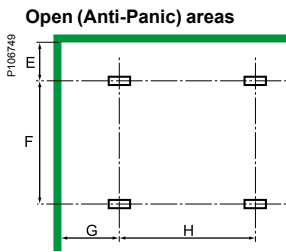
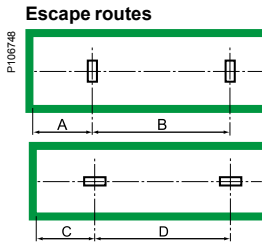
- The lifts, the plant rooms, the elevators, the generator rooms and covered parking areas need emergency light powered by batteries to allow people to work during power failure.



Light in anti-panic areas.

Spacing tables

Emergency light fittings spacing tables

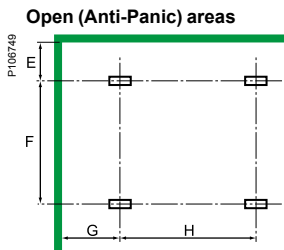
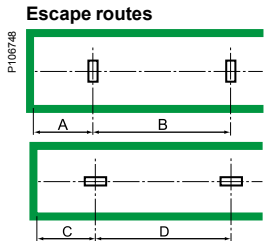


A and E: Transverse spacing to wall
 B and F: Transverse spacing between luminaires
 C and G: Axial spacing to wall
 D and H: Axial spacing between luminaires

Catalogue number	Installation height for ceiling mounting (m)	Lux level directly under luminaires (lux)	Escape routes 1 Lux min. Along centreline (m)				Area covered to obtain more than 1 Lux on the ground (m²)	Open (Anti-Panic) areas 0.5 Lux min. Luminaires arranged in a regular array (m)				Area covered to obtain 0.5 Lux on the ground (m²)
			A	B	C	D		E	F	G	H	
OVA48100	2.00	26.84	3.93	9.97	3.72	8.79	44.93	3.63	8.92	3.80	8.56	68.73
	2.50	17.18	4.24	11.07	4.04	9.72	50.21	3.96	5.94	4.13	5.89	81.82
	3.00	11.93	4.13	11.40	4.32	10.45	54.22	4.45	6.48	4.28	6.66	90.37
	3.50	8.76	4.36	11.71	4.52	11.10	61.96	4.69	6.92	4.54	7.26	99.32
	4.00	6.71	4.60	11.75	4.64	11.65	64.26	4.79	7.34	4.75	7.85	102.35
	5.00	4.29	4.74	12.87	4.87	12.57	66.94	5.17	7.98	5.05	8.49	122.73
	6.00	2.98	4.77	13.57	4.86	13.15	72.30	5.38	8.55	5.29	8.26	136.56
	7.00	2.19	4.55	13.89	4.63	13.46	58.31	5.50	9.84	5.40	9.59	131.21
	8.00	1.68	4.12	13.98	4.21	13.49	57.12	5.47	12.28	5.36	12.28	152.33
	9.00	1.33	3.32	13.82	3.45	13.32	24.10	5.43	14.37	5.24	14.09	144.60
10.00	1.07	1.72	13.31	1.90	12.80	7.44	5.41	16.84	4.94	16.50	119.01	
OVA48101, OVA48102, OVA48308	2.00	31.27	4.01	9.72	3.84	9.15	48.20	4.46	5.55	4.64	5.01	72.30
	2.50	20.01	4.60	11.37	4.20	10.04	58.11	3.92	9.97	4.24	9.35	85.54
	3.00	13.90	4.24	12.79	4.53	10.89	60.92	4.58	6.72	4.32	6.58	101.08
	3.50	10.21	4.48	14.02	4.82	11.60	68.34	4.94	7.16	4.63	7.26	115.72
	4.00	7.82	4.77	13.15	4.98	12.27	72.60	5.13	7.58	4.92	8.02	123.77
	5.00	5.00	5.00	13.35	5.18	13.34	85.54	5.50	8.30	5.32	9.21	139.46
	6.00	3.47	5.08	14.45	5.26	13.99	85.69	5.78	8.97	5.60	8.49	149.95
	7.00	2.55	4.99	14.90	5.13	14.31	83.83	5.93	9.53	5.78	8.96	167.65
	8.00	1.95	4.71	15.07	4.81	14.60	66.64	5.97	10.37	5.86	10.01	157.09
	9.00	1.54	4.15	14.98	4.24	14.64	66.27	5.95	12.07	5.83	11.86	180.74
10.00	1.25	3.30	14.81	3.35	14.27	29.75	5.82	14.36	5.74	13.96	163.64	
OVA48103	2.00	45.23	4.44	10.68	4.29	10.16	61.29	4.78	6.15	4.93	5.57	86.28
	2.50	28.95	5.13	12.51	4.70	11.24	76.70	5.08	6.86	5.49	6.43	109.71
	3.00	20.10	5.70	14.10	5.09	12.17	87.02	4.51	12.82	4.99	12.60	127.86
	3.50	14.77	6.06	15.60	5.44	13.03	88.38	4.90	11.15	5.40	11.39	152.16
	4.00	11.31	5.31	16.73	5.71	13.72	96.40	5.73	8.48	5.36	8.88	163.04
	5.00	7.24	5.85	16.06	6.01	15.11	109.71	6.07	9.30	5.92	10.25	174.79
	6.00	5.03	6.16	15.94	6.27	16.15	123.17	6.34	10.49	6.24	11.85	200.83
	7.00	3.69	6.25	17.15	6.36	16.76	116.63	6.67	10.98	6.56	12.35	215.03
	8.00	2.83	6.19	17.78	6.31	17.23	119.01	6.84	12.93	6.73	12.10	242.78
	9.00	2.23	6.01	17.93	6.07	17.54	96.40	6.89	14.64	6.83	13.96	240.99
10.00	1.81	5.66	18.09	5.66	17.70	89.26	6.92	15.82	6.92	15.51	238.02	
OVA48104, OVA48312	2.00	67.18	4.77	11.24	4.77	11.15	75.27	5.13	6.87	5.13	6.07	103.24
	2.50	43.00	5.62	13.23	5.30	12.38	92.98	5.70	7.59	6.01	6.96	132.95
	3.00	29.86	6.29	14.99	5.76	13.48	110.45	6.14	8.26	6.66	7.82	159.32
	3.50	21.94	6.94	16.63	6.12	14.52	123.92	5.52	14.99	6.19	14.89	184.05
	4.00	16.80	7.52	18.23	6.46	15.46	135.67	5.56	15.84	6.39	15.94	213.02
	5.00	10.75	6.52	20.89	6.95	17.07	146.90	6.88	10.50	6.49	11.23	251.03
	6.00	7.46	7.09	20.00	7.28	18.22	157.98	7.25	11.43	7.07	12.58	265.09
	7.00	5.48	7.51	19.02	7.57	19.27	185.88	7.53	12.15	7.47	13.89	291.57
	8.00	4.20	7.66	20.22	7.73	20.03	161.85	7.77	14.23	7.71	16.68	314.18
	9.00	3.32	7.69	21.18	7.75	20.71	192.79	8.05	13.57	7.98	15.98	325.34
10.00	2.69	7.60	21.74	7.60	21.17	178.51	8.15	16.69	8.15	15.75	371.90	
OVA48105, OVA48318	2.00	93.97	5.08	11.90	5.21	12.24	87.47	5.37	6.54	5.50	7.50	117.52
	2.50	60.14	5.89	13.86	5.75	13.56	111.11	6.26	7.36	6.12	8.34	152.94
	2.80	47.94	6.36	15.02	6.07	14.31	126.54	6.83	7.91	6.54	8.78	173.19
	3.00	41.77	6.66	15.67	6.29	14.76	130.54	7.11	8.36	6.75	9.00	190.12
	4.00	23.49	8.02	19.25	7.14	16.97	168.99	7.89	10.15	7.08	10.32	254.68
	5.00	15.04	9.11	22.26	7.77	18.81	184.09	7.65	19.77	6.60	19.20	312.40
	6.00	10.44	7.75	21.86	8.26	20.28	203.50	7.61	13.32	8.08	12.48	356.13
	7.00	7.67	8.34	23.47	8.57	21.46	215.03	8.24	14.84	8.45	13.35	368.11
	8.00	5.87	8.81	22.14	8.88	22.44	247.54	8.62	16.05	8.69	14.19	390.35
	9.00	4.64	9.00	23.48	9.08	23.36	259.07	8.91	18.90	8.98	16.28	427.76
	10.00	3.76	9.08	24.60	9.16	24.16	238.02	9.19	19.28	9.27	16.35	438.84
	11.00	3.11	9.07	25.32	9.15	24.76	270.00	9.41	16.92	9.49	17.96	468.00
	12.00	2.61	8.96	25.74	8.96	25.07	257.06	9.60	18.31	9.60	19.42	524.83
	13.00	2.22	8.69	26.00	8.69	25.33	201.12	9.61	22.13	9.61	23.04	502.81
	14.00	1.92	8.33	26.11	8.41	25.44	218.68	9.61	24.38	9.70	24.94	466.51
	15.00	1.67	7.89	26.08	7.89	25.51	200.83	9.64	26.98	9.64	27.36	535.54
	16.00	1.47	7.29	26.03	7.12	25.34	209.45	9.69	30.20	9.47	30.37	495.07
	17.00	1.30	6.27	25.86	6.10	25.05	85.98	9.68	30.63	9.43	31.07	515.90
	18.00	1.16	4.91	25.45	4.91	24.51	96.40	9.41	31.48	9.41	31.66	409.69
19.00	1.04	2.75	24.80	2.67	23.86	0.00	9.36	31.98	9.09	32.45	429.62	

Spacing tables

Emergency light fittings spacing tables

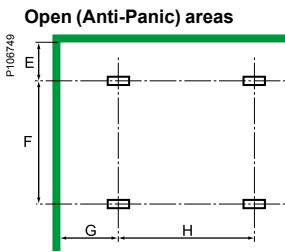
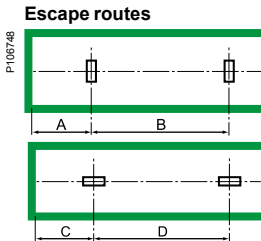


A and E: Transverse spacing to wall
 B and F: Transverse spacing between luminaires
 C and G: Axial spacing to wall
 D and H: Axial spacing between luminaires

Catalogue number	Installation height for ceiling mounting (m)	Lux level directly under luminaires (lux)	Escape routes 1 Lux min. Along centreline (m)				Area covered to obtain more than 1 Lux on the ground (m ²)	Open (Anti-Panic) areas 0.5 Lux min. Luminaires arranged in a regular array (m)				Area covered to obtain 0.5 Lux on the ground (m ²)
			A	B	C	D		E	F	G	H	
OVA48106, OVA48107, OVA48317	2.00	75.18	4.89	11.49	4.89	11.46	80.93	5.27	6.25	5.27	7.11	107.70
	2.50	48.11	5.68	13.41	5.42	12.78	100.88	6.15	7.06	5.89	7.83	138.07
	2.80	38.36	6.14	14.54	5.74	13.53	110.80	6.61	7.69	6.21	8.27	159.20
	3.00	33.41	6.43	15.18	5.89	13.97	119.16	6.84	8.02	6.30	8.49	169.36
	4.00	18.79	7.68	18.55	6.66	15.88	147.57	6.56	16.58	5.75	16.48	224.93
	5.00	12.03	6.76	21.37	7.21	17.59	154.34	6.67	11.36	7.08	10.75	273.35
	6.00	8.35	7.34	20.61	7.61	18.94	174.05	7.30	12.87	7.55	11.68	302.58
	7.00	6.14	7.84	19.64	7.91	20.00	189.52	7.74	14.19	7.80	12.53	302.50
	8.00	4.70	8.07	20.87	8.14	20.86	209.45	8.04	16.18	8.11	13.91	337.98
	9.00	3.71	8.10	21.95	8.25	21.55	192.79	8.22	17.93	8.36	15.19	355.46
	10.00	3.01	8.10	22.71	8.10	22.12	223.14	8.49	16.05	8.49	17.01	386.78
	11.00	2.49	7.99	23.09	7.92	22.59	207.00	8.66	17.77	8.59	18.67	414.00
	12.00	2.09	7.64	23.18	7.72	22.78	171.37	8.65	20.09	8.73	20.72	364.17
	13.00	1.78	7.21	23.41	7.28	22.80	150.84	8.66	22.49	8.75	22.79	402.25
	14.00	1.53	6.75	23.29	6.60	22.78	174.94	8.75	25.50	8.57	25.62	437.36
	15.00	1.34	5.83	23.23	5.68	22.51	66.94	8.74	27.15	8.53	27.29	401.65
	16.00	1.17	4.51	22.83	4.51	21.99	76.17	8.50	28.14	8.50	28.28	342.74
17.00	1.04	2.46	22.19	2.31	21.35	0.00	8.55	28.61	8.06	29.02	343.93	
OVA48300	2.00	12.82	2.65	8.40	2.88	7.11	25.59	3.13	4.89	2.92	5.05	43.14
	2.50	8.21	2.98	8.41	3.11	7.74	29.75	3.36	4.70	3.24	5.18	49.74
	3.00	5.70	3.19	8.05	3.25	8.30	34.81	3.50	5.34	3.45	6.23	52.21
	3.50	4.19	3.26	8.61	3.29	8.76	30.07	3.60	7.69	3.57	9.14	59.23
	4.00	3.21	3.27	9.04	3.30	9.08	38.08	3.71	9.57	3.68	8.90	61.88
	5.00	2.05	3.12	9.45	3.12	9.28	29.75	3.86	9.33	3.86	9.02	59.50
	6.00	1.42	2.52	9.42	2.52	9.29	13.39	3.81	11.29	3.81	11.19	64.26
	7.00	1.05	0.92	9.01	1.05	8.83	0.00	3.81	11.88	3.42	11.88	58.31
	8.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OVA48301, OVA48303	2.00	18.64	3.30	9.43	3.36	7.90	34.51	3.40	4.85	3.34	5.01	55.64
	2.50	11.93	3.47	10.35	3.64	8.72	38.58	3.80	5.39	3.65	5.89	65.55
	3.00	8.28	3.74	9.28	3.84	9.39	42.84	4.04	5.85	3.95	6.66	69.62
	3.50	6.09	3.96	9.91	3.99	9.96	47.38	4.15	6.28	4.12	6.87	75.63
	4.00	4.66	4.04	10.52	4.11	10.39	49.98	4.29	6.62	4.22	6.59	84.50
	5.00	2.98	4.05	11.35	4.09	11.01	52.07	4.48	8.18	4.44	7.90	96.69
	6.00	2.07	3.86	11.59	3.86	11.29	42.84	4.60	9.38	4.60	9.23	88.36
	7.00	1.52	3.30	11.59	3.30	11.19	43.74	4.58	11.18	4.58	11.18	102.05
	8.00	1.17	2.22	11.26	2.29	10.90	19.04	4.53	13.91	4.39	13.77	76.17
	9.00	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OVA48302, OVA48304	2.00	19.50	3.36	9.43	3.36	8.03	33.92	3.43	4.91	3.43	4.89	56.53
	2.50	12.48	3.50	10.22	3.67	8.80	38.58	3.83	5.45	3.68	5.62	66.01
	3.00	8.67	3.74	9.65	3.91	9.47	44.18	4.07	5.85	3.92	6.15	72.30
	3.50	6.37	3.92	10.10	4.03	10.14	47.38	4.25	6.28	4.15	6.45	78.36
	4.00	4.88	4.00	10.72	4.11	10.57	53.55	4.41	6.62	4.31	6.72	88.07
	5.00	3.12	4.09	11.56	4.16	11.16	55.79	4.64	7.24	4.57	7.01	96.69
	6.00	2.17	3.86	11.80	3.93	11.44	42.84	4.75	8.62	4.67	8.34	99.07
	7.00	1.59	3.38	11.91	3.45	11.49	43.74	4.81	10.15	4.72	9.99	112.98
	8.00	1.22	2.45	11.63	2.56	11.20	19.04	4.74	12.01	4.55	11.80	99.97
	9.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OVA48305	2.00	27.92	4.06	9.65	3.65	8.83	47.90	4.08	5.18	4.48	5.01	69.92
	2.50	17.87	4.70	11.20	4.00	9.81	53.46	3.65	9.49	4.20	9.47	84.61
	3.00	12.41	3.95	12.53	4.28	10.60	57.57	4.40	7.03	4.09	7.30	97.07
	3.50	9.12	4.28	12.13	4.52	11.31	62.87	4.65	6.77	4.43	7.34	105.69
	4.00	6.98	4.56	11.44	4.64	11.86	65.45	4.81	7.19	4.74	8.11	107.11
	5.00	4.47	4.79	12.58	4.87	12.74	70.66	5.06	10.00	4.99	11.87	124.59
	6.00	3.10	4.82	13.39	4.86	13.33	80.33	5.27	11.77	5.23	10.93	139.24
	7.00	2.28	4.63	13.82	4.68	13.76	58.31	5.43	12.64	5.38	12.07	145.79
	8.00	1.75	4.25	13.97	4.25	13.79	57.12	5.42	15.48	5.42	15.31	152.33
	9.00	1.38	3.55	13.82	3.55	13.63	24.10	5.30	16.77	5.30	16.58	144.60
	10.00	1.12	2.17	13.37	2.26	13.24	29.75	5.28	17.64	5.08	17.43	119.01
OVA48306	2.00	31.21	3.93	9.69	3.76	9.04	49.39	4.25	5.32	4.41	4.95	71.70
	2.50	19.97	4.51	11.26	4.12	10.08	53.93	3.88	8.44	4.20	8.04	86.47
	3.00	13.87	4.13	12.66	4.41	10.88	58.91	4.49	6.48	4.24	6.43	102.42
	3.50	10.19	4.40	13.56	4.69	11.65	69.25	4.79	7.00	4.53	7.18	109.34
	4.00	7.80	4.68	12.82	4.90	12.26	73.79	5.04	7.42	4.84	7.85	121.39
	5.00	4.99	5.00	13.11	5.13	13.33	87.40	5.34	8.44	5.22	9.35	139.46
	6.00	3.47	5.08	14.13	5.12	13.99	85.69	5.53	10.61	5.49	10.04	149.95
	7.00	2.55	4.95	14.63	5.09	14.43	87.47	5.74	12.77	5.60	12.09	171.30
	8.00	1.95	4.71	14.86	4.76	14.53	71.40	5.80	13.99	5.75	13.48	152.33
	9.00	1.54	4.15	14.78	4.15	14.51	72.30	5.75	15.78	5.75	15.34	174.72
	10.00	1.25	3.20	14.47	3.30	14.33	29.75	5.76	16.87	5.61	16.53	163.64

Spacing tables

Emergency light fittings spacing tables



A and E: Transverse spacing to wall
 B and F: Transverse spacing between luminaires
 C and G: Axial spacing to wall
 D and H: Axial spacing between luminaires

Catalogue number	Installation height for ceiling mounting (m)	Lux level directly under luminaires (lux)	Escape routes 1 Lux min. Along centreline (m)				Area covered to obtain more than 1 Lux on the ground (m²)	Open (Anti-Panic) areas 0.5 Lux min. Luminaires arranged in a regular array (m)				Area covered to obtain 0.5 Lux on the ground (m²)
			A	B	C	D		E	F	G	H	
OVA48307	2.00	27.60	4.24	10.26	3.76	8.83	46.71	3.59	8.95	3.98	8.81	69.32
	2.50	17.66	4.65	11.82	4.08	9.77	51.60	3.73	9.64	4.19	9.86	83.68
	3.00	12.27	4.09	13.12	4.32	10.56	54.89	4.43	6.48	4.22	6.98	96.40
	3.50	9.01	4.36	12.13	4.56	11.15	61.96	4.67	7.00	4.49	7.77	102.96
	4.00	6.90	4.60	11.86	4.77	11.75	64.26	4.89	7.42	4.74	8.48	105.92
	5.00	4.42	4.83	12.87	4.91	12.69	66.94	5.19	8.06	5.11	9.31	124.59
	6.00	3.07	4.77	13.69	4.90	13.33	80.33	5.36	9.35	5.23	8.94	139.24
	7.00	2.25	4.68	13.94	4.77	13.64	61.96	5.50	10.72	5.40	10.35	138.50
	8.00	1.72	4.25	13.98	4.30	13.67	57.12	5.53	12.43	5.48	12.10	152.33
	9.00	1.36	3.55	14.01	3.59	13.57	24.10	5.46	14.74	5.40	14.45	144.60
10.00	1.10	2.13	13.56	2.22	13.11	29.75	5.37	17.13	5.17	16.93	119.01	
OVA48309	2.00	53.41	4.77	11.02	4.49	10.56	68.73	4.85	6.44	5.12	5.89	94.02
	2.50	34.18	5.55	12.96	4.96	11.65	84.14	5.27	7.16	5.84	6.69	121.33
	3.00	23.74	6.08	14.78	5.30	12.66	93.05	4.78	13.32	5.41	13.07	141.92
	3.50	17.44	5.55	16.31	5.66	13.53	102.96	5.46	8.35	5.36	8.66	165.83
	4.00	13.35	5.71	17.68	5.99	14.37	105.92	5.89	8.88	5.64	9.54	184.46
	5.00	8.54	6.29	15.70	6.46	15.85	124.59	6.40	9.82	6.25	11.10	204.55
	6.00	5.93	6.66	16.99	6.72	16.98	139.24	6.64	10.50	6.59	12.17	219.57
	7.00	4.36	6.76	18.25	6.82	17.92	142.14	6.98	12.41	6.92	12.27	247.83
	8.00	3.34	6.77	19.08	6.89	18.49	152.33	7.24	13.07	7.12	12.57	257.06
	9.00	2.64	6.72	19.56	6.78	18.89	144.60	7.36	15.20	7.29	14.62	301.24
10.00	2.14	6.56	19.57	6.49	19.06	119.01	7.42	16.72	7.48	16.37	260.33	
OVA48310	2.00	53.08	4.29	10.21	4.39	10.56	68.13	4.90	6.15	4.80	5.65	92.23
	2.50	33.97	5.07	12.00	4.85	11.71	82.75	5.38	6.86	5.60	6.19	118.08
	3.00	23.59	5.82	13.71	5.25	12.79	95.06	5.53	7.52	6.09	6.90	144.60
	3.50	17.33	6.45	15.34	5.55	13.66	102.05	4.98	13.65	5.71	12.80	164.01
	4.00	13.27	5.36	16.83	5.87	14.51	107.11	5.83	14.28	5.36	14.05	188.03
	5.00	8.49	6.01	16.98	6.29	15.93	122.73	6.28	9.61	6.03	10.14	206.40
	6.00	5.90	6.49	16.24	6.55	16.98	139.24	6.59	11.00	6.53	12.32	224.93
	7.00	4.33	6.70	17.54	6.70	17.76	138.50	6.89	11.49	6.89	13.47	240.55
	8.00	3.32	6.65	18.50	6.77	18.41	152.33	7.18	13.95	7.06	12.81	257.06
	9.00	2.62	6.54	19.06	6.66	18.80	144.60	7.33	16.47	7.20	15.28	295.21
10.00	2.12	6.31	19.23	6.37	19.15	119.01	7.30	21.37	7.24	20.54	267.77	
OVA48311	2.00	54.11	4.71	11.02	4.49	10.56	68.73	4.94	6.55	5.16	5.73	93.72
	2.50	34.63	5.49	12.89	4.96	11.79	84.14	5.37	7.16	5.89	6.69	119.94
	3.00	24.05	5.95	14.61	5.41	12.73	96.40	5.50	7.72	5.99	7.62	145.26
	3.50	17.67	6.06	16.13	5.71	13.74	104.78	5.21	11.05	5.50	11.29	165.83
	4.00	13.53	5.77	17.40	6.04	14.59	105.92	5.83	8.88	5.59	9.42	184.46
	5.00	8.66	6.17	16.41	6.46	15.93	122.73	6.46	9.82	6.19	10.97	208.26
	6.00	6.01	6.61	16.99	6.72	16.98	139.24	6.73	10.72	6.62	11.90	224.93
	7.00	4.42	6.88	18.10	6.94	17.92	142.14	7.04	11.52	6.98	12.34	247.83
	8.00	3.38	6.89	18.91	6.95	18.65	152.33	7.27	12.49	7.21	12.01	257.06
	9.00	2.67	6.78	19.56	6.84	19.05	144.60	7.48	13.60	7.41	12.97	301.24
10.00	2.16	6.56	19.83	6.56	19.32	119.01	7.51	16.52	7.51	15.89	282.64	
OVA48313	2.00	65.02	4.49	10.66	4.66	11.14	73.19	5.06	6.44	4.90	5.89	98.18
	2.50	41.61	5.30	12.42	5.13	12.38	90.19	5.62	7.26	5.79	6.60	127.38
	3.00	28.90	6.08	14.18	5.53	13.48	109.12	5.97	8.03	6.52	7.33	157.31
	3.50	21.23	6.80	15.87	5.88	14.43	119.36	5.71	8.67	6.51	8.15	182.23
	4.00	16.25	7.37	17.40	6.22	15.29	130.91	5.46	13.21	6.37	12.84	203.50
	5.00	10.40	6.29	19.86	6.76	16.81	141.32	6.71	10.15	6.28	10.60	238.02
	6.00	7.22	6.96	17.66	7.15	18.13	152.63	7.12	10.95	6.95	12.17	259.74
	7.00	5.31	7.25	18.43	7.31	19.09	178.59	7.41	11.77	7.35	13.71	280.64
	8.00	4.06	7.33	19.59	7.46	19.94	161.85	7.67	13.84	7.55	16.51	304.66
	9.00	3.21	7.35	20.53	7.49	20.44	192.79	7.82	18.30	7.69	16.78	313.29
10.00	2.60	7.27	21.08	7.33	20.89	178.51	7.99	18.61	7.92	17.41	357.02	
OVA48314, OVA48315	2.00	67.44	4.34	10.78	4.66	11.07	74.38	5.21	6.44	4.89	4.89	100.26
	2.50	43.16	5.13	12.48	5.18	12.30	89.26	5.81	7.26	5.75	5.75	129.70
	3.00	29.97	5.89	14.25	5.64	13.48	108.45	6.13	8.03	6.37	6.37	157.31
	3.50	22.02	6.51	15.84	6.00	14.51	123.01	5.31	14.47	5.72	5.72	179.50
	4.00	16.86	7.07	17.36	6.28	15.45	126.15	5.55	15.41	6.18	6.18	207.07
	5.00	10.79	6.40	17.88	6.82	16.98	141.32	6.81	10.27	6.43	6.43	243.60
	6.00	7.49	6.96	19.25	7.21	18.22	152.63	7.21	11.18	6.98	6.98	254.38
	7.00	5.51	7.31	18.77	7.51	19.27	182.23	7.53	12.90	7.35	7.35	284.28
	8.00	4.22	7.46	19.86	7.59	20.11	166.61	7.74	14.36	7.61	7.61	314.18
	9.00	3.33	7.42	20.71	7.55	20.71	192.79	7.95	15.60	7.82	7.82	325.34
10.00	2.70	7.33	21.27	7.47	21.26	178.51	8.15	16.34	8.01	8.01	364.46	
OVA48316	2.00	80.68	4.77	11.00	4.89	11.54	80.63	5.00	6.16	5.11	6.76	108.89
	2.50	51.63	5.62	12.95	5.49	12.94	103.67	5.84	7.06	5.72	7.59	138.53
	3.00	35.86	6.36	14.68	5.89	14.14	119.83	6.63	7.92	6.18	8.37	172.04
	3.50	26.34	7.02	16.42	6.31	15.19	137.58	7.11	8.77	6.44	9.02	203.19
	4.00	20.17	7.60	18.00	6.66	16.22	148.76	6.88	10.71	6.09	10.88	226.12
	5.00	12.91	6.70	20.75	7.34	17.86	161.78	6.52	12.25	7.10	11.87	278.93
	6.00	8.96	7.28	21.99	7.75	19.30	176.73	7.14	15.96	7.57	14.68	307.93
	7.00	6.59	7.84	19.65	8.05	20.47	189.52	7.74	17.38	7.93	15.53	317.08
	8.00	5.04	8.14	20.67	8.21	21.43	214.21	8.18	17.95	8.25	15.61	361.79
	9.00	3.98	8.32	21.75	8.32	22.13	192.79	8.43	19.49	8.43	16.69	361.49
10.00	3.23	8.24	22.61	8.39	22.71	238.02	8.56	18.13	8.71	19.79	386.78	

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Schneider Electric Industries SAS
35, rue Joseph Monier - CS 30323
F-92506 Rueil-Malmaison - FRANCE
Phone: + 33 (0) 1 41 29 70 00
Fax: + 33 (0) 1 41 29 71 00
www.schneider-electric.com

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