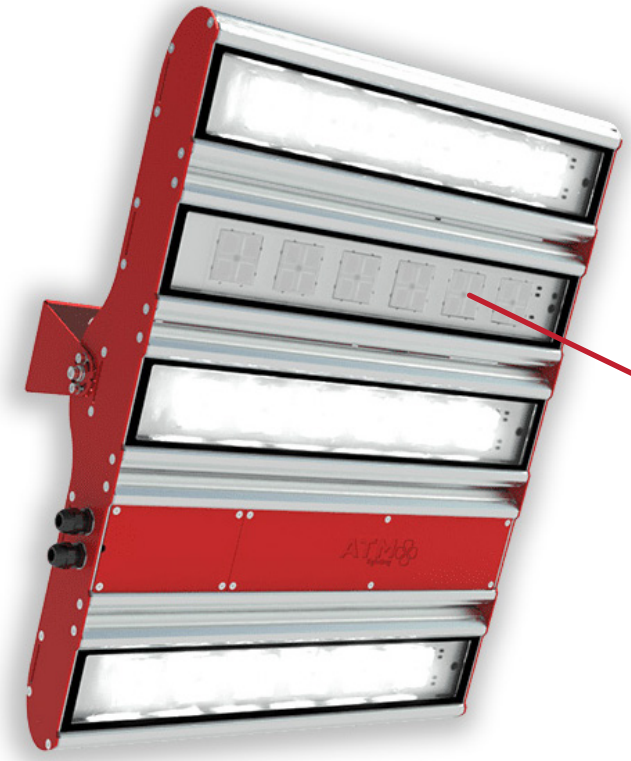
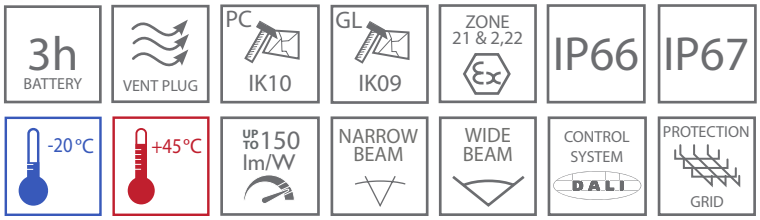
ZONE 21 & 2,22

# EXL450LED-A3

## with 3 hour emergency power module




EX MARKING: II 3G Ex ec IIC T6...T4 Gc
II 2D Ex tb IIIC T80°C...T105°C Db

CERTIFICATES: OBAC 22 ATEX 0349X

## EXEMPLARY APPLICATIONS


REFINERIES


OFFSHORE


CHEMICAL PLANTS


CHEMICAL WAREHOUSES

Explosionproof floodlight with **LED** modules with very high luminous flux. Designed to be used in the zones **21&2,22** of the explosion hazard of gases, vapors and mists of flammable liquids with air, as well as of flammable dusts and fibers.

The housing is made of anodized aluminum. The diffuser can be made of glass or polycarbonate. There is a possibility to choose one out of five available optics.

Versions with 3-hour emergency power module **A3.**

Additional accessories as protection grid **PRG** or vent plugs **VENT** can be installed optionally.

# FEATURES

## MECHANICAL PARAMETERS

| | |
|---|---|
| housing | anodized aluminum |
| diffuser | tempered glass, polycarbonate |
| ingress protection | IP66, IP67 |
| protection class | I |
| shock resistance | **GL:** IK09<br>**PC:** IK10 |
| mounting | on the bracket |
| mounting accessories | check: *mountings* |
| optional accessories | protection grid, vent plugs |
| wires between the fitting modules | high temperature resistant silicone wires |

## WORK PARAMETERS

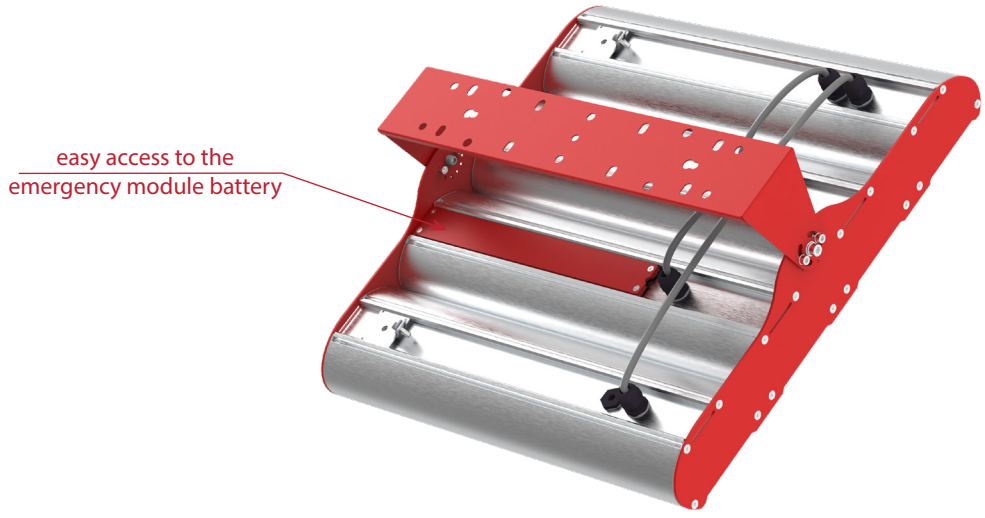
| | |
|---|---|
| ambient temperature | -20°C up to +45°C |
| lifetime | >50.000h $L_{80}$ $B_{10}$<br>>70.000h $L_{70}$ $B_{10}$ |

## ELECTRICAL PARAMETERS

| | |
|---|---|
| 2,5 mm²<br>6,0 mm² - *optionally* | connection terminals |
| 220-240V, 50-60 Hz<br>voltage ± 10% | input voltage 24E |
| intrisically safe LED modules | light source |
| >0,98 | power factor |
| Ø20<br>Ø25 | cable inlets |
| L-N 6kV, L-PE 10kV | overvoltage protection in driver |
| L-N 1kV, L-PE 2kV | overvoltage protection in converter |

## PHOTOMETRICAL PARAMETERS

| | |
|---|---|
| >70<br>>80 - *optionally* | CRI |
| 4000K<br>6500K - *optionally* | colour temperature |
| SVM < 0,0016<br>*acc. with IEC TR 61547-1:2020* | light pulsation |
| PstLM < 0,187<br>*acc. with IEC TR 61547-1:2020* | flicker indicator |



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## TYPES COMPARISON

### NARROW BEAM OPTICS (NB):

| TYPE | LUMINOUS FLUX* [lm] | POWER CONSUMP. [W] | EFFICIENCY [lm/W] | EMERGENCY MODE EMERGENCY LUMINOUS FLUX [lm] | AMBIENT TEMP. | TEMP. CLASS / MAX. SURFACE TEMPERATURE |
|---|---|---|---|---|---|---|
| EXL450LED-EX2-1 | 15200 | 103 | 148 | 900 | -20°C ÷ 45°C | T6/T80 °C |
| EXL450LED-EX2-2 | 21500 | 153 | 141 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-1 | 22800 | 155 | 147 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-2 | 32200 | 238 | 135 | 900 | -20°C ÷ 45°C | T4/T105 °C |

### MEDIUM BEAM OPTICS (MB):

| TYPE | LUMINOUS FLUX* [lm] | POWER CONSUMP. [W] | EFFICIENCY [lm/W] | EMERGENCY MODE EMERGENCY LUMINOUS FLUX [lm] | AMBIENT TEMP. | TEMP. CLASS / MAX. SURFACE TEMPERATURE |
|---|---|---|---|---|---|---|
| EXL450LED-EX2-1 | 16000 | 103 | 155 | 900 | -20°C ÷ 45°C | T6/T80 °C |
| EXL450LED-EX2-2 | 23000 | 153 | 150 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-1 | 24000 | 155 | 155 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-2 | 34000 | 238 | 143 | 900 | -20°C ÷ 45°C | T4/T105 °C |

### WIDE BEAM OPTICS (WB):

| TYPE | LUMINOUS FLUX* [lm] | POWER CONSUMP. [W] | EFFICIENCY [lm/W] | EMERGENCY MODE EMERGENCY LUMINOUS FLUX [lm] | AMBIENT TEMP. | TEMP. CLASS / MAX. SURFACE TEMPERATURE |
|---|---|---|---|---|---|---|
| EXL450LED-EX2-1 | 15250 | 103 | 148 | 900 | -20°C ÷ 45°C | T6/T80 °C |
| EXL450LED-EX2-2 | 21500 | 153 | 141 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-1 | 23500 | 155 | 152 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-2 | 33000 | 238 | 139 | 900 | -20°C ÷ 45°C | T4/T105 °C |

### OVAL BEAM OPTICS (OB):

| TYPE | LUMINOUS FLUX* [lm] | POWER CONSUMP. [W] | EFFICIENCY [lm/W] | EMERGENCY MODE EMERGENCY LUMINOUS FLUX [lm] | AMBIENT TEMP. | TEMP. CLASS / MAX. SURFACE TEMPERATURE |
|---|---|---|---|---|---|---|
| EXL450LED-EX2-1 | 15100 | 103 | 140 | 900 | -20°C ÷ 45°C | T6/T80 °C |
| EXL450LED-EX2-2 | 21500 | 153 | 141 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-1 | 22600 | 155 | 146 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-2 | 32200 | 238 | 135 | 900 | -20°C ÷ 45°C | T4/T105 °C |

### ASYMETRIC BEAM OPTICS (ASY):

| TYPE | LUMINOUS FLUX* [lm] | POWER CONSUMP. [W] | EFFICIENCY [lm/W] | EMERGENCY MODE EMERGENCY LUMINOUS FLUX [lm] | AMBIENT TEMP. | TEMP. CLASS / MAX. SURFACE TEMPERATURE |
|---|---|---|---|---|---|---|
| EXL450LED-EX2-1 | 14390 | 103 | 140 | 900 | -20°C ÷ 45°C | T6/T80 °C |
| EXL450LED-EX2-2 | 20680 | 153 | 135 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-1 | 21580 | 155 | 139 | 900 | -20°C ÷ 45°C | T5/T80 °C |
| EXL450LED-EX3-2 | 30570 | 238 | 128 | 900 | -20°C ÷ 45°C | T4/T105 °C |

* - Luminous flux is indicated for LED modules CRI 70.
** - During the emergency battery loading, the power consumption can be increased up to 5,0W.

Luminous flux tolerance +/- 10%
Power tolerance +/- 5%
The parameters given in the following data sheet has been determined for the temperature Ta=25°C.

Luminous flux, light intensity distribution and efficiency has been tested on the basis of the standards EN ISO 17025:2005, norm series EN13032 and LM-79.

The actual data and General Warranty Conditions are available on our website **www.atmlighting.pl**

## LUMINAIRES QUANTITY

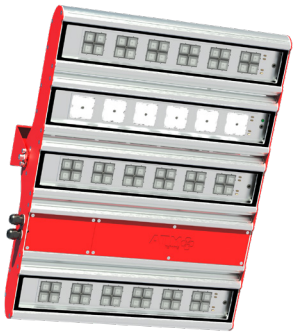
MAXIMAL QUANTITY OF FITTINGS THAT MAY BE CONNECTED ACCORDING TO THE USED CIRCUIT BRAKER

**Version 24E (220-240V, 50÷60Hz)**

| TYPE OF THE FITTING | B16 | C16 |
|---|---|---|
| EXL450LED-EX2-1 | 21 | 11 |
| EXL450LED-EX2-2 | 11 | 6 |
| EXL450LED-EX3-1 | 11 | 6 |
| EXL450LED-EX3-2 | 7 | 4 |

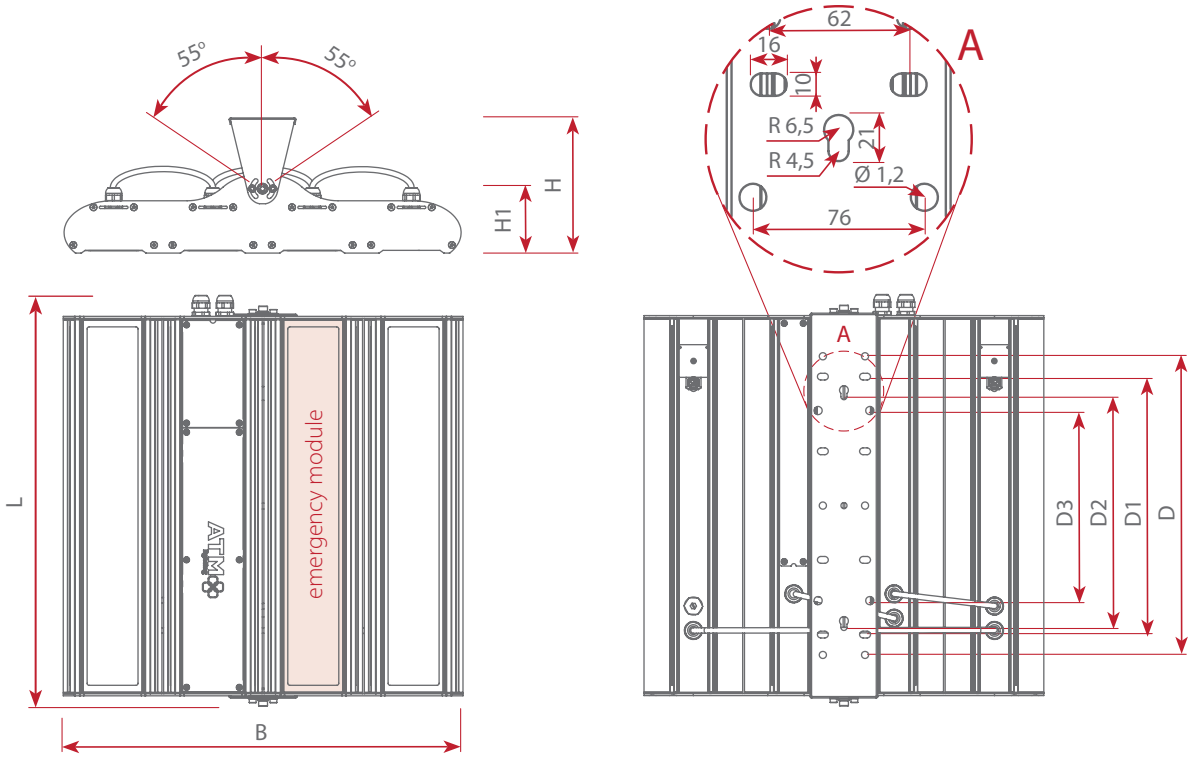
Above values are indicated for the power supply voltage 220VAC.

## OPERATING MODES

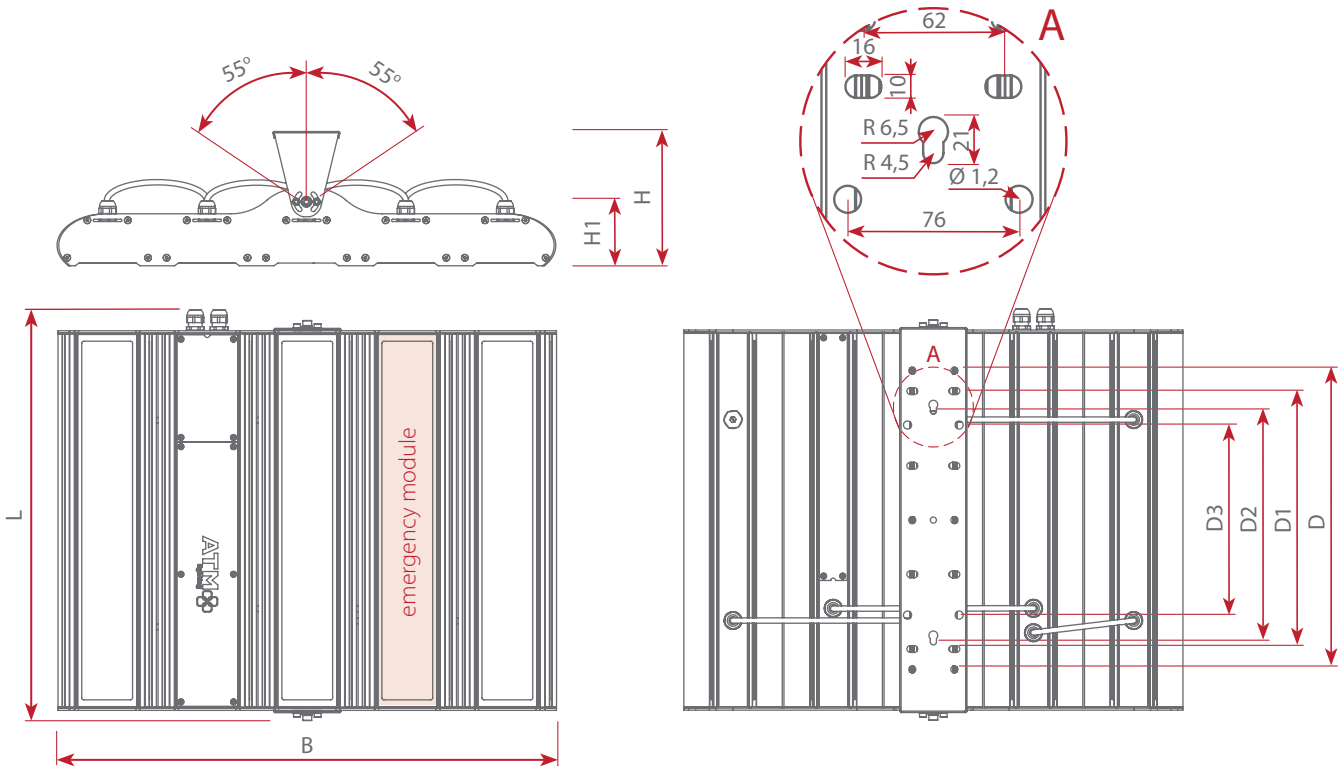
| | STANDARD MODE<br>emergency module is off | EMERGENCY MODE<br>emergency module turns on after the power network failure |
|---|---|---|
| EXL450LED-EX2-...-A3 |  |  |
| EXL450LED-EX3-...-A3 |  |  |

## DIMENSIONS

### VERSION EX2 - A3




### VERSION EX3 - A3

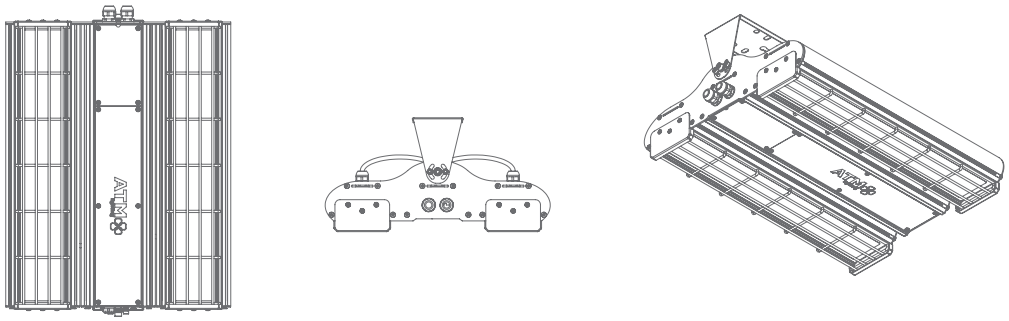



| TYPE | L | B | H | H1 | D | D1 | D2 | D3 | Weight [kg] |
|---|---|---|---|---|---|---|---|---|---|
| EXL450LED-EX2-...-A3 | 606 | 585 | 202 | 97 | 440 | 380 | 340 | 280 | 13,5 |
| EXL450LED-EX3-...-A3 | 606 | 735 | 202 | 97 | 440 | 380 | 340 | 280 | 16,5 |

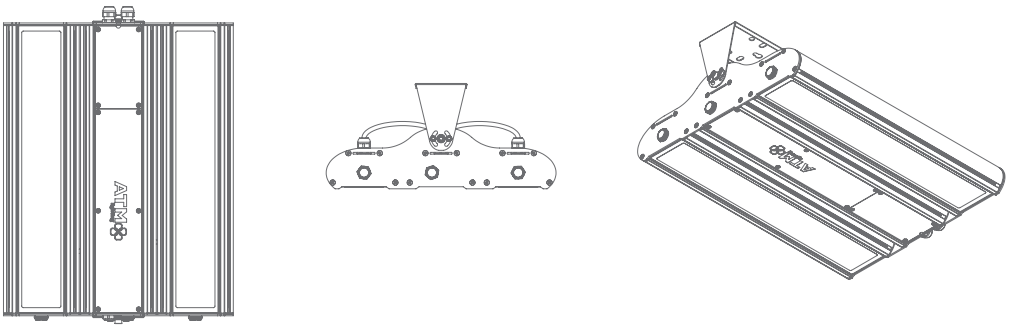
## OPTIONAL VERSIONS

**3F** — 3-phase power supply: Optional version adapted to 3-phase power supply — **3F**

**PRG** — PROTECTION GRID — Additional equippment: Additional protection grid protecting from unexpected damages — **PRG**



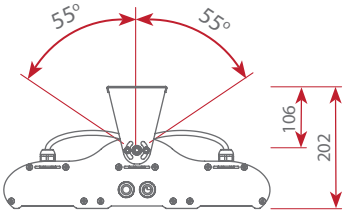
**VENT** — VENT PLUG — Additional equippment: Additional ventilated plug for every module of the lighting fixture — **VENT**

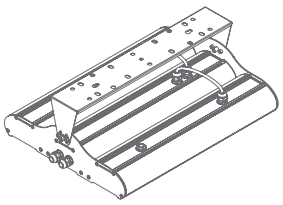


The ventilated plug prevents from the condensation of water vapor inside the fitting. This version is recommended for external use of the fitting.

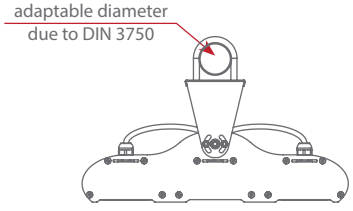
## MOUNTINGS

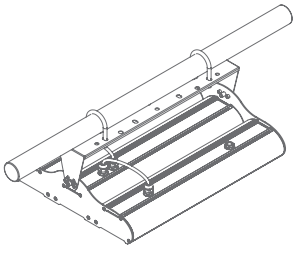
### AMO90
standard



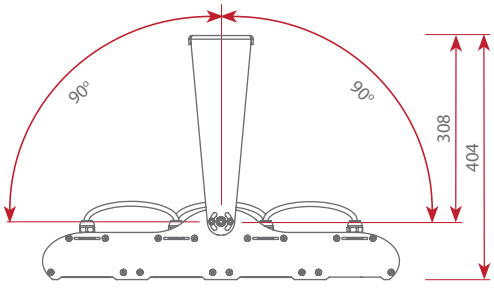



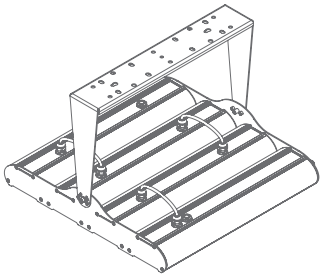
### AMO360
option



### AMO180
option





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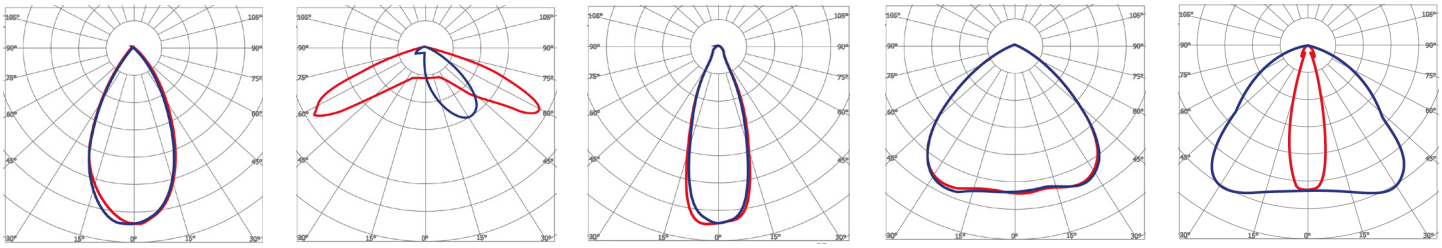
## DISTRIBUTION CURVES

| MB (Medium Beam) | AS (Asymetric Beam) | NB (Narrow Beam) | WB (Wide Beam) | OB (Oval Beam) |
|---|---|---|---|---|
| FWHM/FWTM: 57.0°/91.0° | FWHM: Asymmetric | FWHM/FWTM 38.0°/ 68.0° | FWHM/FWTM: 100.0°/125.0° | FWHM/FWTM: 25.0°/95.0° |



**As standard, the optics in the emergency module are the same as in the other modules.**

## CONFIGURATIONS

| EXL450LED- | EX | - | - | 24E- | 50 | - | | | - | ALU | - | - | - | - | - A3 - | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 1 | | | 70 | | 10 | M | 20 | | GL | NB | AMO90 | 3F | | PRG |
| | 3 | 2 | | | | | 20 | P | 25 | | PC | MB | AMO180 | | | VENT |
| | | | | | | | | | | | | WB | AMO360 | | | |
| | | | | | | | | | | | | OB | | | | |
| | | | | | | | | | | | | ASY | | | | |

**group**
explosionproof light fittings

**type**
type 450

**light source**
LED modules

**LED module type**

**LED module quantity**

**driving current**

**power supply**
24E - 220-240V, 50-60Hz

**wiring**
50 - single 5-pole terminal → 5 (1-phase)
70 - single 7-pole terminal → 7 (3-phase)

**cable inlets - quantity**
10 - one cable inlet on the side of the housing → 1 0
20 - two cable inlets on the side of the housing → 2 0

**cable inlets - material**
M - metal
P - plastic

**cable inlets - size**
20 - Ø20
25 - Ø25

**housing material**
ALU - anodized aluminum

**diffuser material**
GL - tempered glass
PC - UV stabilised polycarbonate

**optics**
NB - narrow beam
MB - medium beam
WB - wide beam
OB- oval beam
ASY - asimetric beam

**mountings**
check: *mountings*

**additional options**
3F - version adapted to work in a three-phase network, equipped with wiring 70 (L1, L2, L3, PE, N)

**emergency version**
A3 - additional emergency power module

**additional accessories**
PRG - version equpped with protection grid on the diffuser
VENT - version equipped with explosionproof ventilated plugs (recommended in external use of the fitting)

## DOWNLOADS

LDT | ATEX