

TUBO 60

surface

058-31121370



Project / Type

Notes

Count / Date



General

Ceiling / Wall , Surface

white , RAL 9010 ¹

IP20

1480 lm

2480 lm/m

LED

4000 K

CRI \geq 90

L90 / 50000 h

initial MacAdam \leq 3 SDCM

R_g: 99 , R_r: 92 , R_{t(1-15)}: 90

MR 0.81

MDER 0.74

Optical

High Performance Opal

opal (lambertsch)

PstLM \leq 1.0 ²

SVM \leq 0.4 ²

Electrical

DALI-2

220-240 V

system 13.9 W

system 106 lm/W³

PC1

1 DALI Addr.

23 W/m

Physical

length 625 mm

width 60 mm

height 60 mm

2.38 kg

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

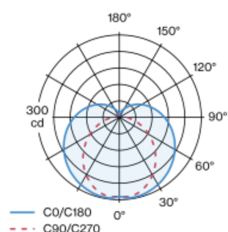
³ FIXTURE: incl. consideration of optical losses & internal control unit losses SYSTEM: incl. consideration of optical losses, internal control unit losses & operating device efficiency.

Installation instructions



Carrier profile made of extruded aluminium profile; light-tight end caps in aluminium; converter integrated into luminaire housing; surface white 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; cylindrical cover made of satin PMMA for uniform illumination; with gentle ceiling illumination; degree of protection IP20; PC1; 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

MF

Maintenance Factor

LMF^a

Luminaire Maintenance Factor

RSMF^a

Room Surface Maintenance Factor

LLMF

Lamp Lumens Maintenance Factor

LSF

Lamp Survival Faktor

^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 | 18 |
| B13 | 24 |
| B16 | 30 |
| B20 | 37 |
| C10 | 31 |
| C13 | 40 |
| C16 | 51 |
| C20 | 62 |

