

# MINO 60 high lumen

surface

046-41M5138H



Project / Type

Notes

Count / Date



### General

Ceiling , Surface

black , RAL 9005 <sup>1</sup>

IP20

3220 lm

2190 lm/m

### LED

4000 K

CRI ≥ 90

L90 / 50000 h

initial MacAdam ≤ 3 SDCM

R<sub>g</sub>: 99 , R<sub>r</sub>: 92 , R<sub>t(1-15)</sub>: 90

MR 0.81

MDER 0.74

### Optical

High Performance Opal

opal (lambertsch)

PstLM ≤ 1.0 <sup>2</sup>

SVM ≤ 0.4 <sup>2</sup>

### Electrical

DALI-2

220-240 V

system 29.1 W

system 111 lm/W<sup>3</sup>

PC1

1 DALI Addr.

20 W/m

### Physical

length 1480 mm

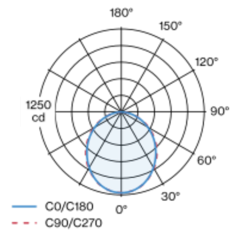
width 60 mm

height 80 mm

3.8 kg

Luminaire housing made of extruded aluminium profile; light tight final end caps made of aluminium; no visible screws; angular design; surface 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 4000 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



<sup>1</sup> RAL code <sup>2</sup> Value of containing product at full load (undimmed)  
<sup>3</sup> FIXTURE: incl. consideration of optical losses & internal control unit losses SYSTEM: 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 <sup>a</sup> | Room Surface Maintenance Factor |
| MF               | Maintenance Factor           | LLMF              | Lamp Lumens Maintenance Factor  |
| LMF <sup>a</sup> | Luminaire Maintenance Factor | LSF               | Lamp Survival Faktor            |

<sup>a</sup> 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                            | 7                  |
| B13                            | 10                 |
| B16                            | 12                 |
| B20                            | 14                 |
| C10                            | 10                 |
| C13                            | 20                 |
| C16                            | 24                 |
| C20                            | 28                 |

