

# VARO 110 S

track  
180-6531138W



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

Notes \_\_\_\_\_

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



## General

Ceiling , Track  
tilt max 90°  
rotation 355°  
black , RAL 9005 <sup>1</sup>  
IP20  
4460 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-15)</sub>: 91  
MR 0.78  
MDER 0.71

## Optical

wide flood  
beam angle 66°  
PstLM ≤ 1.0 <sup>2</sup>  
SVM ≤ 0.4 <sup>2</sup>

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 66° 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. DALI-2 converter; 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;

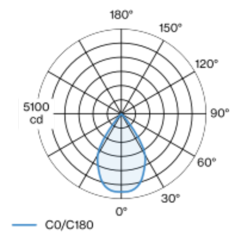
## Electrical

DALI-2  
220-240 V  
system 36 W  
system 124 lm/W<sup>3</sup>  
PC2  
1 DALI Addr.

## Physical

diameter 110 mm  
height 110 mm

## Light distribution



wide flood 66°

h (m)	EO° (lx)	ø (m)
1	4670	1.30
2	1170	2.60
3	520	3.89
4	290	5.19
5	190	6.49

## 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



## Lighting calculator



# VARO 110 S

track  
180-6531138W



Project / Type

Notes

Count / Date

## Maintenance Factors

Operating Time [h]	10 000	20 000	30 000	40 000	50 000
LLMF	0.977	0.95	0.923	0.897	0.872
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
B13	42
B16	53
B20	66
C13	71
C16	90
C20	110

## 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

