

# COMBO 450

trim

064-10416370



Project / Type

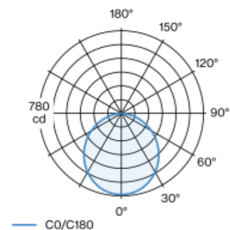
Notes

Count / Date

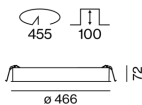


Round light fitting in aluminium; recessed light with wrap around edge; suitable for ceiling thickness of 10-25 mm; surface white powder coated; installation without tools using snap spring closure; external converter for ceiling insertion, through-wiring suitable; electrical connection by means of reverse polarity protected plug system; LED board highly reflective lacquered for higher efficiency; light colour 4000 K; binning initial MacAdam  $\leq 3$  SDCM; CRI  $\geq 80$ ; min. 90% of luminous flux after 50000 operating hours; energy efficient LEDs with high CRI; flush ceiling light level; completely homogeneously illuminated, satin PMMA cover; same luminance for all size versions; degree of protection IP40; PC1; 220-240 V; internal wiring in light halogen free; incl. DALI-2 converter; light source replaceable by an authorized professional; control gear replaceable by an authorized professional;

## Light distribution



## Product drawing



### General

Ceiling , Recessed

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

IP40

2170 lm

### LED

4000 K

CRI  $\geq 80$

L90 / 50000 h

initial MacAdam  $\leq 3$  SDCM

MR 0.72

MDER 0.66

### Optical

Opal

opal (lambertsch)

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

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

### Electrical

DALI-2

220-240 V

system 16.7 W

system 130 lm/W<sup>3</sup>

PC1

1 DALI Addr.

### Physical

trim

diameter 466 mm

height 72 mm

6 kg

### Cutout

diameter 455 mm

min. ceiling thickness 10 mm

max. ceiling thickness 25 mm

recessed depth 100 mm

<sup>1</sup> RAL code <sup>2</sup> Value of containing product at full load (undimmed)  
<sup>3</sup> 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	0.98	0.96	0.94	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 Factor	

<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	21
B13	28
B16	35
B20	44
C10	35
C13	46
C16	58
C20	73

## Mounting accessories

### MOUNTING RING

TYPE	ARTICLE NUMBER(S)
for acoustic ceiling	064-1906400

