

# TUBO 60

surface

058-31121370



Project / Type

Notes

Count / Date



## General

Ceiling / Wall , Surface

white , RAL 9010 <sup>1</sup>

IP20

1480 lm

2480 lm/m

## LED

4000 K

CRI  $\geq$  90

L90 / 50000 h

initial MacAdam  $\leq$  3 SDCM

R<sub>g</sub>: 99 , R<sub>r</sub>: 92 , R<sub>(1-15)</sub>: 90

MR 0.81

MDER 0.74

## Optical

High Performance Opal

opal (lambertsch)

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

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

## Electrical

DALI-2

220-240 V

system 13.9 W

system 106 lm/W<sup>3</sup>

PC1

1 DALI Addr.

23 W/m

## Physical

length 625 mm

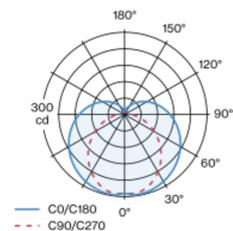
width 60 mm

height 60 mm

2.38 kg

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



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

<sup>3</sup> 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



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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 Faktor

<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	24
B16	30
B20	37
C10	31
C13	40
C16	51
C20	62