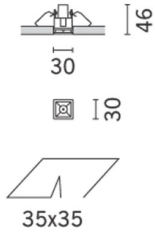# Laser Blade

Last information update: May 2018

Square, Frameless, Recessed luminaire - Warm white LED - Flood optic

Product code
MT92

Technical description
square, miniaturised, recessed luminaire for an individual LED - fixed optic - flood beam angle. Die-cast aluminium body, minimal version (frameless). Metallised, thermoplastic, high definition optic, integrated in a rear position in the black, anti-glare screen. Connecting cable supplied. Ballast not included, available with separate code. High CRI, warm white LED.

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

Dimension (mm)
30x30x46

Colour
White (01) | Black (04) | (E6)

Weight (Kg)
0.07

Mounting
wall recessed|ceiling recessed|ceiling surface

Wiring
Direct current ballasts to be ordered separately: electronic (MXF9) for max. 7 LEDs; DALI dimmable (BZM4) for max. 15 LEDs (check instruction leaflet for compatible lengths of cables to be used)

Complies with EN60598-1 and pertinent regulations

III   IP20   IP23   On the visible part of the product once installed

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Product configuration: MT92

Product characteristics

Total lighting output [Lm]: 140.9	Total luminous flux at or above an angle of 90° [Lm]: 0
Total power [W]: 2.1	Emergency luminous flux [Lm]: /
Luminous efficacy [Lm/W]: 67.1	Voltage [V]: -
Life Time: 50,000h - L90 - B10 (Ta 25°C)	Number of optical assemblies: 1

Optical assembly Characteristics Type 1

Light Output Ratio (L.O.R.) [%]: 83	Number of lamps for optical assembly: 1
Lamp code: LED	Socket: /
ZVEI Code: LED	Ballast losses [W]: 0
Nominal power [W]: 2.1	Colour temperature [K]: 3000
Nominal luminous [Lm]: 170	CRI: 95
Lamp maximum intensity [cd]: /	Wavelength [Nm]: /
Beam angle [°]: 32°	MacAdam Step: 3

Polar

Imax=473 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=999
F"1+F"2+F"3=1000
CIBSE
LG3 L<500 cd/m² at 65°
BZ1

α=32°

Lux

h	d	Em	Emax
1	0.6	368	473
2	1.1	92	118
3	1.7	41	53
4	2.3	23	30
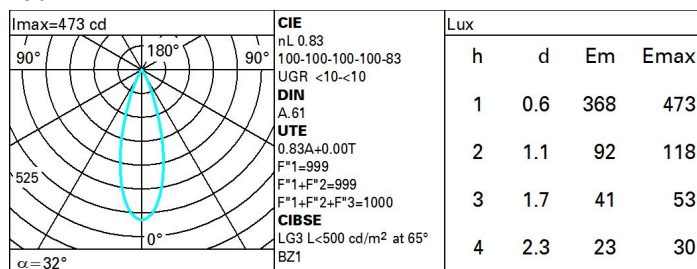
Utilisation factors

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	78	77	76	73	89
2.0	84	83	81	80	81	80	79	77	93
2.5	86	85	84	83	83	82	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	87	87	86	85	83	100

Luminance curve limit

QC	A	G	1.15	2000	1000	500		<=300		
	B		1.50		2000	1000	750	500	<=300	
	C		1.85			2000		1000	500	<=300

C0-180   C90-270
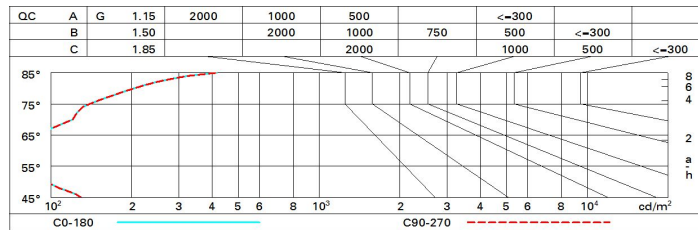
UGR diagram

Corrected UGR values (at 170 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	-3.3	-2.7	-3.0	-2.5	-2.3	-3.3	-2.7	-3.0	-2.5	-2.3
	3H	-3.3	-2.9	-3.0	-2.6	-2.3	-3.4	-2.9	-3.1	-2.6	-2.4
	4H	-3.3	-2.9	-3.0	-2.6	-2.3	-3.4	-3.0	-3.1	-2.7	-2.4
	6H	-3.3	-2.9	-3.0	-2.6	-2.3	-3.5	-3.1	-3.2	-2.8	-2.5
	8H	-3.3	-2.9	-2.9	-2.6	-2.2	-3.5	-3.2	-3.2	-2.8	-2.5
	12H	-3.2	-2.8	-2.8	-2.5	-2.1	-3.6	-3.2	-3.2	-2.9	-2.5
4H	2H	-3.4	-3.0	-3.1	-2.7	-2.4	-3.3	-2.9	-3.0	-2.6	-2.3
	3H	-3.5	-3.1	-3.1	-2.8	-2.4	-3.4	-3.1	-3.1	-2.7	-2.4
	4H	-3.5	-3.2	-3.1	-2.8	-2.4	-3.5	-3.2	-3.1	-2.8	-2.4
	6H	-3.4	-3.1	-3.0	-2.7	-2.3	-3.5	-3.3	-3.1	-2.9	-2.4
	8H	-3.3	-3.0	-2.8	-2.6	-2.2	-3.6	-3.3	-3.1	-2.9	-2.5
	12H	-3.1	-2.8	-2.6	-2.4	-2.0	-3.6	-3.4	-3.1	-2.9	-2.5
8H	4H	-3.6	-3.3	-3.1	-2.9	-2.5	-3.3	-3.0	-2.8	-2.6	-2.2
	6H	-3.4	-3.2	-2.9	-2.7	-2.2	-3.2	-3.0	-2.8	-2.6	-2.1
	8H	-3.2	-3.0	-2.7	-2.5	-2.0	-3.2	-3.0	-2.7	-2.5	-2.0
	12H	-2.8	-2.7	-2.3	-2.2	-1.7	-3.1	-3.0	-2.6	-2.5	-2.0
12H	4H	-3.6	-3.4	-3.1	-2.9	-2.5	-3.1	-2.8	-2.6	-2.4	-2.0
	6H	-3.4	-3.2	-2.9	-2.7	-2.2	-2.9	-2.8	-2.5	-2.3	-1.8
	8H	-3.1	-3.0	-2.6	-2.5	-2.0	-2.8	-2.7	-2.3	-2.2	-1.7

Variations with the observer position at spacing:

S =	1.0H	5.6 / -3.8		5.6 / -3.8
	1.5H	8.3 / -4.0		8.3 / -4.0
	2.0H	10.3 / -4.1		10.3 / -4.1