

# SONO 450 direct

surface

071-91465170



Project / Type

Notes

Count / Date



### General

Ceiling / Wall , Surface

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

IP50

IK07

3060 lm

### LED

3000 K

CRI ≥ 80

L90 / 50000 h

initial MacAdam ≤ 3 SDCM

MR 0.54

MDER 0.49

### Optical

Opal

opal (lambersch)

PstLM ≤ 1.0 <sup>2</sup>

SVM ≤ 0.4 <sup>2</sup>

### Electrical

non DIM

220-240 V

no emergency light

system 23.2 W

system 132 lm/W<sup>3</sup>

PC1

### Physical

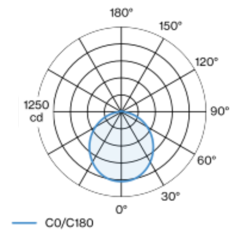
diameter 445 mm

height 80 mm

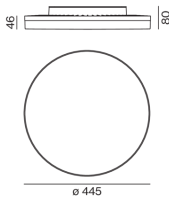
3.8 kg

Round luminaire housing in die-cast aluminium; surface white powder coated; suitable for wall or ceiling mounting; time saving installation through snap-in mounting system; LED board highly reflective lacquered for higher efficiency; same luminance for all size versions; light colour 3000 K; binning initial MacAdam ≤ 3 SDCM; CRI ≥ 80; min. 90% of luminous flux after 50000 operating hours; energy efficient LEDs with high CRI; completely homogeneously illuminated, satin PMMA cover; luminaire with 2 cable openings and plug-in terminal for through wiring; degree of protection IP50; PC1; 220-240 V; shock resistance IK07; internal wiring in light halogen free; incl. converter, non dimmable; 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   | 0.95   | 0.93   | 0.91   | 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                            | 25                 |
| B13                            | 32                 |
| B16                            | 39                 |
| B20                            | 49                 |
| C10                            | 41                 |
| C13                            | 53                 |
| C16                            | 65                 |
| C20                            | 81                 |

## Mounting accessories

### DISMOUNTING TOOL

|            |                   |
|------------|-------------------|
| TYPE       | ARTICLE NUMBER(S) |
| vacuum cup | 086-30000         |

