ISOONE
Cleanroom lighting

LED

RECESSED Luminaires IP65

MARS

TYPE OF PRODUCTS
IP65 LED compact recessed luminaires, access from the top. Wide range of powers and optics. High power models for high ceilings. For false ceilings with cut-outs.

MECHANICAL CONSTRUCTION
Luminaire structure made of 1 mm steel, LaserWeld waterproof assembling technology, powder coated with KilBac white RAL 9003, certified qualicoat class 1 and antibacterial. Upper clamping frame in lacquered steel of 1,5 mm. Upper cover in aluminium of 2 mm red lacquered.

LED MODULES
White light **:** Zagha LED modules Book7, L28W6, with an energy efficiency until 185 Lm/W, rated AA+. Assembled on a 2 mm aluminium plate to ensure an optimal heat dissipation for the lifespan of the LEDs. 3SDCM. Colour rendering index 85. Expected luminous flux : L80 at 70.000 h.
Inactinic light **:** amber (590 nm) or red (620 nm), specific led's PCB in aluminium with Zagha Book7, L28W6, made in France.

OPTICS
- **TRPC/30 :** Intensive optics (30°), microlenses installed directly on the LED module. Transparent polycarbonate diffuser.
- **TRPC/60 :** Intensive optics (60°), microlenses installed directly on the LED module. Transparent polycarbonate diffuser.
- **OPPC :** opal polycarbonate diffuser, high impact resistance.
- **OPMI :** opal diffuser in PMMA, high chemical resistance.
- **MPPC :** polycarbonate micro prismatic diffuser which reduce luminance to achieve UGR lower than 19.
- **MPVR :** optics made of hardened laminated glass and an internal microprism diffuser which reduce luminance to achieve UGRs lower than 19. Excellent resistance to hydrogen peroxide.

CONTAMINATION CONTROL
Reduced risk of microbial growth :
>> **KilBac** technology, broad spectrum antibacterial finish with silver ions (BioCote, validated according to ISO 22196).
The mechanical construction of the luminaire ensures a particle emission class 3 according to ISO 14644-14. This range is made without silicone.

WALKABLE
Luminaires designed and tested to withstand the application of a 100 kg mass on the top cover corresponding to accidental feet pressure on the luminaire in the walkable plenum.

H_2O_2 RESISTANCE
The components that may come into contact with hydrogen peroxide during the decontamination process were tested by cyclic, direct and prolonged contact with a 35% H_2O_2 solution, see resistance in the reference table.

TEMPERATURE AND HUMIDITY
Reference ambient temperature : 20°C / 68°F. Operating temperature range : 5 to 25°C / 41 to 77°F (the temperature affects the lifetime of the LEDs). For environments with a moisture content of more than 70%, we recommend the use of lacquered INOX 304 for the housing, in option.

POWER SUPPLY
Luminaires supplied with European-branded EPF electronic driver. Rated voltage 220-240 V. DALI dimming (GDA) available in option Access from the top of the luminaire, without breaking the room classification.

INSTALLATION
Installation in sandwich panels from 15 to 100 mm. Adaptations for different thicknesses are possible on request. Quick installation without opening the luminaire. The sealing between the false ceiling and the lower frame must be applied at the installation.

WIRING
By a waterproof Wieland brand connector, RST20i, fixed to the top of the luminaire (installation on flexible cord).

LED
100 Kg MAX
L 80 70.000h
L 70 100.000h
3 SDCM
RISQUE PHOTO-BIOLOGIQUE 0
3 14644
IP65
IK07 OPMI
IK08 PC/VR
650° OPMI
850° PC/VR
CE

OPTIONS

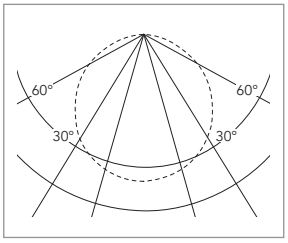
DALI GDA | INOX 304 Caisson | Cadre C2 renforcé

Reinforced clamping frame
Reinforced clamping frame made of 2 mm steel.

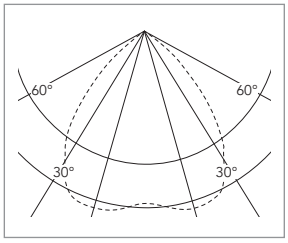
Emergency

KS3 emergency kit
Philips Trustsight BASIC kit, 3.6 V 4000 mAh NiMH battery, power supply 3 W for 3 h, approx. 300 Lm.

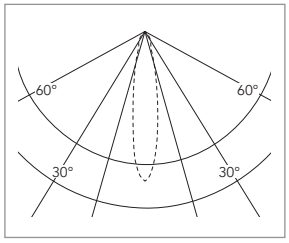
PHOTOMETRY



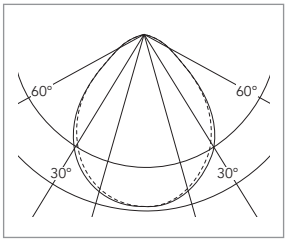
Opal



Optic 60°



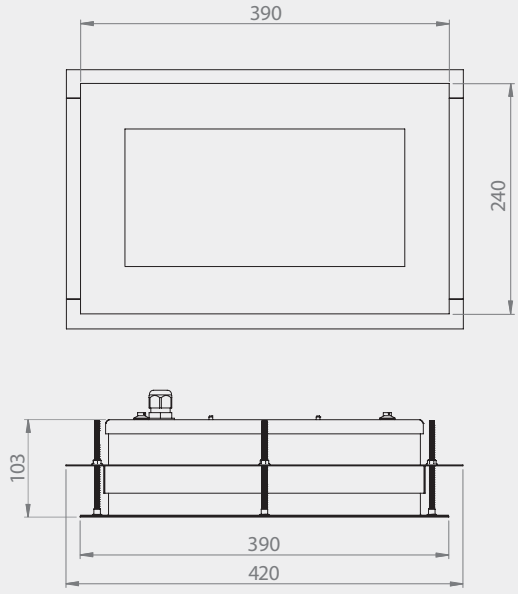
Optic 30°



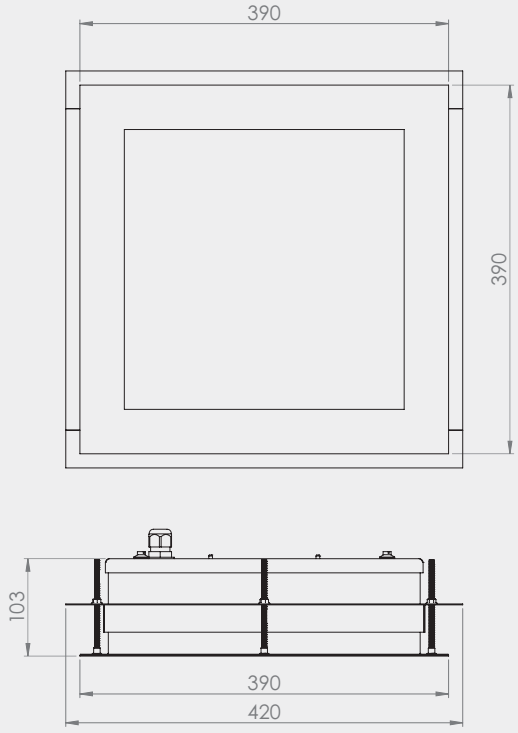
MPVR

DIMENSIONS (mm)

TYPE **A**



TYPE **B**



REFERENCES AND FEATURES

CODE	REFERENCE	Type	Cut-out (mm)	P (W)	Emitted flux (Lm)	Efficiency (Lm/W)	UGR	Weight (Kg)	H_2O_2
TRPC/30 optics - Intensive 30° - Polycarbonate									
EUP2019EPF	MARS TRPC/30 LED 390/390 4500/4 35/840 EPF	B	367x367	35	4500	128		6	●
EUP2020EPF	MARS TRPC/30 LED 390/390 9200/4 76/840 EPF	B	367x367	76	9200	120		6	●
TRPC/60 optics - 60° Opening - Polycarbonate									
EUP2021EPF	MARS TRPC/60 LED 390/390 4500/4 35/840 EPF	B	367x367	35	4500	128		6	●
EUP2022EPF	MARS TRPC/60 LED 390/390 9200/4 76/840 EPF	B	367x367	76	9200	120		6	●
OPMI optics - PMMA opal diffuser									
EUP2093EPF	MARS OPMI LED 240/390 1700/2 14/840 EPF	A	217x367	14	1700	118		4,5	●
EUP2094EPF	MARS OPMI LED 390/390 3950/5 31/840 EPF	B	367x367	31	3950	127		6	●
EUP2095EPF	MARS OPMI LED 390/390 5300/5 44/840 EPF	B	367x367	44	5300	121		6	●
EUP2214EPF	MARS OPMI LED 390/390 7300/5 65/840 EPF	B	367x367	65	7300	112		6	●
EUP2110EPF	MARS OPMI LED 390/390 9900/5 90/840 EPF	B	367x367	90	9900	110		6	●
OPPC optics - Polycarbonate opal									
EUP2010EPF	MARS OPPC LED 240/390 1450/2 14/840 EPF	A	217x367	14	1450	101		4,5	●
EUP2023EPF	MARS OPPC LED 390/390 3400/5 31/840 EPF	B	367x367	31	3400	109		6	●
EUP2024EPF	MARS OPPC LED 390/390 4500/5 44/840 EPF	B	367x367	44	4500	103		6	●
MPPC optics - Micro-prismatic polycarbonate									
EUP2081EPF	MARS MPPC LED 390/390 5100/5 44/840 EPF	B	367x367	44	5100	117		6	●
EUP2082EPF	MARS MPPC LED 390/390 3700/5 31/840 EPF	B	367x367	31	3700	119	<19	6	●
EUP2089EPF	MARS MPPC LED 390/390 9200/5 89/840 EPF	B	367x367	89	9200	103		6	●
MPVR optics - Tempered glass + micro-prismatic plate									
EUP2120EPF	MARS MPVR 390/390 3800/5 36/840 EPF	B	367x367	36	3800	105	<19	6	●
EUP2121EPF	MARS MPVR 390/390 5200/5 48/840 EPF	B	367x367	44	5200	108		6	●
White Gradation (TW) - MPPC optics - Micro-prismatic polycarbonate									
EUP2081GDATW	MARS MPPC LED 390/390 5100/5 44/TW GDA	B	367x367	36	3800	105	<19	6	●
590 nm amber inactinic light - OPMI optics									
EUP2251EPF	MARS OPMI HP2 390/390 3000/4 40/590 EPF	B	367x367	38	3000			6	●
640 nm red inactinic light - OPMI optics									
EUP2153EPF	MARS OPMI LED 390/390 1000/2 38/640 EPF	B	367x367	38	1000			6	●

CODE	REFERENCE	Colour (K) temperature	Type	P (W)	Emitted flux 4000 K (Lm)	Emitted flux 620 nm (Lm)	H_2O_2
640 nm red inactinic light + 4000 K white light - OPMI optics							
EUP2237EPF	MARS OPMI WR 390/390 3000/900/5 65/840/620 EPF	4000	B	65	3000	900	●
590 nm amber inactinic light + 4000 K white light - OPMI optics							
EUP2222EPF	MARS OPMI LED 390/390 2400/3000/5 80/590/840 EPF EPF	4000	B	65	3000	2400	●

Light and power output tolerance ± 10%

Standards and warranty

Compliance : information on the compliance of our products with the relevant standards and directives is available on our website.

Warranty : our warranty conditions are indicated in our general terms and conditions of sale. There are special conditions depending on the product range. These conditions can be checked on our website : **www.isoone-cleanroom-lighting.com/conditions-generales-de-vente/**

Temperature and switches on : the operating temperature and the number of daily switches have an influence on the lifetime of the products. Our luminaires are designed to withstand at least 15.000 switches on following EU 1194/2012.
Please consult us for more information.

Note

ISOONE reserves the right to modify or update this document at any time within the framework of the technological evolution and the updating of our technical documentation. Despite the care taken in the design and the updating of this card, it can not under any circumstances constitute a contractual document.

ISOONE is a brand of **La Manufacture de France SAS**

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ISOONE
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ANNEX

MARS

UE Declaration of Conformity

ISOONE Cleanroom lighting

UE Declaration of Conformity

Certificate N° **CE_MARS_20240402**

LA MANUFACTURE DE FRANCE SAS
18 rue Jean Monnet
31240 Saint-Jean

CERTIFIES,
under its own responsibility, that the ISOONE luminaires MARS

EUP2019EPF	EUP2093EPF	EUP2110EPF	EUP2081EPF	EUP2121EPF	EUP2237EPF
EUP2020EPF	EUP2094EPF	EUP2010EPF	EUP2082EPF	EUP2081GDATW	EUP2222EPF
EUP2021EPF	EUP2095EPF	EUP2023EPF	EUP2089EPF	EUP2251EPF	
EUP2022EPF	EUP2214EPF	EUP2024EPF	EUP2120EPF	EUP2153EPF	

are designed and manufactured in accordance with the following harmonized directives and standards :

SECURITY

2014/35/UE (26/02/2014)	Electrical equipment designed for use within certain voltage limits.
EN 60598-1 : 2015	Luminaires - Part 1 : General requirements and tests.
EN 60598-2-2 : 2012	Luminaires - Part 2-1 : Particular requirements - Fixed luminaires for general lighting.
EN 62493 : 2015	Assessment of lighting equipment related to human exposure to electromagnetic Field.
EN 62471 : 2008	Photobiological safety of lamps and devices using lamps.

ELECTROMAGNETIC COMPATIBILITY

2014/30/UE (26/02/2014)	European « EMC » Directive.
EN 55015 : 2013 + A1 : 2015	Limits and methods of measurement of electrical radio interference from electrical lighting and similar equipment.
EN 61000-3-2 : 2019	Electromagnetic compatibility (EMC) - Part 3-2 : Limits - Limits for harmonic current emissions (current drawn by equipment ≤ 16 A per phase).
EN 61000-3-3 : 2014	Electromagnetic compatibility (EMC) - Part 3-3 : Limits - Limitation of voltage changes,voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.
EN 61547 : 2009	General purpose lighting equipment - EMC immunity requirements.

ECO-CONCEPTION

2009/125/CE (21/10/2009) + 2019/2020 (01/10/2019)

European « ErP » directive + regulation.

RESTRICTION OF DANGEROUS SUBSTANCES

2011/65/UE (08/06/2011)	European directive « RoHS ».

Certificate issued on March 15th 2024

President, Frédéric Colombo