

# MINO 60 mid lumen

surface

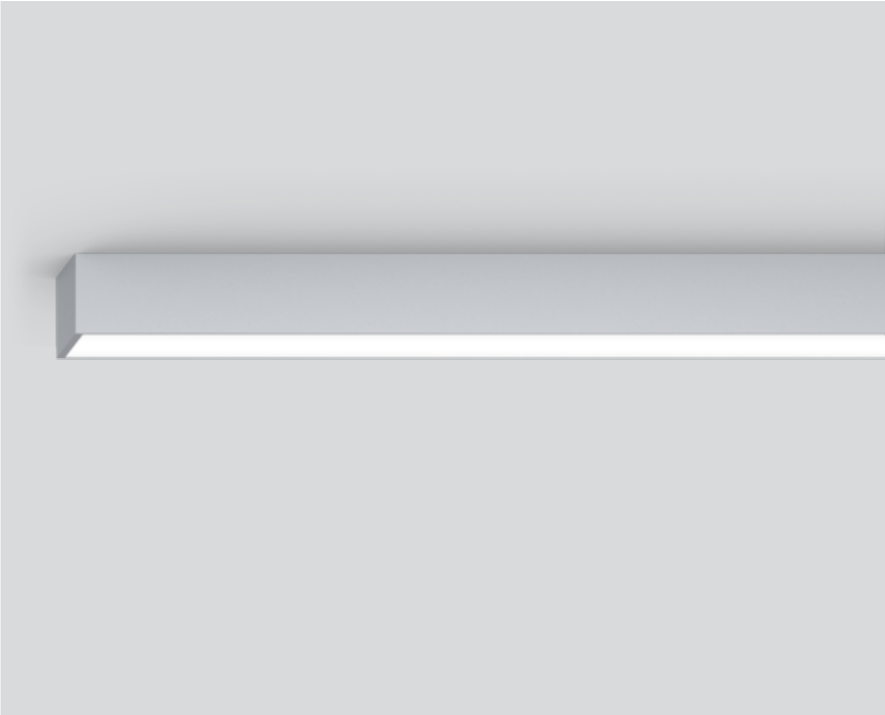
046-41L511GH



Project / Type

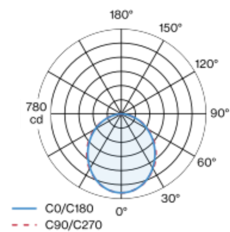
Notes

Count / Date

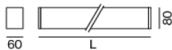


Luminaire housing made of extruded aluminium profile; light tight final end caps made of aluminium; no visible screws; angular design; surface white aluminium powder coated; suitable for wall or ceiling mounting; lighting profile (end cover pre-assembled) available in advance for installation; remaining 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  $\leq 3$  SDCM; CRI  $\geq 90$ ; 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. converter, non dimmable; light source replaceable by an authorized professional; control gear replaceable by an authorized professional;

## Light distribution



## Product drawing



## General

Ceiling | Surface

white aluminium | RAL 9006

IP20

1910 lm

1300 lm/m

## LED

4000 K

CRI  $\geq 90$

L90 / 50000 h

initial MacAdam  $\leq 3$  SDCM

R<sub>g</sub>: 99 | R<sub>f</sub>: 92 | R<sub>i(1-15)</sub>: 90

MR 0.81 | MDER 0.74

## Optical

High Performance Opal | opal (lambertsch)

## Electrical

non DIM

PC1 | 220-240 V

system 16.6 W

system 115 lm/W <sup>1</sup>

11 W/m

## Physical

length 1480 mm | width 60 mm | height 80 mm

3.8 kg

<sup>1</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

MF

Maintenance Factor

LMF<sup>a</sup>

Luminaire Maintenance Factor

RSMF<sup>a</sup>

Room Surface Maintenance Factor

LLMF

Lamp Lumens Maintenance Factor

LSF

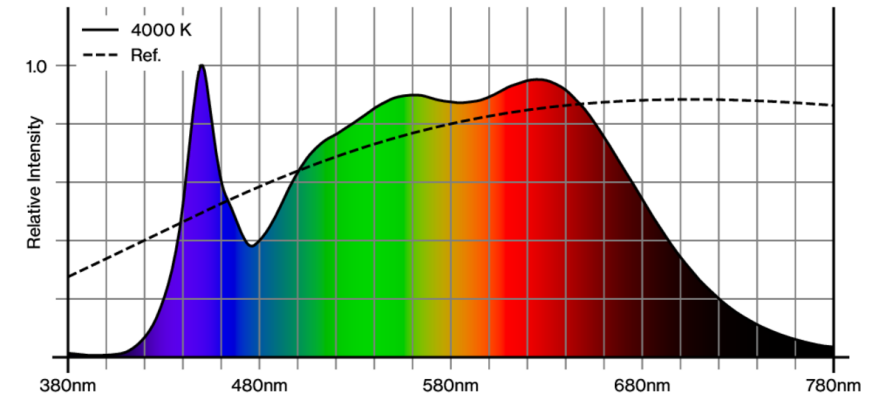
Lamp Survival Factor

<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.

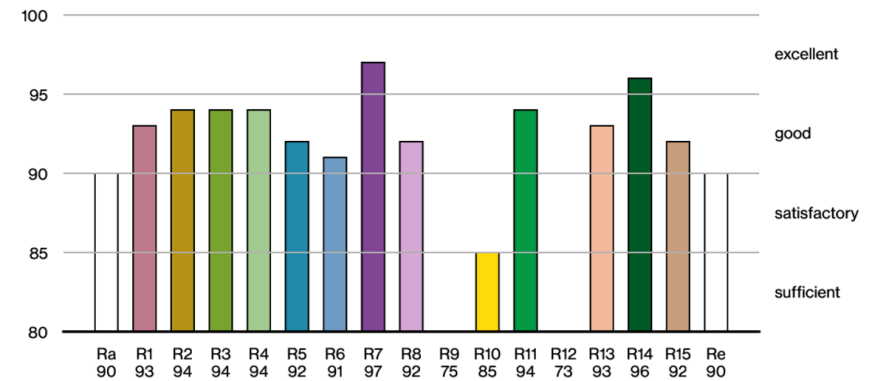
## Circuit Breaker Types

Automatic Circuit Breaker Type	Number of Fixtures
B10	15
B13	19
B16	24
B20	30
C10	25
C13	32
C16	40
C20	49

## Colour rendering



## CRI/R<sub>a</sub> ≥ 93 R<sub>e</sub> ≥ 90 (4000 K)





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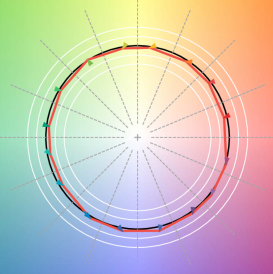


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## TM30 colour vector graphic



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.

