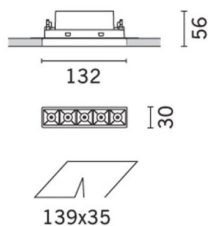# Laser Blade

Last information update: May 2024

Product configuration: MM85
MM85: 5 - cell Frameless Recessed luminaire - LED - Warm white - Incorporated DALI dimmable power supply - Flood optic

Product code
MM85: 5 - cell Frameless Recessed luminaire - LED - Warm white - Incorporated DALI dimmable power supply - Flood optic
Attention! Code no longer in production

Technical description
rectangular miniaturised recessed luminaire with 5 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 139

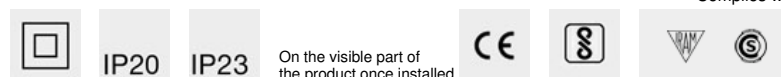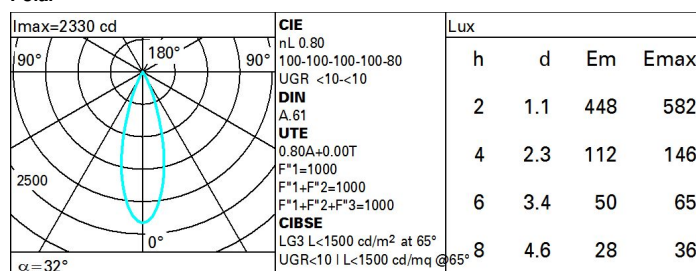| Colour	Weight (Kg)
White (01) | Black (04) | Burnished chrome (E6)	0.36

Mounting
wall recessed|ceiling recessed

Wiring
on control gear box; screw connections with terminal block included

Complies with EN60598-1 and pertinent regulations

IP20 IP23 On the visible part of the product once installed   CE [S]

Technical data

lm system:	679	CRI:	95
W system:	15	Colour temperature [K]:	2700
lm source:	850	MacAdam Step:	3
W source:	10	Life Time LED 1:	50,000h - L90 - B10 (Ta 25°C)
Luminous efficiency (lm/W, real value):	45.3	Lamp code:	LED
lm in emergency mode:	-	Number of lamps for optical assembly:	1
Total light flux at or above an angle of 90° [Lm]:	0	ZVEI Code:	LED
Light Output Ratio (L.O.R.) [%]:	80	Number of optical assemblies:	1
Beam angle [°]:	32°	Control:	DALI

Polar

Imax=2330 cd

CIE	
nL 0.80	
100-100-100-100-80	
UGR <10-<10	
DIN	
A.61	
UTE	
0.80A+0.00T	
F"1=1000	
F"1+F"2=1000	
F"1+F"2+F"3=1000	
CIBSE	
LG3 L<1500 cd/m² at 65°	
UGR<10 l L<1500 cd/mq @65°	

α=32°

Lux			
h	d	Em	Emax
2	1.1	448	582
4	2.3	112	146
6	3.4	50	65
8	4.6	28	36

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 850 lm bare lamp luminous flux)

Riflect.: ceil/cav		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			viewed					viewed			
x	y		crosswise					endwise			
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		6.8 / -18.5	6.8 / -18.5
1.5H		9.6 / -18.7	9.6 / -18.7
2.0H		11.6 / -23.0	11.6 / -23.0