

# TUBO 60

suspended

058-32140380



Project / Type

Notes

Count / Date



RG0  
IEC 62471

220-240V

X-PERT

X-PERT

### General

Ceiling , Suspended

black , RAL9005 <sup>1</sup>

2320 lm/m

IP20

2740 lm

### LED

3000 K

CRI ≥ 90

L90 / 50000 h

photobio. safety RG 0 - no Risk

initial MacAdam ≤ 3 SDCM

R<sub>g</sub>: 99 , R<sub>f</sub>: 91 , R<sub>(1-15)</sub>: 89

MR 0.61

MDER 0.55

### Optical

High Performance Opal

opal (lambersch)

PstLM ≤ 1.0 <sup>2</sup>

SVM ≤ 0.4 <sup>2</sup>

Carrier profile made of extruded aluminium profile; light-tight end caps in aluminium; converter integrated into luminaire housing; surface black powder coated; suspended luminaire with 1500mm cable suspension; with integrated toolless suspension height adjustment on the luminaire; freely positioned attachment to the luminaire; incl. feed (black); canopy for through wiring; light control via high quality lens system for maximum, homogeneous illumination; light colour 3000 K; binning initial MacAdam ≤ 3 SDCM; CRI ≥ 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 220-240V; photobiological safety according to IEC 62471 risk group RG 0 - no Risk; incl. DALI-2 converter; light source replaceable by an authorized professional; control gear replaceable by an authorized professional;

### Electrical

DALI-2

system 27.9 W

PC1 220-240V

system 98 lm/W<sup>3</sup>

1 DALI Addr.

24 W/m

### Physical

cable 1500 mm

length 1210 mm

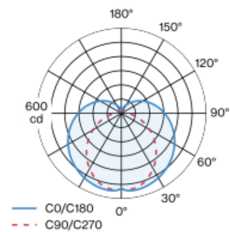
width 60 mm

height 60 mm

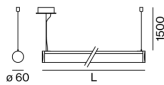
3.7 kg

<sup>1</sup> RAL code <sup>2</sup> Value of containing product at full load (undimmed)  
<sup>3</sup> incl. optical losses and the efficiency of the operating device (converter)

### Light distribution



### Product drawing



### 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 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                 |

