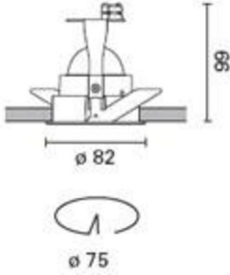


# Laser Pinhole

Design iGuzzini

iGuzzini

Last information update: May 2018



## fixed recessed WW

**Product code**  
P412

### Technical description

Round fixed luminaire designed for housing 2700K Warm White COB LED light sources with high colour rendering and OPTIBEAM reflector made of thermoplastic material. Rim made of white-coated die-cast aluminium incorporating a black-coated thermoplastic component for guaranteeing maximum visual comfort and preventing stray light dispersion. Flood optic. Passive cooling system, by means of a black-coated heat sink made of extruded aluminium. The power supply unit is available with a separate code.

### Installation

Recessed installation in false ceilings with 1 mm to 20 mm thickness with steel springs.

**Dimension (mm)**  
Ø82x99

**Colour**  
White (01)

**Weight (Kg)**  
0.38

**Mounting**  
ceiling surface

### Wiring

Constant-current ballasts available with separate code: ON-OFF / 1-10 V dimmable / phase-cut dimmer / the recessed luminaire is supplied with the cable and connector to be connected to the connector provided on the driver.

Complies with EN60598-1 and pertinent regulations



## Product configuration: P412

### Product characteristics

Total lighting output [Lm]: 539  
Total power [W]: 10  
Luminous efficacy [Lm/W]: 53.9  
Life Time: > 50,000h - L80 - B10 (Ta 25°C)

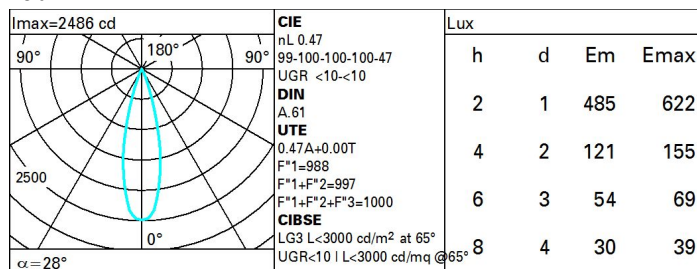
Total luminous flux at or above an angle of 90° [Lm]: 0  
Emergency luminous flux [Lm]: /  
Voltage [V]: -  
Number of optical assemblies: 1

### Optical assembly Characteristics Type 1

Light Output Ratio (L.O.R.) [%]: 47  
Lamp code: LED  
ZVEI Code: LED  
Nominal power [W]: 10  
Nominal luminous [Lm]: 1150  
Lamp maximum intensity [cd]: /  
Beam angle [°]: 28°

Number of lamps for optical assembly: 1  
Socket: /  
Ballast losses [W]: 0  
Colour temperature [K]: 2700  
CRI: 90  
Wavelength [Nm]: /  
MacAdam Step: 2

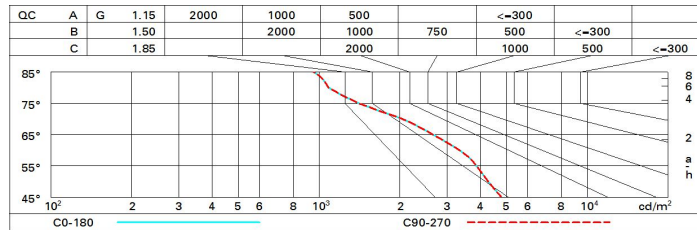
### Polar



Utilisation factors

R	77	75	73	71	55	53	33	00	DRR
K0.8	42	40	38	37	39	38	38	36	78
1.0	44	42	41	39	42	40	40	38	82
1.5	46	45	44	43	44	43	43	41	88
2.0	48	47	46	45	46	45	45	43	92
2.5	49	48	47	46	47	46	46	45	95
3.0	49	49	48	48	48	47	47	46	97
4.0	50	49	49	49	49	48	48	46	99
5.0	50	50	49	49	49	49	48	47	100

Luminance curve limit



UGR diagram

Corrected UGR values (at 1150 lm bare lamp luminous flux)											
Reflect.:		viewed crosswise					viewed endwise				
ceiling/cav		0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
walls		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
work pl.		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Room dim		viewed crosswise					viewed endwise				
x	y										
2H	2H	4.7	6.8	5.1	7.2	7.5	4.7	6.8	5.1	7.2	7.5
	3H	5.3	7.0	5.7	7.3	7.7	5.0	6.6	5.4	7.0	7.3
	4H	5.5	6.8	5.9	7.2	7.5	5.1	6.4	5.5	6.7	7.1
	6H	5.6	6.6	6.0	6.9	7.2	5.1	6.1	5.5	6.4	6.8
	8H	5.6	6.5	6.0	6.9	7.3	5.1	6.0	5.5	6.4	6.7
	12H	5.6	6.5	6.0	6.9	7.2	5.0	6.0	5.4	6.3	6.7
4H	2H	5.1	6.4	5.5	6.7	7.1	5.5	6.8	5.9	7.2	7.5
	3H	5.9	6.8	6.3	7.2	7.5	5.9	6.9	6.3	7.2	7.6
	4H	6.0	6.9	6.4	7.3	7.7	6.0	6.9	6.4	7.3	7.7
	6H	5.8	7.5	6.3	7.9	8.4	5.7	7.4	6.2	7.9	8.3
	8H	5.7	7.6	6.2	8.1	8.6	5.6	7.5	6.1	8.0	8.5
	12H	5.7	7.6	6.2	8.1	8.6	5.5	7.5	6.0	8.0	8.5
8H	4H	5.6	7.5	6.1	8.0	8.5	5.7	7.6	6.2	8.1	8.6
	6H	5.7	7.5	6.2	8.0	8.6	5.8	7.6	6.3	8.1	8.6
	8H	5.8	7.4	6.3	7.9	8.5	5.8	7.4	6.3	7.9	8.5
	12H	6.0	7.1	6.5	7.6	8.2	6.0	7.1	6.5	7.6	8.1
12H	4H	5.5	7.5	6.0	8.0	8.5	5.7	7.6	6.2	8.1	8.6
	6H	5.7	7.4	6.3	7.8	8.4	5.8	7.4	6.3	7.9	8.5
	8H	6.0	7.1	6.5	7.6	8.1	6.0	7.1	6.5	7.6	8.2
Variations with the observer position at spacing:											
S =	1.0H	0.6 / -0.5					0.6 / -0.5				
	1.5H	1.3 / -1.3					1.3 / -1.3				
	2.0H	2.2 / -2.0					2.2 / -2.0				