

# MINO 60 direct / indirect high lumen ceiling /

suspended system  
046-5023618Z



Project / Type \_\_\_\_\_

Notes \_\_\_\_\_

Count / Date \_\_\_\_\_



Luminaire housing made of extruded aluminium profile; angular design; for continuous lighting systems; light tight final end caps made of aluminium (available as an accessory); no visible screws; surface black powder coated; for suspended mounting (1500 mm cable suspension as an accessory); with integrated toolless suspension height adjustment on the luminaire; spring clip attachment to the luminaire; freely positionable; 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; micro prismatic PMMA diffuser incl. diffuser film for homogeneous illumination and reduced luminance; UGR  $\leq 19$ ; direct/indirect illumination characteristic; indirect light component with integrated PC boards for maximum, homogeneous ceiling illumination; degree of protection IP20; PC1; 220-240 V; internal wiring in light halogen free; incl. converter, non dimmable; accessories are listed separately; light source replaceable by an authorized professional; control gear replaceable by an authorized professional;

## Light distribution



## Product drawing



### General

Ceiling , Suspended \_\_\_\_\_

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

IP20 \_\_\_\_\_

indirect 1440 lm \_\_\_\_\_

direct 2050 lm \_\_\_\_\_

total 3490 lm \_\_\_\_\_

4010 lm/m \_\_\_\_\_

### LED

4000 K \_\_\_\_\_

CRI  $\geq 80$  \_\_\_\_\_

L90 / 50000 h \_\_\_\_\_

initial MacAdam  $\leq 3$  SDCM \_\_\_\_\_

MR 0.72 \_\_\_\_\_

MDER 0.65 \_\_\_\_\_

### Optical

Microprismatic \_\_\_\_\_

microprismatic \_\_\_\_\_

UGR  $\leq 19$  \_\_\_\_\_

PstLM  $\leq 1.0$  <sup>2</sup> \_\_\_\_\_

SVM  $\leq 0.4$  <sup>2</sup> \_\_\_\_\_

### Electrical

non DIM \_\_\_\_\_

220-240 V \_\_\_\_\_

system 26.2 W \_\_\_\_\_

system 133 lm/W <sup>3</sup> \_\_\_\_\_

PC1 \_\_\_\_\_

30 W/m \_\_\_\_\_

### Physical

length 872 mm \_\_\_\_\_

width 60 mm \_\_\_\_\_

height 80 mm \_\_\_\_\_

2.4 kg \_\_\_\_\_

<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                            | 9                  |
| B13                            | 13                 |
| B16                            | 15                 |
| B20                            | 18                 |
| C10                            | 18                 |
| C13                            | 26                 |
| C16                            | 30                 |
| C20                            | 36                 |

## Mounting accessories

### END CAPS

| TYPE   | COLOUR          | L-W-H (MM) | ARTICLE NUMBER(S) |
|--------|-----------------|------------|-------------------|
| 1 pair | traffic white   | 60-40-4    | 046-5010017       |
| 1 pair | jet black       | 60-40-4    | 046-5010018       |
| 1 pair | white aluminium | 60-40-4    | 046-501001G       |
| 1 pair | special colours | 60-40-4    | 046-501001X       |



## Mounting accessories

### LINEAR CONNECTOR

| TYPE      | ARTICLE NUMBER(S) |
|-----------|-------------------|
| 1 piece   | 005-40046         |
| 10 pieces | 005-40046.10      |



### OPAL COVER LINEAR CONNECTOR

ARTICLE NUMBER(S)  
006-14000



## Mounting accessories

### CABLE SUSPENSION

ARTICLE NUMBER(S)  
005-2122110



### CABLE RAIL

| Ø (MM) | ARTICLE NUMBER(S) |
|--------|-------------------|
| 1200   | 005-2491110       |



[046-5023618Z] The technical data represent rated values for an ambient temperature of 25°C. The data values for the luminous flux are initially subject to a tolerance of +/- 10%, those for the electrical connected load are initially subject to a tolerance of +/- 10%, and those for the colour temperature are initially subject to a tolerance of +/- 150 K. No liability is assumed for typographical or printing errors. The general terms and conditions of XAL GmbH apply.  
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## Electrical accessories

### THROUGH WIRE

| TYPE                    | ARTICLE NUMBER(S) |
|-------------------------|-------------------|
| 3 x 1,5 mm²   10 pieces | 004-90003         |
| 5 x 1,5 mm²   10 pieces | 004-90005         |



## Electrical accessories

### CANOPY / FEEDER CABLE

| TYPE        | COLOUR        | L-W-H (MM) | ARTICLE NUMBER(S) |
|-------------|---------------|------------|-------------------|
| 3 x 1,5 mm² | traffic white | 90-90-22   | 005-2212317       |
| 3 x 1,5 mm² | jet black     | 90-90-22   | 005-2212318       |
| 5 x 1,5 mm² | pure white    | 90-90-22   | 005-2212417       |
| 5 x 1,5 mm² | jet black     | 90-90-22   | 005-2212418       |

