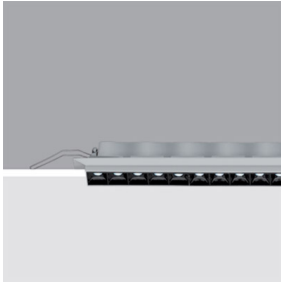


Last information update: May 2018

**15 - cell Frameless Recessed luminaire - LED - Warm white - Incorporated DALI dimmable power supply - Flood optic****Product code**

MM89

Technical description

rectangular miniaturised recessed luminaire with 15 optical elements with LED lamps - fixed optics - flood beam angle. Main body with die-cast aluminium radiant surface; minimal (frameless) version for mounting flush with the ceiling. Metallised thermoplastic high definition optics, integrated in a rear position in the black anti-glare screen; the structure of the optical system prevents a pinpoint effect, allowing precise, circular light distribution and emission with controlled glare. Supplied with DALI dimmable electronic control gear connected to the luminaire. Warm white high colour rendering LED

Installation

recessed with steel wire springs on the specific adapter (included) which allows flush-mounting with the ceiling. Adapter fixed to false ceiling (12.5 mm thick) with self-tapping screws; subsequent filling and smoothing operations; insertion of luminaire body and aesthetic finishing. Preparation hole 35 x 403

Dimension (mm)

396x30x56

Colour

White (01) | Black (04)

Weight (Kg)

1.1

Mounting

wall recessed|ceiling recessed

Wiring

on control gear box with quick-coupling connections

Complies with EN60598-1 and pertinent regulations



IP20

IP23

On the visible part of the product once installed

**Product configuration: MM89****Product characteristics**

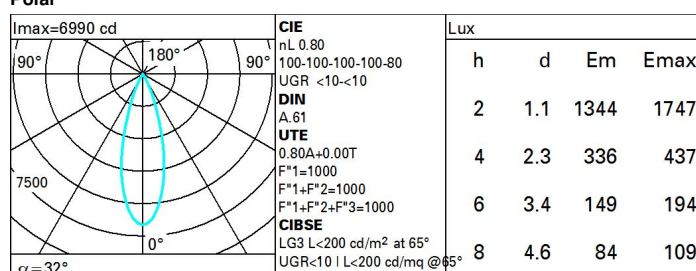
Total lighting output [Lm]: 2037
Total power [W]: 35
Luminous efficacy [Lm/W]: 58.2
Life Time: 50,000h - L90 - B10 (Ta 25°C)

Total luminous flux at or above an angle of 90° [Lm]: 0
Emergency luminous flux [Lm]: /
Voltage [V]: -
Number of optical assemblies: 1

Optical assembly Characteristics Type 1

Light Output Ratio (L.O.R.) [%]: 80
Lamp code: LED
ZVEI Code: LED
Nominal power [W]: 31
Nominal luminous [Lm]: 2550
Lamp maximum intensity [cd]: /
Beam angle [°]: 32°

Number of lamps for optical assembly: 1
Socket: /
Ballast losses [W]: 4
Colour temperature [K]: 2700
CRI: 95
Wavelength [Nm]: /
MacAdam Step: 3

Polar

Utilisation factors

R	77	75	73	71	55	53	33	00	DRR
K0.8	72	69	66	64	68	66	65	63	78
1.0	75	72	70	68	71	69	69	66	83
1.5	79	77	75	73	76	74	73	71	89
2.0	81	80	78	77	79	77	76	74	93
2.5	83	82	81	80	80	79	79	77	96
3.0	84	83	82	81	82	81	80	78	98
4.0	85	84	84	83	83	82	81	79	99
5.0	85	85	85	84	84	83	82	80	100

UGR diagram

Corrected UGR values (at 2550 lm bare lamp luminous flux)											
Reflect.:		viewed crosswise					viewed endwise				
ceiling		0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
walls		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
work pl.		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Room dim											
x	y										
2H	2H	-3.7	-3.2	-3.4	-3.0	-2.7	-3.7	-3.2	-3.4	-3.0	-2.7
	3H	-3.8	-3.4	-3.5	-3.1	-2.8	-3.8	-3.4	-3.5	-3.1	-2.8
	4H	-3.9	-3.5	-3.6	-3.2	-2.9	-3.9	-3.5	-3.6	-3.2	-2.9
	6H	-4.0	-3.6	-3.6	-3.3	-3.0	-4.0	-3.6	-3.6	-3.3	-3.0
	8H	-4.0	-3.6	-3.7	-3.3	-3.0	-4.0	-3.6	-3.7	-3.3	-3.0
	12H	-4.1	-3.7	-3.7	-3.4	-3.0	-4.1	-3.7	-3.7	-3.4	-3.0
4H	2H	-3.9	-3.5	-3.6	-3.2	-2.9	-3.9	-3.5	-3.6	-3.2	-2.9
	3H	-4.1	-3.7	-3.7	-3.4	-3.0	-4.1	-3.7	-3.7	-3.4	-3.0
	4H	-4.2	-3.8	-3.8	-3.5	-3.1	-4.2	-3.8	-3.8	-3.5	-3.1
	6H	-4.2	-4.0	-3.8	-3.6	-3.1	-4.2	-4.0	-3.8	-3.6	-3.1
	8H	-4.3	-4.0	-3.9	-3.6	-3.2	-4.3	-4.0	-3.9	-3.6	-3.2
	12H	-4.3	-4.1	-3.9	-3.7	-3.2	-4.3	-4.1	-3.9	-3.7	-3.2
8H	4H	-4.3	-4.0	-3.9	-3.6	-3.2	-4.3	-4.0	-3.9	-3.6	-3.2
	6H	-4.4	-4.2	-3.9	-3.7	-3.2	-4.4	-4.2	-3.9	-3.7	-3.2
	8H	-4.4	-4.3	-4.0	-3.8	-3.3	-4.4	-4.3	-4.0	-3.8	-3.3
	12H	-4.5	-4.3	-4.0	-3.8	-3.3	-4.5	-4.3	-4.0	-3.8	-3.3
12H	4H	-4.3	-4.1	-3.9	-3.7	-3.2	-4.3	-4.1	-3.9	-3.7	-3.2
	6H	-4.4	-4.3	-4.0	-3.8	-3.3	-4.4	-4.3	-4.0	-3.8	-3.3
	8H	-4.5	-4.3	-4.0	-3.8	-3.3	-4.5	-4.3	-4.0	-3.8	-3.3
Variations with the observer position at spacing:											
S =		1.0H	0.8 / -18.5				0.8 / -18.5				
		1.5H	9.6 / -18.7				9.6 / -18.7				
		2.0H	11.6 / -23.0				11.6 / -23.0				