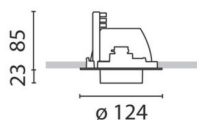
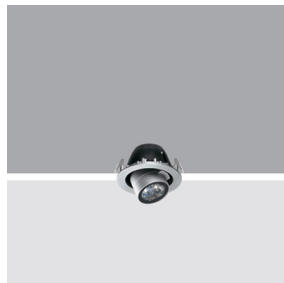


Last information update: May 2024

**Product configuration: MS48**

MS48: small body LED warm white -medium optic

**Product code**MS48: small body LED warm white -medium optic **Attention! Code no longer in production****Technical description**

Recessed luminaire made of die-cast aluminium and thermoplastic material, with 3x2.2W high-performing Warm White (3100K) LED with monochromatic emission. LED optic with plastic lenses with medium beam (M=25°). 335° rotation around vertical axis and 65° rotation around horizontal axis with continuous frictioning (only on horizontal axis). Anti-glare screen available as accessory. The technical characteristics of the luminaires comply with EN60598-1 norms and following amendments.

**Installation**

Recessed installation in false ceilings with thickness from 1 mm to 20 mm by means of special steel torsional springs and hinged brackets.

**Colour**

White (01) | Grey (15)

**Mounting**

ceiling recessed

**Wiring**

Electronic components for LED to be ordered separately.

**Notes**

For compliance with the NFC 20-455 standard use an optional filter code MW58 for each optical assembly

Complies with EN60598-1 and pertinent regulations

**Technical data**

Im system:	319	CRI (minimum):	80
W system:	5.5	Colour temperature [K]:	3000
Im source:	410	MacAdam Step:	3
W source:	5.5	Life Time LED 1:	> 50,000h - L80 - B10 (Ta 25°C)
Luminous efficiency (Im/W, real value):	58	Lamp code:	LED
Im 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.) [%]:	78	Number of optical assemblies:	1
Beam angle [°]:	22°	LED current [mA]:	600

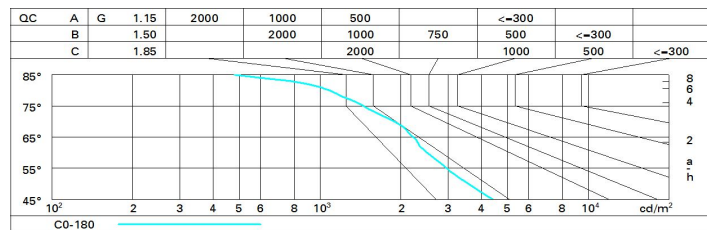
**Polar**

Imax=1731 cd	CIE nL 0.78 97-99-100-100-78 UGR <10-<10 DIN A.61 UTE 0.78A+0.00T F*1=969 F*1+F*2=991 F*1+F*2+F*3=999 CIBSE LG3 L<3000 cd/m² at 65° UGR<10   L<3000 cd/mq @65°	Lux
90°		h d Em Emax
180°		2 0.8 348 433
90°		4 1.6 87 108
1500		6 2.3 39 48
0°		8 3.1 22 27
α = 22°		

# Utilisation factors

R	77	75	73	71	55	53	33	00	DRR
K0.8	69	65	63	61	65	62	62	59	76
1.0	72	69	66	65	68	66	66	63	81
1.5	76	74	72	70	73	71	70	68	87
2.0	79	77	75	74	76	74	74	71	92
2.5	80	79	78	77	78	77	76	74	95
3.0	81	80	79	79	79	78	77	75	97
4.0	82	82	81	80	80	80	79	77	99
5.0	83	82	82	82	81	81	79	77	100

# Luminance curve limit



# UGR diagram

Corrected UGR values (at 410 lm bare lamp luminous flux)											
Reflect.: ceiling/cav walls work pl. Room dim x y		viewed crosswise					viewed endwise				
2H	2H	7.4	9.5	7.8	9.8	10.1	7.4	9.5	7.8	9.8	10.1
	3H	8.1	9.6	8.5	9.9	10.3	7.7	9.2	8.0	9.5	9.8
	4H	8.3	9.5	8.7	9.9	10.2	7.7	9.0	8.1	9.3	9.6
	6H	8.5	9.4	8.8	9.7	10.0	7.8	8.7	8.2	9.0	9.4
	8H	8.5	9.4	8.8	9.7	10.1	7.7	8.7	8.1	9.0	9.4
	12H	8.4	9.3	8.8	9.7	10.1	7.7	8.6	8.1	9.0	9.4
4H	2H	7.7	9.0	8.1	9.3	9.6	8.3	9.5	8.7	9.9	10.2
	3H	8.6	9.5	9.0	9.9	10.2	8.7	9.6	9.1	10.0	10.4
	4H	8.8	9.8	9.2	10.1	10.5	8.8	9.8	9.2	10.1	10.5
	6H	8.7	10.3	9.1	10.8	11.2	8.6	10.2	9.1	10.7	11.1
	8H	8.6	10.4	9.1	10.9	11.4	8.5	10.3	9.0	10.8	11.3
	12H	8.5	10.4	9.0	10.9	11.4	8.4	10.3	8.9	10.8	11.3
8H	4H	8.5	10.3	9.0	10.8	11.3	8.6	10.4	9.1	10.9	11.4
	6H	8.7	10.4	9.2	10.9	11.4	8.7	10.4	9.2	10.9	11.4
	8H	8.8	10.3	9.3	10.7	11.3	8.8	10.3	9.3	10.7	11.3
	12H	8.9	9.9	9.4	10.4	11.0	8.9	9.9	9.4	10.4	11.0
12H	4H	8.4	10.3	8.9	10.8	11.3	8.5	10.4	9.0	10.9	11.4
	6H	8.7	10.2	9.2	10.7	11.2	8.7	10.2	9.2	10.7	11.2
	8H	8.9	9.9	9.4	10.4	11.0	8.9	9.9	9.4	10.4	11.0
Variations with the observer position at spacing:											
S =	1.0H	1.0 / -0.8					1.0 / -0.8				
	1.5H	2.2 / -1.5					2.2 / -1.5				
	2.0H	3.5 / -1.8					3.5 / -1.8				