Laser Blade

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## 15 - cell Frameless Recessed luminaire - LED - Warm white Flood optic

Product code
MK44

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 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
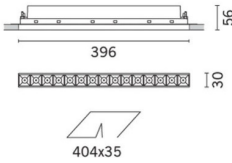
Dimension (mm)
396x30x56

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

CE   A++   pending

Product configuration: MK44

Product characteristics
Total lighting output [Lm]: 2288.9
Total power [W]: 35
Luminous efficacy [Lm/W]: 65.4
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.) [%]: 83
Lamp code: LED
ZVEI Code: LED
Nominal power [W]: 31
Nominal luminous [Lm]: 2760
Lamp maximum intensity [cd]: /
Beam angle [°]: 48°

Number of lamps for optical assembly: 1
Socket: /
Ballast losses [W]: 4
Colour temperature [K]: 3000
CRI: 90
Wavelength [Nm]: /
MacAdam Step: 3

Polar

Imax=4054 cd

CIE	
nL 0.83	
100-100-100-100-83	
UGR <10-<10	
DIN	
A.61	
UTE	
0.83A+0.00T	
F"1=999	
F"1+F"2=1000	
F"1+F"2+F"3=1000	
CIBSE	
LG3 L<200 cd/m² at 65°	
BZ1	

α=48°

Lux			
h	d	Em	Emax
2	1.8	849	1011
4	3.6	212	253
6	5.3	94	112
8	7.1	53	63

Utilisation factors

R	77	75	73	71	55	53	33	00	DRR
K0.8	75	71	68	66	70	68	68	65	78
1.0	78	75	72	70	74	72	71	69	83
1.5	82	79	77	76	79	77	76	74	89
2.0	85	83	81	80	82	80	79	77	93
2.5	86	85	84	83	84	83	82	79	96
3.0	87	86	85	85	85	84	83	81	98
4.0	88	87	87	86	86	86	84	82	99
5.0	89	88	88	88	87	86	85	83	100

UGR diagram

Corrected UGR values (at 2760 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 x	y	viewed crosswise					viewed endwise				
2H	2H	1.4	1.9	1.7	2.1	2.4	1.4	1.9	1.7	2.1	2.4
	3H	1.3	1.7	1.6	2.0	2.3	1.3	1.7	1.6	2.0	2.3
	4H	1.2	1.7	1.6	1.9	2.2	1.2	1.7	1.6	1.9	2.2
	6H	1.2	1.5	1.5	1.9	2.2	1.2	1.5	1.5	1.9	2.2
	8H	1.1	1.5	1.5	1.8	2.2	1.1	1.5	1.5	1.8	2.1
	12H	1.1	1.4	1.5	1.8	2.1	1.1	1.4	1.5	1.8	2.1
4H	2H	1.2	1.7	1.6	1.9	2.2	1.2	1.7	1.6	1.9	2.2
	3H	1.1	1.4	1.5	1.8	2.1	1.1	1.4	1.5	1.8	2.1
	4H	1.0	1.3	1.4	1.7	2.1	1.0	1.3	1.4	1.7	2.1
	6H	0.9	1.2	1.3	1.6	2.0	0.9	1.2	1.3	1.6	2.0
	8H	0.9	1.1	1.3	1.5	2.0	0.9	1.1	1.3	1.5	2.0
	12H	0.8	1.0	1.3	1.5	1.9	0.8	1.0	1.3	1.5	1.9
8H	4H	0.9	1.1	1.3	1.5	2.0	0.9	1.1	1.3	1.5	2.0
	6H	0.8	1.0	1.2	1.4	1.9	0.8	1.0	1.2	1.4	1.9
	8H	0.7	0.9	1.2	1.4	1.9	0.7	0.9	1.2	1.4	1.9
	12H	0.7	0.8	1.2	1.3	1.8	0.7	0.8	1.2	1.3	1.8
12H	4H	0.8	1.0	1.3	1.5	1.9	0.8	1.0	1.3	1.5	1.9
	6H	0.7	0.9	1.2	1.4	1.9	0.7	0.9	1.2	1.4	1.9
	8H	0.7	0.8	1.2	1.3	1.8	0.7	0.8	1.2	1.3	1.8

Variations with the observer position at spacing:

S =				
	1.0H	6.9 / -18.0	6.9 / -18.0
	1.5H	9.7 / -18.3	9.7 / -18.3
	2.0H	11.7 / -18.4	11.7 / -18.4