

MX PRO 1 TUNNEL

MAIN CHARACTERISTICS

Applications	Tunnel lighting.
Optic	AS-xx: Asymmetrical optics for reinforcement lighting of road tunnels. TS-xx: Symmetrical optics for reinforcement and permanent lighting of road tunnels. SV: Asymmetrical optics extra narrow beam. STE-S / STU-S: Asymmetrical narrow-emission optics. STE-M / STU-M: Asymmetrical medium emission optics. STW / STA: Asymmetrical optics wide emission. S05 / S07: Asymmetrical optics extra-wide emission. Colour temperature: 4000K (others optional) CRI≥70 LOR= 100%, DLOR= 100%, ULOR= 0% Photobiological safety class: EXEMPT GROUP LED source efficiency: 185 lm/W @ 140mA, Tj=85°C, 4000K
Insulation class	II, I
Protection degree	IP66/IP67 IK09
Dimensions	See the drawing
Weight	max 5kg (without fixing flange)
Exposed surface	Bracket A: Side: 0.024m ² - Top: 0.121m ² Bracket C: Side: 0.030m ² - Top: 0.146m ²
Mounting	Mounting with integrated bracket for universal channel or ceiling mounting. Optional: adjustable bracket for channel from 100x75mm to 300x75mm with quick release.
Tilt Angle	0°. Other inclinations on request.
LED Modules	Removable / Replaceable.
Gear tray	Tool-free opening of wiring compartment. Removable wiring.
Operating temp.	-40°C / +55°C
Storage temp	-40°C / +80°C
Main reference standards	EN 60598-1, EN 60598-2-3, EN 60598-2-5, IEC 62471, PD EPRS 003 / EN 62722-2-1 2016 EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3



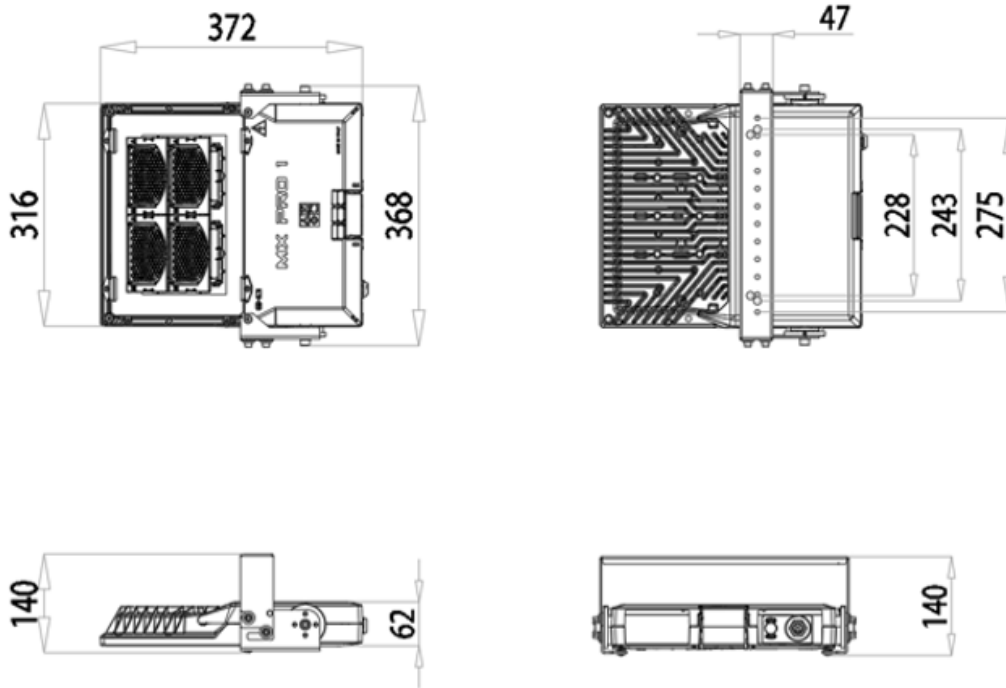
ELECTRICAL CHARACTERISTICS

Rated voltage	220+240V 50/60Hz (Standard tolerance +/-10%, other voltages and tolerances upon request)
Power factor	>0,95 (at full load - F)
Mains connection	Cable: FG16-OM16 0.6/1kV L=1.5 m (other types on request) F / ZHAGA: 2x1,5mm ² (CL.II) / 3x1,5mm ² (CL.I) DALI: 4x1,5mm ² (CL.II) / 5x1,5mm ² (CL.I) Optionally: Fireproof cable FTG18-OM16 0.6/1kV L=1.5 m Optionally: plug IEC309 2P+E 16A IP67 (other types on request) Optionally: separate Network/Control Cables: Network: 2/3x1,5mm ² / DALI: 2x1,5mm ²
Surge protection	Up to 12kV With SPD: CL.II: 10kV / 10kV CM/DM CL.I: 12kV / 10kV CM/DM Without SPD: CL.II: 10kV / 6kV CM/DM CL.I: 10kV / 6kV CM/DM
SPD (optional)	12kV-10kA, type 2+3, with LED signal and thermo fuse to disconnect load at the end of life.
Control system (options)	F: Fixed power not dimmable. DALI: Digital dimming interface DALI. ZHAGA: Socket 4 pin (ZHAGA Book 18). FLC: Constant light flux.
Optical unit lifetime (Tq=25°C)	>100.000hr L90B10 >100.000hr L90, TM-21

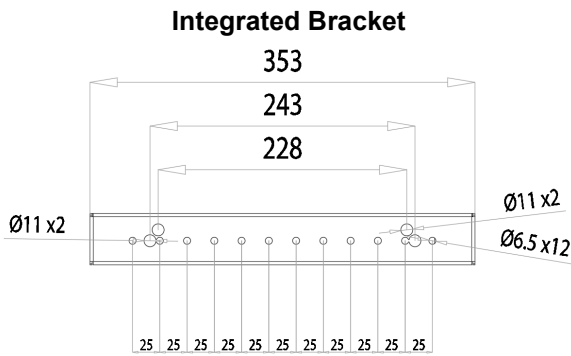
MATERIALS

Fixing	AISI 304 Stainless steel with thermoplastic galvanic insulators.
Lower frame	Die-cast aluminum UNI EN1706 powder painted.
Upper canopy	
Closure hook	Extruded aluminium with stainless steel spring.
Optic	99.85% aluminum with a surface finish in 99.95% with vacuum-sealed deposition. Aluminum grade class A+ (DIN EN 16268)
Screen	Flat tempered glass, 4mm thickness high transparency.
Cable gland	Metallic M20x1.5 / M25x1.5 - IP68
Gasket	Polyurethane without joints.
Colour	Graphite - Cod. 01

BRACKET A
DIMENSIONAL DRAWINGS

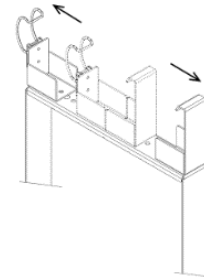


DETAIL OF FIXING BRACKETS



Bracket weight: 1 kg

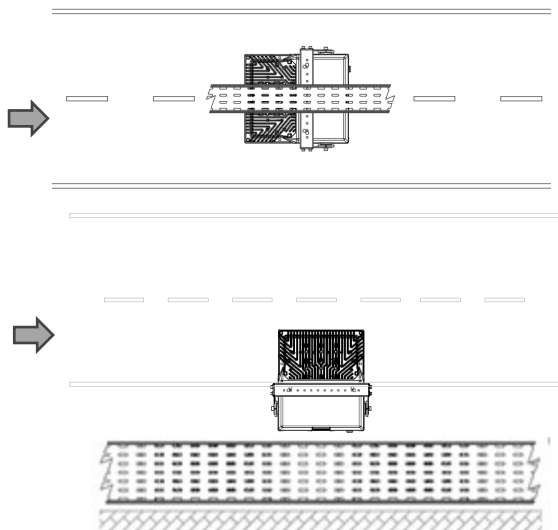
Quick Release Bracket (Option)



Accessory Weight: 1.8 kg

The bracket is supplied unmounted in the unit.

EXAMPLES OF APPLICATION



Assembly

Central channel, Offset channel
Luminaire in axis with the channel.

Optics used

AS-xx

Assembly

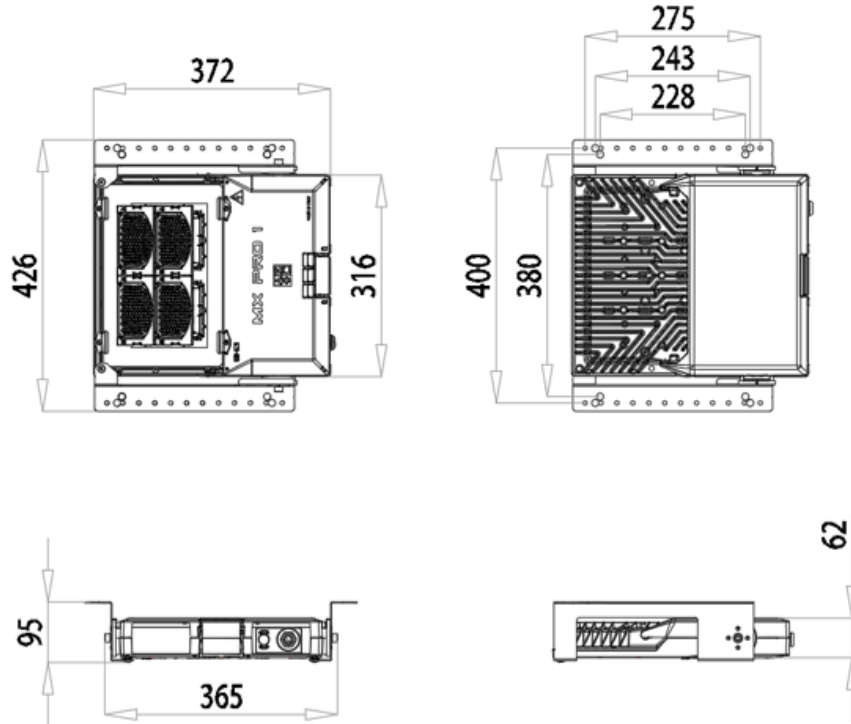
Lateral ceiling mounting.
Luminaire rotated 90°

Optics used

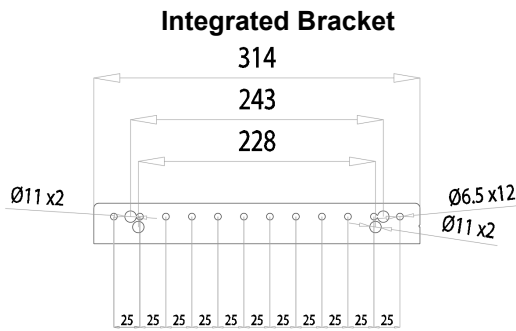
STx-x



BRACKET C
DIMENSIONAL DRAWINGS

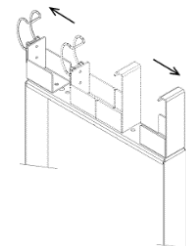


DETAIL OF FIXING BRACKETS



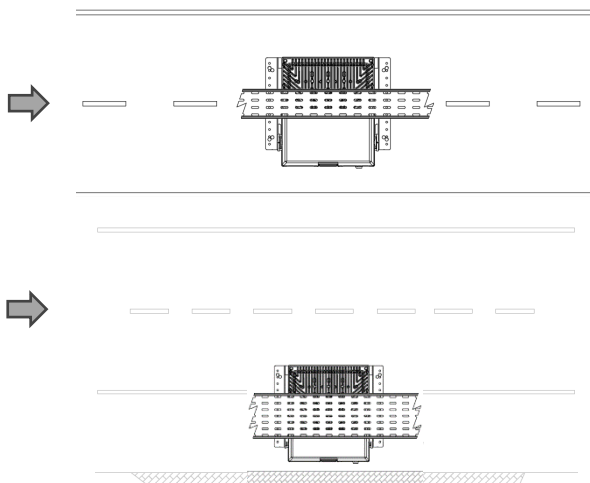
Bracket weight: 0.8 kg

Quick Release Bracket (Option)



Accessory Weight: 1.8 kg
The bracket is supplied unmounted in the unit.

EXAMPLES OF APPLICATION



Assembly
Central channel, Offset channel.
Luminaire rotated 90°.

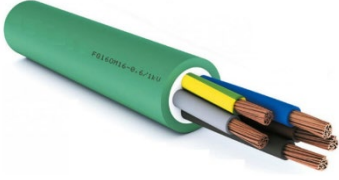
Optics used
TS-xx

Assembly
Lateral channel mounting.
Luminaire rotated by 90°.


Optics used
STx-x




EXTERNAL CABLE DETAILS

ELECTRICAL CHARACTERISTICS		SAMPLE PICTURE
Type	FG16-OM16	
Rated voltage U0/U	0,6/1kV	
Operating temperature range	Up to 90°C	
Sheath Colour	Green	
Smoke Emission	LS0H (Low-Smoke Zero Halogen)	
CPR classification	C _{ca} -s1b, d1, a1	
Outer diameter	2P 12mm – 5P 14,4mm	

FIREPROOF EXTERNAL CABLE DETAILS (Option)

ELECTRICAL CHARACTERISTICS		SAMPLE PICTURE
Type	FTG18-OM16	
Rated voltage U0/U	0,6/1kV	
Operating temperature range	Up to 90°C	
Sheath Colour	Blue	
Smoke Emission	LS0H (Low-Smoke Zero Halogen)	
CPR classification	B2 _{ca} -s1a, d1, a1	
Outer diameter	2P 12mm – 5P 14,8mm	

MAINS PLUG 2P+T DETAILS (Option)

ELECTRICAL CHARACTERISTICS		SAMPLE PICTURE
Type	IEC309 2P+T 230V 16A	
Typology	Straight Plug	
Materials	External body: Technopolymers (Halogen Free) Pins: Nickel-plated brass	
Poles	2P+T	
Tightening capacity of the cable fastener clamp	7.5 - 13.8mm	
Tightening capacity of the terminals	1-4mm ²	
Operating temperature	-25°C / +55°C	
Rated current	16A	
Protection degree	IP67	
Colour	Blue	
Dimension	130mm x Ø72mm	

Note: for only versions F, ZHAGA, DALI WITH SEPARATE CABLES (ONLY ON NETWORK CABLE)

LUMINAIRE	OPTIC	LED CURRENT (mA)	RATED LUMINAIRE FLUX* (Tq=25°C, 4000K, lm)	RATED LUMINAIRE POWER* (Tq=25°C, Vin=230Vac, F/DA/DAC, W)	LUMINAIRE EFFICACY (Tq=25°C, lm/W)	RATED LED FLUX* (Tj=85°C, 4000K, lm)	RATED LED POWER* (Tj=85°C, W)	
MX PRO 1 TUNNEL 5P5 7040.100-1M	STE-M STU-M STW SV	100	2890	19.1	151	3023	16	
MX PRO 1 TUNNEL 5P5 7040.100-2M			5790	37.4	154	6046	31.9	
MX PRO 1 TUNNEL 5P5 7040.120-1M		120	3450	22.9	150	3592	19.3	
MX PRO 1 TUNNEL 5P5 7040.120-2M			6880	44.8	153	7185	38.6	
MX PRO 1 TUNNEL 5P5 7040.120-3M			10290	65.6	156	10777	57.9	
MX PRO 1 TUNNEL 5P5 7040.140-1M			140	4000	26.8	149	4150	22.7
MX PRO 1 TUNNEL 5P5 7040.140-2M		7930		52.3	151	8299	45.4	
MX PRO 1 TUNNEL 5P5 7040.140-3M		11860		76.7	154	12449	68	
MX PRO 1 TUNNEL 5P5 7040.140-4M		15610		102	153	16598	90.7	
MX PRO 1 TUNNEL 5P5 7040.180-1M		180	5000	34.8	143	5227	29.6	
MX PRO 1 TUNNEL 5P5 7040.180-2M			9870	67.7	145	10453	59.1	
MX PRO 1 TUNNEL 5P5 7040.180-3M			14750	100	147	15680	88.7	
MX PRO 1 TUNNEL 5P5 7040.180-4M			19410	132	147	20906	118	
MX PRO 1 TUNNEL 5P5 7040.100-1M		S05 S07 STA STE-S STU-S	100	2830	19.1	148	3023	16
MX PRO 1 TUNNEL 5P5 7040.100-2M				5650	37.4	151	6046	31.9
MX PRO 1 TUNNEL 5P5 7040.120-1M			120	3370	22.9	147	3592	19.3
MX PRO 1 TUNNEL 5P5 7040.120-2M	6720			44.8	150	7185	38.6	
MX PRO 1 TUNNEL 5P5 7040.120-3M	10070			65.6	153	10777	57.9	
MX PRO 1 TUNNEL 5P5 7040.140-1M	140			3900	26.8	145	4150	22.7
MX PRO 1 TUNNEL 5P5 7040.140-2M			7760	52.3	148	8299	45.4	
MX PRO 1 TUNNEL 5P5 7040.140-3M			11600	76.7	151	12449	68	
MX PRO 1 TUNNEL 5P5 7040.140-4M			15260	102	149	16598	90.7	
MX PRO 1 TUNNEL 5P5 7040.180-1M	180		4870	34.8	139	5227	29.6	
MX PRO 1 TUNNEL 5P5 7040.180-2M			9670	67.7	142	10453	59.1	
MX PRO 1 TUNNEL 5P5 7040.180-3M			14420	100	144	15680	88.7	
MX PRO 1 TUNNEL 5P5 7040.180-4M			18980	132	143	20906	118	

LUMINAIRE	OPTIC	LED CURRENT (mA)	RATED LUMINAIRE FLUX* (Tq=25°C, 4000K, lm)	RATED LUMINAIRE POWER* (Tq=25°C, Vin=230Vac, F/DA/DAC, W)	LUMINAIRE EFFICACY (Tq=25°C, lm/W)	RATED LED FLUX* (Tj=85°C, 4000K, lm)	RATED LED POWER* (Tj=85°C, W)	
MX PRO 1 TUNNEL 5P5 7040.100-1M	AS-45M AS-45N AS-45W	100	2830	19.1	148	3023	16	
MX PRO 1 TUNNEL 5P5 7040.100-2M			5650	37.4	151	6046	31.9	
MX PRO 1 TUNNEL 5P5 7040.120-1M		120	3370	22.9	147	3592	19.3	
MX PRO 1 TUNNEL 5P5 7040.120-2M			6720	44.8	150	7185	38.6	
MX PRO 1 TUNNEL 5P5 7040.120-3M		140	140	10070	65.6	153	10777	57.9
MX PRO 1 TUNNEL 5P5 7040.140-1M				3900	26.8	145	4150	22.7
MX PRO 1 TUNNEL 5P5 7040.140-2M		7760	52.3	148	8299	45.4		
MX PRO 1 TUNNEL 5P5 7040.140-3M		11600	76.7	151	12449	68		
MX PRO 1 TUNNEL 5P5 7040.140-4M		15260	102	149	16598	90.7		
MX PRO 1 TUNNEL 5P5 7040.180-1M		180	180	4870	34.8	139	5227	29.6
MX PRO 1 TUNNEL 5P5 7040.180-2M				9670	67.7	142	10453	59.1
MX PRO 1 TUNNEL 5P5 7040.180-3M				14420	100	144	15680	88.7
MX PRO 1 TUNNEL 5P5 7040.180-4M	18980			132	143	20906	118	
MX PRO 1 TUNNEL 5P5 7040.100-1M	AS-55M AS-55N AS-55W	100	2800	19.1	146	3023	16	
MX PRO 1 TUNNEL 5P5 7040.100-2M			5590	37.4	149	6046	31.9	
MX PRO 1 TUNNEL 5P5 7040.120-1M		120	120	3340	22.9	145	3592	19.3
MX PRO 1 TUNNEL 5P5 7040.120-2M				6650	44.8	148	7185	38.6
MX PRO 1 TUNNEL 5P5 7040.120-3M		140	140	9950	65.6	151	10777	57.9
MX PRO 1 TUNNEL 5P5 7040.140-1M				3860	26.8	144	4150	22.7
MX PRO 1 TUNNEL 5P5 7040.140-2M		7670	52.3	146	8299	45.4		
MX PRO 1 TUNNEL 5P5 7040.140-3M		11470	76.7	149	12449	68		
MX PRO 1 TUNNEL 5P5 7040.140-4M		15090	102	147	16598	90.7		
MX PRO 1 TUNNEL 5P5 7040.180-1M		180	180	4820	34.8	138	5227	29.6
MX PRO 1 TUNNEL 5P5 7040.180-2M				9560	67.7	141	10453	59.1
MX PRO 1 TUNNEL 5P5 7040.180-3M				14260	100	142	15680	88.7
MX PRO 1 TUNNEL 5P5 7040.180-4M	18760			132	142	20906	118	

LUMINAIRE	OPTIC	LED CURRENT (mA)	RATED LUMINAIRE FLUX* (Tq=25°C, 4000K, lm)	RATED LUMINAIRE POWER* (Tq=25°C, Vin=230Vac, F/DA/DAC, W)	LUMINAIRE EFFICACY (Tq=25°C, lm/W)	RATED LED FLUX* (Tj=85°C, 4000K, lm)	RATED LED POWER* (Tj=85°C, W)	
MX PRO 1 TUNNEL 5P5 7040.100-1M	AS-65M AS-65N AS-65W	100	2700	19.1	141	3023	16	
MX PRO 1 TUNNEL 5P5 7040.100-2M			5390	37.4	144	6046	31.9	
MX PRO 1 TUNNEL 5P5 7040.120-1M		120	3220	22.9	140	3592	19.3	
MX PRO 1 TUNNEL 5P5 7040.120-2M			6420	44.8	143	7185	38.6	
MX PRO 1 TUNNEL 5P5 7040.120-3M			9610	65.6	146	10777	57.9	
MX PRO 1 TUNNEL 5P5 7040.140-1M		140	3720	26.8	138	4150	22.7	
MX PRO 1 TUNNEL 5P5 7040.140-2M			7410	52.3	141	8299	45.4	
MX PRO 1 TUNNEL 5P5 7040.140-3M			11070	76.7	144	12449	68	
MX PRO 1 TUNNEL 5P5 7040.140-4M			14570	102	142	16598	90.7	
MX PRO 1 TUNNEL 5P5 7040.180-1M		180	4640	34.8	133	5227	29.6	
MX PRO 1 TUNNEL 5P5 7040.180-2M			9230	67.7	136	10453	59.1	
MX PRO 1 TUNNEL 5P5 7040.180-3M			13770	100	137	15680	88.7	
MX PRO 1 TUNNEL 5P5 7040.180-4M	18120		132	137	20906	118		
MX PRO 1 TUNNEL 5P5 7040.060-2M	TS-05 TS-07 TS-A TS-ES TS-US	60	3460	23	150	3694	18.8	
MX PRO 1 TUNNEL 5P5 7040.080-2M		80	4560	30.1	151	4882	25.3	
MX PRO 1 TUNNEL 5P5 7040.100-2M		100	5650	37.4	151	6046	31.9	
MX PRO 1 TUNNEL 5P5 7040.120-2M		120	6720	44.8	150	7185	38.6	
MX PRO 1 TUNNEL 5P5 7040.140-2M		140	7760	52.3	148	8299	45.4	
MX PRO 1 TUNNEL 5P5 7040.140-4M			15260	102	149	16598	90.7	
MX PRO 1 TUNNEL 5P5 7040.180-2M		180	9670	67.7	142	10453	59.1	
MX PRO 1 TUNNEL 5P5 7040.180-4M			18980	132	143	20906	118	
MX PRO 1 TUNNEL 5P5 7040.060-2M		TS-EM TS-UM TS-V TS-W	60	3550	23	154	3694	18.8
MX PRO 1 TUNNEL 5P5 7040.080-2M			80	4680	30.1	155	4882	25.3
MX PRO 1 TUNNEL 5P5 7040.100-2M			100	5790	37.4	154	6046	31.9
MX PRO 1 TUNNEL 5P5 7040.120-2M			120	6880	44.8	153	7185	38.6

LUMINAIRE	OPTIC	LED CURRENT (mA)	RATED LUMINAIRE FLUX* (Tq=25°C, 4000K, lm)	RATED LUMINAIRE POWER* (Tq=25°C, Vin=230Vac, F/DA/DAC, W)	LUMINAIRE EFFICACY (Tq=25°C, lm/W)	RATED LED FLUX* (Tj=85°C, 4000K, lm)	RATED LED POWER* (Tj=85°C, W)
MX PRO 1 TUNNEL 5P5 7040.140-2M		140	7930	52.3	151	8299	45.4
MX PRO 1 TUNNEL 5P5 7040.140-4M			15610	102	153	16598	90.7
MX PRO 1 TUNNEL 5P5 7040.180-2M		180	9870	67.7	145	10453	59.1
MX PRO 1 TUNNEL 5P5 7040.180-4M			19410	132	147	20906	118

*RATED LUMINAIRE FLUX / RATED LUMINAIRE POWER: Rated data obtained in laboratory.

*RATED LED FLUX / RATED LED POWER: Rated data extrapolated from LED manufacturer datasheet.

Values indicated in this technical sheet are to be considered rated values. Flux tolerance: $\pm 7\%$. Power tolerance: $\pm 7\%$.

Power tolerance with ZHAGA version or power supply D4i/SR: $\pm 10\%$.

The characteristics of the product listed above are subjected to change without notice.