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OptiLine

linear LED luminaires

for Zones 2, 21, 22



Application

Dustproof, UV and highly water resistant linear luminaire certified for Ex dust Zones 21 & 22 and gas Zone 2. It is designed for general lighting of production and warehouse halls considering special requirements of following industries: oil and gas, chemical, power generation, wood processing and food and beverage.

- It replaces 18W/36W/58W fluorescent fixtures and reduces energy consumption.
- The use of any additional junction boxes during installation is eliminated by flexible comination of cable entries at both ends of the luminaire.
- Designed for indoor and outdoor use
- Design of the interior is focused on ergonomics for the installer and serviceman: quick opening, lack of loose parts which can fall out when openined, precisely fitted components, safe locking.
- No need to buy a new luminaire in case a change of light distribution is required - use one of available lenses. Illustatio can be found below.



OptiLine Luminaire - numbers

- 3 possible applications (general lighting, self-contained emergency lighting and Cental Battery System emergency lighting
- 2 lengths
- 3 types of diffuser
- 3 versions of LED modules providing high efficacy (ranging from 137 lm/W to 181 lm/W)
- It provides a total of 54 combinations based on type of application, luminaire length, diffuser type and power output.
- + 22 lenses allowing light distribution change at any time

DS_Optiline_1/01/2025

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Available configurations of OptiLine luminaire



OptiLine AA – B XX YY ZZ CCC KK

Code
OptiLine

Length of the luminaire
60 - 670 mm
12 - 1270 mm

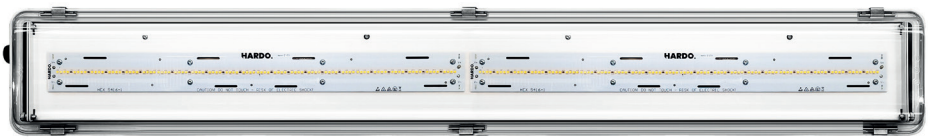
LED module type
1 - LED module HEX 5416/1 (one LED module for a 670mm fixture, two LED modules for a 1270mm fixture, estimated power of a single module 18W)
2 - LED module HEX 5416/2 (one LED module for a 670mm fixture, two LED modules for a 1270mm fixture, estimated power of a single module ~23W)
3 - LED module HEX 5416/3 (one LED module for a 670mm fixture, two LED modules for a 1270mm fixture, estimated power of a single module ~27W)

Wiring
30 - 1 x terminal block, 3-pole
33 - 2 x terminal block, 3-pole
50 - 1 x terminal block, 5-pole
55 - 2 x terminal block, 5-pole
70 - 1 x terminal block, 7-pole
77 - 2 x terminal block, 7-pole

Cable glands (quantity)
10 - 1 cable gland at one end of the fixture
11 - 1 cable gland at each end of the fixture
20 - 2 cable glands at one end of the fixture
21 - 2 cable glands at one end of the fixture and 1 cable gland at the opposite side of the fixture
22 - 2 cable glands at each end of the fixture

Cable glands (size)
20 - M20 - clamping range 8-14mm
25 - M25 - clamping range 9-17mm

Emergency version
--- - basic version compatible with non monitored Central Battery Systems
A1- self-contained version 1,5h rated
CBX - version featuring a V-CG-S addressing module dedicated for the use with Central Battery System
CBY - version featuring a V-CG-S addressing/switching module dedicated for the use with Central Battery System





Diffuser type
KT - clear
KM - frosted
KO - opal



OptiLine fixtures 670 mm length

Technical data







Explosion safety	OptiLine 60-1******	OptiLine 60-2******	OptiLine 60-3******
Ex marking (certificates KSCP 23ATEX0021X, KSCP 23ATEX0022X)	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc
IECEx marking (certificates IECEx KSCP 23.0045X, IECEx KSCP 23.0045X)	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc
Lighting data			
Rated luminous flux [lm]*	**Clear diffuser: 3485** **Frosted diffuser: 3324** **Opal diffuser: 2931**	**Clear diffuser: 4422** **Frosted diffuser: 4218** **Opal diffuser: 3719**	**Clear diffuser: 5182** **Frosted diffuser: 4943** **Opal diffuser: 4358**
Light source type	**1 x LED Module 18W**	**1 x LED Module 23W**	**1 x LED Module 27W**
Color temperature [K]	3000** 4000 (standard) 5000**		
CRI	>70** >80 (standard) >90**		
Efficacy of the complete luminaire [lm / W]	**146 - 173 depending on diffuser type**	**149 - 178 depending on diffuser type**	**147 - 175 depending on diffuser type**
Lifetime [h]	L80B10 in ambient temperature 25°C : 80 000 LED driver lifetime in ambient temperature 25°C: 100 000 L89B10 in ambient temperature 50°C: 70 000 LED driver lifetime in ambient temperature 50°C: 70 000		
Electrical data			
Protection class	I		
Rated power [W]***	**20,1**	**24,8**	**29,7**
Power factor	up to 0,93		
Rated Voltage [V]	AC 230, 50Hz DC 230, 0Hz		
Rated current [A]	**0,09**	**0,11**	**0,13**
Cable terminals	min. 1,5 mm^2 max. 4mm^2		
Mechanical data			
Degree of protection	IP66/67		
Impact resistance	HIGH according to PN-EN IEC 60079-0; IK 09		
Body	Glassfibre reinforced polyester (GRP)		
Cover	Polycarbonate in three versions: clear, opal and frosted		
Gasket	Silicon foam		
Working temperature	-40°C ≤ Ta ≤ +50°C		

* - All data was measured at 25°C, color temperature of 4000K, CRI>60. Tolerance +/-5%
** - Other specifications of lighting fixtures are available as options
*** - Power tolerance +/-5%



OptiLine fixtures 1270 mm length

Technical data







Explosion safety	OptiLine 12-1******	OptiLine 12-2******	OptiLine 12-3******
Ex marking (certificates KSCP 23ATEX0021X, KSCP 23ATEX0022X)	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc
IECEx marking (certificates IECEx KSCP 23.0045X, IECEx KSCP 23.0045X)	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc

Lighting data			
Rated luminous flux [lm]*	**Clear diffuser: 6739** **Frosted diffuser: 6504** **Opal diffuser: 5700**	**Clear diffuser: 8665** **Frosted diffuser: 8363** **Opal diffuser: 7329**	**Clear diffuser: 10342** **Frosted diffuser: 9981** **Opal diffuser: 8747**
Light source type	**2 x LED Module 18W**	**2 x LED Module 23W**	**2 x LED Module 27W**
Color temperature [K]	3000** 4000 (standard) 5000**		
CRI	>70** >80 (standard) >90**		
Efficacy of the complete luminaire [lm / W]	**149 - 176 depending on diffuser type**	**153 - 181 depending on diffuser type**	**152 - 179 depending on diffuser type**
Lifetime [h]	L80B10 in ambient temperature 25°C : 80 000 LED driver lifetime in ambient temperature 25°C: 100 000 L89B10 in ambient temperature 50°C: 70 000 LED driver lifetime in ambient temperature 50°C: 70 000		

Electrical data			
Protection class	I		
Rated power [W]***	**38,2**	**47,9**	**57,6**
Power factor	up to 0,97		
Rated Voltage [V]	AC 230, 50Hz DC 230, 0Hz		
Rated current [A]	**0,17**	**0,21**	**0,25**
Cable terminals	min. 1,5 mm² max. 4mm²		

Mechanical data	
Degree of protection	IP66/67
Impact resistance	HIGH according to PN-EN IEC 60079-0; IK 09
Body	Glassfibre reinforced polyester (GRP)
Cover	Polycarbonate in three versions: clear, opal and frosted
Gasket	Silicon foam
Working temperature	-40°C ≤ Ta ≤ +50°C

* - All data was measured at 25°C, color temperature of 4000K, CRI>60. Tolerance +/-5%
** - Other specifications of lighting fixtures are available as options
*** - Power tolerance +/-5%

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Self-contained emergency luminaires with built-in inverter



OptiLine fixtures 670 mm length

EMERGENCY 1.5 h

Technical data







Explosion safety	OptiLine 60-1******A1	OptiLine 60-2******A1	OptiLine 60-3******A1
Ex marking (certificates KSCP 23ATEX0021X, KSCP 23ATEX0022X)	Dust: Ⓔx II 2 D Ex tb IIIC T70 °C Db Gas: Ⓔx II 3 G Ex ec IIC T4 Gc	Dust: Ⓔx II 2 D Ex tb IIIC T70 °C Db Gas: Ⓔx II 3 G Ex ec IIC T4 Gc	Dust: Ⓔx II 2 D Ex tb IIIC T70 °C Db Gas: Ⓔx II 3 G Ex ec IIC T4 Gc
IECEx marking (certificates IECEx KSCP 23.0045X, IECEx KSCP 23.0045X)	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc
CNBOP approval	Yes	Yes	Yes

Lighting data			
Rated luminous flux [lm]*	**Clear diffuser: 3485** **Frosted diffuser: 3324** **Opal diffuser: 2931**	**Clear diffuser: 4422** **Frosted diffuser: 4218** **Opal diffuser: 3719**	**Clear diffuser: 5182** **Frosted diffuser: 4943** **Opal diffuser: 4358**
Rated luminous flux emergency power [lm]*	Clear diffuser: 800 Frosted diffuser: 750 Opal diffuser: 650		
Light source type	**1 x LED Module 18W**	**1 x LED Module 23W**	**1 x LED Module 27W**
Color temperature [K]	3000** 4000 (standard) 5000**		
CRI	>70** >80 (standard) >90**		
Efficacy of the complete luminaire [lm / W]	**141 - 168 depending on diffuser type**	**145 - 173 depending on diffuser type**	**142 - 169 depending on diffuser type**
Lifetime [h]	L80B10 in ambient temperature 25°C : 80 000 LED driver lifetime in ambient temperature 25°C: 100 000 L89B10 in ambient temperature 50°C: 70 000 LED driver lifetime in ambient temperature 50°C: 70 000		

Electrical data			
Protection class	I		
Rated power [W]***	**20,8**	**25,6**	**30,6**
Power factor	up to 0,93		
Rated Voltage [V]	AC 230, 50Hz		
Rated current [A]	**0,11**	**0,13**	**0,15**
Cable terminals	min. 1,5 mm² max. 4mm²		

Mechanical data	
Degree of protection	IP66/67
Impact resistance	HIGH according to PN-EN IEC 60079-0; IK 09
Body	Glassfibre reinforced polyester (GRP)
Cover	Polycarbonate in three versions: clear, opal and frosted
Gasket	Silicon foam
Working temperature	-40°C ≤ Ta ≤ +50°C

* - All data was measured at 25°C, color temperature of 4000K, CRI>60. Tolerance +/-5%
** - Other specifications of lighting fixtures are available as options
*** - Power tolerance +/-5%

HARDO.

Self-contained emergency luminaires with built-in inverter



OptiLine fixtures 1270 mm length

EMERGENCY 1.5 h

Technical data







Explosion safety	OptiLine 12-1******A1	OptiLine 12-2******A1	OptiLine 12-3******A1
Ex marking (certificates KSCP 23ATEX0021X, KSCP 23ATEX0022X)	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC T4 Gc
IECEx marking (certificates IECEx KSCP 23.0045X, IECEx KSCP 23.0045X)	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec IIC T4 Gc
CNBOP approval	Yes	Yes	Yes

Lighting data			
Rated luminous flux [lm]*	**Clear diffuser: 6739** **Frosted diffuser: 6504** **Opal diffuser: 5700**	**Clear diffuser: 8665** **Frosted diffuser: 8363** **Opal diffuser: 7329**	**Clear diffuser: 10342** **Frosted diffuser: 9981** **Opal diffuser: 8747**
Rated luminous flux emergency power [lm]*	Clear diffuser: 1250 Frosted diffuser: 1200 Opal diffuser: 1050		
Light source type	**2 x LED Module 18W**	**2 x LED Module 23W**	**2 x LED Module 27W**
Color temperature [K]	3000** 4000 (standard) 5000**		
CRI	>70** >80 (standard) >90**		
Efficacy of the complete luminaire [lm / W]	**144 - 170 depending on diffuser type**	**149 - 176 depending on diffuser type**	**149 - 176 depending on diffuser type**
Lifetime [h]	L80B10 in ambient temperature 25°C : 80 000 LED driver lifetime in ambient temperature 25°C: 100 000 L89B10 in ambient temperature 50°C: 70 000 LED driver lifetime in ambient temperature 50°C: 70 000		

Electrical data			
Protection class	I		
Rated power [W]**	**39,6**	**49,2**	**58,9**
Power factor	up to 0,97		
Rated Voltage [V]	AC 230, 50Hz		
Rated current [A]	**0,17**	**0,22**	**0,26**
Cable terminals	min. 1,5 mm^2 max. 4mm^2		

Mechanical data	
Degree of protection	IP66/67
Impact resistance	HIGH accorting to PN-EN IEC 60079-0; IK 09
Body	Glassfibre reinforced polyester (GRP)
Cover	Polycarbonate in three versions: clear, opal and frosted
Gasket	Silicon foam
Working temperature	0°C ≤ Ta ≤ +45°C

* - All data was measured at 25°C, color temperature of 4000K, CRI>60. Tolerance +/-5%
** - Other specifications of lighting fixtures are available as options
*** - Power tolerance +/-5%

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Emergency luminaires for Central Battery Systems



OptiLine fixtures 670 mm length

CENTRAL BATTERY

Technical data







Explosion safety	OptiLine 60-1******CBX/CBY	OptiLine 60-2******CBX/CBY	OptiLine 60-3******CBX/CBY
Ex marking (certificates KSCP 23ATEX0021X, KSCP 23ATEX0022X)	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec mc IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec mc IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec IIC mc T4 Gc
IECEx marking (certificates IECEx KSCP 23.0045X, IECEx KSCP 23.0045X)	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec mc IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec mc IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec mc IIC T4 Gc
CNBOP approval	Yes	Yes	Yes

Lighting data			
Rated luminous flux [lm]*	**Clear diffuser: 3485** **Frosted diffuser: 3324** **Opal diffuser: 2931**	**Clear diffuser: 4422** **Frosted diffuser: 4218** **Opal diffuser: 3719**	**Clear diffuser: 5182** **Frosted diffuser: 4943** **Opal diffuser: 4358**
Rated luminous flux emergency power [lm]* (Standard) (Other specifications are available as options)	**Clear diffuser: 1650** **Frosted diffuser: 1560** **Opal diffuser: 1400**	**Clear diffuser: 2150** **Frosted diffuser: 2040** **Opal diffuser: 1820**	**Clear diffuser: 2650** **Frosted diffuser: 2540** **Opal diffuser: 2200**
Light source type	**1 x LED Module 18W**	**1 x LED Module 23W**	**1 x LED Module 27W**
Color temperature [K]	3000** 4000 (standard) 5000**		
CRI	>70** >80 (standard) >90**		
Efficacy of the complete luminaire [lm / W]	**137 - 163 depending on diffuser type**	**142 - 169 depending on diffuser type**	**141 - 168 depending on diffuser type**
Lifetime [h]	L80B10 in ambient temperature 25°C : 80 000 LED driver lifetime in ambient temperature 25°C: 100 000 L89B10 in ambient temperature 50°C: 70 000 LED driver lifetime in ambient temperature 50°C: 70 000		

Electrical data			
Protection class	I		
Rated power [W]***	**21,4**	**26,1**	**30,9**
Power factor	up to 0,93		
Rated Voltage [V]	AC 230, 50Hz DC 230, 0Hz		
Rated current [A]	**0,09**	**0,12**	**0,14**
Cable terminals	min. 1,5 mm² max. 4mm²		

Mechanical data	
Degree of protection	IP66/67
Impact resistance	HIGH according to PN-EN IEC 60079-0; IK 09
Body	Glassfibre reinforced polyester (GRP)
Cover	Polycarbonate in three versions: clear, opal and frosted
Gasket	Silicon foam
Working temperature	-30°C ≤ Ta ≤ +50°C

* - All data was measured at 25°C, color temperature of 4000K, CRI>60. Tolerance +/-5%
** - Other specifications of lighting fixtures are available as options
*** - Power tolerance +/-5%

HARDO.

Emergency luminaires for Central Battery Systems



OptiLine fixtures 1270 mm length

CENTRAL BATTERY

Technical data







Explosion safety	OptiLine 12-1******CBX/CBY	OptiLine 12-2******CBX/CBY	OptiLine 12-3******CBX/CBY
Ex marking (certificates KSCP 23ATEX0021X, KSCP 23ATEX0022X)	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec mc IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec mc IIC T4 Gc	Dust: Ex II 2 D Ex tb IIIC T70 °C Db Gas: Ex II 3 G Ex ec mc IIC T4 Gc
IECEx marking (certificates IECEx KSCP 23.0045X, IECEx KSCP 23.0045X)	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec mc IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec mc IIC T4 Gc	Dust: Ex tb IIIC T70 °C Db Gas: Ex ec mc IIC T4 Gc
CNBOP approval	Yes	Yes	Yes

Lighting data			
Rated luminous flux [lm]*	**Clear diffuser: 6739** **Frosted diffuser: 6504** **Opal diffuser: 5700**	**Clear diffuser: 8665** **Frosted diffuser: 8363** **Opal diffuser: 7329**	**Clear diffuser: 10342** **Frosted diffuser: 9981** **Opal diffuser: 8747**
Rated luminous flux emergency power [lm]* (Standard) (Other specifications are available as options)	**Clear diffuser: 3270** **Frosted diffuser: 3100** **Opal diffuser: 2770**	**Clear diffuser: 4100** **Frosted diffuser: 3890** **Opal diffuser: 3480**	**Clear diffuser: 5150** **Frosted diffuser: 4950** **Opal diffuser: 4350**
Light source type	**2 x LED Module 18W**	**2 x LED Module 23W**	**2 x LED Module 27W**
Color temperature [K]	3000** 4000 (standard) 5000**		
CRI	>70** >80 (standard) >90**		
Efficacy of the complete luminaire [lm / W]	**144 - 170 depending on diffuser type**	**148- 175 depending on diffuser type**	**148 - 175 depending on diffuser type**
Lifetime [h]	L80B10 in ambient temperature 25°C : 80 000 LED driver lifetime in ambient temperature 25°C: 100 000 L89B10 in ambient temperature 50°C: 70 000 LED driver lifetime in ambient temperature 50°C: 70 000		

Electrical data			
Protection class	I		
Rated power [W]***	**39,5**	**49,5**	**59,0**
Power factor	up to 0,97		
Rated Voltage [V]	AC 230, 50Hz DC 230, 0Hz		
Rated current [A]	**0,19**	**0,23**	**0,27**
Cable terminals	min. 1,5 mm^2 max. 4mm^2		

Mechanical data	
Degree of protection	IP66/67
Impact resistance	HIGH according to PN-EN IEC 60079-0; IK 09
Body	Glassfibre reinforced polyester (GRP)
Cover	Polycarbonate in three versions: clear, opal and frosted
Gasket	Silicon foam
Working temperature	-30°C ≤ Ta ≤ +50°C

* - All data was measured at 25°C, color temperature of 4000K, CRI>60. Tolerance +/-5%
** - Other specifications of lighting fixtures are available as options
*** - Power tolerance +/-5%

HARDO. Polar curves and directional lenses



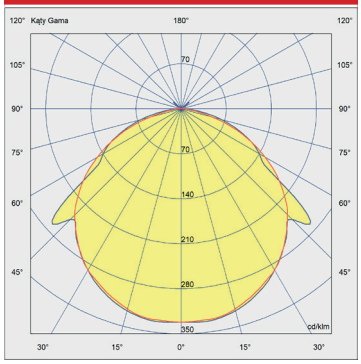
Polar curves



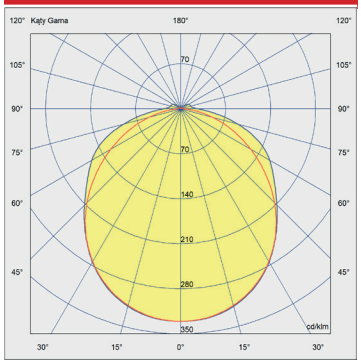




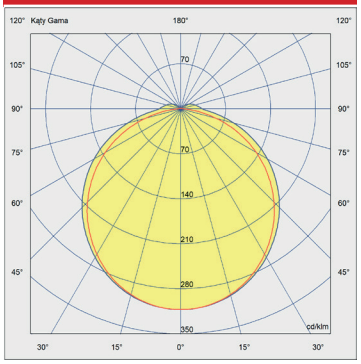
Clear diffuser



Frosted diffuser



Opal diffuser



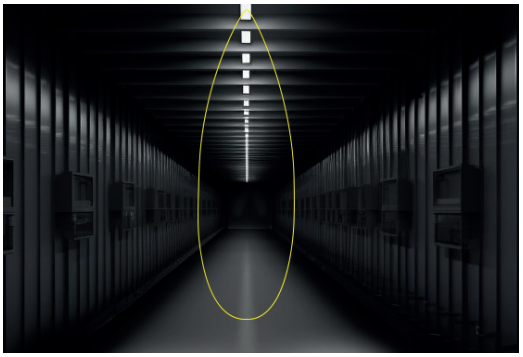
Directional lenses

Possibility to adjust light distribution of already installed luminaire by using of accessory directional lenses. 4 basic lenses:

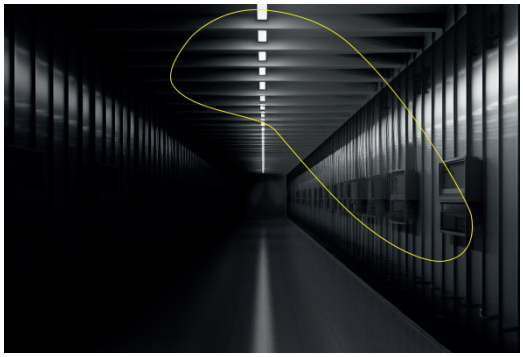
- 40° wide beam - WS
- asymmetric beam - AS
- S-35°-70°
- asymmetric beam for uplighting AS-WS

Other directional lens configurations are available as needed - 22 types in all.

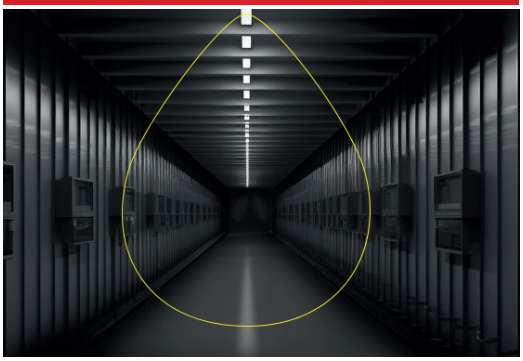
40° wide beam - WS



Asymmetric beam - AS



S - 35° - 70°



Asymmetric beam for uplighting AS-WS



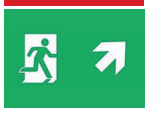
Emergency pictograms: codification



P-0h



P-1,5h



P-3h



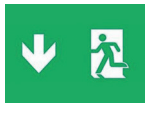
P-4,5h



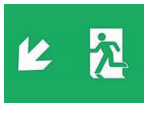
P-EM



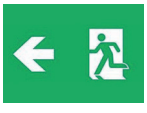
P-6h



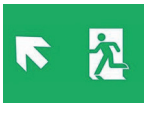
P-7,5h



P-9h



P-10,5h



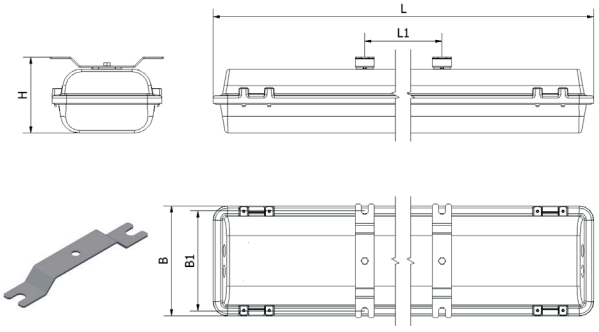
HARDO. Dimensions and mounting options



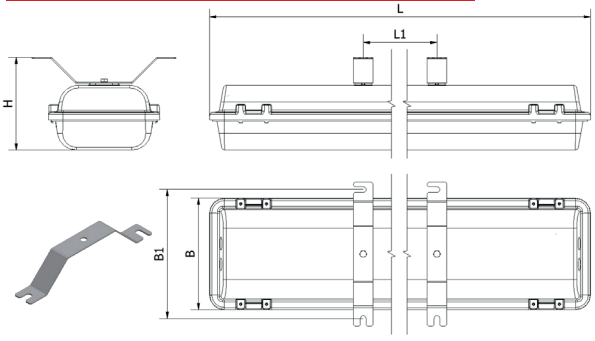
Fixture type	L	L1	B
OptiLine 60-**********	670	400	173
OptiLine 12-**********	1276	800	173

Dimensions depend on mounting type	H	B1
Eyelet hanger R20	136,0	---
Pole mount bracket R50	156,2	---
Ceiling bracket D18	119,0	157
Ceiling bracket D40	143,7	200
Ceiling bracket C	153,4	---
Wall bracket K45	184,7	---

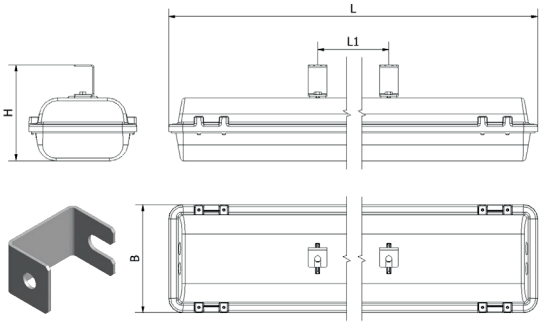
Ceiling bracket D18 (code M1)



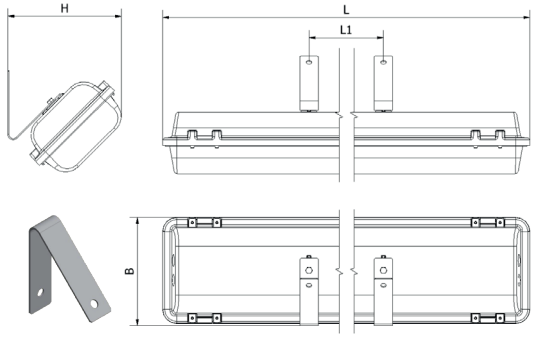
Ceiling bracket D40 (code M2)



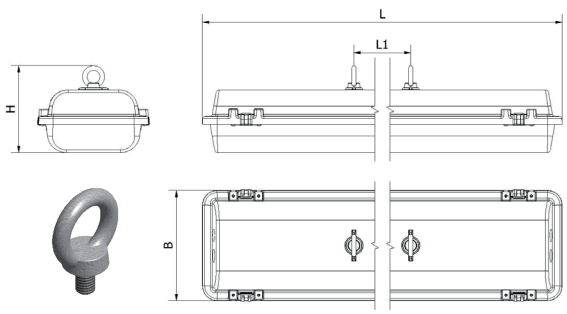
Ceiling bracket C (code M4)



Wall bracket K45 (code M3)



Eyelet hanger R20 (kod M5)



Pole mount bracket R50 (code M6)

