

TUBIN 60

surface

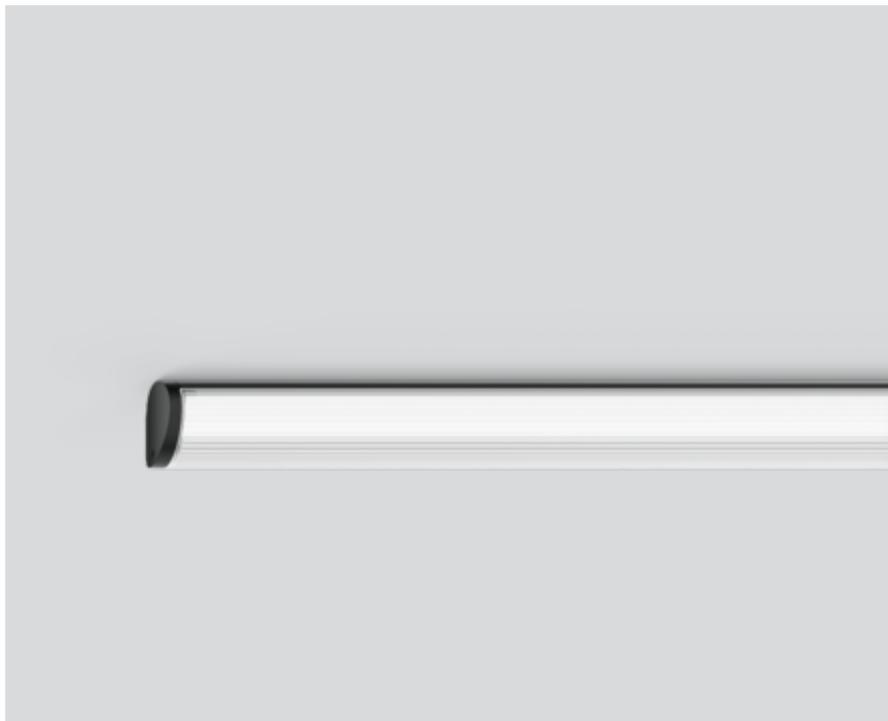
058-5112138C



Project / Type

Notes

Count / Date



General

Ceiling / Wall , Surface

black , RAL 9005 ¹

IP20

1580 lm

2660 lm/m

LED

4000 K

CRI \geq 90

L90 / 50000 h

initial MacAdam \leq 3 SDCM

R_g: 99 , R_r: 92 , R₍₁₋₁₅₎: 90

MR 0.81

MDER 0.74

Optical

Clear Cover

opal (lambertsch)

PstLM \leq 1.0 ²

SVM \leq 0.4 ²

Electrical

DALI-2

220-240 V

system 13.9 W

system 114 lm/W³

PC1

23 W/m

Physical

length 625 mm

width 60 mm

height 60 mm

¹ RAL code ² Value of containing product at full load (undimmed)

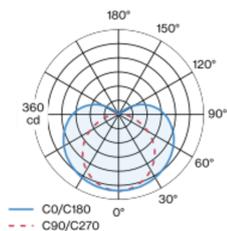
³ incl. consideration of optical losses, internal control unit losses & operating device efficiency

Installation instructions



Carrier profile made of extruded aluminium profile; light-tight end caps in aluminium; converter integrated into luminaire housing; surface black powder coated; suitable for wall or ceiling mounting; easy installation using ceiling clips; light control via high quality lens system for maximum, homogeneous illumination; 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; clear, cylindrical cover with linear prismatic optic; with gentle ceiling 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;

Light distribution



Product drawing



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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 | 15 |
| B13 | 19 |
| B16 | 24 |
| B20 | 30 |
| C10 | 24 |
| C13 | 32 |
| C16 | 40 |
| C20 | 49 |