

# CLEAN ROOM

## LED LIGHTING SOLUTIONS

High protection degree  
Energy efficiency  
Longevity  
Comfort

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N  
E  
W

**SunLike** inside  
Powered by 

Tunable White

 **Fraunhofer**  
ISO and GMP certified

**CLEAN ROOM** is a family of light fixtures used in clean spaces, certified by Fraunhofer institute for all ISO classes, up to ISO 1. High ingress protection IP65, as above so below, is an essential feature of this luminaire.

Hand- operated TIG welding, special multi-layer coating and lasting LED sources provide durability and little to no maintenance. Due to a vast choice of different optics, these luminaires are easily incorporated in every type of clean room spaces, whether it is microchip or pharmaceutical industry, laboratories or operation rooms.



## CLEAN ROOM CLA / CLD

Clean Room CLA / CLD are highly efficient luminaires for direct illumination, intended for spaces where a high protection degree and an excellent lighting performance are required in accordance with DIN EN ISO 14644-1.

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Smooth luminaire surface, resistant to cleaning agents, allows easy maintenance and meets high hygiene standards for medical institutions and clean production facilities.



## CLEAN ROOM CLA / CLD

**OPTICS** Luminaires are supplied with the following optics:

**CLA** multilayer optics, with highly transparent tempered glass protector, diffuser of microprismatic structure and opal foil.

**CLD** opal diffuser providing diffused light. Latest generation LED modules and drivers.

Extended work- life LED sources, with not over 10% light intensity loss (L90), reduce maintenance costs to minimum.

The choice of the appropriate control gear enables lighting management.

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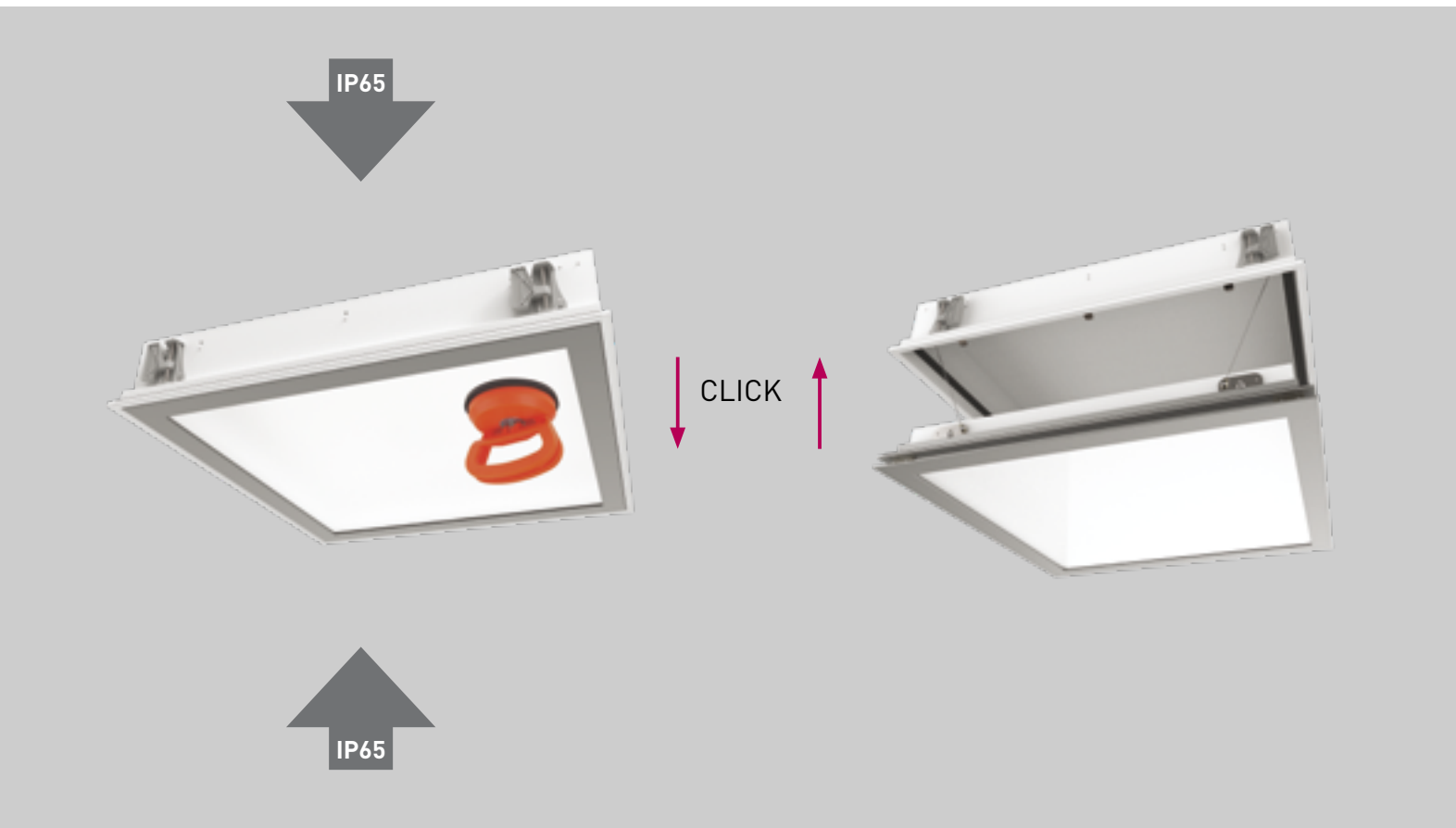
**HOUSING** is constructed of bended 0.8mm thick steel sheets. The parts are assembled by resistance spot welding and TIG welding. Final coating procedure includes degreasing, phosphatisation, washing and zinc primer coating, after which epoxy polyester powder RAL 9003 (white) is applied and then polymerized at 180°C. The powder is used for surface protection of luminaires for medical use, since it is resistant to aggressive cleaning agents and has an antibacterial character.

Luminaire housing consists of inner and outer casing for easy installation and serviceability.

## DESIGN OVERVIEW



## FEATURES



UPGRADE  
POSSIBILITY

TOOL FREE  
SERVICEABILITY

## STANDARD EQUIPEMENT



Pressure equalization valve.



Connection coil for inner and outer housing for easy serviceability.

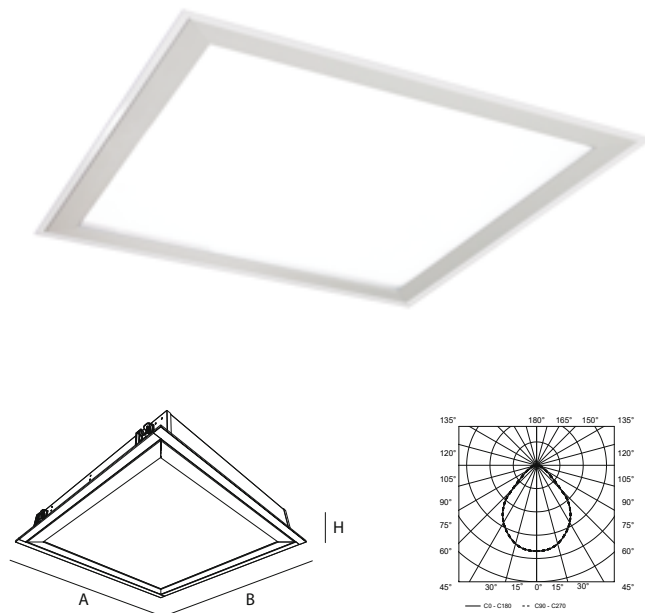


Mounting kit for monolith and panel suspended ceilings.

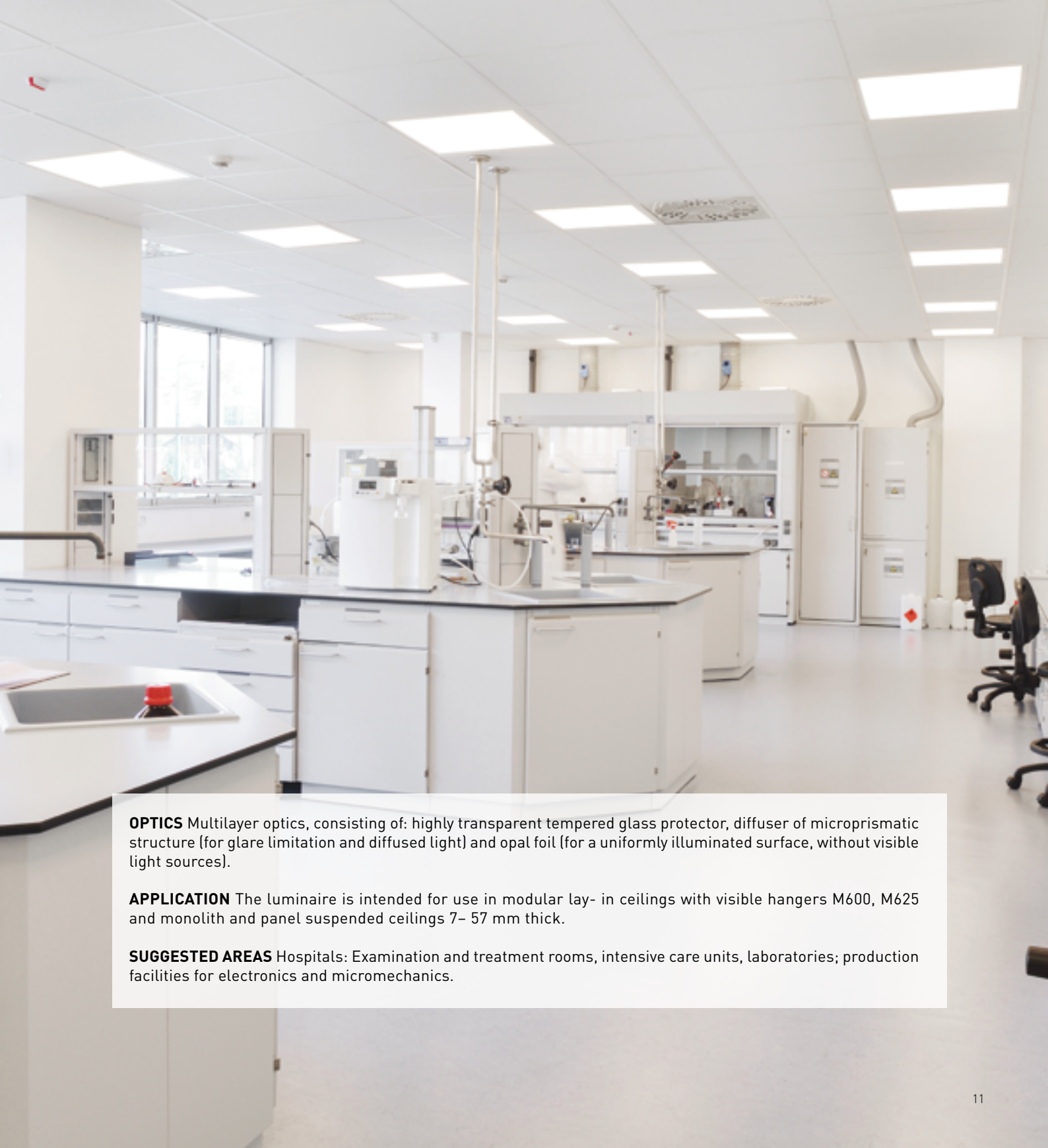
## On request

- Standard mounting brackets for panel thickness >57 mm
- Brackets for larger thicknesses are available on request
- Mounting brackets for concealed grid clip- in, suspended ceilings
- Other light colour temperatures and CRI>90
- EM module 1h or 3h autonomy
- CBS (Central Battery System) integration

CLEAN ROOM CLA



Dimensions A/B/H	595x595x108/620x620x108mm/1195x295x108mm
Cut -out dimensions a/b/h	580x580x160/610x610x160mm/1180x280x160mm
Ingress protection rating	IP65/IP65
Impact resistance	IK09
Finish	antibacterial white epoxy polyester powder
Weight	12/14kg
Luminaire luminous flux (t <sub>a</sub> =25°)	5400/5550lm
Total power	45W
Luminaire efficiency	120/123 lm/W
Light colour temperature	4000K
CRI	>90
UGR	<19
LED service life	60.000h(L90B10) SDCM 3
Power supply	220-240V, 50-60Hz
Control gear	ECG, DALI



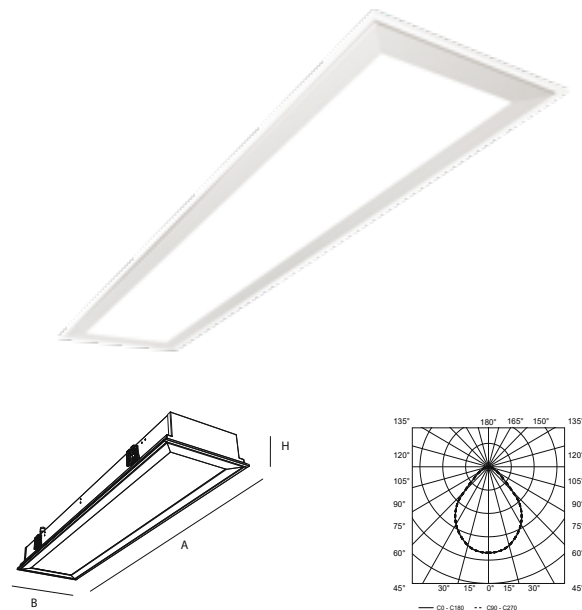
**OPTICS** Multilayer optics, consisting of: highly transparent tempered glass protector, diffuser of microprismatic structure (for glare limitation and diffused light) and opal foil (for a uniformly illuminated surface, without visible light sources).

**APPLICATION** The luminaire is intended for use in modular lay- in ceilings with visible hangers M600, M625 and monolith and panel suspended ceilings 7– 57 mm thick.

**SUGGESTED AREAS** Hospitals: Examination and treatment rooms, intensive care units, laboratories; production facilities for electronics and micromechanics.



**CLEAN ROOM CLA OT**  
Specially for operational theaters



Dimensions A/B/H	1195x295x108mm
Cut -out dimensions a/b/h	1180x280x160mm
Ingress protection rating	IP65
Impact resistance	IK09
Finish	antibacterial white epoxy polyester powder
Weight	14kg
Luminaire luminous flux (t <sub>3</sub> =25°)	7900lm
Total power	73W
Luminaire efficiency	108lm/W
Light colour temperature	4000K
CRI	>90
UGR	<19
LED service life	60.000h(L80B10) SDCM 3
Power supply	220-240V, 50-60Hz
Control gear	ECG, DALI



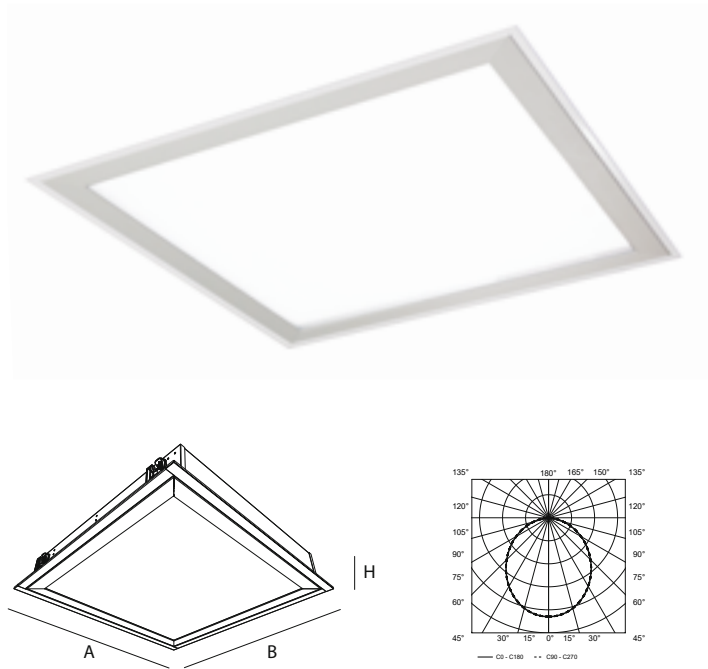
**CRI >90**  
**UGR <19**

**OPTICS** Multilayer optics, consisting of: highly transparent tempered glass protector, diffuser of microprismatic structure (for glare limitation and diffused light) and opal foil (for a uniformly illuminated surface, without visible light sources).

**APPLICATION** The luminaire is intended for use in monolith and panel suspended ceilings 7– 57 mm thick.

**SUGGESTED AREAS** Operational theaters, laboratories and other spaces with extreme hygiene and other standards.

CLEAN ROOM CLD



Dimensions A/B/H	595x595x108 / 620x620x108mm / 1195x295x108mm
Cut -out dimensions a/b/h	580x580x160 / 610x610x160mm / 1180x280x160mm
Ingress protection rating	IP65
Impact resistance	IK06
Finish	antibacterial white epoxy polyester powder
Weight	12/14kg
Luminaire luminous flux (t <sub>a</sub> =25°)	4672/4789lm
Total power	34W
Luminaire efficiency	137/141 lm/W
Light colour temperature	4000K
CRI	>90
UGR	<22
LED service life	60.000h(L90B10) SDCM 3
Power supply	220-240V, 50-60Hz
Control gear	ECG, DALI



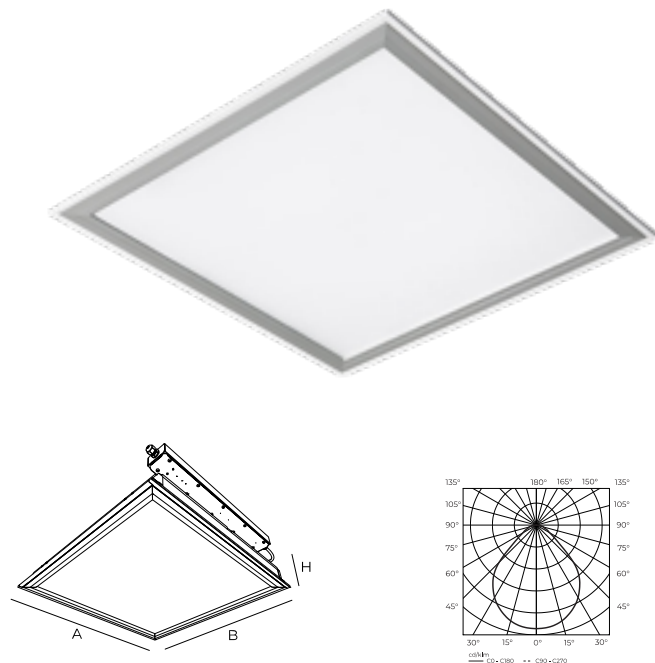
**OPTICS** Opal PMMA diffuser providing a uniform, diffused light.

**APPLICATION** The luminaire is intended for use in modular lay- in ceilings with visible hangers M600, and monolith and panel suspended ceilings 7– 57 mm thick.

**SUGGESTED AREAS** Healthcare facilities, sterile rooms, pharmaceutical, chemical and food production industry.



CLEAN ROOM SLIM UP



Dimensions A/B/H	595x595x60mm
Cut -out dimensions a/b/h	580x580x60mm
Ingress protection rating	IP50/IP65
Impact resistance	IK09
Finish	antibacterial white epoxy polyester powder
Weight	12kg
Luminaire luminous flux ( $t_a=25^\circ$ )	4600/10000lm
Total power	37/86W
Luminaire efficiency	124/116 lm/W
Light colour temperature	4000K
CRI	>90
UGR	<22
LED service life	60.000h(L90B10) SDCM 3
Power supply	220-240V, 50-60Hz
Control gear	ECG, DALI



MAINTENANCE  
FROM THE TOP

VERY THIN  
HOUSING

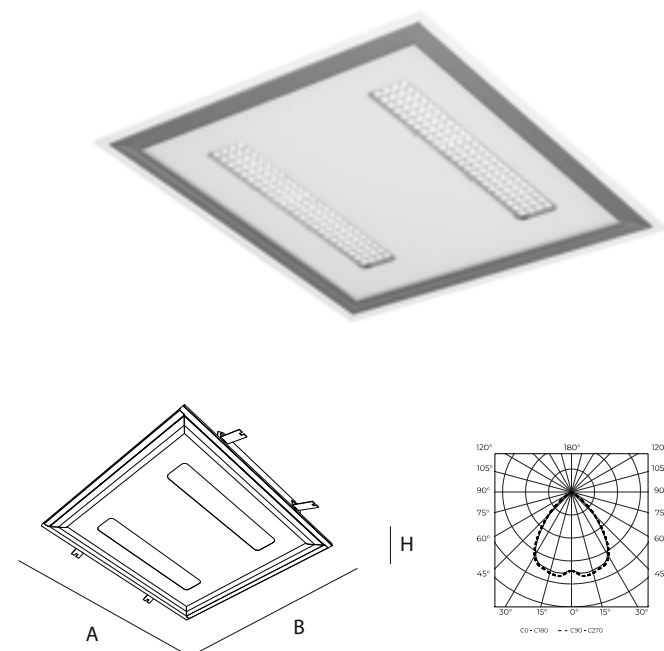
**HOUSING** It's made of a 0,8 mm thick steel sheet with a final coating of a special antibacterial white polyester powder, resistant to aggressive cleaning agents. Luminaire construction ensures complete sealing of the ceiling.

**OPTICS** Multi-layered optics. Highly transparent microprismatic diffuser protects against glare and provides pleasant, diffused light. Opal foil ensures a uniform light, without visible light sources. The tempered protection glass provides a smooth surface for easy maintenance.

**APPLICATION** The luminaire is intended for use in monolith and panel suspended ceilings, 30 – 60 mm thick. For lay-in mounting, the luminaire height is 60 mm only. Luminaire maintenance from the upper side ensures room cleanness integrity.

**SUGGESTED AREAS** Healthcare, industry (luminaire maintenance from the upper side).

CLEAN ROOM HB



**Dimensions A/B/H**

**Cut -out dimensions a/b/h**

**Ingress protection rating Impact resistance**

**Finish**

**Weight**

**Luminaire luminous flux ( $t_a=25^\circ$ )**

**Total power**

**Luminaire efficiency**

**Light colour temperature**

**CRI**

**UGR**

**LED service life**

**Power supply**

**Control gear**

500x500x60mm

485x485x100mm

IP65

IK07

antibacterial white epoxy polyester powder

7kg

10840/15570lm

74/115W

147/135lm/W

4000K

>80

<22

60.000h(L80B10) SDCM 3

220-240V, 50-60Hz

ECG, DALI

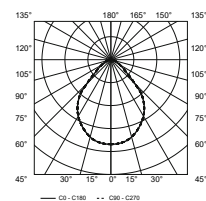
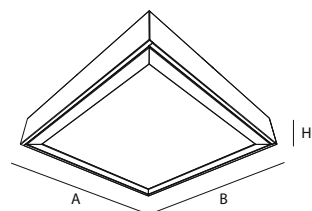
**OPTICS** Tempered glass with anti-scattering film, in double aluminium frame.

**APPLICATION** Recessed luminaire for direct illumination of industrial spaces. Designed for areas with a height requirement of over 6m.

**SUGGESTED AREAS** The luminaire is made especially for the industrial and warehouse facilities with applied HACCP standard.



CLEAN ROOM CLA /C



Dimensions A/B/H	600x600x109mm / 1200x300x109mm
Ingress protection rating	IP65
Impact resistance	IK09
Finish	antibacterial white epoxy polyester powder
Weight	12/14kg
Luminaire luminous flux (t <sub>a</sub> =25°)	5400/5550lm
Total power	45W
Luminaire efficiency	120/123 lm/W
Light colour temperature	4000K
CRI	>80
UGR	<19
LED service life	60.000h(L90B10) SDCM 3
Power supply	220-240V, 50-60Hz
Control gear	ECG, DALI



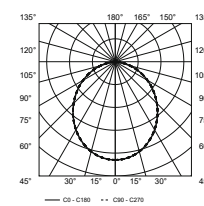
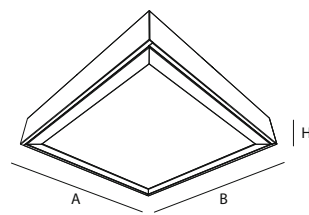
**OPTICS** Multilayer optics, consisting of: highly transparent tempered glass protector, diffuser of microprismatic structure (for glare limitation and diffused light) and opal foil (for a uniformly illuminated surface, without visible light sources).

**APPLICATION** Surface mounted.

**SUGGESTED AREAS** Hospitals: Examination and treatment rooms, intensive care units, laboratories; production facilities for electronics and micromechanics.



CLEAN ROOM CLD /C



Dimensions A/B/H	600x600x109mm / 1200x300x109mm
Ingress protection rating	IP65
Impact resistance	IK06
Finish	antibacterial white epoxy polyester powder
Weight	12/14kg
Luminaire luminous flux (t <sub>a</sub> =25°)	4672/4789lm
Total power	34W
Luminaire efficiency	137/141lm/W
Light colour temperature	4000K
CRI	>80
UGR	<22
LED service life	60.000h(L90B10) SDCM 3
Power supply	220-240V, 50-60Hz
Control gear	ECG, DALI

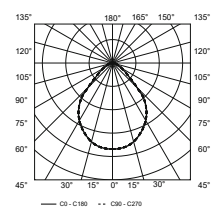
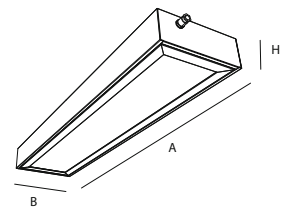
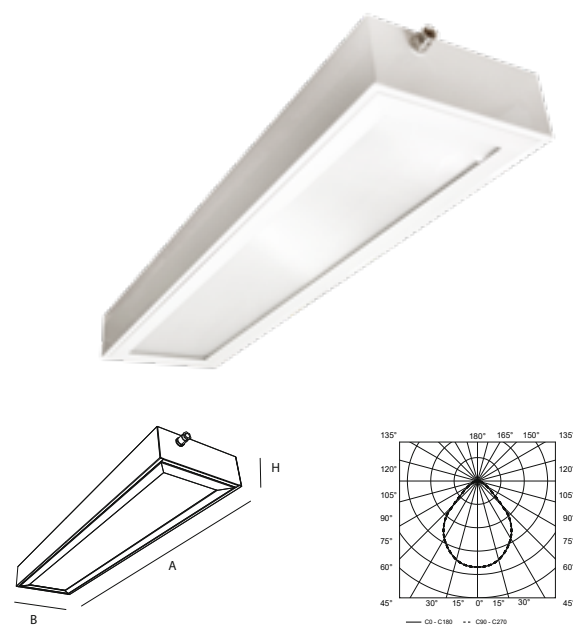


**OPTICS** Opal diffuser providing a uniform, diffused light.

**APPLICATION** Surface mounted luminaire.

**SUGGESTED AREAS** Healthcare facilities, sterile rooms, pharmaceutical, chemical and food production industry.

**CLEAN ROOM CLA /C Ex**  
Explosion proof luminaire



Dimensions A/B/H	600x600x109mm / 1200x300x109mm
Ingress protection rating	IP54
Impact resistance	IK09
Finish	antibacterial white epoxy polyester powder
Weight	12/16kg
Luminaire luminous flux (t <sub>a</sub> =25°)	5400/5500lm
Total power	44/50W
Luminaire efficiency	123/110lm/W
Light colour temperature	4000K
CRI	>80
UGR	<19
LED service life	60.000h(L90B10) SDCM 3
Power supply	220-240V, 50-60Hz
Control gear	ECG, DALI
Ex protection degree	II 3D Ex tc IIIB T65°C Dc

\* Explosion - proof equipment according to ATEX 2014/34/EU directives  
Compliance with: EN IEC 60079-0:2018, EN 60079-31:2014



**GENERAL** Highly efficient surface mounted luminaire for direct illumination. Luminaire has Ex protection degree II 3D Ex tc IIIB T65°C Dc.

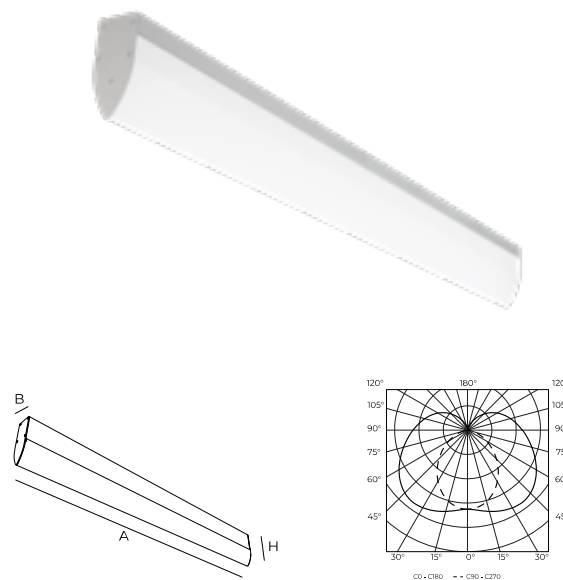
**OPTICS** Multilayer optics, consisting of: highly transparent tempered glass protector, diffuser of microprismatic structure (for glare limitation and diffused light) and opal foil (for a uniformly illuminated surface, without visible light sources).

**APPLICATION** Surface mounted luminaire.

**SUGGESTED AREAS** The luminaire is applicable in spaces with potentially explosive ambience, such as the pharmaceutical industry, and places where powder chemicals and dangerous materials are handled.



**STREAM TEARDROP**



Dimensions A/B/H	1126x46x140mm
Ingress protection rating	IP43
Finish	anodization in natural aluminium colour
Weight	2.70kg
Luminaire luminous flux (t <sub>a</sub> =25°)	4500/6000lm
Total power	40/55W
Luminaire efficiency	113/109 lm/W
Light colour temperature	4000K
CRI	>80
LED service life	60.000h(L80B10) SDCM 3
Power supply	220-240V, 50-60Hz
Control gear	ECG, DALI



**OPTICS** Multilayer optics, consisting of: highly transparent tempered glass protector, diffuser of microprismatic structure (for glare limitation and diffused light) and opal foil (for a uniformly illuminated surface, without visible light sources).

**APPLICATION** Micro-electronics industry, automotive battery production

**SUGGESTED AREAS** Clean & dry areas with laminar airflow. Micro-electronics industry, automotive battery production