

# MINO 60 high lumen

ceiling offset  
046-47M463GH



Project / Type

Notes

Count / Date



Luminaire housing made of extruded aluminium profile; light-tight end caps in aluminium; angular design; surface grey powder coated; luminaire, ball proof version to DIN 18032-3 and DIN 57710 part 13 / VDE 0710 part 13; not suitable for indoor tennis centers (or halls with comparable ball sizes); LED light inset consisting of highly reflective lacquered aluminium for improved thermal management; light colour 4000 K; binning initial MacAdam  $\leq 3$  SDCM; CRI  $\geq 80$ ; 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; incl. DALI-2 converter; light source replaceable by an authorized professional; control gear replaceable by an authorized professional;



### General

Ceiling | Surface

grey | RAL 9006 <sup>1</sup>

IP20

Ball impact resistant DIN 18032-3

2600 lm

2220 lm/m

### LED

4000 K

CRI  $\geq 80$

L90 / 50000 h

initial MacAdam  $\leq 3$  SDCM

MR 0.72 | MDER 0.65

### Optical

High Performance Opal | opal (lambertsch)

PstLM  $\leq 1.0$  <sup>2</sup> | SVM  $\leq 0.4$  <sup>2</sup>

### Electrical

DALI-2 | 1 DALI Addr.

PC1 | 220-240 V

system 23.3 W

system 112 lm/W <sup>3</sup>

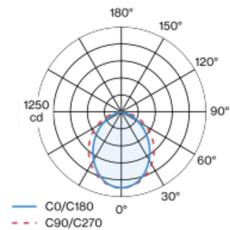
20 W/m

### Physical

length 1175 mm | width 60 mm | height 90 mm

3.1 kg

### Light distribution



### Product drawing



<sup>1</sup> RAL code <sup>2</sup> Value of containing product at full load (undimmed)  
<sup>3</sup> 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 Factor	

<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	18
B13	23
B16	28
B20	35
C10	30
C13	38
C16	46
C20	58

