

# VARO 110 S

track  
180-6530118M



Project / Type \_\_\_\_\_

Notes \_\_\_\_\_

Count / Date \_\_\_\_\_



## General

Ceiling , Track \_\_\_\_\_

tilt max 90° \_\_\_\_\_

rotation 355° \_\_\_\_\_

black , RAL 9005 <sup>1</sup> \_\_\_\_\_

IP20 \_\_\_\_\_

3200 lm \_\_\_\_\_

## LED

4000 K \_\_\_\_\_

CRI ≥ 90 \_\_\_\_\_

L85 / 50000 h \_\_\_\_\_

initial MacAdam ≤ 3 SDCM \_\_\_\_\_

R<sub>g</sub>: 100 , R<sub>f</sub>: 92 , R<sub>f(1-5)</sub>: 91 \_\_\_\_\_

MR 0.78 \_\_\_\_\_

MDER 0.71 \_\_\_\_\_

## Optical

medium \_\_\_\_\_

beam angle 25° \_\_\_\_\_

## Electrical

non DIM \_\_\_\_\_

220-240 V \_\_\_\_\_

system 23.4 W \_\_\_\_\_

system 137 lm/W<sup>2</sup> \_\_\_\_\_

PC2 \_\_\_\_\_

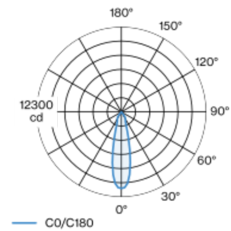
## Physical

diameter 110 mm \_\_\_\_\_

height 110 mm \_\_\_\_\_

Track light made of die-cast aluminium; surface black powder coated; 355° rotatable and 90° tiltable; integrated converter in the plastic adapter; passive cooling of the LEDs through improved heat sink geometry; with COB (Chip on Board) technology for maximum efficiency; no appearance of multiple shadows; light colour 4000 K; binning initial MacAdam ≤ 3 SDCM; CRI ≥ 90; min. 85% of luminous flux after 50000 operating hours; energy efficient LEDs with high CRI; including high quality aluminium reflector with spherical reflector; high gloss anodised; neutral colour reflection through absolute freedom from interference colour; for brilliant object staging; precise radiation characteristic with 25° beam; installed and exchanged without tools; optical attachments available as accessories; optical attachments can be combined; accessories are listed separately; degree of protection IP20; PC2; 220-240 V; incl. converter, non dimmable; adapter for toolless insertion or movement on a variety of 3-phase power tracks; light source replaceable by an authorized professional; control gear replaceable by an authorized professional;

## Light distribution



medium 25°

| h (m) | EO° (lx) | ø (m) |
|-------|----------|-------|
| 1     | 11100    | 0.45  |
| 2     | 2800     | 0.90  |
| 3     | 1200     | 1.35  |
| 4     | 700      | 1.81  |
| 5     | 400      | 2.26  |

## Product drawing



<sup>1</sup> RAL code  
<sup>2</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



## Lighting calculator



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## Maintenance Factors

| Operating Time [h] | 10 000 | 20 000 | 30 000 | 40 000 | 50 000 |
|--------------------|--------|--------|--------|--------|--------|
| LLMF               | 0.975  | 0.944  | 0.913  | 0.883  | 0.854  |
| 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.

## Optical accessories

### HONEYCOMB LOUVER

|        |                   |
|--------|-------------------|
| Ø (MM) | ARTICLE NUMBER(S) |
| 106    | 080-6501118       |



### WIDE FLOOD LENS

|        |                   |
|--------|-------------------|
| Ø (MM) | ARTICLE NUMBER(S) |
| 106    | 080-6502110W      |



### OVAL LENS

|        |                   |
|--------|-------------------|
| Ø (MM) | ARTICLE NUMBER(S) |
| 106    | 080-6502210       |



### SNOOT

|        |        |                   |
|--------|--------|-------------------|
| TYPE   | Ø (MM) | ARTICLE NUMBER(S) |
| short  | 97     | 080-6503118       |
| medium | 97     | 080-6503218       |
| angle  | 97     | 080-6503318       |

