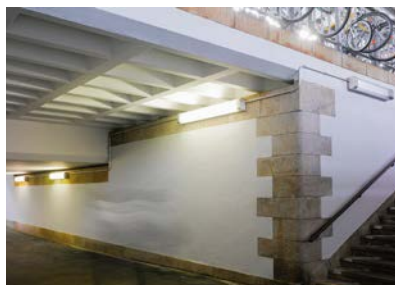


**NORKA**

**VANDALISM-PROOF LUMINAIRES**

# POWERFUL TECHNOLOGY AGAINST SENSELESS DESTRUCTION



UNDERPASSES

EVENT SITES



PUBLIC SQUARES

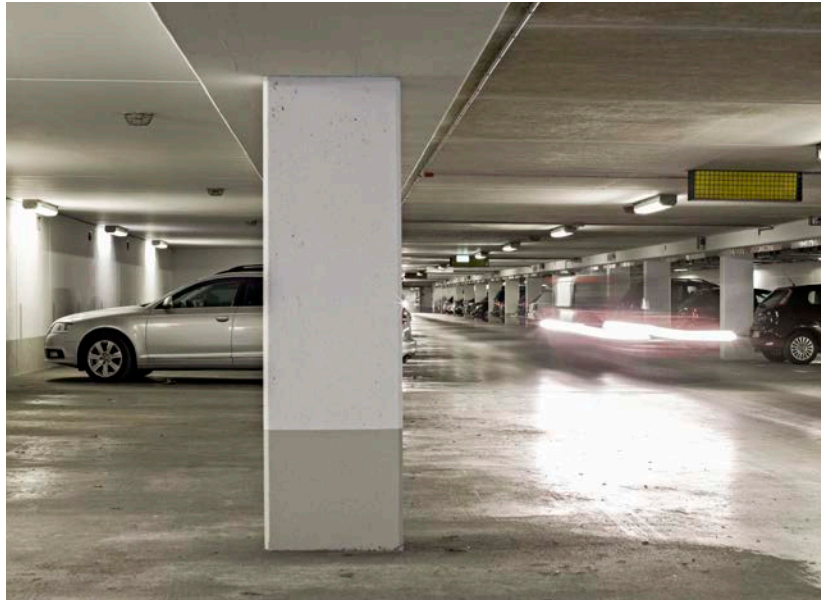




## DETENTION CELLS

NORKA is an expert for illumination solutions in extreme environmental conditions and has decades of experience in the development and production of particularly robust, long lasting and efficient luminaires. Thanks to high-quality materials, sophisticated protective concepts, precise lighting technology and powerful electronics, NORKA luminaires ensure good viewing conditions and safety even in case of extreme heat and cold, dust, moisture, aggressive atmospheres and many other adverse circumstances.

However, the environmental conditions are not necessarily the only challenges for the luminaires. There are quite a few areas of application in which



## CAR PARKS

they have to withstand deliberate or negligent destruction and tampering. NORKA offers a complete range of vandalism-proof luminaires to ensure high availability, avoid cost-intensive repairs and new acquisitions and to guarantee the reliability of the investment.

These products are often used for transport buildings and ensure reliable lighting in car parks, underpasses, on bridges, in train station and at stops. However, indestructible luminaires by NORKA are also in demand in event locations such as football stadiums as well as in public parks and buildings. Further typical areas of application are special areas in the healthcare sector such as psychiatries or rehab centres



and detention facilities and prisons as well as correctional facilities, court buildings or police stations.

NORKA's range of vandalism-proof luminaires comprises several luminaire series. Design, protective concept and lighting and control options are specifically adapted to different environments. The numerous optional accessories against vandalism range from A for anti-graffiti coating through I for impact resistance to T for two-wire signal contact against unauthorised opening.



# SAFE LIGHTING FOR PUBLIC AREAS

Cities, municipalities, transportation companies, operators of sports and event locations, educational and cultural institutions – they all know and fear the problem of vandalism. If luminaires are the target of blind destructive rage, dangerous effects on the safety may result, the costs for repair and replacement have to be paid, the appeal of public spaces suffers and the inhibition threshold for new offences will be lowered. As even in case of elaborate preventative measures there will never be a 100% protection against vandalism, the use of technology that is prepared for violence and tampering is recommended.

## PROTECTIVE MEASURES AGAINST VANDALISM AT A GLANCE

- > Thanks to the extremely high impact resistance, the luminaires remain intact despite the effects of massive impact forces of up to 150 joules.
- > Even in case of mechanical damage, the luminaires ensure functional integrity.
- > The covered rear mounting on the ceiling or wall protects against unauthorised demounting and theft.
- > If the luminaire is flush-mounted, it cannot be torn off or removed.
- > The cable entry on the rear ensure safe electrical installation.
- > Special screws (semi-circle, three-hole, oval) prevent unauthorised opening of the luminaire.
- > The anti-graffiti coating ensures that any mess can be removed from the luminaire more easily. At the same time, it increases the resistance against acids, bases and cleaning agents.
- > An additional, integrated signal contact (usually on the screw connections) can trigger an alarm in case of unauthorised opening of the luminaire.

The vandalism-proof luminaires by NORKA are perfectly equipped to withstand impacts, kicks, tearing off or out, tampering attempts on the installation or demounting. The anti-graffiti coating ensures that any potential mess can be cleaned much more easily. Besides the extensive protective measures against vandalism, NORKA equips the luminaires with precise and powerful lighting technology and – if desired – intelligent lighting control.

## LIGHTING TECHNOLOGY AND LIGHTING CONTROL AT A GLANCE

- > The costs of energy and maintenance make up the largest part of the TCO – total cost of ownership. NORKA therefore uses particularly efficient and long lasting LED light sources.
- > Precise light distribution and effective glare reduction ensure good visibility and safety. This is especially important when the luminaires are used close to the user's field of vision and in case of risky applications such as train platforms.
- > In only sporadically used areas, a sensor-based lighting control can lead to significant energy saving potential. NORKA integrates the sensors into the vandalism-proof luminaires. This way, they are also protected against destruction and tampering.
- > The vandalism-proof luminaires are also available as emergency lighting versions. For this purpose, integrated emergency lighting units with single battery supply that provide up to three hours emergency light are integrated.



Special screws and keys (semi-circle, three-hole, oval) prevent unauthorised opening of the luminaire.



# SAFE LIGHTING FOR SPECIAL APPLICATIONS

Detention facilities and prisons, i.e. correctional facilities or prison cells in police stations and court buildings, but also certain healthcare facilities such as psychiatries or rehab centres, are equipped with preventative measures to ensure a safe environment also for inmates, patients and clients with a high aggression potential. The technical equipment in such areas must, on the one hand, be able to withstand vandalism and tampering to protect material assets and maintain the room functions, and, on the other hand, not serve as a tool for violence against oneself or other people.

For these reasons, there are special requirements for the luminaires in terms of construction, lighting technology and design. The products of the vandalism-proof range of NORKA meet these requirements individually and completely. Extensive technical expertise and experience from numerous realised projects are reflected in the equipment features of the products. These range from luminaire shapes without sharp edges and corners through protection against violent mechanical forces, demounting and tampering to special technical lighting features such as night lighting, emergency lighting and lighting control.

## PROTECTIVE MEASURES AGAINST VANDALISM AND MISUSE AT A GLANCE:

- > Thanks to the extremely high impact resistance, the luminaires remain intact despite the effects of massive impact forces of up to 150 joules.
- > Even in case of mechanical damage, the luminaires ensure functional integrity.
- > Luminaires with reflector tube ensure double security. If the exterior luminaire housing is damaged, the interior housing acts as a second level of vandalism protection with a higher protection rating to ensure functional integrity.
- > The covered rear mounting on the ceiling or wall protects against unauthorised demounting.
- > If the luminaire is flush-mounted, it cannot be torn off or removed.
- > Functional and practical luminaire designs that cannot be used to attach objects (risk of strangulation), without sharp edges and corners or moveable parts.
- > The cable entry on the rear ensure safe electrical installation.

- > Special screws (semi-circle, three-hole, oval) prevent unauthorised opening of the luminaire.
- > An additional, integrated signal contact (usually on the screw connections) can trigger an alarm in case of unauthorised opening of the luminaire.
- > The luminaire is equipped with a safety circuit that can be used to configure it in a way so that the voltage supply is interrupted in case of unauthorised opening.

## LIGHTING TECHNOLOGY AND LIGHTING CONTROL AT A GLANCE

- > The costs of energy and maintenance make up the largest part of the TCO – total cost of ownership. NORKA therefore uses particularly efficient and long lasting LED light sources.
- > Precise light distribution and effective glare reduction ensure high visual comfort.
- > In only sporadically used areas, a sensor-based lighting control can lead to significant energy saving potential. NORKA integrates the sensors into the vandalism-proof luminaires. This way, they are also protected against destruction and tampering.
- > The luminaires are also available as emergency lighting versions. For this purpose, integrated emergency lighting units with single battery supply that provide up to three hours emergency light are integrated.
- > There are to possibilities to include a night light function: The luminaire can either be switched on and off using a dimmable lighting control function, or it can be supplied with an additional blue LED lighting strip that serves as night light.
- > The room user can be offered different switching options, such as a low dimming level for comfortable light.



In impact tests according to DIN EN 50102, the maximum mechanical stress of the materials is tested using spring hammers and drop hammers.

**IMPACT-  
RESISTANT**

**WEATHER-PROOF**

**TAMPER-PROOF**



# VANDALISM-PROOF LUMINAIRES

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BELFAST 10



PHALANX 12  
430/620



PHALANX 14  
LINEAR 75



PHALANX 16  
LINEAR 115



PHALANX 18  
LINEAR 200



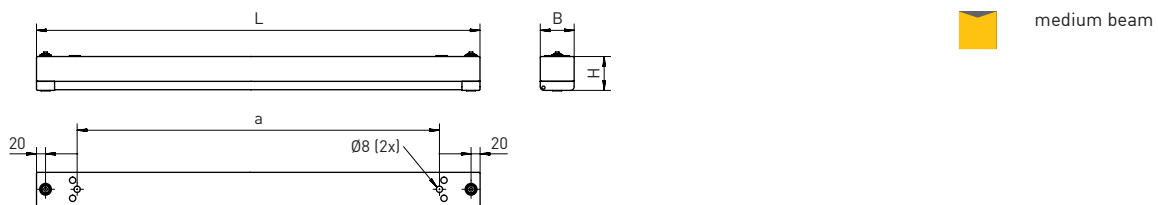
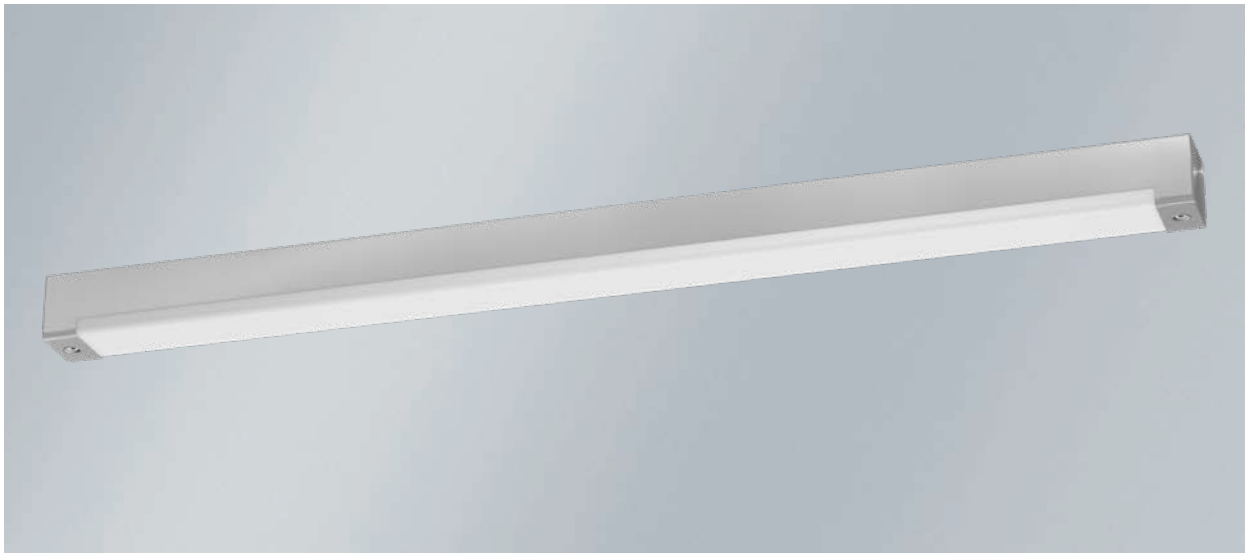
PHALANX 20  
LINEAR 240



ZUG LED AL 22

# BELFAST

LED



Lamp	Version	L	B	H	a	b	Max. weight
LED	m600	700 mm	75 mm	75 mm	520 mm	—	3.4 kg
LED	m1200	1260 mm	75 mm	75 mm	1080 mm	—	5.8 kg
LED	m1500	1540 mm	75 mm	75 mm	1360 mm	—	7.6 kg

## AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps.

Vandalism-proof up to 150 joules.

Usable in prisons, detention cells and all areas at risk of deliberate, negligent destruction, as well as passages and pedestrian tunnels.

## HOUSING

Luminaire housing made of stainless steel, polished, protection rating IP 44. With integrated polymer luminaire, protection rating IP 65.

Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see Options).

## LIGHTING TECHNOLOGY

Rectangular, 4 mm thick lamp diffuser made from PC clear (fracture proof) or PC clear, textured (fracture proof).

## ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Optional built-in driver 230 V AC/DC, suitable for emergency lighting. Four rear-mounted cable entries M20, 4 x 1.5 mm<sup>2</sup> through wiring.

**L80 B10 > 100,000 h at +35°C.**

**Retains functionality in case of vandalism.**

**8 year warranty.**

## MOUNTING

Individual or row mounting. Ceiling or wall fixing with two concealed rear mounting apertures. Luminaire cover fixing with two stainless steel sealing screws with hexagon sockets. Special screws optionally available (see Options).

## BELFAST

Version		Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m600	□ 840/4000	2660	21	-25°C to +35°C	656 280 34 A1
m1200	□ 840/4000	5330	38	-25°C to +35°C	656 480 34 A1
m1500	□ 840/4000	6660	47	-25°C to +35°C	656 680 34 A1

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

When ordering, please replace the letters with the corresponding numbers

### Luminaire cover / A

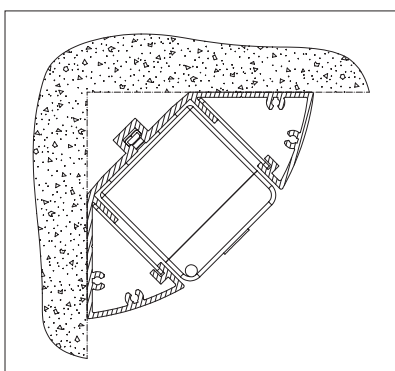
0 = PC (fracture proof) opal white  
 9 = PC clear, textured (fracture proof)

## BELFAST OPTIONS

Version	Article no.
DALI	100 502
Special screw, semi-circle (requires special tool)	700 001
Special screw, three hole (requires special tool)	700 002
Special screw, oval (requires special tool)	700 003
Through wiring 4 x 2.5 mm <sup>2</sup>	656 822
Through wiring 5 x 1.5 mm <sup>2</sup>	656 832
Through wiring 5 x 2.5 mm <sup>2</sup>	656 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	656 010
Halogen-free version	656 007
Emergency light versions	available on request
Integrated signal contact (signals unauthorised opening)	745 001
RAL finish	available on request

## BELFAST ACCESSORIES

Version	Article no.
Aluminium trunking system for corner mounting, per full metre	650 100
Blind cover of trunking system, stainless steel, per full meter	650 114
Key for semi circle screw	734 007
Key for three hole nut/screw	734 008
Key for oval screw	717 008



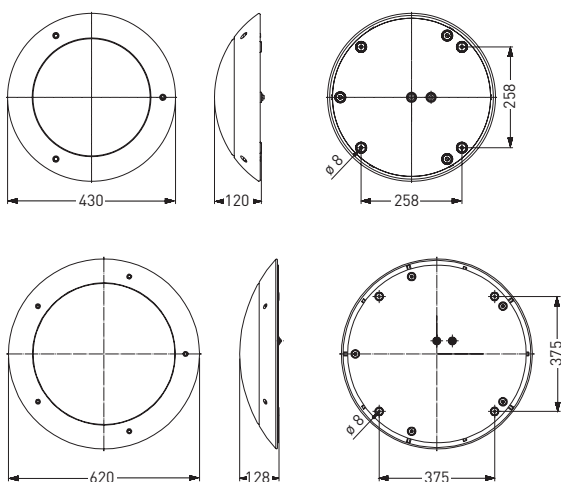
> Trunking system for corner mounting made of aluminium, article no. 650 100




> Blind cover made of stainless steel for trunking system, article no. 650 114

# PHALANX 430/620

LED



 **XARA®** (controllable)  
[See p. 24]

 medium beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	430	430 mm	430 mm	120 mm	258 mm	—	5.8 kg
LED	620	620 mm	620 mm	128 mm	375 mm	—	11.5 kg

## AREAS OF APPLICATION

Extremely impact-resistant surface mounted luminaire with LED lamps. Vandalism-proof up to 150 Joule while retaining full functionality. Usable in all areas at risk of deliberate, negligent destruction.

## HOUSING

Luminaire housing made of cast aluminium, powder coated RAL 7016. Unrestricted use for indoor and outdoor areas according to protection rating IP 65. Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see Options).

## LIGHTING TECHNOLOGY

Convex, 4 mm thick lamp diffuser made of PC (fracture proof), opal white.

## ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Optional built-in driver 230 V AC/DC, suitable for emergency lighting. Two rear-mounted cable entries (M20).

**L80 B10 > 100,000 h at +30°C/+40°C (PHALANX 430/620).**

**Retains functionality in case of vandalism.**

**8 year warranty.**

## MOUNTING

Ceiling or wall fixing with four concealed mounting apertures on the rear. Special locking mechanisms optionally available (see Options).

---

**PHALANX 430/620, PC (FRACTURE PROOF) OPAL WHITE, MEDIUM BEAM**

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
430 <input type="checkbox"/> 840/4000	1920	14	-25°C to +30°C	318 480 34 01
430 <input type="checkbox"/> 840/4000	2490	17	-25°C to +30°C	318 480 34 02
620 <input type="checkbox"/> 840/4000	3030	23	-40°C to +40°C	319 680 34 01
620 <input type="checkbox"/> 840/4000	5450	41	-40°C to +40°C	319 680 34 02

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
\*\* Rounded performance ratings

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**PHALANX 430/620 OPTIONS**

Version	Article no.
DALI	100 502
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	318 010
Special nut, three holes	318 009
Emergency light versions	available on request
RAL finish	available on request
XARA® components	See p. 24

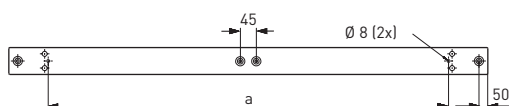
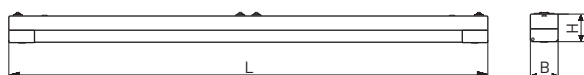
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**PHALANX 430/620 ACCESSORIES:**

Version	Article no.
Key for three hole nut/screw	734 008

# PHALANX LINEAR 75

LED



Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1340 mm	75 mm	75 mm	1120 mm	—	5.3 kg
LED	m1500	1640 mm	75 mm	75 mm	1420 mm	—	6.5 kg

## AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps.  
Vandalism-proof up to 150 joules. Usable in prisons, detention cells and all areas at risk of deliberate, negligent destruction.

## HOUSING

Luminaire housing made of metal, powder coated RAL 7016, protection rating IP 44.  
Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see Options).

## LIGHTING TECHNOLOGY

Rectangular, 4 mm thick lamp diffuser made from PC (fracture proof) opal white or PC (fracture proof) clear, structured.

## ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Optional built-in driver 230 V AC/DC, suitable for emergency lighting. LED unit, exchangeable.

Four rear-mounted cable entries M20, 4 x 1.5 mm<sup>2</sup> through wiring.

**L80 B10 > 100,000 h at +40°C.**

**Retains functionality in case of vandalism.**

**8 year warranty.**

## MOUNTING

Individual or row mounting. Ceiling or wall fixing with two concealed rear mounting apertures. Luminaire cover fixing with two stainless steel sealing screws with hexagon sockets. Special screws optionally available (see options).

## PHALANX LINEAR 75, PC (FRACTURE PROOF) OPAL WHITE, MEDIUM BEAM

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m1200 □ 840/4000	5330	38	-40°C to +40°C	655 480 34 01
m1500 □ 840/4000	6660	47	-40°C to +40°C	655 680 34 01

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

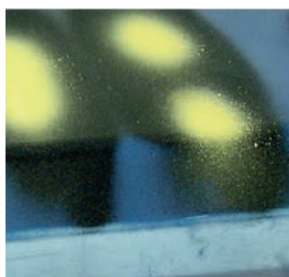
## PHALANX LINEAR 75, PC (FRACTURE PROOF), CLEAR, STRUCTURED, MEDIUM BEAM

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m1200 □ 840/4000	5330	38	-40°C to +40°C	655 480 34 91
m1500 □ 840/4000	6660	47	-40°C to +40°C	655 680 34 91

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

## PHALANX LINEAR 75 OPTIONS

Version	Article no.
DALI	100 502
Special screw, semi-circle (requires special tool)	700 001
Special screw, three hole (requires special tool)	700 002
Special screw, oval (requires special tool)	700 003
Through wiring 4 x 2.5 mm <sup>2</sup>	655 822
Through wiring 5 x 1.5 mm <sup>2</sup>	655 832
Through wiring 5 x 2.5 mm <sup>2</sup>	655 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	655 010
Halogen-free version	655 007
Emergency light versions	available on request
Integrated signal contact (signals unauthorised opening)	745 001
RAL finish	available on request



> Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating), article no. 655 010



> Special screws, three-hole or semi-circle, article no. 700 002 / 700 001



> Special screw oval, prevents unauthorised opening, article no. 700 003



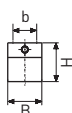
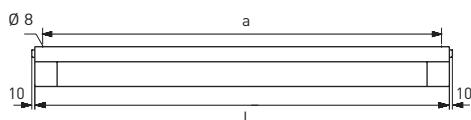
> Version with lamp diffuser PC clear textured (fracture proof)

## PHALANX LINEAR 75 ACCESSORIES

Version	Article no.
Key for semi circle screw	734 007
Key for three hole nut/screw	734 008
Key for oval screw	717 008
Exchangeable LED unit	available on request

# PHALANX LINEAR 115

LED



 **XARA®** (controllable)  
[See p. 24]



medium beam

asymmetric beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1340 mm	115 mm	130 mm	1290 mm	80 mm	8.2 kg
LED	m1500	1640 mm	115 mm	130 mm	1590 mm	80 mm	10.5 kg

## AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps.

Vandalism-proof up to 150 joules. Usable in prisons, detention cells and all areas at risk of deliberate, negligent destruction.

## HOUSING

Luminaire housing made of metal, powder coated, similar to RAL 7016, protection rating IP 44. With integrated polymer luminaire, protection rating IP 65.

Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see Options).

Short sealing system consisting of age resistant, form retaining silicone/synthetic rubber.

## LIGHTING TECHNOLOGY

Rectangular, 4 mm thick lamp diffuser made from PC (fracture proof) opal white or PC (fracture proof) clear, structured.

## ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Optional built-in driver 230 V AC/DC, suitable for emergency lighting. Two cable entries M20 on face side, 4 x 1.5 mm<sup>2</sup> through wiring.

**L80 B10 > 100,000 h at +40°C.**

**Retains functionality in case of vandalism.**

**8 year warranty.**

## MOUNTING

Individual or row mounting. Ceiling or wall fixing with four concealed mounting apertures on the rear. Luminaire cover fixing with two stainless steel sealing screws with hexagon sockets. Special screws optionally available (see Options).



## PHALANX LINEAR 115, PC (FRACTURE PROOF) OPAL WHITE, MEDIUM BEAM

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m1200 □ 840/4000	5330	38	-40°C to +40°C	743 480 34 02
m1500 □ 840/4000	6660	47	-40°C to +40°C	743 680 34 02

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

## PHALANX LINEAR 115, PC (FRACTURE PROOF) CLEAR, STRUCTURED

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m1200 □ 840/4000	5330	38	-40°C to +40°C	743 480 A4 92
m1500 □ 840/4000	6660	47	-40°C to +40°C	743 680 A4 92

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

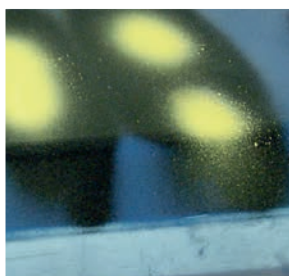
When ordering, please replace the letters with the corresponding numbers

### LIDC characteristic / A

3 = medium beam  
 6 = asymmetric beam

## PHALANX LINEAR 115 OPTIONS

Version	Article no.
DALI	100 502
Closed on face sides with two rear cable entries	available on request
Special screw, semi-circle (requires special tool)	700 001
Special screw, three hole (requires special tool)	700 002
Special screw, oval (requires special tool)	700 003
Through wiring 4 x 2.5 mm <sup>2</sup>	743 822
Through wiring 5 x 1.5 mm <sup>2</sup>	743 832
Through wiring 5 x 2.5 mm <sup>2</sup>	743 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	743 010
Halogen-free version	743 007
Emergency light versions	available on request
Integrated signal contact (signals unauthorised opening)	745 001
RAL finish	available on request
Inrush current limiter	available on request
XARA® components	See p. 24



> Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating), article no. 743 010



> Special screws, three-hole or semi-circle, article no. 700 002 / 700 001



> Special screw oval, prevents unauthorised opening, article no. 700 003



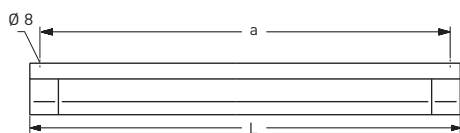
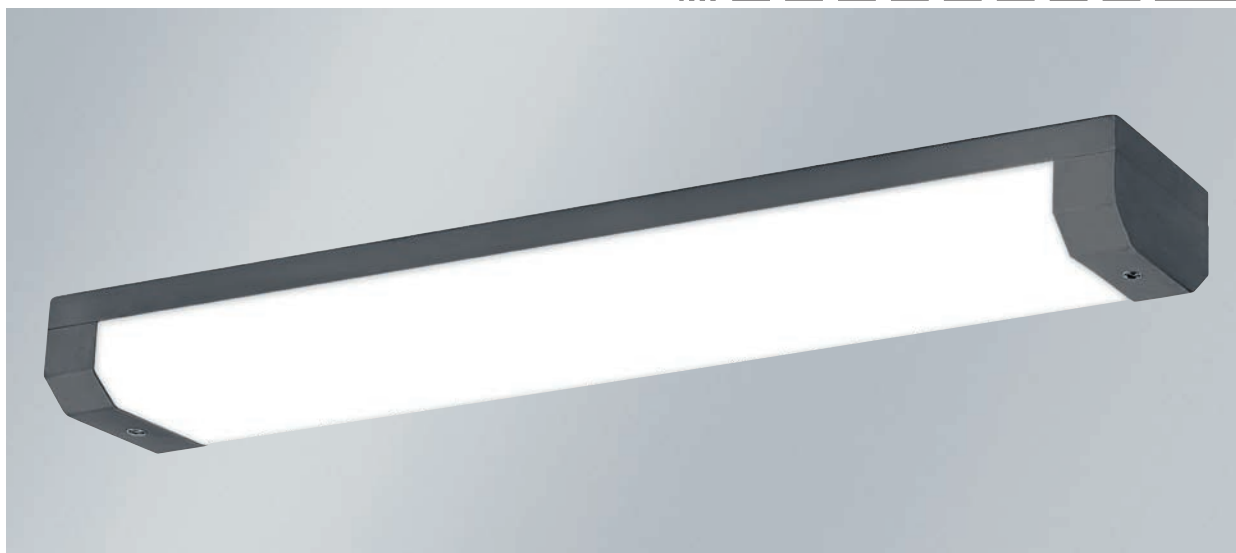
> Version with lamp diffuser PC clear textured (fracture proof)

## PHALANX LINEAR 115 ACCESSORIES

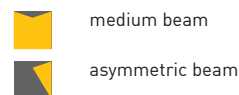
Version	Article no.
Key for semi circle screw	734 007
Key for three hole nut/screw	734 008
Key for oval screw	717 008

# PHALANX LINEAR 200

LED



XARA® (controllable)  
[See p. 24]



Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1340 mm	200 mm	130 mm	1290 mm	170 mm	15.3 kg
LED	m1500	1640 mm	200 mm	130 mm	1590 mm	170 mm	18.3 kg

## AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps. Vandalism-proof up to 150 joules. Usable in all areas at risk of deliberate, negligent destruction.

## HOUSING

Luminaire housing made of metal, powder coated, similar to RAL 7016, protection rating IP44, with concealed cable channel on the rear. With integrated polymer luminaire, protection rating IP 65. Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see Options). Short sealing system consisting of age resistant, form retaining silicone/synthetic rubber.

## LIGHTING TECHNOLOGY

Rectangular, 4 mm thick lamp diffuser made from PC (fracture proof) opal white or PC (fracture proof) clear, structured.

## ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Optional built-in driver 230 V AC/DC, suitable for emergency lighting.

Two access covers, two rearward cable entries (M20) and 4 x 1.5 mm<sup>2</sup> through wiring.

**L80 B10 > 100,000 h at +40°C.**

**Retains functionality in case of vandalism.**

**8 year warranty.**

## MOUNTING

Individual or row mounting. Ceiling or wall fixing with four concealed mounting apertures on the rear. Concealed cable duct on rear with 2 x M20 for flush mounting. Luminaire cover fixing with two stainless steel sealing screws with hexagon sockets. Special screws optionally available (see Options).

## PHALANX LINEAR 200, PC (FRACTURE PROOF) OPAL WHITE, MEDIUM BEAM

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m1200 □ 840/4000	5330	38	-40°C to +40°C	733 480 34 02
m1200 □ 840/4000	10660	76	-40°C to +40°C	736 480 34 02
m1500 □ 840/4000	6660	47	-40°C to +40°C	733 680 34 02
m1500 □ 840/4000	13320	94	-40°C to +40°C	736 680 34 02

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

## PHALANX LINEAR 200, PC (FRACTURE PROOF) CLEAR, STRUCTURED

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m1200 □ 840/4000	5330	38	-40°C to +40°C	733 480 A4 92
m1200 □ 840/4000	10660	76	-40°C to +40°C	736 480 A4 92
m1500 □ 840/4000	6660	47	-40°C to +40°C	733 680 A4 92
m1500 □ 840/4000	13320	94	-40°C to +40°C	736 680 A4 92

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

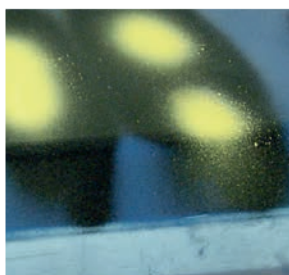
When ordering, please replace the letters with the corresponding numbers

### LIDC characteristic / A

3 = medium beam  
 6 = asymmetric beam

## PHALANX LINEAR 200 OPTIONS

Version	Article no.
DALI driver (including four rearward cable entries)	100 502
Special screw, semi-circle (requires special tool)	700 001
Special screw, three hole (requires special tool)	700 002
Special screw, oval (requires special tool)	700 003
Through wiring 4 x 2.5 mm <sup>2</sup>	733 822
Through wiring 5 x 1.5 mm <sup>2</sup>	733 832
Through wiring 5 x 2.5 mm <sup>2</sup>	733 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	733 010
Halogen-free version	733 007
Emergency light versions	available on request
Integrated signal contact (signals unauthorised opening)	745 001
RAL finish	available on request
Inrush current limiter	available on request
XARA® components	See p. 24



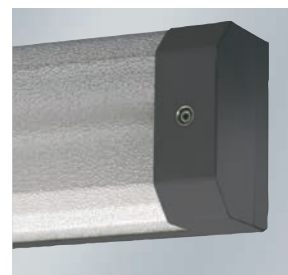
> Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating), article no. 733 010



> Special screws, three-hole or semi-circle, article no. 700 002 / 700 001



> Concealed rearward cable channel



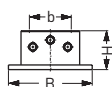
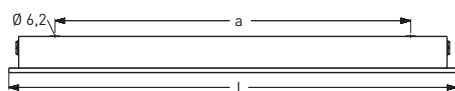
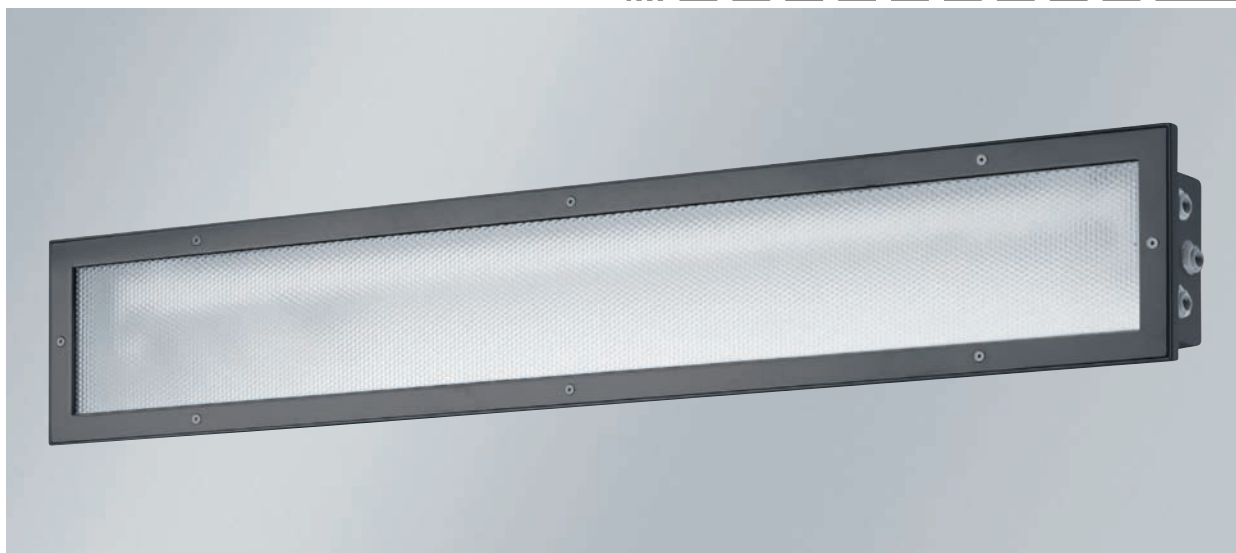
> Version with lamp diffuser PC clear textured (fracture proof)

## PHALANX LINEAR 200 ACCESSORIES

Version	Article no.
Key for semi circle screw	734 007
Key for three hole nut/screw	734 008
Key for oval screw	717 008

# PHALANX LINEAR 240

LED



XARA® (controllable)  
[See p. 24]

medium beam  
 asymmetric beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1360 ± 2 mm	240 mm	110 mm	1065 mm	120 mm	7.9 kg
LED	m1500	1660 ± 2 mm	240 mm	110 mm	1365 mm	120 mm	10.0 kg

## AREAS OF APPLICATION

Extremely impact-resistant luminaire for wall and ceiling surface mounting with LED lamps.

Vandalism-proof up to 150 joules.

Usable in all areas at risk of deliberate, negligent destruction.

## HOUSING

Metal installation housing, powder coated inside and outside, similar to RAL 7016, protection rating IP 44. With integrated polymer luminaire, protection rating IP 65.

Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K.

Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see Options).

Short sealing system consisting of age resistant, form retaining silicone/synthetic rubber.

## LIGHTING TECHNOLOGY

Flat, 3 mm thick cover screen made of PC (fracture proof) clear or with prism or PC (fracture proof) opal white.

## ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Optional built-in driver 230 V AC/DC, suitable for emergency lighting.

Two access covers, cable entries on face side (M20) and 4 x 1.5 mm<sup>2</sup> through wiring.

**L80 B10 > 100,000 h.**

**Retains functionality in case of vandalism.**

**8 year warranty.**

## MOUNTING

Individual or row mounting. Fixing with four rear bores, flush on the rear recess wall. Fixing of the luminaire cover with stainless steel sealing screws with hexagon sockets. Special screws optionally available (see Options).

## PHALANX LINEAR 240, PC (FRACTURE PROOF) OPAL WHITE COVER SCREEN, MEDIUM BEAM

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m1200 □ 840/4000	5330	38	-40°C to +40°C	729 480 34 02
m1500 □ 840/4000	6660	47	-40°C to +40°C	729 680 34 02

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

## PHALANX LINEAR 240, COVER SCREEN MADE OF PC (FRACTURE PROOF) CLEAR, WITH PRISM

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no.
m1200 □ 840/4000	5330	38	-40°C to +40°C	729 480 A4 92
m1500 □ 840/4000	6660	47	-40°C to +40°C	729 680 A4 92

\* Luminous flux at 55°C on the T<sub>c</sub> point of the LED  
 \*\* Rounded performance ratings

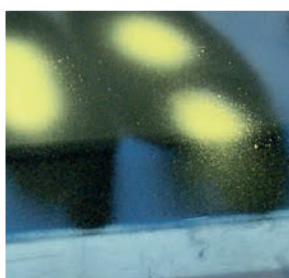
When ordering, please replace the letters with the corresponding numbers

### LIDC characteristic / A

3 = medium beam  
 6 = asymmetric beam

## PHALANX LINEAR 240 OPTIONS

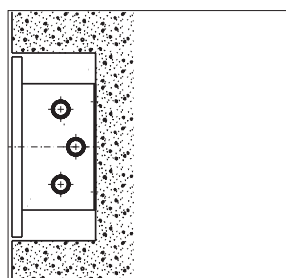
Version	Article no.
DALI	100 502
Special screw, two-hole (requires special tool)	700 004
Through wiring 4 x 2.5 mm <sup>2</sup>	729 822
Through wiring 5 x 1.5 mm <sup>2</sup>	729 832
Through wiring 5 x 2.5 mm <sup>2</sup>	729 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	729 010
Halogen-free version	729 007
Emergency light versions	available on request
RAL finish	available on request
Inrush current limiter	available on request
XARA® components	See p. 24



> Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating), article no. 729 010



> Special screw, two-hole, article no. 700 004



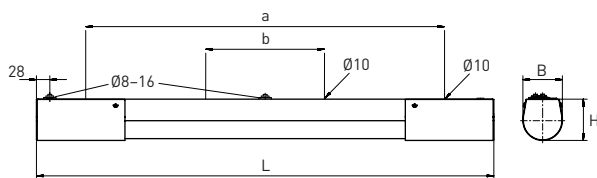
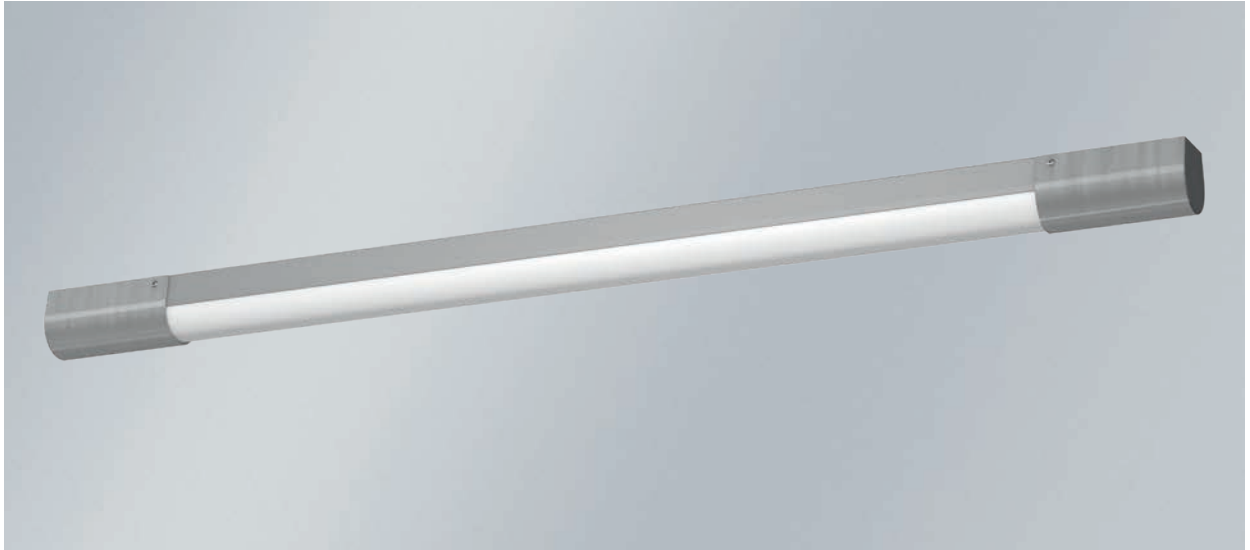
> Concrete recess dimensions:  
Luminaire dimensions + 10 mm

## PHALANX LINEAR 240 ACCESSORIES

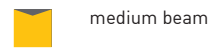
Version	Article no.
Key for two-hole screw	734 009

# ZUG LED AV

LED



**FOCUSSED LIGHTING**  
(See p. 27)



**XARA®** (controllable)  
(See p. 24)

**K** Additional colour temperatures (See p. 26)

Lamp	Version	L	B	H	a	b	Max. weight
LED	m600	956 mm	82.5 mm	86 mm	750 mm	-	2.7 kg
LED	m1200	1566 mm	82.5 mm	86 mm	1350 mm	360 mm	4.0 kg

## AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps.

Vandalism-proof up to 50 joules.

Usable in prisons, detention cells and all areas at risk of deliberate, negligent destruction.

## HOUSING

Polymer emergency luminaire with tube (75 mm) with quick-mounting pressure cap, in vandal-proof, polished stainless steel housing. Anti-graffiti coating for luminaires protects against dirt and paint residue, optionally available (see Options).

## LIGHTING TECHNOLOGY

4 mm thick lamp diffuser made of PC Tropal® (fracture proof) or PMMA Transopal® (impact strengthened).

## ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Optional built-in driver 230 V AC/DC, suitable for emergency lighting. 4 x 1.5 mm<sup>2</sup> through wiring.

## MOUNTING

Single mounting. Ceiling or wall mounting with two concealed rearward mounting apertures. Lamp diffuser mounting with two stainless steel sealing screws with hexagon sockets.

## ZUG LED AV

Version	Luminous flux*/lm	System power**/W	Ambient temperature	Article no. + MC
m600 □ 840/4000	1380 - 2800	10 - 20	-25°C to +40°C	722 280 34 A4 - ....
m1200 □ 840/4000	2770 - 3480 - 6320	19 - 24 - 44	-25°C to +40°C	722 480 34 A4 - ....

\* Luminous flux at 55°C on the  $T_c$  point of the LED  
 \*\* Rounded performance ratings  
 Standard luminous flux T8; for other lumen packages see page217

When ordering, please replace the letters with the corresponding numbers

### Protective reflector tube / A

2 = PMMA Transopal® (impact strengthened)  
 8 = PC Tropol® (fracture proof)

## ZUG LED AV OPTIONS

Version	Article no.
DALI	100 502
Through wiring 4 x 2.5 mm <sup>2</sup>	775 981
Through wiring 5 x 1.5 mm <sup>2</sup>	775 831
Through wiring 5 x 2.5 mm <sup>2</sup>	775 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	775 010
Halogen-free version	770 035
Emergency light versions	available on request
Inrush current limiter	available on request
Additional colour temperatures	See p. 26
4kV transient filter	available on request
XARA® components	See p. 24

# XARA® COMPONENTS

General information about XARA® can be found in our “LED Product Range”; detailed information can be found in our XARA® lighting control system brochure and the XARA® application manual.

## XARA®-BASIC

Version	Article no.
Master/autonomous version with sensor, basic value 0% / off	100 336
Slave version without sensor, basic value 0% / off	100 337
Master/autonomous version with sensor, basic value 15% / not off	100 338
Slave version without sensor, basic value 15% / not off	100 339
Remote control, infrared	100 334

## XARA®-ADVANCED

Version	Internal*	External**	Parameterised	Unparameterised	Article no.
XARA-LM	-	-	-	-	100 300
XARA-LM-W	-	-	-	-	100 301
XARA-DMSI.12-I-DALI	■	-	-	■	100 303
	■	-	■	-	100 304
XARA-DMSI.12-E-DALI	-	■	-	■	100 305
	-	■	■	-	100 306
XARA-PS-E	-	■	-	-	100 310
XARA-PS-I	■	-	-	-	100 311
XARA-UT	-	-	-	■	100 312
XARA-TP 3.5"	-	-	-	■	100 314
	-	-	■	-	100 315
XARA-TP-BT	-	-	-	■	100 316
	-	-	■	-	100 317
XARA-CM	-	-	-	■	100 318
	-	-	■	-	100 319
XARA-CCM	-	-	-	■	100 320
	-	-	■	-	100 321
XARA-EXP	-	-	-	■	100 322
	-	-	■	-	100 323
XARA-REP-E	-	■	-	-	-
XARA-REP-I	■	-	-	-	-

\* Components for luminaire installation  
 \*\* Components for autonomous use



> XARA-LM (Link Module),  
 article no. 100 300 (0°, 0°)



> XARA-CM  
 (Control Module),  
 article no. 100 318(0°, 0°)



> XARA-PS-E  
 (Power Supply External),  
 article no. 100 310(0°)



> XARA-DMSI.12-I-DALI  
 article no. 100 303 (0°, 0°)


## XARA®-PROFESSIONAL

Additional information on XARA®-Professional can be found in the XARA® application manual.









## K COLOUR TEMPERATURES





LED luminaires with FOCUSED LIGHTING  and additional selected luminaires are available in the colour temperatures listed here. Please additionally enter the article number of the desired colour temperature when ordering. The standard colour temperature is 4000 K.

### ADDITIONAL COLOUR TEMPERATURES





For single lamp version, m600

 2700K	122 700
 3000K	123 000
 5000K	125 000
 6500K	126 500





For single lamp version, m1200

 2700K	142 700
 3000K	143 000
 5000K	145 000
 6500K	146 500





For single lamp version, m1500

 2700K	162 700
 3000K	163 000
 5000K	165 000
 6500K	166 500





For twin lamp version, m600

 2700K	222 700
 3000K	223 000
 5000K	225 000
 6500K	226 500

For twin lamp version, m1200

 2700K	242 700
 3000K	243 000
 5000K	245 000
 6500K	246 500

For twin lamp version, m1500

 2700K	262 700
 3000K	263 000
 5000K	265 000
 6500K	266 500

# LUMINOUS FLUX TABLES FOR LED LUMINAIRES WITH FOCUSED LIGHTING

Valid from December 2016

## LUMEN PACKAGES OF LAMPS FOR m600

### SINGLE LAMP

#### ERFURT LED, MÜNCHEN LED, ZUG LED

Article number of the lumen package	System power*/W	Luminous flux**/lm
MC 1 (± 18 W, T8)	10	1380
MC 3	13	1740
MC 5	15	2090
MC 7	19	2630
MC 9	20	2800

### TWIN LAMP

#### ERFURT LED

Article number of the lumen package	System power*/W	Luminous flux**/lm
MC 1 (± 2 x 18 W, T8)	16	2760
MC 3	22	3480
MC 5	26	4180
MC 7	34	5260
MC 9	36	5600

## LUMEN PACKAGES OF LAMPS FOR m1200

### SINGLE LAMP

#### BITBURG LED, BRÜNN LED, COBURG LED\*\*\*, ERFURT LED, FULDA LED, GERA LED, JENA LED, MÜNCHEN LED, ZUG LED

Article number of the lumen package	System power*/W	Luminous flux**/lm
MC 1	19	2770
MC 3 (± 36 W, T8)	24	3480
MC 5	31	4540
MC 7	41	5960
MC 9	44	6320

### TWIN LAMP

#### ERFURT LED, GENF LED

Article number of the lumen package	System power*/W	Luminous flux**/lm
MC 1	38	5540
MC 3 (± 2 x 36 W, T8)	48	6960
MC 5	62	9080
MC 7	82	11920
MC 9	88	12640

## LUMEN PACKAGES OF LAMPS FOR m1500

### SINGLE LAMP

#### BITBURG LED, BRÜNN LED, COBURG LED\*\*\*, ERFURT LED, FULDA LED, GERA LED, JENA LED, MÜNCHEN LED, ZUG LED

Article number of the lumen package	System power*/W	Luminous flux**/lm
MC 1	29	4350
MC 3 (± 58 W, T8)	35	5240
MC 5	44	6570
MC 7	50	7450
MC 9	53	7900

### TWIN LAMP

#### ERFURT LED, GENF LED

Article number of the lumen package	System power*/W	Luminous flux**/lm
MC 1	58	8700
MC 3 (± 2 x 58 W, T8)	70	10480
MC 5	88	13140
MC 7	100	14900
MC 9	106	15800

### NOTE:

NORKA LED products mainly have a service life of **L80 B10 > 60,000 h**.

Divergent service lives must be specified separately.

\* Rounded performance ratings

\*\* Luminous flux at 55°C on the TC point of the LED

\*\*\* COBURG LED: 2 W system power not included

Standard luminous flux, corresponds to the luminous flux of a luminaire with T8 of the same length

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A detailed search for your  
regional representative  
according to postal code is pos-  
sible under **www.norka.de**

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# LEGAL NOTE

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