

MINO 60 high lumen

surface

046-41M2038H



Project / Type

Notes

Count / Date

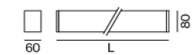


Luminaire housing made of extruded aluminium profile; light tight final end caps made of aluminium; no visible screws; angular design; surface jet black powder coated; suitable for wall or ceiling mounting; lighting profile (end cover pre-assembled) available in advance for installation; remaining lamp components mounted without tools; LED light inset consisting of highly reflective lacquered aluminium for improved thermal management; light colour 3000 K; binning initial MacAdam ≤ 3 SDCM; CRI ≥ 90 ; min. 90% of luminous flux after 50000 operating hours; energy efficient LEDs with high CRI; HPO (High Performance Opal) cover for uniform illumination; degree of protection IP20; PC1; 220-240 V; internal wiring in light halogen free; incl. DALI-2 converter; light source replaceable by an authorized professional; control gear replaceable by an authorized professional;

Light distribution



Product drawing



General

Ceiling | Surface

jet black | RAL 9005

IP20

1190 lm

2080 lm/m

LED

3000 K

CRI ≥ 90

L90 / 50000 h

initial MacAdam ≤ 3 SDCM

R_g: 99 | R_r: 91 | R_{f(15)}: 89

MR 0.61 | MDER 0.55

Optical

High Performance Opal | opal (lambertsch)

PstLM ≤ 1.0 ¹ | SVM ≤ 0.4 ¹

Electrical

DALI-2 | 1 DALI Addr.

PC1 | 220-240 V

system 12.1 W

system 98 lm/W ²

21 W/m

Physical

length 580 mm | width 60 mm | height 80 mm

1.75 kg

¹ Value of containing product at full load (undimmed)
² incl. consideration of optical losses, internal control unit losses & operating device efficiency

Installation instructions



Lighting calculator



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Maintenance Factors

| Operating Time [h] | 10 000 | 20 000 | 30 000 | 40 000 | 50 000 |
|--------------------|--------|--------|--------|--------|--------|
| LLMF | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 |
| LSF | 1 | 1 | 1 | 1 | 1 |

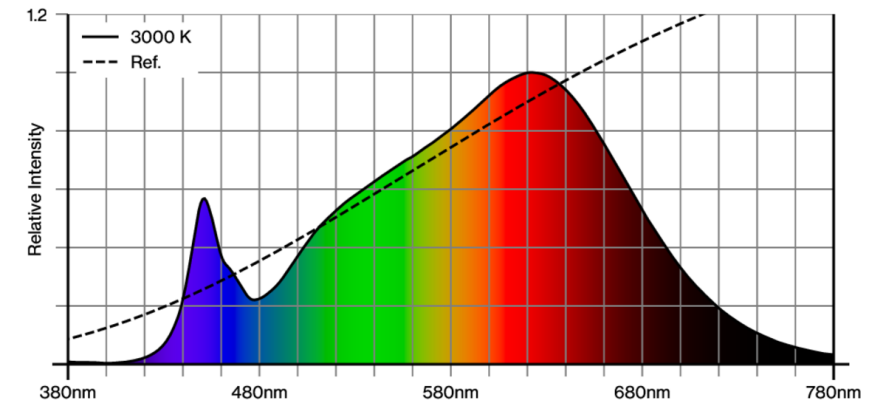
| | | | |
|------------------|------------------------------|-------------------|---------------------------------|
| MF | LMF × RSMF × LLMF × LSF | RSMF ^a | Room Surface Maintenance Factor |
| MF | Maintenance Factor | LLMF | Lamp Lumens Maintenance Factor |
| LMF ^a | Luminaire Maintenance Factor | LSF | Lamp Survival Factor |

^a According to "CIE 97, Maintenance of indoor electric lighting systems", 2005, ISBN 3-900-734-34-8. The values must be determined by the planner.

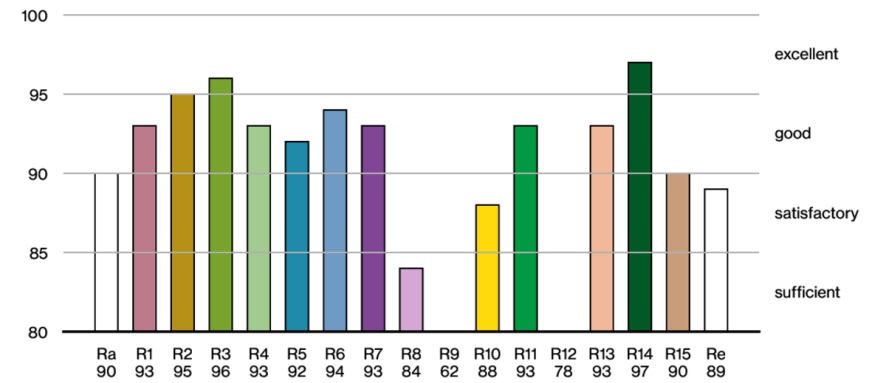
Circuit Breaker Types

| Automatic Circuit Breaker Type | Number of Fixtures |
|--------------------------------|--------------------|
| B10 | 18 |
| B13 | 23 |
| B16 | 28 |
| B20 | 35 |
| C10 | 30 |
| C13 | 38 |
| C16 | 46 |
| C20 | 58 |

Colour rendering



CRI/R_a ≥ 92 R_e ≥ 89 (3000 K)



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TM30 colour vector graphic



The black line represents the black body reference. The red line indicates the results of the test light source. The deviation from the test light source to the reference is shown and is marked by arrows. The shorter the arrows, the higher the color rendering.