

SIEMENS

Ingenuity for life

Technologický manuál

Verejného osvetlenia Bratislava

Popis

Technologický manuál stanovuje všeobecné, minimálne, technické požiadavky na používané komponenty pre verejné osvetlenie mesta Bratislava.

Všetky novobudované sústavy verejného osvetlenia musia byť vyhotovené z komponentov uvedených v tomto dokumente. Návrhy osvetlenia musia spĺňať príslušné Normy a musia byť podložené svetelno-technickými výpočtami v zmysle základnej Normy STN EN 13 201.

V ojedinelých prípadoch (špeciálne situácie, historizujúce, iluminačné osvetlenie a pod.) môžu byť použité iné, vopred schválené komponenty.

Prehľad najčastejšie používaných kombinácií

Montážna výška svietidla [m]	Stožiar*	Výložník	Stožiarová elektrovýzbroj	Svietidlo*	Kód**		
4	STK 60/40/3		Guro EKM 2072, 1xE27	Streetlight 10 micro LED (28W, 4000K)	5XA5904K1B08P		
				DL® 30 LED 17W (asymmetric wide distribution)	5XA5131K1B08A2		
				DL® 30 LED 28W (asymmetric wide distribution)	5XA5131K1B08A4		
				DL® 30 LED 44W (asymmetric wide distribution)	5XA5131K1B08A5		
				DL® 30 LED 36W (symmetric wide distribution)	5XA5131R1B08A4		
				DL® 30 LED 44W (symmetric wide distribution)	5XA5131R1B08A5		
5	STK 60/50/3		Guro EKM 2072, 1xE27	Streetlight 10 mini LED (27W, 4000K)	5XA5914K1B08		
				Streetlight 10 mini LED (67W, 4000K)	5XA5914K1B08P		
6	STK 60/60/3		Guro EKM 2072, 1xE27	Streetlight 10 mini LED (27W, 4000K)	5XA5914K1B08		
				Streetlight 10 mini LED (67W, 4000K)	5XA5914K1B08P		
8	STK 60/80/3	V1(2)T-60-??-?5°(90, 180°)	Guro EKM 2035, 1xE27	Streetlight 10 midi LED (72W, 4000K)	5XA5824K1B08		
				Guro EKM 2035, 1(2)xE27	Streetlight 10 midi LED (139W, 4000K)	5XA5824K1B08P	
			Guro EKM 2035, 2xE27	OS UD 89/08	V3T-89-??-?5°(120°)	SR 100/70W	5NA552E1MS01
				OS UD 08	V4T-114-??-?5°(90°)	SR 100/100W	5NA552E1NT01
10	STK 76/100/4	V1T-76-??-?5°	Guro EKM 2035, 1xE27	Streetlight 10 midi LED (139W, 4000K)	5XA5824K1B08P		
			Guro EKM 2035, 1(2)xE27	SR 100/100W	5NA552E1NT01		
			Guro EKM 2035, 2xE27	SR 100/150W	5NA552E1PT01		
12	OS UD 12	V?T-114-??-15°	Guro EKM 2035, 1(2)xE27	Streetlight 10 midi LED (139W, 4000K)	5XA5824K1B08P		
				SR 100/100W	5NA552E1NT01		
				SR 100/150W	5NA552E1PT01		
6 (priechody pre chodcov)	STK 60/60/3	V1T-60-??-?5°	Guro EKM 2072, 1xE27	Streetlight 10 midi LED (74W, 5000K)	5XA5824D1B08		
			Guro EKM 2035, 1xE27	Streetlight 10 midi LED (139W, 5000K)	5XA5824D1B08P		
	SKV	VS-??		SR 100/150W (HCI-TT 150W)	5NA552E1PT02FR		

* Konkrétny typ svietidla nie je závislý od typu stožiara, ale iba od montážnej výšky, inak môže byť kombinácia ľubovoľná.

** Kód svietidla je iba orientačný, presný typ závisí od konkrétnej inštalácie

1(2) - Znamená "1" alebo "2"

?? - Môže predstavovať rôznu dĺžku výložníka a pod.

Katalógové listy komponentov

Stožiare a výložníky



OSVETĽOVACIE STOŽIARE LIGHTING POLES

2016 - 2017



1



KIA - Žilina



Kalvária - Banská Bystrica



AUPARK - Bratislava



ZIMNÝ ŠTADIÓN - Bratislava



festival POHODA

TECHNICKÉ A OBCHODNÉ INFORMÁCIE

ELV PRODUKT a.s. zaviedla a používa systém riadenia kvality v oblasti svojich výrobkov v zmysle normy STN EN ISO 9001 : 2009.

Výrobky sú overované Technickým a skúšobným ústavom stavebným, o čom sú vydané Certifikáty preukázania zhody. Výrobky uvedené v tomto katalógu sú prepočítané staticky aj dynamicky podľa EC3, STN EN 40-5 platnej od roku 2005 na vietor 26m/s a kategóriu terénu II.

V prípade odchýlky od štandardných podmienok uvedených v tabuľkách katalógov alebo vyššieho zaťaženia nutná konzultácia s výrobcom ešte pred zadáním objednávky.

ELV PRODUKT a.s. vyrába stožiare a doplnujúce výrobky, ktoré pokrývajú celú oblasť náročných technických aj estetických požiadaviek zákazníka. Výrobky sú zatriedené z hľadiska použitia do nasledovných skupín.

1. Osvetľovacie stožiare
2. Výškové stožiare
3. Špeciálne stožiare
4. Mestský a záhradný program
5. Stožiare pre energetiku

Ohraňované výrobky sa vyrábajú z plechu o pevnosti 370 alebo 520 MPa. Polotovary dĺžky až 12 m sa tvárni na ohraňovacom lise. Pozdĺžny zvar sa vykonáva na poloautomatickom zariadení.

Rúrové výrobky sa vyrábajú z ocelových rúr daných priemerov podľa výšky stožiara a menovitého vrcholového ťahu. Rúry sú z ocele s minimálnou pevnosťou v ťahu 350 MPa. Zváranie sa vykonáva na poloautomatickom zariadení. Prechody medzi rozdielnymi priermi rúr sa zhotovujú na redukovacom zariadení. Stožiare, ktoré sú vybavené dverným otvorom - dvierkami pre elektrickú rozvodnicu majú krytie IP43 a sú vybavené zámkom na špeciálny kľúč.

Stožiare a ostatné výrobky sú žiarovo zinkované podľa STN EN ISO 1461 alebo natreté základným náterom.

Výskyt tmavších alebo svetlejších plôch (napr. pórovitá štruktúra alebo tmavo sivé plochy) alebo nejakých povrchových nerovností nie je dôvodom na reklamáciu. Tvorba škvrn za vlhka, najmä škvrn na báze oxidu zinočnatého (ktoré vznikajú po ponornom žiarovom zinkovaní pri skladovaní vo vlhkých podmienkach) nie je dôvodom na reklamáciu za predpokladu, že hrúbka povlaku zostáva väčšia ako jej určená minimálna hodnota.

Pre odberateľov ponúkame aj stožiare žiarovo zinkované s farebným náterom.

Osobitnú skupinu tvoria betónové stožiare vyrobené z predpätého betónu podľa podnikovej normy energetiky PNE 348220 a EC2.

Tolerancie pre D, D1, Lc, betónových stožiarov podľa STN EN 12843. Skutočné hmotnosti betónových stožiarov sú v rozmedzí cca. -5% +10%. Hmotnosti ocelových stožiarov sú stanovené výpočtom a sú uvedené bez povrchovej úpravy, po zinkovaní sa hmotnosť zvyšuje cca o 10%.

Zvláštne požiadavky odberateľov sa kalkulujú individuálne.

V súlade s prebiehajúcim vývojom si výrobca vyhradzuje právo zmeny v technických riešeniach. Výrobca nezodpovedá za škody spôsobené nevhodným použitím, alebo zaťažením stožiarov. Akékoľvek zmeny oproti štandardnému riešeniu treba konzultovať s výrobcom.

Výrobky sa vyrábajú a dodávajú v zmysle Všeobecných technických a dodacích podmienok.

TECHNICAL AND COMMERCIAL INFORMATION

ELV PRODUKT a.s. has implemented and applies Quality Management System in conformity with the norm STN EN ISO 9001 : 2009.

Products are tested by the Building Testing and Research Institute as evidenced by the issued Certificates of Conformity.

Products from this catalogue have been statically and dynamically calculated in compliance with EC3, STN EN 40-5 valid from 2005 for wind 26m/s and terrain category II.

In case of conditions other than those stated in this catalogue for standard products or in case if higher loading is required, a customer must consult the changes with the producer prior to placing an order.

ELV PRODUKT a.s. produces poles and complementary products meeting very demanding technical and aesthetical requirements of the customers. Products have been sorted according to their application into the following groups:

1. Lighting poles
2. High-Rise poles
3. Special poles
4. City and Garden program
5. Poles for power distribution

Bended products are made of steel sheets with the strength of 370 or 520 MPa. Semi-product up to 12m height is shaped on Press Brakes. Longitudinal welding is performed on semi-automatic equipment.

Tubular products are made of steel pipes with nominal diameters according to the height of poles and nominal top pulling force. Tubes are made of steel with minimum tensile strength of 350 MPa. Welding is performed on a semi-automatic equipment. Transitions between different diameters of tubes are performed on a reducing equipment. Poles are equipped with the doors for electric switch board. The doors have protection IP43 and they are equipped with a lock for a special key. Poles and other products are hot dip galvanized according to STN EN ISO 1461 or painted.

The occurrence of darker or lighter areas (e.g. cellular pattern or dark grey areas) or some surface unevenness shall not be a cause for claim. The development of wet storage staining, primarily basic zinc oxide (formed during storage in humid conditions after hot dip galvanizing), shall not be a cause for claim, providing the coating thickness remains above the specified minimum value. We also offer our customers the poles with paint-over-galvanized finish.

A separate group is represented by concrete poles according to STN EN 12843. Actual weights of concrete poles are within the limits of -5% +10%. Weights of steel poles are calculated and are given without surface finish. After hot dip galvanization, the weight may increase by up to 10%.

Special requirements will be analyzed individually.

Consistent with the ongoing development producer reserves the right to change technical solutions. The producer does not bear any responsibility for damages caused by inappropriate use or improper loading of poles. Any changes from the standard solution must be consulted with the producer.

Products are produced and delivered in accordance with General Technical and Delivery Conditions.

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OLYMPIA - BRNO



AQUAPARK - LIPTOVSKÝ MIKULÁŠ

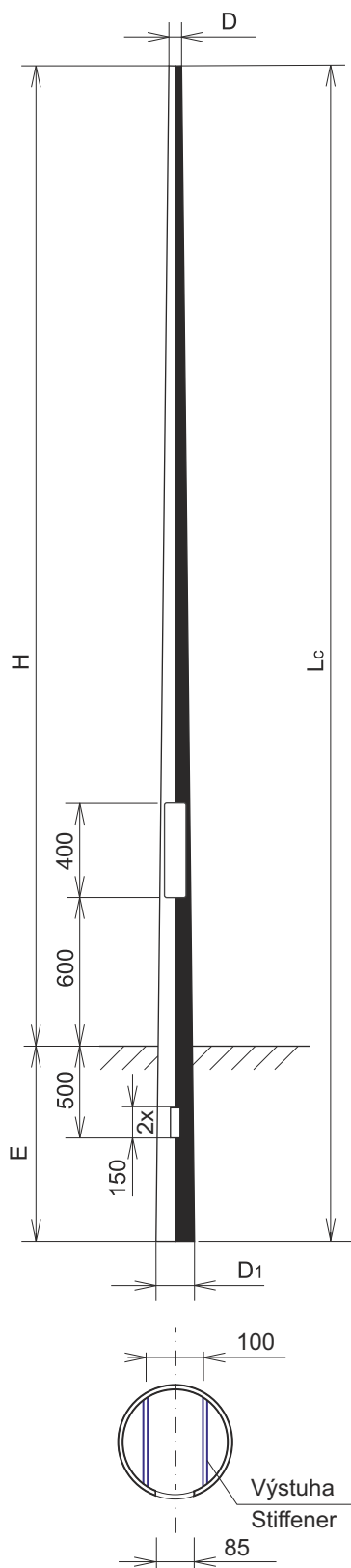


NITRA



SENEC

STOŽIARE KUŽEL'OVÉ CONICAL POLES



Typ/Type	Kuželovitost' /Conicity	H (m)	E (m)	Lc (m)	D (mm)	D1 (mm)	Zaťaženie na vrchole / Loading on top		M (kNm)	kg
							**Plocha(m ²)	*Hmotnosť(kg)		
STK 60/40/3K14	K14	4	0,8	4,8	60	127	0,70	70	2,46	34
STK 60/50/3K14	K14	5	0,8	5,8	60	141	0,75	75	3,64	45
STK 60/60/3	K10	6	1,0	7,0	60	130	0,40	40	2,91	48
STK 60/70/3	K10	7	1,0	8,0	60	140	0,35	35	3,46	59
STK 60/80/3	K10	8	1,2	9,2	60	152	0,75	75	7,37	73
STK 60/90/3	K10	9	1,4	10,4	60	164	0,73	70	8,74	87
STK 60/100/3	K10	10	1,5	11,5	60	175	0,69	65	10,0	101
STK 76/30/3K14	K14	3	0,7	3,7	76	128	1,30	110	2,91	28
STK 76/40/3K14	K14	4	0,8	4,8	76	143	1,20	110	4,06	38
STK 76/50/3K14	K14	5	0,8	5,8	76	157	1,20	110	5,59	48
STK 76/60/3	K10	6	1,0	7,0	76	146	0,68	65	4,54	57
STK 76/60/3K14	K14	6	1,0	7,0	76	174	1,10	100	6,79	63
STK 76/70/3	K10	7	1,0	8,0	76	156	0,58	55	5,16	68
STK 76/70/3K14	K14	7	1,0	8,0	76	188	0,98	95	7,81	76
STK 76/80/3	K10	8	1,2	9,2	76	168	0,50	50	5,84	83
STK 76/80/3K14	K14	8	1,2	9,2	76	205	0,89	85	8,96	93
STK 76/90/3	K10	9	1,4	10,4	76	180	0,42	40	6,48	98
STK 76/90/3K14	K14	9	1,4	10,4	76	222	0,81	80	10,2	111
STK 76/90/4	K10	9	1,4	10,4	76	180	0,80	80	9,79	129
STK 76/90/4K14	K14	9	1,4	10,4	76	222	1,44	110	15,7	147
STK 76/100/3	K10	10	1,5	11,5	76	191	0,90	90	12,7	115
STK 76/100/3K14	K14	10	1,5	11,5	76	237	0,75	75	11,6	130
STK 76/100/4	K10	10	1,5	11,5	76	191	1,40	110	17,6	151
STK 76/100/4K14	K14	10	1,5	11,5	76	237	1,37	110	17,8	172
STK 89/70/3	K10	7	1,0	8,0	89	169	0,82	80	6,87	78
STK 89/70/3K14	K14	7	1,0	8,0	89	201	1,27	110	9,84	83
STK 89/80/3	K10	8	1,2	9,2	89	181	0,70	70	7,61	92
STK 89/80/3K14	K14	8	1,2	9,2	89	218	1,13	110	10,8	102
STK 89/80/4	K10	8	1,2	9,2	89	181	1,20	110	11,3	120
STK 89/80/4K14	K14	8	1,2	9,2	89	218	1,75	110	15,7	135
STK 89/90/3	K10	9	1,4	10,4	89	193	0,60	60	8,4	107
STK 89/90/3K14	K14	9	1,4	10,4	89	235	1,00	100	12,2	121
STK 89/90/4	K10	9	1,4	10,4	89	193	1,10	100	12,7	142
STK 89/90/4K14	K14	9	1,4	10,4	89	235	1,63	110	17,7	161

M - max. klopný moment vo votknutí/kotvení
M - max. overturning moment at embedding/anchoring

Manžeta sa vyrába len na žiadosť zákazníka.
Collar - on customer's request only.

** Zaťažujúca plocha výložníka a svetidla v m²
* Hmotnosť zaťaženia na vrchole kg

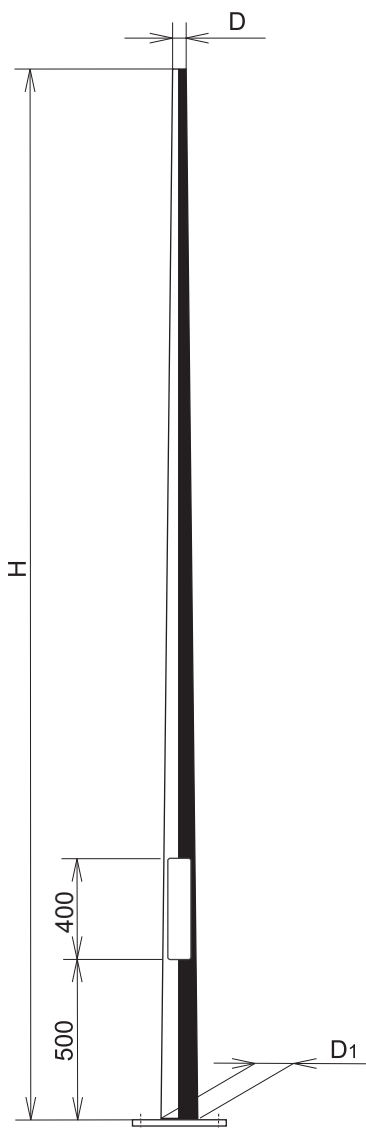
** Bracket and floodlight loading in m²
* Loading weight on top of a pole in kg

DVIERKA : 85 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 150

DOOR: 85 x 400 INSERTED
CABLE HOLE: 50 x 150

STOŽIARE KUŽEL'OVÉ S PRÍRUBOU

CONICAL POLES WITH FLANGE



Typ/Type	Kuželovitost' /Conicity	H (m)	D (mm)	D1 (mm)	Zaťaženie na vrchole/ Loading on top		M (kNm)	kg	Základový rošt/ Grillage base
					**Plocha(m²)	*Hmotnosť(kg)			
STK 60/40/3PK14	K14	4	60	116	0,70	70	2,46	33	ZR-1-5
STK 60/50/3PK14	K14	5	60	130	0,75	75	3,64	41	ZR-1-5
STK 60/60/3P1	K10	6	60	120	0,40	40	2,91	47	ZR-1-5
STK 60/70/3P1	K10	7	60	130	0,35	35	3,46	58	ZR-1-5
STK 60/80/3P1	K10	8	60	140	0,75	75	7,37	69	ZR-1-5
STK 60/90/3P1	K10	9	60	150	0,73	70	8,74	79	ZR-1-5
STK 60/100/3P1	K10	10	60	160	0,69	65	10,0	91	ZR-1-5
STK 76/30/3P1K14	K14	3	76	118	1,30	110	2,91	28	ZR-1-5
STK 76/40/3P1K14	K14	4	76	132	1,20	110	4,06	37	ZR-1-5
STK 76/50/3P1K14	K14	5	76	146	1,20	110	5,59	47	ZR-1-5
STK 76/60/3P1	K10	6	76	136	0,68	65	4,54	54	ZR-1-5
STK 76/60/3P1K14	K14	6	76	160	1,10	100	6,79	62	ZR-1-5
STK 76/70/3P1	K10	7	76	146	0,58	55	5,16	65	ZR-1-5
STK 76/70/3P1K14	K14	7	76	174	0,98	95	7,81	74	ZR-1-5
STK 76/80/3P1	K10	8	76	156	0,50	50	5,84	76	ZR-1-5
STK 76/80/3P1K14	K14	8	76	188	0,89	85	8,96	86	ZR-1-5
STK 76/90/3P1	K10	9	76	166	0,42	40	6,48	87	ZR-1-5
STK 76/90/3P1K14	K14	9	76	202	0,81	80	10,2	100	ZR-1-5
STK 76/90/4P1	K10	9	76	166	0,80	80	9,79	113	ZR-1-5
STK 76/90/4P1K14	K14	9	76	202	1,44	110	15,7	129	ZR-1-5
STK 76/100/3P1	K10	10	76	176	0,90	90	12,7	102	ZR-1-5
STK 76/100/3P1K14	K14	10	76	216	0,75	75	11,6	115	ZR-1-5
STK 76/100/4P	K10	10	76	176	1,40	110	17,6	141	ZR-2-12
STK 76/100/4PK14	K14	10	76	216	1,37	110	17,8	154	ZR-2-12
STK 76/110/3P1	K10	11	76	186	0,82	80	13,9	115	ZR-1-5
STK 76/110/3P1K14	K14	11	76	230	0,70	65	13,2	129	ZR-1-5
STK 76/110/4P	K10	11	76	186	1,30	110	19,3	158	ZR-2-12
STK 76/110/4PK14	K14	11	76	230	1,30	110	19,9	174	ZR-2-12
STK 76/120/3P	K10	12	76	196	0,73	70	15,1	140	ZR-2-12
STK 76/120/3P1K14	K14	12	76	244	0,64	60	14,7	147	ZR-1-5
STK 76/120/4P	K10	12	76	196	1,20	110	21	176	ZR-2-12
STK 76/120/4PK14	K14	12	76	244	1,25	110	22,4	197	ZR-2-12
STK 89/70/3P1	K10	7	89	159	0,82	80	6,87	71	ZR-1-5
STK 89/70/3P1K14	K14	7	89	187	1,27	110	9,84	80	ZR-1-5
STK 89/80/3P1	K10	8	89	169	0,70	70	7,61	84	ZR-1-5
STK 89/80/3P1K14	K14	8	89	201	1,13	110	10,8	94	ZR-1-5
STK 89/80/4P1	K10	8	89	169	1,20	110	11,3	107	ZR-1-5
STK 89/80/4P1K14	K14	8	89	201	1,75	110	15,7	120	ZR-1-5
STK 89/90/3P1	K10	9	89	179	0,60	60	8,4	96	ZR-1-5
STK 89/90/3P1K14	K14	9	89	215	1,00	100	12,2	108	ZR-1-5
STK 89/90/4P1	K10	9	89	179	1,10	100	12,7	124	ZR-1-5
STK 89/90/4PK14	K14	9	89	215	1,63	110	17,7	145	ZR-2-12
STK 89/100/3P1	K10	10	89	189	0,52	50	9,32	109	ZR-1-5
STK 89/100/3P1K14	K14	10	89	229	0,95	90	14	124	ZR-1-5
STK 89/100/4P1	K10	10	89	189	1,00	100	14,1	141	ZR-1-5
STK 89/100/4PK14	K14	10	89	229	1,52	110	19,7	166	ZR-2-12
STK 89/110/4PK14	K10	11	89	243	1,43	110	21,9	190	ZR-2-12
STK 89/110/3P1K14	K14	11	89	243	0,87	85	15,6	140	ZR-1-5

M - max. klopňý moment vo votknúti/kotvení
M - max. overturning moment at embedding/anchoring

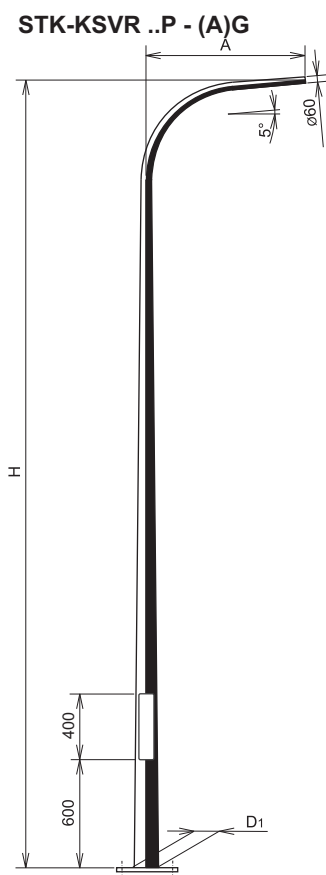
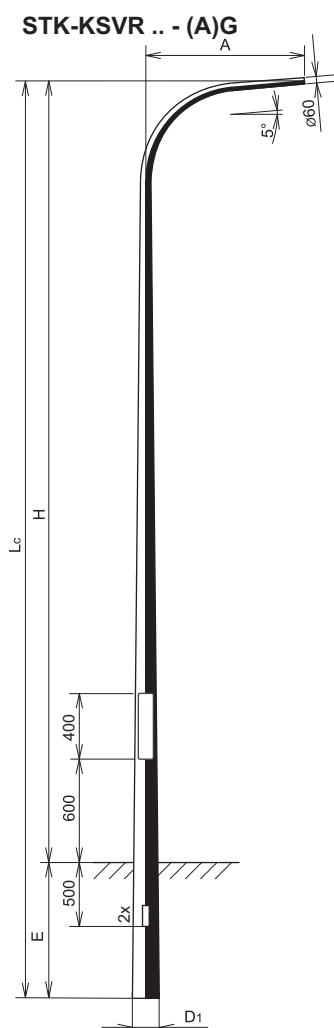
DVIERKA : 85 x 400 ZAPUSTENÉ
DOOR: 85 x 400 INSERTED

ZÁKLADOVÝ ROŠT: str. 29
GRILLAGE BASE: page 29

** Zaťažujúca plocha výložníka a svetidla v m²
* Hmotnosť zaťaženia na vrchole kg

** Bracket and floodlight loading in m²
* Loading weight on top of a pole in kg

STOŽIARE KUŽEL'OVÉ VÝLOŽNÍKOVÉ - TYP G CONICAL POLES WITH BRACKET - TYPE G



DVIERKA : 85 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 150

Manžeta sa vyrába len na žiadosť zákazníka.
Collar - on customer's request only.

DOOR: 85 x 300 INSERTED
CABLE HOLE: 50 x 150

ZÁKLADOVÝ ROŠT: str. 29
GRILLAGE BASE: page 29

Typ/Type	H(m)	D1(mm)	A=1000				A=1500				Základový rošt/ Grillage base	
			Zaťaž. na vrchole/ **Plocha(m ²)	Načítanosť (kg)	M(kN.m)	kg	Zaťaž. na vrchole/ **Plocha(m ²)	Načítanosť (kg)	M(kN.m)	kg		
STK-KSVR 50P-(A)G	5	116	0,20	20	1,37	41	116	0,20	20	1,45	44	ZR 1- 5
STK-KSVR 60P-(A)G	6	130	0,20	20	1,89	47	130	0,20	20	1,98	49	ZR 1- 5
STK-KSVR 70P-(A)G	7	120	0,20	20	2,43	58	120	0,20	20	2,55	60	ZR 1- 5
STK-KSVR 80P-(A)G	8	130	0,20	20	3,10	67	130	0,20	20	3,24	69	ZR 1- 5
STK-KSVR 90P-(A)G	9	140	0,20	20	3,87	76	140	0,20	20	4,04	79	ZR 1- 5

Typ/Type	H(m)	E(m)	Lc(m)	D1(mm)	A=1000				A=1500				
					Zaťaž. na vrchole/ **Plocha(m ²)	Načítanosť (kg)	M(kN.m)	kg	Zaťaž. na vrchole/ **Plocha(m ²)	Načítanosť (kg)	M(kN.m)	kg	
STK-KSVR 50-(A)G	5	0,8	5,8	127	0,20	20	1,37	42	127	0,20	20	1,45	43
STK-KSVR 60-(A)G	6	0,8	6,8	141	0,20	20	1,89	47	141	0,20	20	1,98	49
STK-KSVR 70-(A)G	7	1,0	8,0	130	0,20	20	2,43	58	130	0,20	20	2,55	60
STK-KSVR 80-(A)G	8	1,0	9,0	140	0,20	20	3,10	67	140	0,20	20	3,24	70
STK-KSVR 90-(A)G	9	1,2	10,2	152	0,20	20	3,87	80	152	0,20	20	4,04	83

** Zaťažujúca plocha výložníka a svetidla v m²

* Hmotnosť zaťaženia na vrchole v kg

M - max. klopňý moment vo votknutí/kotvení

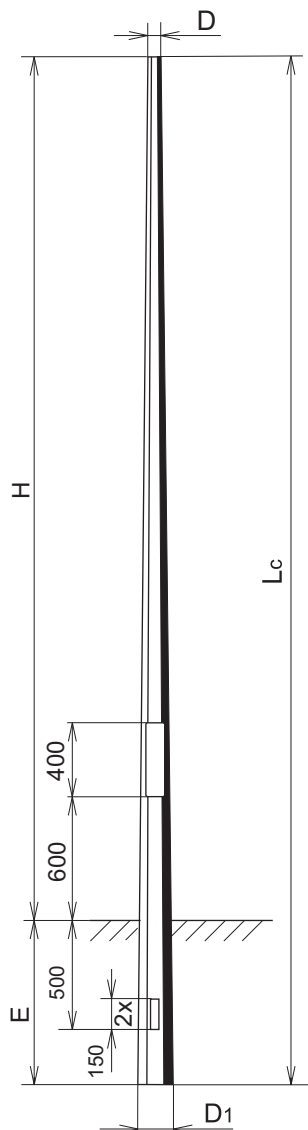
M - max. overturning moment at embedding/anchoring

** Bracket and floodlight loading in m²

* Loading weight on top of a pole in kg

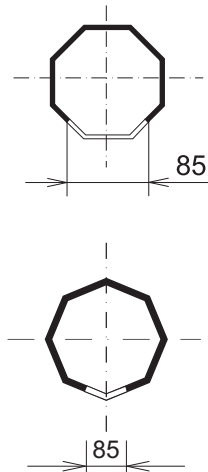
STOŽIARE IHLANOVÉ OSEMHRANNÉ

CONICAL OCTAGONAL POLES

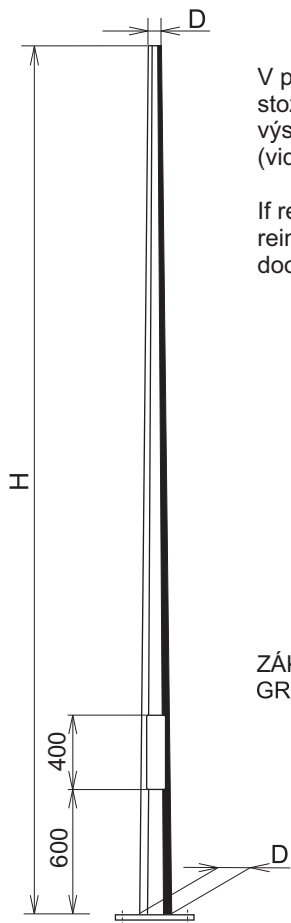


Manžeta sa vyrába len na žiadosť zákazníka.

Collar - on customer's request only.



Pre D1= 200; 240
For D1= 200; 240



V prípade potreby zosilnenia stožiara je možné ho vystužiť výstuhami vo dvierkach (viď. strana 6).

If required, poles can be reinforced by stiffening of the door opening (see page 6).

ZÁKLADOVÝ ROŠŤ: str. 29
GRILLAGE BASE: page 29

DVIERKA: 85 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 150
DOOR: 85 x 400 INSERTED
CABLE HOLE: 50 x 150

Typ/Type	H (m)	D (mm)	D1 (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg	Zákl.rošť/Grillage base
				**Plocha (m²)	*Hmotnosť (kg)			
STO 60/30/3P	3	60	156	1,60	80	3,70	29	ZR 1-5
STO 60/40/3P	4	60	156	1,30	80	4,69	37	ZR 1-5
STO 60/50/3P	5	60	156	1,00	80	5,29	45	ZR 1-5
STO 60/60/3P1	6	60	156	0,70	60	5,46	54	ZR 1-5
STO 60/70/3P1	7	60	156	0,50	50	5,79	62	ZR 1-5
STO 60/80/3P1	8	60	180	0,55	50	8,00	76	ZR 1-5
STO 60/90/3P1	9	60	180	0,42	30	8,74	84	ZR 1-5
STO 60/100/3P1	10	60	220	0,42	30	11,49	107	ZR 1-5

** Zaťažujúca plocha výložníka a svietidla v m²

* Hmotnosť zaťaženia na vrchole kg

** Bracket and floodlight loading in m²

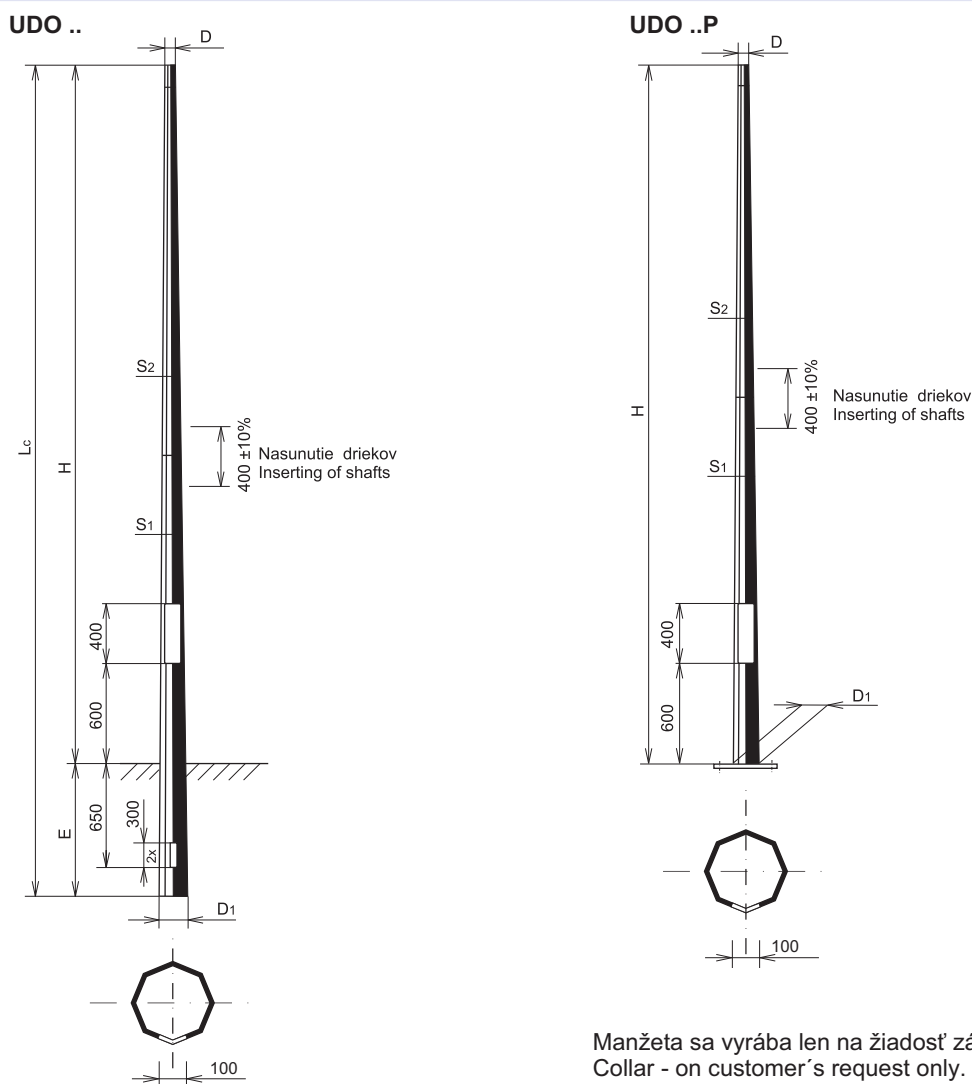
* Loading weight on top of a pole in kg

M - max. klopný moment vo votknutí/kotvení

Typ/Type	H (m)	E (m)	Lc (m)	D (mm)	D1 (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg
						**Plocha (m²)	*Hmotnosť (kg)		
STO 60/30/3	3,0	0,7	3,7	60	156	1,30	80	3,05	29
STO 60/40/3	4,0	0,7	4,7	60	156	1,00	70	3,74	37
STO 60/50/3	5,0	0,8	5,8	60	156	0,80	70	4,42	45
STO 60/60/3	6,0	1,0	7,0	60	156	0,55	60	4,61	54
STO 60/70/3	7,0	1,0	8,0	60	156	0,42	35	5,17	62
STO 60/80/3	8,0	1,5	9,5	60	180	0,42	35	6,79	82
STO 60/90/3	9,0	1,5	10,5	60	200	0,42	30	8,74	98
STO 60/100/3	10,0	1,5	11,5	60	240	0,42	30	11,42	124

M - max. overturning moment at embedding/anchoring

STOŽIARE ULIČNO-DIAL'NIČNÉ POLES FOR ROADS AND HIGHWAYS



Manžeta sa vyrába len na žiadosť zákazníka.
Collar - on customer's request only.

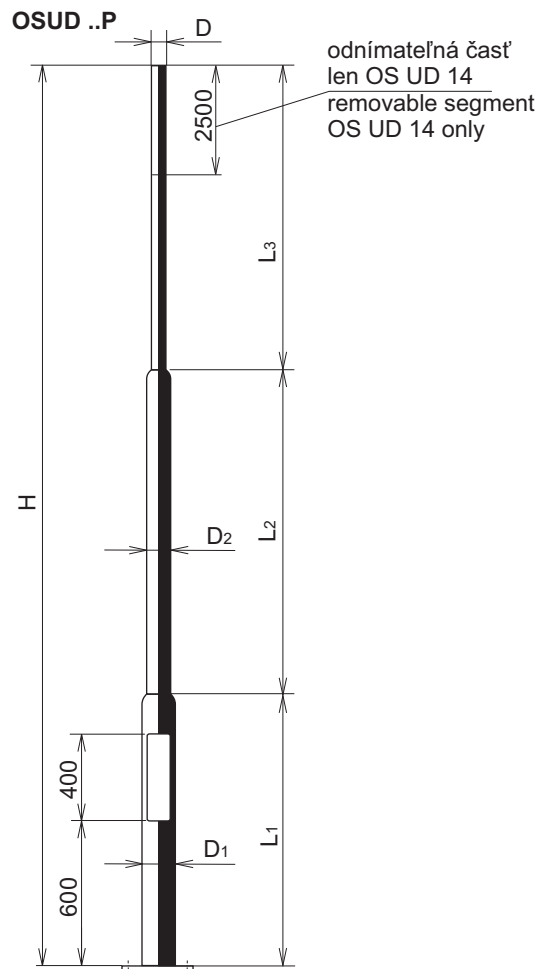
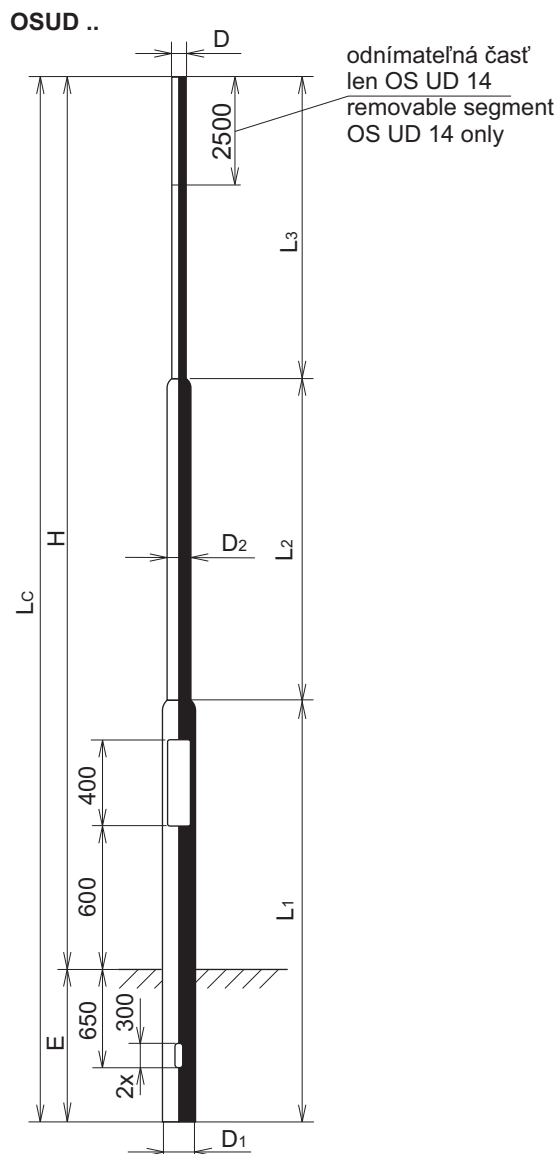
DVIERKA : 100 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 300 - 2x
DOOR: 100 x 400 INSERTED
CABLE HOLE: 50 x 300 - 2x

ZÁKLADOVÝ ROŠT: str. 29
GRILLAGE BASE: page 29
M - max. klopný moment vo votknutí/kotvení
M - max. overturning moment at embedding/anchoring

Typ/Type	H(m)	D(mm)	D1(mm)	S1(mm)	S2(mm)	Zaťaž. na vrchole/Loading on top		M (kN.m)	kg	Základový rošt/ Grillage base
						**Plocha(m²)	*Hmotnosť (kg)			
UDO - 08P	8	89	220	3	-	1,80	90	22,36	112	ZR-2-12
UDO - 10P	10	89	220	3	-	1,30	90	21,49	134	ZR-2-12
UDO - 12P1	12	114	275	3	-	0,98	90	28,64	191	ZR-2-12
UDO - 14P	14	114	275	4	3	1,00	100	38,39	279	ZR-3-15
UDO - 16P	16	114	295	4	3	1,20	110	54,15	338	ZR-3-15
UDO - 18P1	18	114	340	4	3	1,20	110	71,11	438	ZR-4-20

Typ/Type	H (m)	E (m)	Lc (m)	D(mm)	D1(mm)	S1(mm)	S2(mm)	Zaťaž. na vrchole/Loading on top		M (kN.m)	kg
								**Plocha(m²)	*Hmotnosť (kg)		
UDO - 08	8	1,5	9,5	89	220	3	-	1,60	90	19,09	110
UDO - 10	10	1,5	11,5	89	220	3	-	1,10	90	19,93	132
UDO - 12	12	1,5	13,5	114	275	3	3	0,85	90	26,43	200
UDO - 14	14	1,5	15,5	114	275	4	3	0,80	90	34,62	271
UDO - 16	16	1,8	17,8	114	295	4	3	0,90	100	47,58	335
UDO - 18	18	1,8	19,8	114	340	4	3	0,90	100	65,08	415

STOŽIARE ULIČNO-DIAL'NIČNÉ OSUD POLES FOR ROADS AND HIGHWAYS OSUD



DVIERKA:
OTVOR PRE KÁBEL

DOOR:
CABLE HOLE:

120 x 400
50 x 300

120 x 400
50 x 300

ZAPUSTENÉ
-2x

INSERTED
-2x

Manžeta sa vyrába len na žiadosť zákazníka.
Collar - on customer's request only.

ZÁKLADOVÝ ROŠŤ:
GRILLAGE BASE:

M - max. klopný moment vo votknutí/kotvení
M - max. overturning moment at embedding/anchoring

Typ/Type	H (m)	L1 (m)	L2 (m)	L3 (m)	D (mm)	D1 (mm)	D2 (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg	Základový rošť/Grillage base
								**Plocha (m ²)	*Hmotnosť (kg)			
OS UD 8P1	8	2,0	2,5	3,5	114	219	159	1,59	100	14,65	161	ZR 2-12
OS UD 10P1	10	2,0	3,5	4,5	114	219	159	0,99	85	14,36	188	ZR 2-12
OS UD 12P1	12	2,0	5,0	5,0	114	219	159	0,76	50	16,40	219	ZR 2-12
OS UD 14P1	14	2,0	7,0	5,0	114	219	159	0,45	50	16,81	253	ZR 2-12

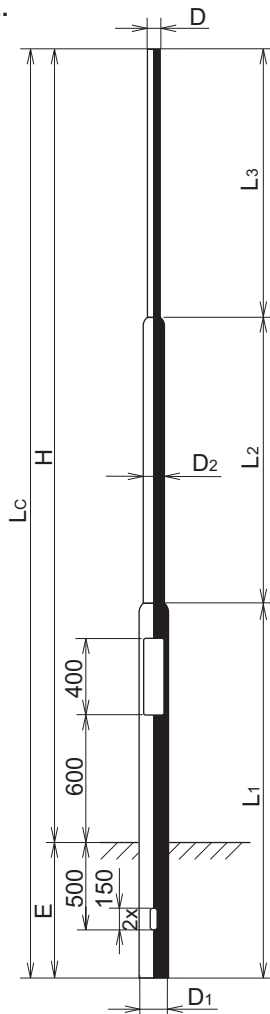
Typ/Type	H (m)	E (m)	Lc (m)	L1 (m)	L2 (m)	L3 (m)	D (mm)	D1 (mm)	D2 (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg
										**Plocha (m ²)	*Hmotnosť (kg)		
OS UD 8	8	1,5	9,5	3,5	2,5	3,5	114	219	159	1,59	100	14,65	192
OS UD 10	10	1,5	11,5	3,5	3,5	4,5	114	219	159	0,99	85	14,36	220
OS UD 12	12	1,5	13,5	3,5	5,0	5,0	114	219	159	0,76	50	16,40	250
OS UD 14	14	1,5	15,5	3,5	7,0	5,0	114	219	159	0,45	50	16,81	285

** Zaťažujúca plocha výložníka a svetidla v m²
* Hmotnosť zaťaženia na vrchole kg

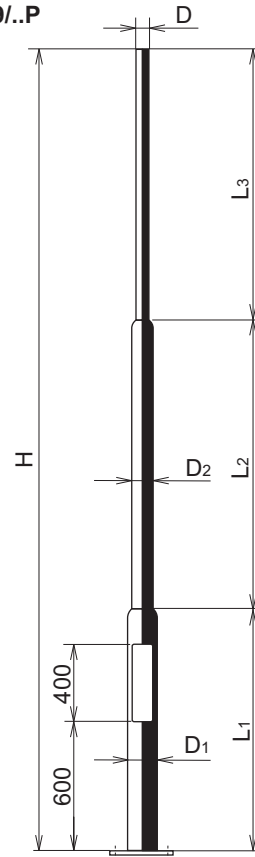
** Bracket and floodlight loading in m²
* Loading weight on top of a pole in kg

STOŽIARE ULIČNO-DIAL'NIČNÉ OSUD 89 POLES FOR ROADS AND HIGHWAYS OSUD 89

OSUD 89/..



OSUD 89/..P



DVIERKA : 90 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 150 - 2x

DOOR: 90 x 400 INSERTED
CABLE HOLE: 50 x 150 - 2x

Manžeta sa vyrába len na žiadosť zákazníka.
Collar - on customer's request only.

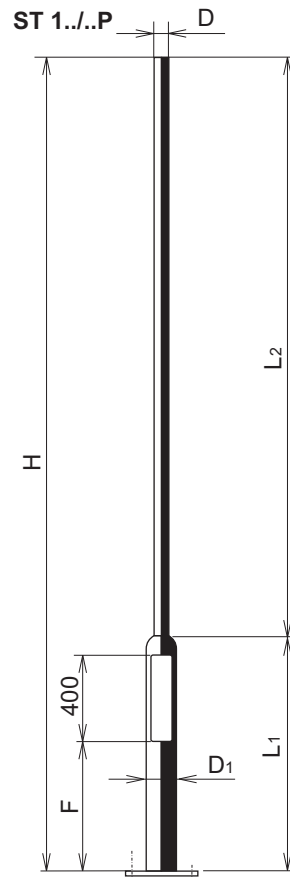
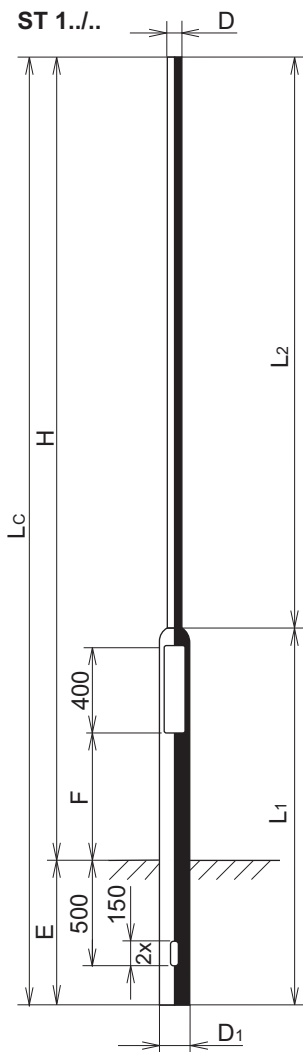
M - max. klopný moment vo votknutí/kotvení
M - max. overturning moment at embedding/anchoring

ZÁKLADOVÝ ROŠŤ: str. 29
GRILLAGE BASE: page 29

Typ/Type	H (m)	L1 (m)	L2 (m)	L3 (m)	D (mm)	D1 (mm)	D2 (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg	Základový rošt/Grillage base
								**Plocha (m ²)	*Hmotnosť (kg)			
OS UD 89/06P1	6	1,5	2,5	2,0	89	159	114	1,25	100	7,57	76	ZR 1-5
OS UD 89/07P1	7	1,5	2,5	3,0	89	159	114	0,90	90	7,20	83	ZR 1-5
OS UD 89/08P1	8	2,0	2,5	3,5	89	159	114	0,68	65	7,17	96	ZR 1-5
OS UD 89/09P1	9	2,0	2,5	4,5	89	159	114	0,47	45	6,75	104	ZR 1-5
OS UD 89/10P1	10	2,0	3,0	5,0	89	159	114	0,35	35	6,85	112	ZR 1-5
OS UD 89/12P1	12	2,0	5,0	5,0	89	159	133	0,35	35	9,90	164	ZR 1-5

Typ	H (m)	E (m)	Lc (m)	L1 (m)	L2 (m)	L3 (m)	D (mm)	D1 (mm)	D2 (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg
										**Plocha (m ²)	*Hmotnosť (kg)		
OS UD 89/06	6	1,2	7,2	2,5	2,5	2,2	89	159	114	1,20	100	7,29	85
OS UD 89/07	7	1,2	8,2	2,5	2,5	3,2	89	159	114	0,85	80	6,86	92
OS UD 89/08	8	1,5	9,5	3,5	2,5	3,5	89	159	114	0,68	65	7,17	112
OS UD 89/09	9	1,5	10,5	3,5	2,5	4,5	89	159	114	0,47	45	6,75	120
OS UD 89/10	10	1,5	11,5	3,5	3,0	5,0	89	159	114	0,35	35	6,85	128
OS UD 89/12	12	1,5	13,5	3,5	5,0	5,0	89	159	133	0,35	35	9,90	184

STOŽIARE RÚROVÉ ST1 TUBULAR POLES ST1



DVIERKA : 85 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 150

DOOR: 85 x 400 INSERTED
CABLE HOLE: 50 x 150

Manžeta sa vyrába len na žiadosť zákazníka.
Collar - on customer's request only.

M - max. klopný moment vo votknutí/kotvení
M - max. overturning moment at embedding/anchoring

ZÁKLADOVÝ ROŠŤ: str. 29
GRILLAGE BASE: page 29

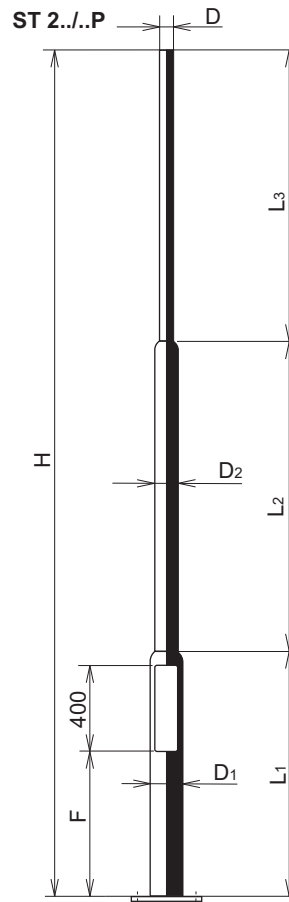
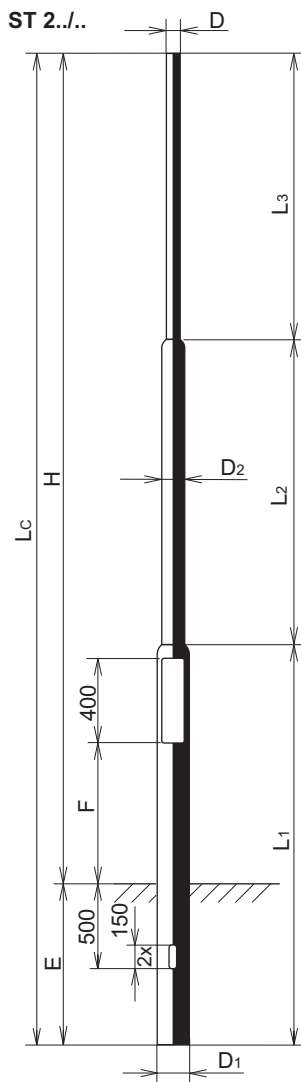
Typ/Type	H (m)	L1 (m)	L2 (m)	D (mm)	D1 (mm)	F (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg	Základový rošť/Grillage base
							**Plocha (m ²)	*Hmotnosť (kg)			
ST130/60P	3	1,0	2,0	60	114	500	0,85	80	1,89	25	ZR 1-5
ST140/60P	4	1,5	2,5	60	114	500	0,60	65	2,08	32	ZR 1-5
ST150/60P	5	1,5	3,5	60	114	600	0,36	30	1,86	36	ZR 1-5
ST160/60P	6	2,0	4,0	60	114	600	0,22	25	2,48	43	ZR 1-5
ST170/60P	7	2,0	5,0	60	114	600	0,10	15	2,53	47	ZR 1-5

Typ/Type	H (m)	E (m)	Lc (m)	L1 (m)	L2 (m)	D (mm)	D1 (mm)	F (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg
									**Plocha (m ²)	*Hmotnosť (kg)		
ST130/60	3	0,7	3,7	1,5	2,2	60	114	300	0,70	70	1,58	24
ST140/60	4	0,7	4,7	2,0	2,7	60	114	300	0,55	60	1,92	31
ST150/60	5	0,8	5,8	2,0	3,8	60	114	600	0,30	30	1,61	36
ST160/60	6	1,0	7,0	3,0	4,0	60	114	600	0,22	25	2,48	45
ST170/60	7	1,0	8,0	3,0	5,0	60	114	600	0,10	15	2,53	51

** Zaťažujúca plocha výložníka a svetidla v m²
* Hmotnosť zaťaženia na vrchole v kg

** Bracket and floodlight loading in m²
* Loading weight on top of a pole in kg

STOŽIARE RÚROVÉ ST2 TUBULAR POLES ST2



M - max. klopný moment vo votknutí/kotvení
M - max. overturning moment at embedding/anchoring

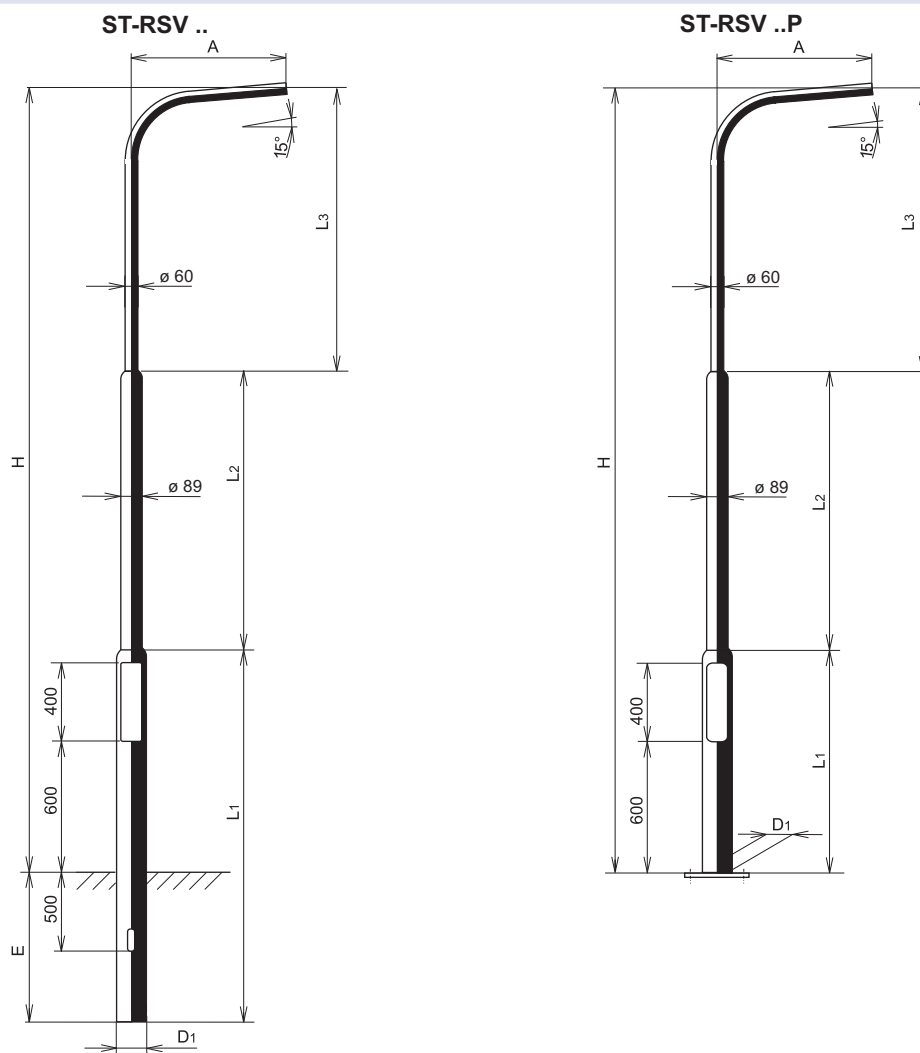
DVIERKA : 85 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 150
DOOR: 85 x 400 INSERTED
CABLE HOLE: 50 x 150

Manžeta sa vyrába len na žiadosť zákazníka.
Collar - on customer's request only.
ZÁKLADOVÝ ROŠT: str. 29
GRILLAGE BASE: page 29

Typ/Type	H (m)	L1 (m)	L2 (m)	L3 (m)	D (mm)	D1 (mm)	D2 (mm)	F (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg	Základový rošt/Grillage base
									**Plocha (m ²)	*Hmotnosť (kg)			
ST260/60P1	6,0	1,5	1,5	3,0	60	114	89	600	0,34	30	2,50	49	ZR 1-5
ST270/60P1	7,0	1,5	2,5	3,0	60	114	89	600	0,20	20	2,35	57	ZR 1-5
ST280/60P1	8,0	2,0	3,0	3,0	60	133	89	600	0,30	30	3,74	68	ZR 1-5
ST290/60P1	9,0	2,5	3,0	3,5	60	133	89	600	0,19	20	3,62	77	ZR 1-5
ST2100/60P1	10,0	2,5	3,0	4,5	60	133	89	600	0,10	10	3,45	82	ZR 1-5

Typ/Type	H (m)	E (m)	Lc (m)	L1 (m)	L2 (m)	L3 (m)	D (mm)	D1 (mm)	D2 (mm)	F (mm)	Zaťaž. vo vrchole/Loading on top		M (kN.m)	kg
											**Plocha (m ²)	*Hmotnosť (kg)		
ST260/60	6,0	1,0	7,0	2,0	2,0	3,0	60	114	89	500	0,34	30	2,49	48
ST270/60	7,0	1,0	8,0	2,0	3,0	3,0	60	114	89	500	0,20	20	2,35	55
ST280/60	8,0	1,0	9,0	3,0	3,0	3,0	60	133	89	600	0,30	30	3,74	73
ST290/60	9,0	1,5	10,5	4,0	3,0	3,5	60	133	89	600	0,19	20	3,62	89
ST2100/60	10,0	1,5	11,5	4,0	3,0	4,5	60	133	89	600	0,10	10	3,45	94

STOŽIARE RÚROVÉ VÝLOŽNIKOVÉ TUBULAR POLES WITH BRACKET



DVIERKA : 85 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 150

Manžeta sa vyrába len na žiadosť zákazníka.
Collar - on customer's request only.

DOOR: 85 x 400 INSERTED
CABLE HOLE: 50 x 150

ZÁKLADOVÝ ROŠT: str. 29
GRILLAGE BASE: page 29

Typ/Type	D1(mm)	L1(m)	L2(m)	H(m)	L3(m)	A=1000			A=1500			ZÁKLADOVÝ ROŠT GRILLAGE BASE				
						Zaťaž. na vrchole /Loading on top	M(kN.m)	kg	H(m)	L3(m)	Zaťaž. na vrchole /Loading on top		M(kN.m)	kg		
						**Plocha(m ²)	*Hmotnosť(kg)			**Plocha(m ²)	*Hmotnosť(kg)					
ST-RSV 50P1	114	1,1	1,4	4,8	2,3	0,20	25	2,30	46	4,9	2,4	0,20	25	2,60	49	ZR 1- 5
ST-RSV 60P1	114	1,4	2,1	5,8	2,3	0,20	25	2,80	56	5,9	2,4	0,20	25	3,16	59	ZR 1- 5
ST-RSV 70P1	114	1,8	2,7	6,8	2,3	0,18	20	3,35	66	6,9	2,4	0,16	20	3,34	69	ZR 1- 5
ST-RSV 80P1	133	2,3	3,0	7,8	2,5	0,20	25	4,27	77	7,9	2,6	0,20	25	4,80	80	ZR 1- 5
ST-RSV 90P1	133	2,9	3,4	8,8	2,5	0,20	25	5,09	88	8,9	2,6	0,20	25	5,91	91	ZR 1- 5

Typ/Type	E(m)	D1(mm)	L1(m)	L2(m)	H(m)	L3(m)	A=1000			A=1500			M(kN.m)	kg		
							Zaťaž. na vrchole/Loading on top	M(kN.m)	kg	H(m)	L3(m)	Zaťaž. na vrchole/Loading on top			M(kN.m)	kg
							**Plocha(m ²)	*Hmotnosť(kg)			**Plocha(m ²)	*Hmotnosť(kg)				
ST-RSV 50	0,8	114	1,9	1,4	4,8	2,3	0,20	25	2,30	47	4,9	2,4	0,20	25	2,60	50
ST-RSV 60	0,8	114	2,2	2,1	5,8	2,3	0,20	25	2,80	54	5,9	2,4	0,20	25	3,16	57
ST-RSV 70	1,2	114	3,0	2,7	6,8	2,3	0,18	20	3,35	64	6,9	2,4	0,16	20	3,34	67
ST-RSV 80	1,5	133	3,8	3,0	7,8	2,5	0,20	25	4,27	94	7,9	2,6	0,20	25	4,80	97
ST-RSV 90	1,5	133	4,4	3,4	8,8	2,5	0,20	25	5,09	106	8,9	2,6	0,20	25	5,91	109

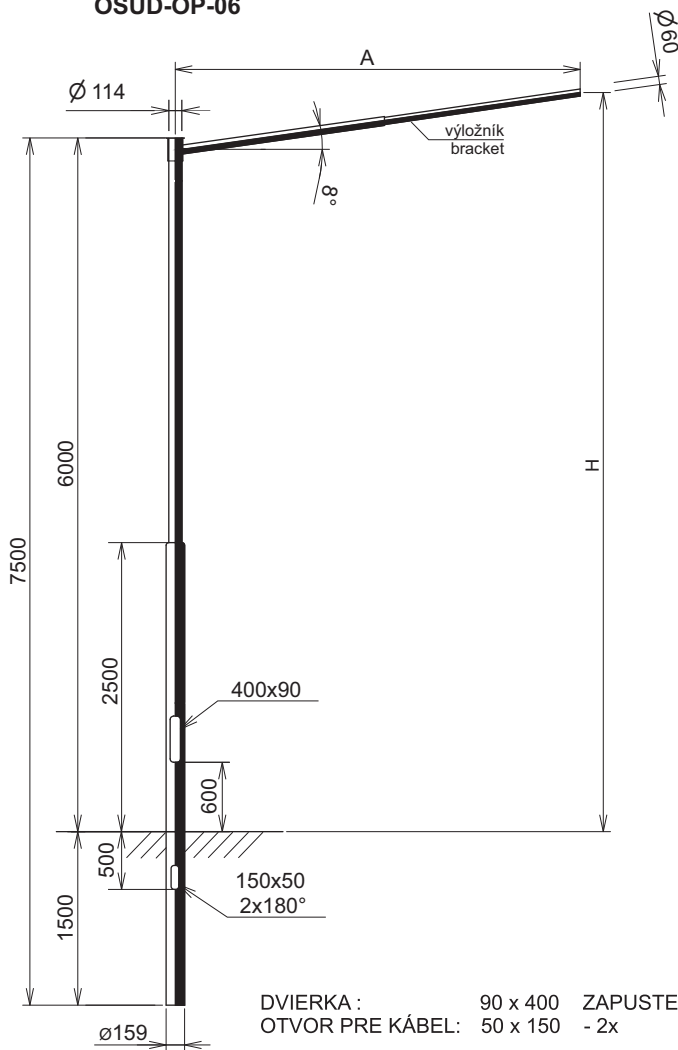
** Zaťažujúca plocha výložníka a svetidla v m²
* Hmotnosť zataženia na vrchole v kg

** Bracket and floodlight loading in m²
* Loading weight on top of a pole in kg

M - max. klopný moment vo votknutí/kotvení
M - max. overturning moment at embedding/anchoring

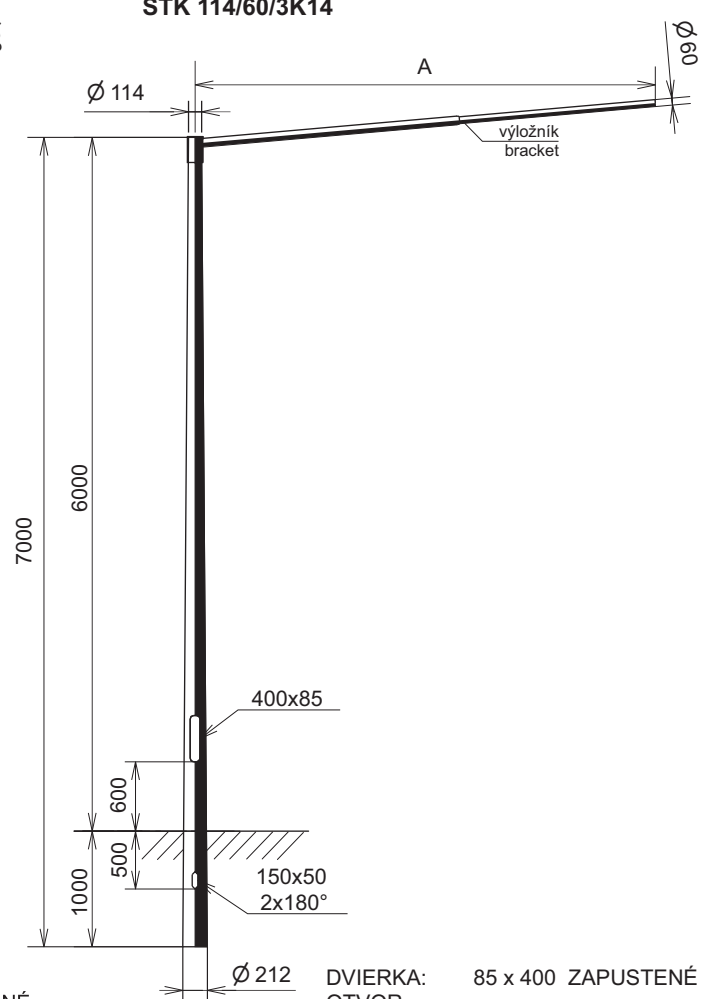
STOŽIAR OSVETLENIA PRIECHODU PRE CHODCOV POLE FOR ILLUMINATION OF PED CROSSING

OSUD-OP-06



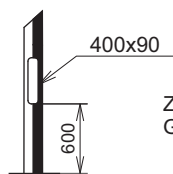
DVIERKA : 90 x 400 ZAPUSTENÉ
OTVOR PRE KÁBEL: 50 x 150 - 2x
DOOR: 90 x 400 INSERTED
CABLE HOLE: 50 x 150 - 2x

STK 114/60/3K14



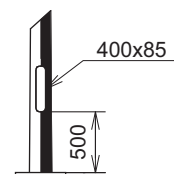
DVIERKA: 85 x 400 ZAPUSTENÉ
OTVOR
PRE KÁBEL: 50 x 150 - 2x
DOOR: 85 x 400 INSERTED
CABLE HOLE: 50 x 150 - 2x

OSUD-OP-06P



ZÁKLADOVÝ ROŠT: ZR 1-5
GRILLAGE BASE: ZR 1-5

STK 114/60/3P1K14



ZÁKLADOVÝ ROŠT: ZR 1-5
GRILLAGE BASE: ZR 1-5

Stožiar / Pole	Zaťaženie na vrchole/Loading on top		M (kN.m)	Výložník Bracket	A (m)	H (m)	Plocha na výložníku/Surface area on bracket (m ²)	Hmotnosť na výložníku/Weight on bracket (kg)	Hmotnosť/Weight (kg)	
	**Plocha (m ²)	*Hmotnosť (kg)							Stožiar/ Pole	Výložník/ Bracket
OSUD OP-06	1,2	110	10,92	V1T-OP-30-114	3,0	6,3	0,35	30	103	22
OSUD OP-06P				V1T-OP-35-114	3,5	6,4	0,28	25	77	27
STK 114/60/3K14	2,0	150	11,84	V1T-OP-40-114	4,0	6,6	0,20	20	84	76
STK 114/60/3P1K14									76	

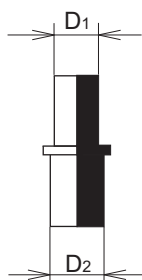
** Zaťažujúca plocha výložníka a svetidla v m²
* Hmotnosť zaťaženia na vrchole v kg

M - max. klopňý moment vo votknutí/kotvení
M - max. overturning moment at embedding/anchoring

** Bracket and floodlight loading in m²
* Loading weight on top of a pole in kg

REDUKCIE A NADSTAVCE

REDUCERS AND EXTENSIONS

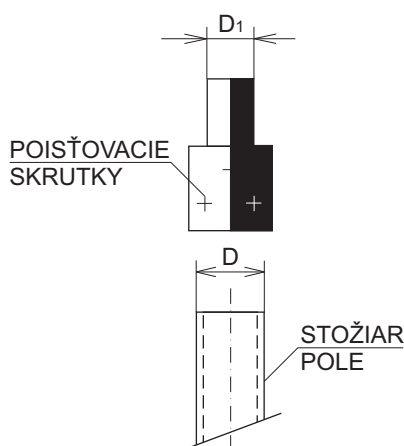
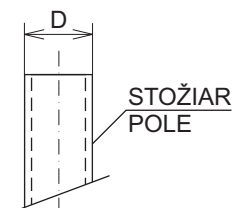


REDUKCIE NAPICHOVACIE (VOLNÉ) INSERTING REDUCERS (FREE)

Typ/Type	D(mm)	D1(mm)	D2(mm)
Redukcia 60/48	60	48	53
Redukcia 76/60	76	60	69
Redukcia 89/60	89	60	81

Vhodné pre menšie zaťaženia od svetidiel, konzol a výložníkov.

Suitable for lower loading of lights, consoles and brackets.

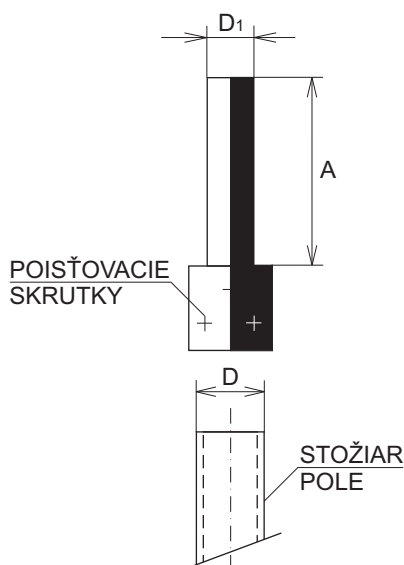


REDUKCIE POISŤOVACIE SECURING REDUCERS

Typ/Type	D(mm)	D1(mm)
Redukcia 60/48I	60	48
Redukcia 76/60I	76	60
Redukcia 89/60I	89	60
Redukcia 89/76I	89	76
Redukcia 114/60I	114	60
Redukcia 114/76I	114	76
Redukcia 114/89I	114	89

Vhodné pre väčšie zaťaženia od svetidiel, konzol a výložníkov.

Suitable for higher loading of lights, consoles and brackets.



NADSTAVCE EXTENSIONS

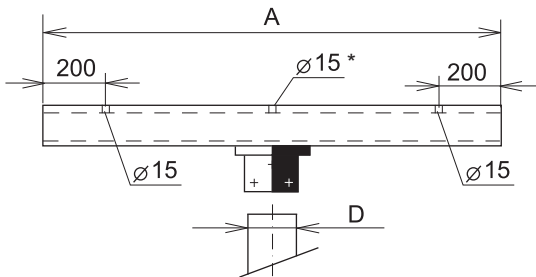
Typ/Type	D(mm)	D1(mm)	A(mm)
Nadstavec 60/60	60	60	300+2000
Nadstavec 76/76	76	76	500+2000
Nadstavec 89/89	89	89	500+2000

Vhodné na predĺženie stožiara pre menšie zaťaženia od svetidiel, konzol a výložníkov.

Suitable to lengthen the poles for lower loading of lights, consoles and brackets.

KONZOLY CONSOLES

**KONZOLA PRE REFLEKTORY
CONSOLE FOR SPOTLIGHTS**

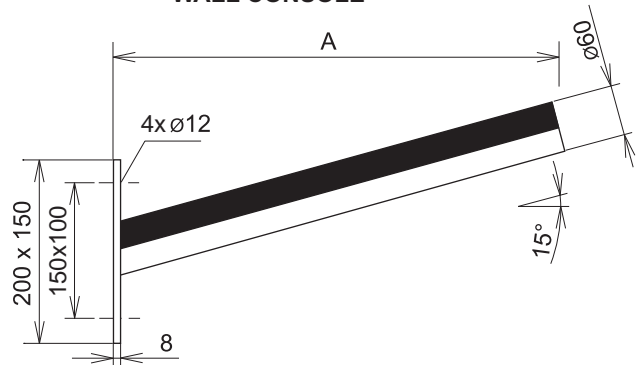


D = 76, 89, 114

- * Stredný \varnothing 15mm iba pre K 500 a K 1500.
- * Middle \varnothing 15mm for K 500 and K 1500 only.

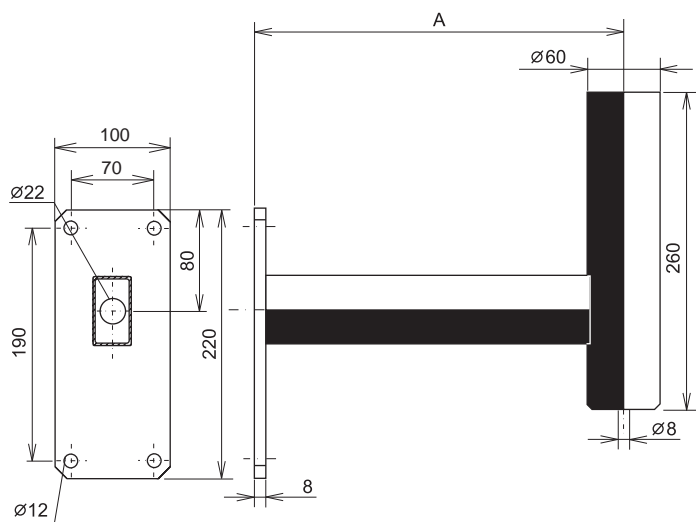
Typ/Type	A(mm)	D76	D89	D114
K 500 - D	500	7,0	7,5	8,5
K 1000 - D	1000	11,5	12,0	13,0
K 1500 - D	1500	15,5	16,0	17,0

**NÁSTENNÁ KONZOLA
WALL CONSOLE**



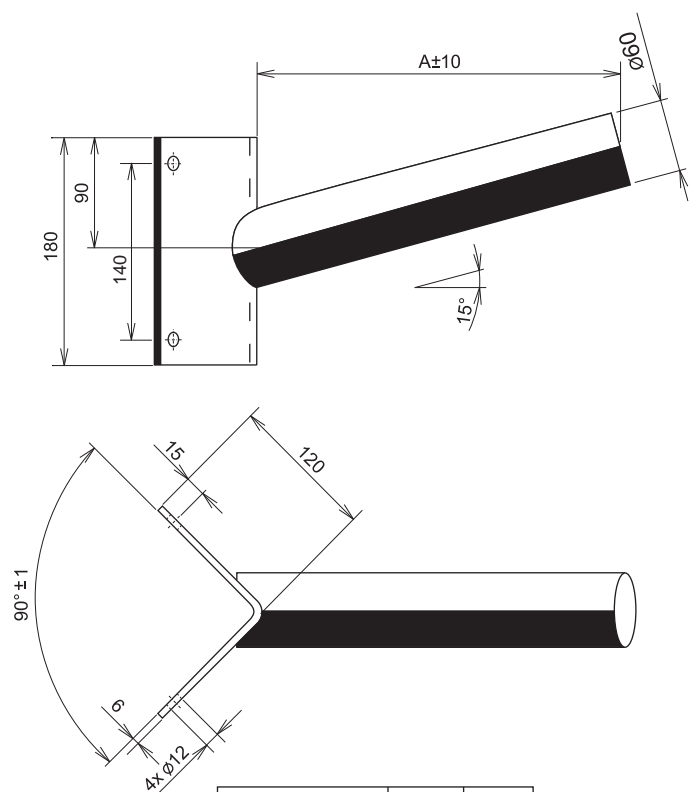
Typ/Type	A(mm)	kg
NK 300/60	300	3,5
NK 500/60	500	4,5
NK 800/60	800	5,5
NK 1000/60	1000	6,5

**NÁSTENNÁ KONZOLA KOLMÁ
STRAIGHT WALL CONSOLE**



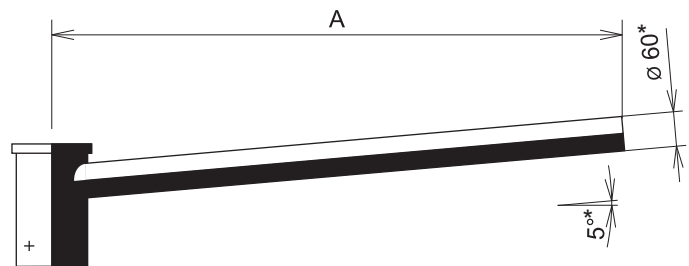
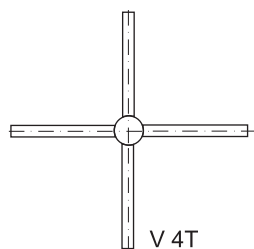
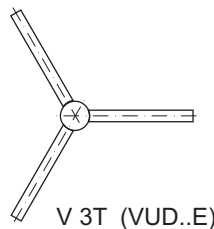
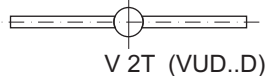
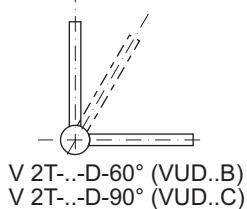
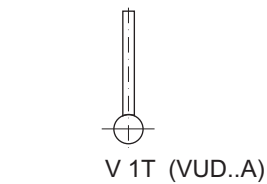
Typ/Type	A(mm)	kg
NKK 300/60	300	3,5
NKK 400/60	400	4,0
NKK 500/60	500	4,5

**NÁSTENNÁ ROHOVÁ KONZOLA
CORNER WALL CONSOLE**

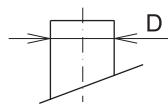
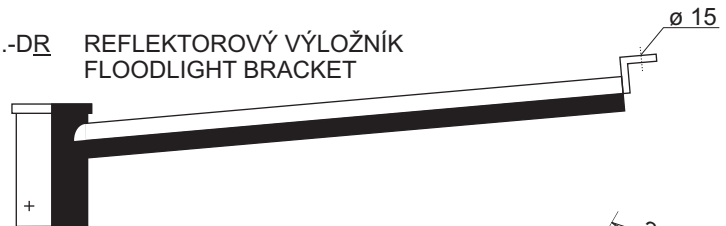


Typ/Type	A(mm)	kg
NRK 300/60	300	3,5
NRK 500/60	500	4,5
NRK 800/60	800	5,5
NRK 1000/60	1000	6,5

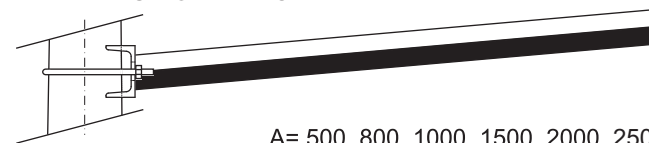
VÝLOŽNÍKY BRACKETS



V.T..-DR REFLEKTOROVÝ VÝLOŽNÍK
FLOODLIGHT BRACKET



V1T-S...-D STRMEŇOVÝ VÝLOŽNÍK
U-BOLT BRACKET



A= 500, 800, 1000, 1500, 2000, 2500
D= 60, 76, 89, 114, 133

* - iný priemer ako Ø60 a iný sklon ako 5° treba uviesť v objednávke
* - other diameter than Ø60 and other slope than 5° must be stated in purchase order

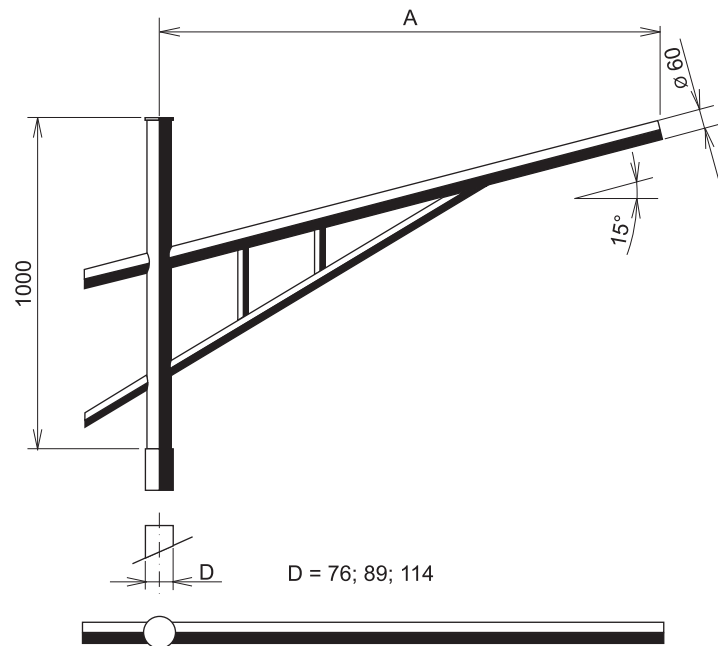
TYP/ TYPE	Vietor/Wind 24m /s				Vietor/Wind 26m /s				Hmotnosť výložníka Weight of bracket				Doporučené priemery vrcholov stožiarov k danému vyložníku Recommended diameters of the top of poles according to type of bracket	
	Kategória terénu/Terrain category				Kategória terénu/Terrain category				(kg)		(kg)			
	I.	II.	III.	IV.	I.	II.	III.	IV.	(D60)	(D76)	(D89)	(D114)		
0,5m	V1T-05-D	0,28	0,21	0,14	0,13	0,38	0,29	0,20	0,19	4	4,5	5	6,5	Ø60, Ø76, Ø89, Ø114
	V2T-05-D	0,41	0,30	0,21	0,19	0,51	0,39	0,29	0,26	6	6,5	7	8,5	
	V3T-05-D	0,58	0,44	0,33	0,30	0,72	0,56	0,42	0,39	8	8,5	9	10	
	V4T-05-D	0,77	0,60	0,45	0,42	0,93	0,74	0,56	0,53	-	10	11	12	
0,8m	V1T-08-D	0,38	0,28	0,19	0,18	0,47	0,36	0,27	0,25	-	6	6,5	7,5	Ø60, Ø76, Ø89, Ø114
	V2T-08-D	0,46	0,34	0,25	0,23	0,57	0,44	0,33	0,30	-	9	9,5	11	
	V3T-08-D	0,63	0,39	0,36	0,33	0,78	0,61	0,46	0,43	-	12,5	12	14	
	V4T-08-D	0,83	0,64	0,43	0,45	1,00	0,71	0,60	0,56	-	-	16	17	
1m	V1T-10-D	0,42	0,32	0,24	0,21	0,54	0,42	0,31	0,30	6	6,5	7	8,5	Ø60, Ø76, Ø89, Ø114
	V2T-10-D	0,49	0,36	0,26	0,24	0,60	0,47	0,34	0,32	10	11	11,5	12,5	
	V3T-10-D	0,67	0,52	0,38	0,36	0,83	0,65	0,49	0,46	14	15	15,5	16,5	
	V4T-10-D	0,85	0,66	0,50	0,47	1,00	0,81	0,62	0,59	18	18,5	19	20,5	
1,5m	V1T-15-D	0,58	0,45	0,34	0,32	0,71	0,56	0,42	0,40	8	8,5	9	10,5	Ø76, Ø89, Ø114
	V2T-15-D	0,57	0,43	0,31	0,29	0,70	0,54	0,41	0,37	14,5	15	15,5	16,5	
	V3T-15-D	0,77	0,60	0,45	0,42	0,94	0,74	0,56	0,53	20,5	21	-	23	
	V4T-15-D	0,94	0,74	0,57	0,52	1,52	1,22	0,95	0,90	26,5	-	-	29	
2m	V1T-20-D	0,75	0,60	0,36	0,43	0,90	0,72	0,56	0,57	-	13,5	14	15	Ø89, Ø114
	V2T-20-D	0,67	0,51	0,38	0,35	0,82	0,64	0,49	0,45	-	24	24,5	26	
	V3T-20-D	0,82	0,64	0,48	0,45	1,00	0,79	0,60	0,57	-	-	-	37	
	V4T-20-D	1,36	1,10	0,84	0,79	1,63	1,31	1,02	0,96	-	-	-	47,5	

Porovnávacia plocha vypočítaná zo zaťaženia svetidlom o návetornej ploche 0,15 m² a hmotnosti 15kg.
Comparative surface is calculated from load of lamp of 0,15m² windward area and of 15kg weight.

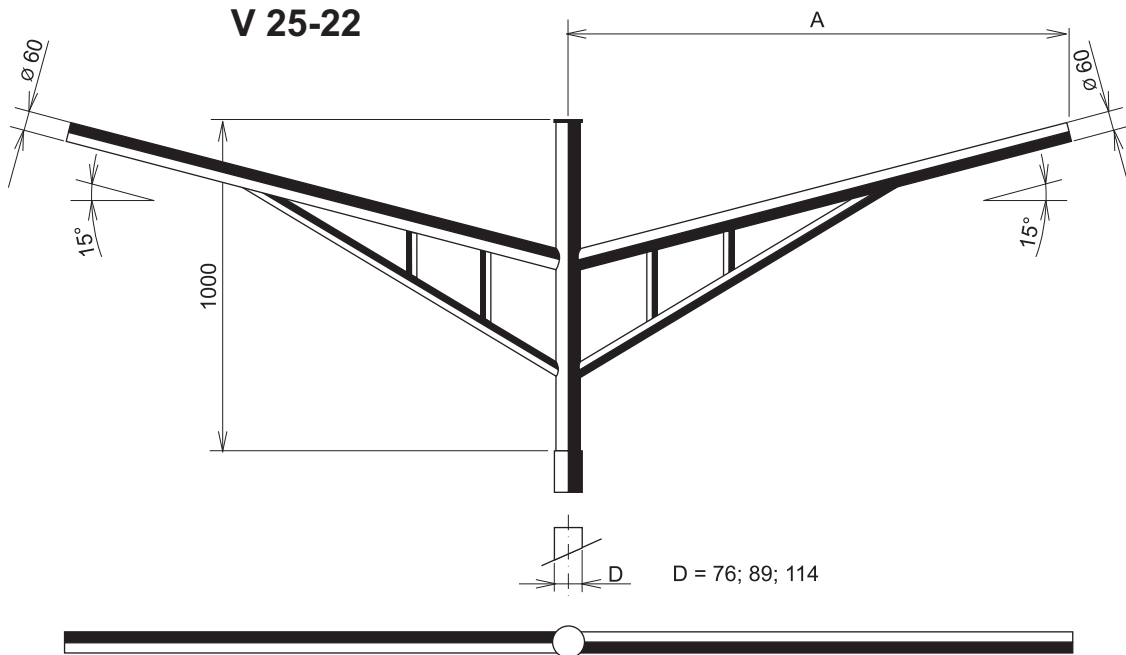
Návod na priradenie výložníka pomocou porovnávacej plochy str. 34.
Selection of bracket by „comparative surface area“ page 35.

VÝLOŽNÍKY BRACKETS

V 25-11



V 25-22



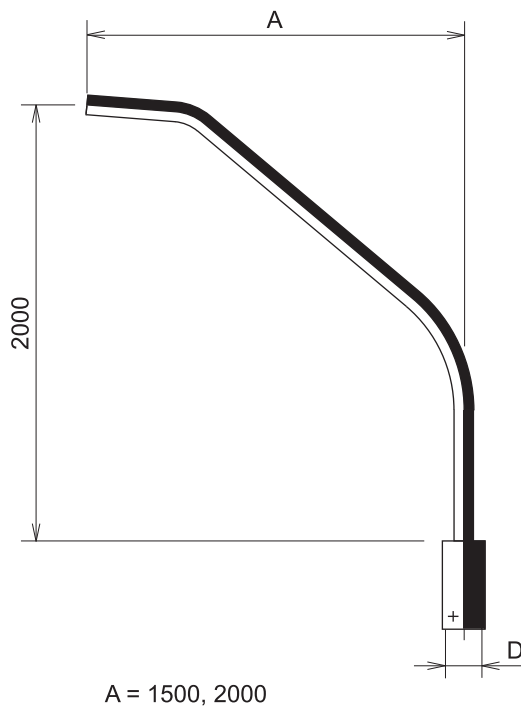
TYP/ TYPE	A (mm)	Vietor/Wind 24m /s				Vietor/Wind 26m /s				Hmotnosť výložníka Weight of bracket (kg)
		Kategória terénu/Terrain category				Kategória terénu/Terrain category				
		I.	II.	III.	IV.	I.	II.	III.	IV.	
V25-11-10-D	1000	0,39	0,37	0,27	0,25	0,60	0,47	0,34	0,33	18
V25-11-15-D	1500	0,65	0,51	0,37	0,35	0,78	0,63	0,47	0,45	21
V25-22-10-D	1000	0,57	0,44	0,31	0,29	0,71	0,56	0,40	0,38	25
V25-22-15-D	1500	0,66	0,52	0,37	0,34	0,82	0,65	0,47	0,44	29

Porovnávacia plocha vypočítaná zo zaťaženia svetidlom o náveternej ploche 0,15 m² a hmotnosti 15kg.
Comparative surface is calculated from load of lamp of 0,15m² windward area and of 15kg weight.

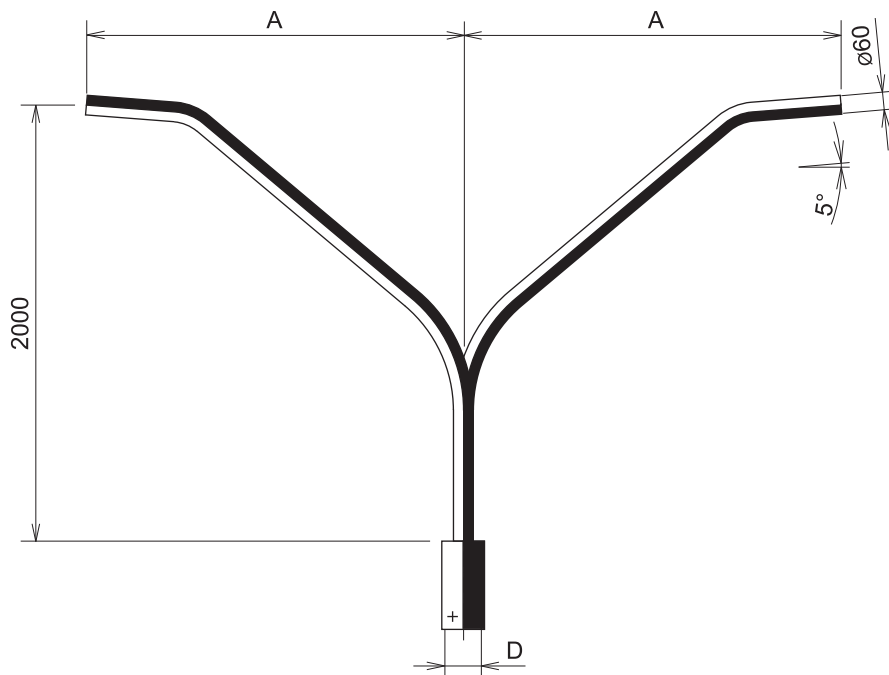
Návod na priradenie výložníka pomocou porovnávacej plochy str. 34.
Selection of brackets by „comparative surface area“ page 35.

VÝLOŽNÍKY BRACKETS

V 1D



V 2D

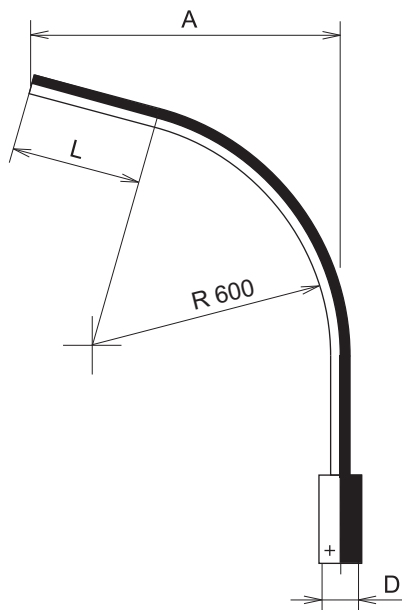


TYP/ TYPE	A (mm)	Vietor/Wind 24m /s				Vietor/Wind 26m /s				Hmotnosť výložníka Weight of bracket (kg)	
		Kategória terénu/Terrain category				Kategória terénu/Terrain category				(D89)	(D114)
		I.	II.	III.	IV.	I.	II.	III.	IV.		
V1D-15-D	1500	0,74	0,62	0,48	0,45	0,82	0,72	0,56	0,54	21,0	22,0
V1D-20-D	2000	0,94	0,80	0,62	0,59	1,07	0,92	0,73	0,70	24,0	25,0
V2D-15-D	1500	0,84	0,72	0,54	0,50	1,00	0,84	0,64	0,62	34,0	35,0
V2D-20-D	2000	1,00	0,84	0,64	0,60	1,16	0,98	0,76	0,72	40,0	41,0

Porovnávacia plocha vypočítaná zo zaťaženia svetidlom o náveternej ploche 0,15 m² a hmotnosti 15kg.
Comparative surface is calculated from load of lamp of 0,15m² windward area and of 15kg weight.

Návod na priradenie výložníka pomocou porovnávacej plochy str. 34.
Selection of brackets by „comparative surface area“ page 35.

VÝLOŽNÍKY BRACKETS

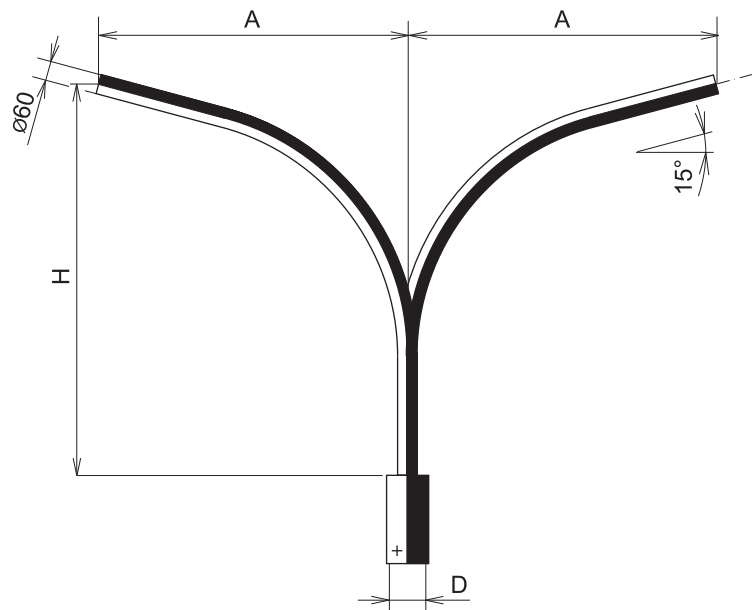


A = 1000, 1200, 1500

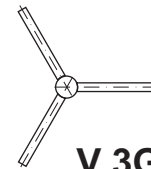
V 1G



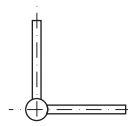
V 1G



V 2G



V 3G



V 2G-90°



V 2G

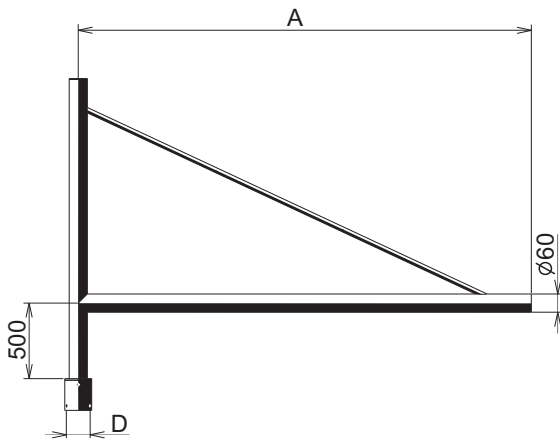
TYP/ TYPE				Vietor/Wind 24m /s				Vietor/Wind 26m /s				Hmotnosť výložníka Weight of bracket (kg)		
				Kategória terénu/Terrain category				Kategória terénu/Terrain category				(D76)	(D89)	(D114)
	A	H	L	I.	II.	III.	IV.	I.	II.	III.	IV.			
V1G 10-D	1000	1200	420	0,49	0,38	0,27	0,25	0,60	0,48	0,35	0,32	12	12,5	13
V1G 12-D	1200	1250	630	0,55	0,44	0,31	0,29	0,68	0,54	0,4	0,37	13	13,5	14
V1G 15-D	1500	1330	950	0,66	0,52	0,38	0,36	0,80	0,64	0,47	0,45	15	15,5	16
V2G 10-D-90°	1000	1200	420	0,71	0,57	0,42	0,39	0,86	0,69	0,51	0,49	20	20,5	21
V2G 12-D-90°	1200	1250	630	0,80	0,64	0,48	0,45	0,95	0,77	0,58	0,55	22	22,5	23
V2G 15-D-90°	1500	1330	950	0,93	0,75	0,57	0,54	1,10	0,90	0,68	0,65	25	25,5	26
V2G 10-D	1000	1200	420	0,58	0,46	0,32	0,30	0,73	0,57	0,41	0,38	20	20,5	21
V2G 12-D	1200	1250	630	0,63	0,49	0,35	0,32	0,78	0,61	0,44	0,41	22	22,5	23
V2G 15-D	1500	1330	950	0,70	0,55	0,39	0,36	0,86	0,68	0,49	0,46	25	25,5	26
V3G 10-D	1000	1200	420	0,83	0,65	0,46	0,43	1,00	0,80	0,58	0,55	28	28,5	29
V3G 12-D	1200	1250	630	0,86	0,68	0,49	0,45	1,04	0,83	0,61	0,57	31,5	32	32,5
V3G 15-D	1500	1330	950	0,93	0,74	0,53	0,50	1,13	0,90	0,66	0,62	36	36,5	37
V1G 10-2-D	1000	2000	420	0,53	0,44	0,33	0,31	0,63	0,52	0,40	0,38	13,0	13,5	14,0
V1G 12-2-D	1200	2000	630	0,61	0,51	0,38	0,36	0,70	0,60	0,46	0,44	13,5	14,0	14,5
V1G 15-2-D	1500	2000	950	0,73	0,61	0,46	0,44	0,84	0,72	0,56	0,53	14,5	15,0	15,5
V2G 10-2-D	1000	2000	420	0,70	0,58	0,42	0,39	0,82	0,70	0,50	0,48	18,5	19,0	19,5
V2G 12-2-D	1200	2000	630	0,76	0,62	0,46	0,42	0,88	0,74	0,56	0,52	19,5	20,0	20,5
V2G 15-2-D	1500	2000	950	0,87	0,72	0,53	0,48	1,02	0,86	0,65	0,61	22,0	22,5	23,0
V2G 10-2-D-90°	1000	2000	420	0,77	0,62	0,45	0,43	0,92	0,75	0,55	0,52	18,5	19,0	19,5
V2G 12-2-D-90°	1200	2000	630	0,83	0,68	0,53	0,50	0,99	0,81	0,61	0,58	19,5	20,0	20,5
V2G 12-2-D-90°	1500	2000	950	0,93	0,81	0,64	0,61	1,09	0,92	0,74	0,71	22,0	22,5	23,0
V3G 10-2-D	1000	2000	420	0,87	0,73	0,55	0,52	1,05	0,86	0,66	0,62	25,0	25,5	26,0
V3G 12-2-D	1200	2000	630	0,97	0,82	0,62	0,59	1,10	0,95	0,74	0,70	27,0	27,5	28,0
V3G 15-2-D	1500	2000	950	1,06	0,90	0,69	0,65	1,20	1,04	0,82	0,77	43,0	43,5	44,0

Porovnávacia plocha vypočítaná zo zaťaženia svetidlom o náveternej ploche 0,15 m² a hmotnosti 15kg.
Comparative surface is calculated from load of lamp of 0,15m² windward area and of 15kg weight.

Návod na priradenie výložníka pomocou porovnávacej plochy str. 34.
Selection of brackets by „comparative surface area“ page 35.

VÝLOŽNÍKY BRACKETS

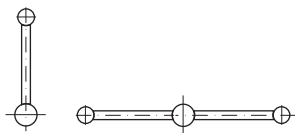
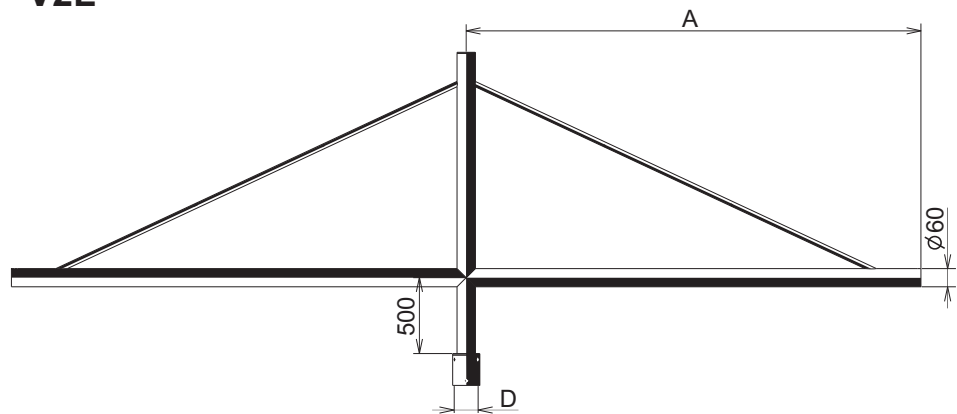
V1L



TYP/ TYPE	Vyloženie Length A (m)	Porovnávací plocha 26m/s (svietidlo 0,15m ² ; 15kg) Comparative surface 26m/s (lamp 0,15m ² ; 15kg)	Hmotnosť výložníka Weight of bracket (kg)
V1L-10-D	1,0	0,50	14
V2L-10-D	1,0	0,55	21
V1L-15-D	1,5	0,60	18
V2L-15-D	1,5	0,65	28

D=76;89;114

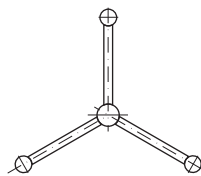
V2L



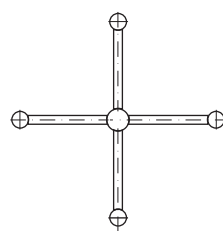
V1E-D



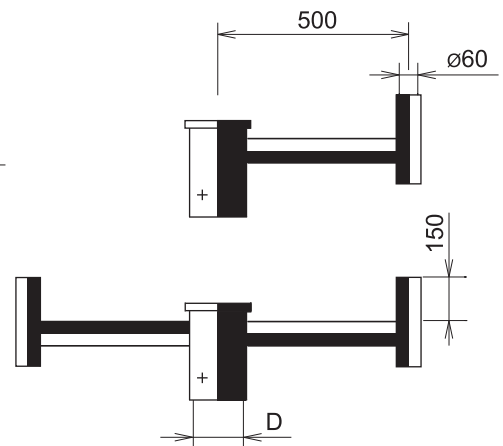
V2E-D



V3E-D



V4E-D



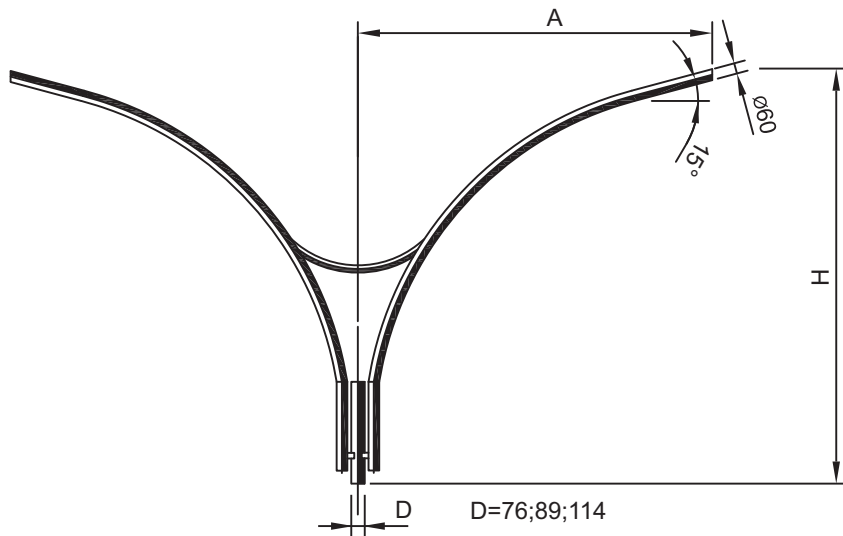
TYP/ TYPE	Vietor/Wind 24m/s				Vietor/Wind 26m/s				Hmotnosť výložníka Weight of bracket			
	Kategória terénu/Terrain category				Kategória terénu/Terrain category				(kg)	(kg)	(kg)	(kg)
	I.	II.	III.	IV.	I.	II.	III.	IV.	(D60)	(D76)	(D89)	(D114)
V1E-D	0,30	0,22	0,14	0,13	0,38	0,29	0,20	0,19	5,5	6,5	7,5	8,5
V2E-D	0,44	0,32	0,23	0,21	0,54	0,51	0,30	0,28	9	10	11	12
V3E-D	0,62	0,47	0,35	0,32	0,76	0,59	0,44	0,42	12,5	13,5	14	15
V4E-D	0,80	0,62	0,47	0,44	0,97	0,77	0,59	0,55	16	17	18	19

Porovnávací plocha vypočítaná zo zaťaženia svietidlom o náveternej ploche 0,15 m² a hmotnosti 15kg.
Comparative surface is calculated from load of lamp of 0,15m² windward area and of 15kg weight.

Návod na priradenie výložníka pomocou porovnávej plochy str. 34.
Selection of brackets by „comparative surface area“ page 35.

VÝLOŽNÍKY BRACKETS

V26-22



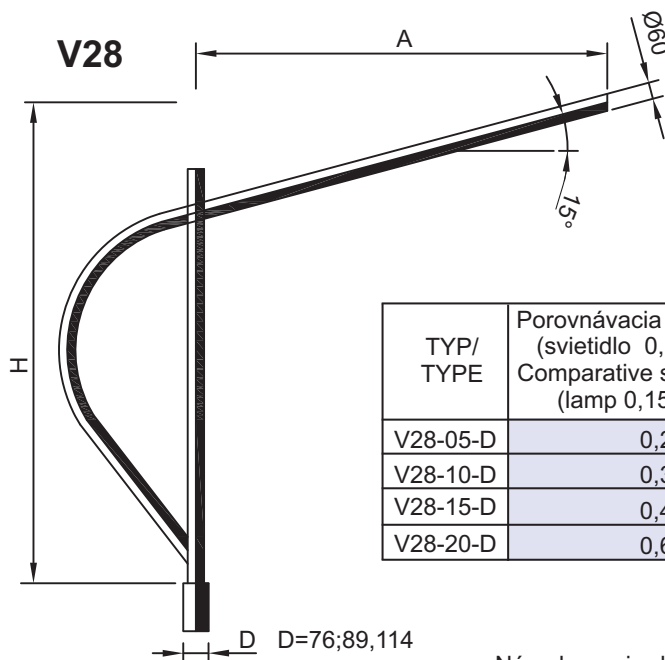
V26-22

TYP/ TYPE	Porovnávací plocha 26m/s (svietidlo 0,15m ² ; 15kg) Comparative surface 26m/s (lamp 0,15m ² ; 15kg)	Vyloženie Length A (m)	Výška Height H (m)	Hmotnosť výložníka Weight of bracket (kg)
V26-22-15-D	0,69	1,5	1,955	33
V26-22-20-D	0,85	2	2,428	54
V26-22-25-D	0,98	2,5	2,562	61
V26-33-15-D	0,88	1,5	1,955	45
V26-33-20-D	1,05	2	2,428	76
V26-33-25-D	1,18	2,5	2,562	86

V26-33



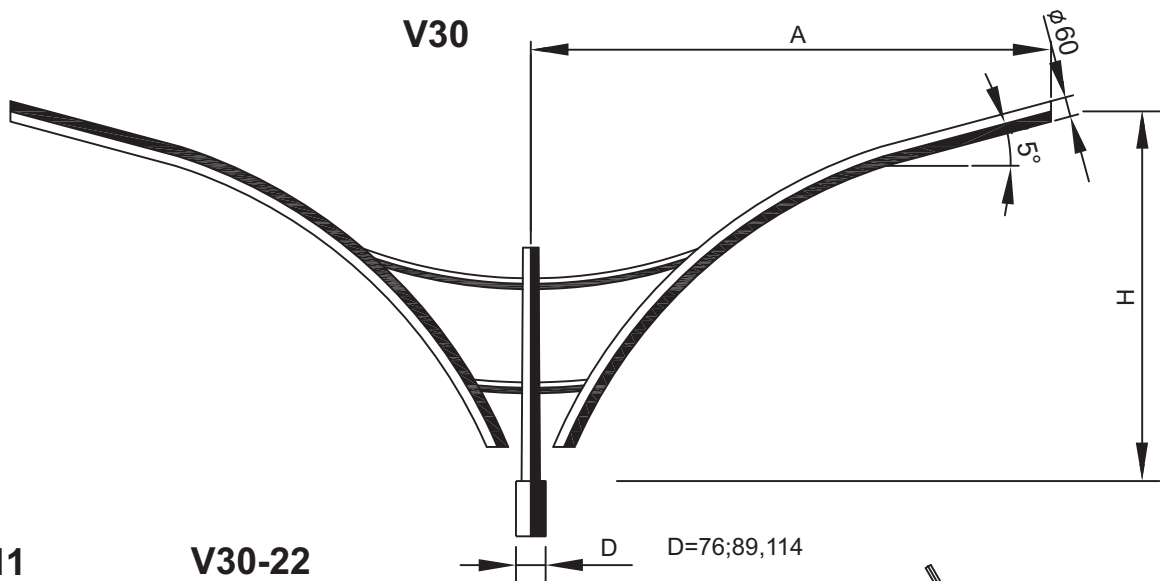
V28



TYP/ TYPE	Porovnávací plocha 26m/s (svietidlo 0,15m ² ; 15kg) Comparative surface 26m/s (lamp 0,15m ² ; 15kg)	Vyloženie Length A (m)	Priemer Diameter d (mm)	Výška Height H (m)	Hmotnosť výložníka Weight of bracket (kg)
V28-05-D	0,25	0,5	42	0,98	7,5
V28-10-D	0,38	1,0	42	1,27	11
V28-15-D	0,49	1,5	60	1,95	17
V28-20-D	0,63	2,0	60	2,08	25

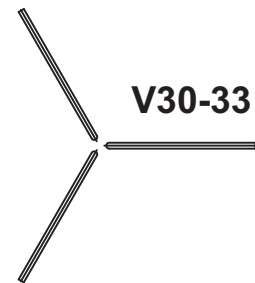
Návod na priradenie výložníka pomocou porovnávacjej plochy str. 34.
Selection of brackets by „comparative surface area“ page 35.

VÝLOŽNÍKY BRACKETS



V30-11

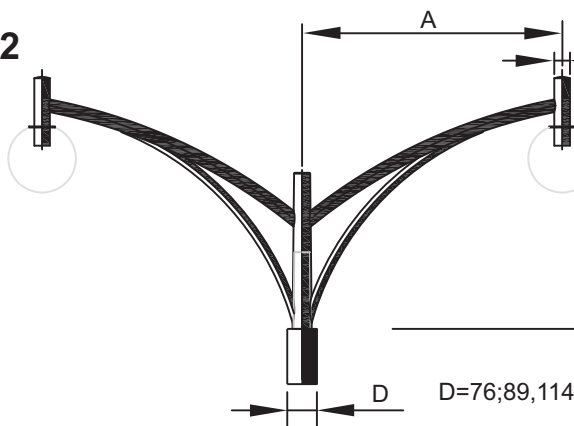
V30-22



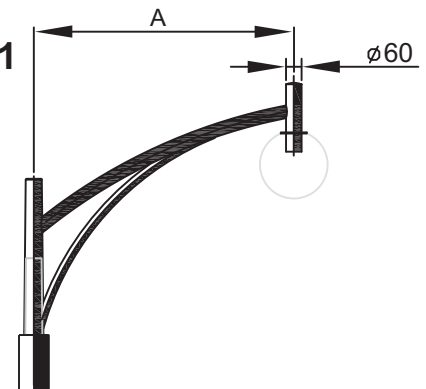
V30-33

TYP/ TYPE	Porovnávací plocha 26m/s II. (svietidlo 0,15m ² ; 15kg) Comparative surface 26m/s II. (lamp 0,15m ² ; 15kg)	Vyloženie Length A (m)	Výška Height H (mm)	Hmotnosť výložníka Weight of bracket (kg)
V30-11-15-D	0,47	1,5	1288	18
V30-11-20-D	0,67	2,0	1405	26
V30-11-25-D	0,84	2,5	1538	30
V30-22-15-D	0,54	1,5	1288	31
V30-22-20-D	0,69	2,0	1405	46
V30-22-25-D	0,80	2,5	1538	53
V30-33-15-D	0,70	1,5	1288	43
V30-33-20-D	0,86	2,0	1405	65
V30-33-25-D	0,87	2,5	1538	75

V31-22



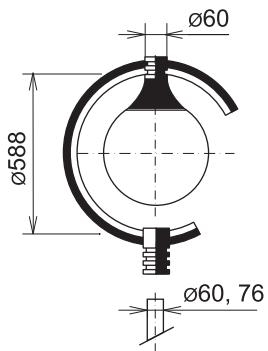
V31-11



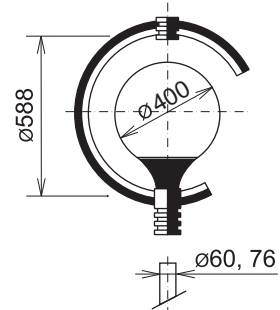
TYP/ TYPE	Porovnávací plocha (svietidlo 0,15m ² ; 15kg) Comparative surface (lamp 0,15m ² ; 15kg)		Vyloženie Length A (m)	Výška Height H (mm)	Hmotnosť výložníka Weight of bracket (kg)		
	24m/s II.	26m/s II.			(D60)	(D76)	(D89)
V31-11-075-D	0,29	0,37	0,75	853	11	12	12
V31-11-10-D	0,35	0,44	1,0	853	13	14	14
V31-11-15-D	0,49	0,59	1,5	853	17	18	18
V31-22-075-D	0,38	0,48	0,75	853	20	21	21
V31-22-10-D	0,41	0,52	1,0	853	23	24	24
V31-22-15-D	0,49	0,61	1,5	853	31	31	31
V31-33-075-D	0,54	0,68	0,75	853	28	29	29
V31-33-10-D	0,58	0,72	1,0	853	33	34	34
V31-33-15-D	0,67	0,82	1,5	853	44	45	45

Návod na priradenie výložníka pomocou porovnávacjej plochy str. 34.
Selection of brackets by „comparative surface area“ page 35.

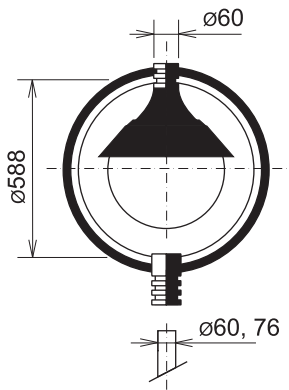
VÝLOŽNÍKY BRACKETS



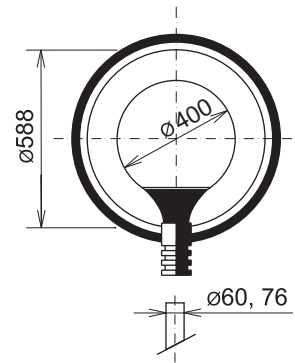
Typ/Type	V-01-01-D
kg	10,5



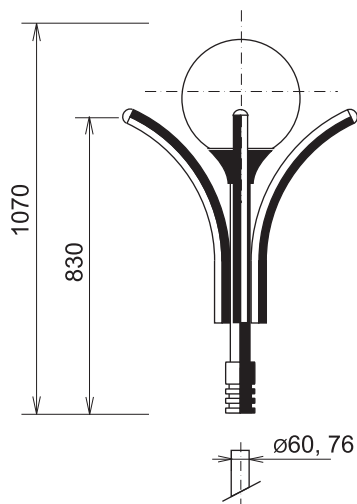
Typ/Type	V-02-01-D
kg	10



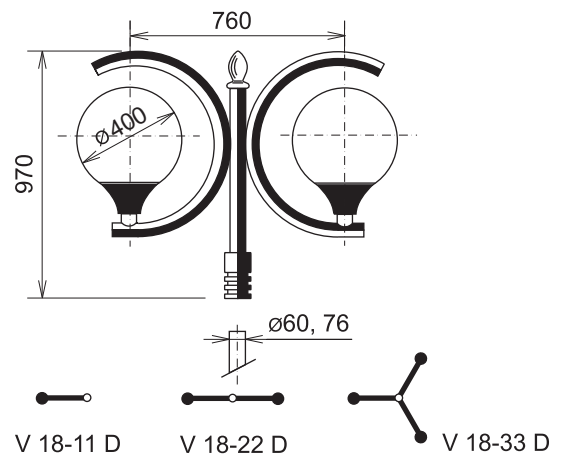
Typ/Type	V-03-01-D
kg	10,5



Typ/Type	V-04-01-D
kg	10

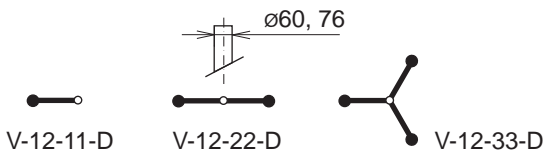
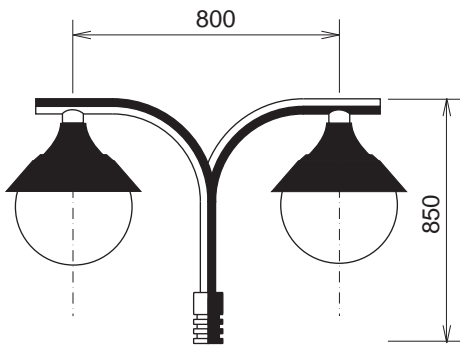


Typ/Type	V-05-01-D
kg	12

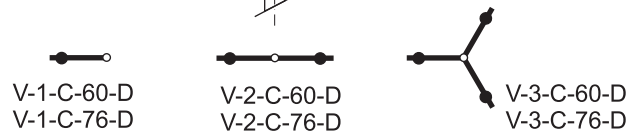
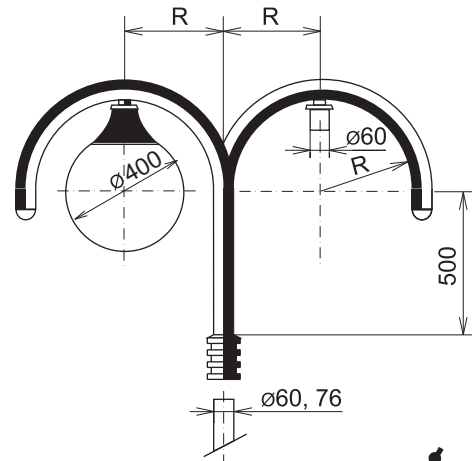


Typ/Type	V-18-11-D	V-18-22-D	V-18-33-D
kg	13	17,5	21

VÝLOŽNÍKY BRACKETS

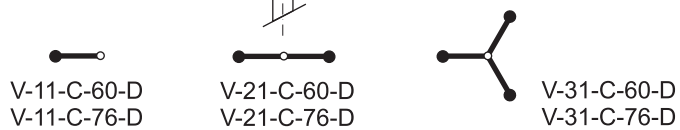
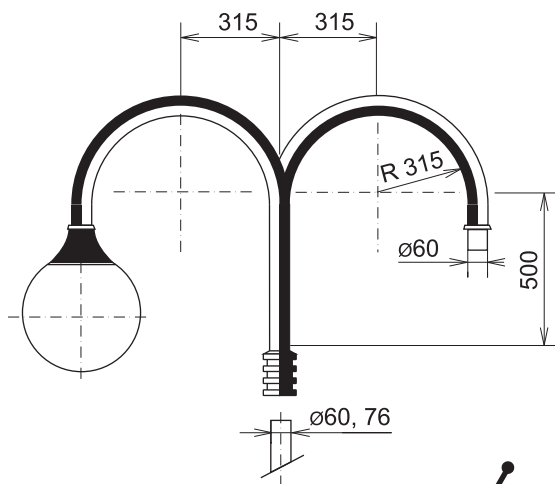


Typ/Type	V-12-11-D	V-12-22-D	V-12-33-D
kg	6,5	10,5	14



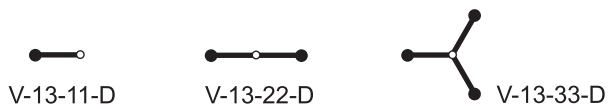
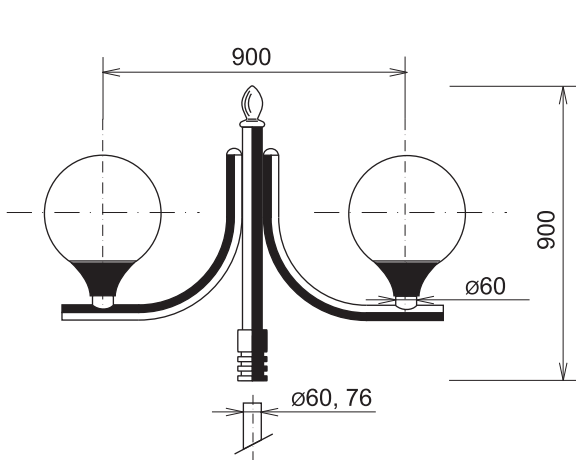
R 315 GUL'A ø400
R 390 GUL'A ø450

Typ/Type	V-1-C-60-D	V-1-C-76-D	V-2-C-60-D	V-2-C-76-D	V-3-C-60-D	V-3-C-76-D
kg (R=315)	12,0	13,0	16,0	17,5	20,0	22,0
kg (R=390)	12,0	14,0	16,0	18,5	21,0	23,0

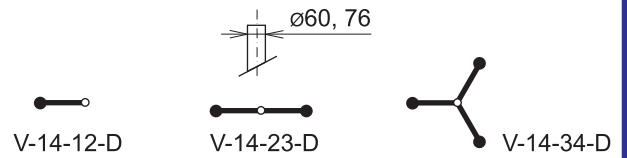
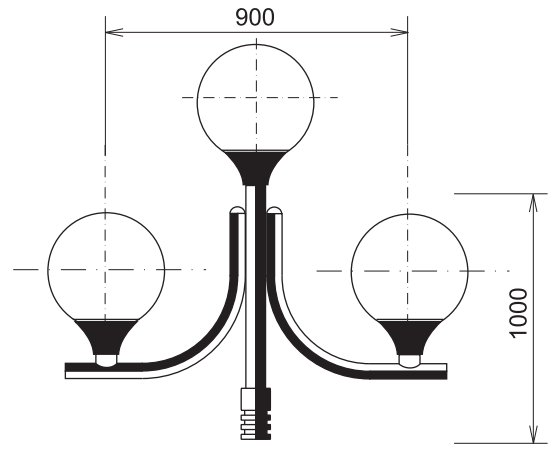


Typ/Type	V-11-C-60-D	V-11-C-76-D	V-21-C-60-D	V-21-C-76-D	V-31-C-60-D	V-31-C-76-D
kg	12	13	15,5	17,5	20	22

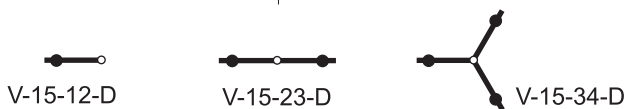
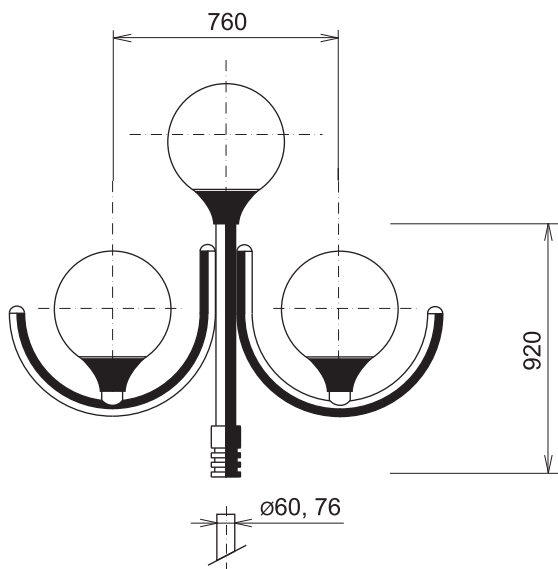
VÝLOŽNÍKY BRACKETS



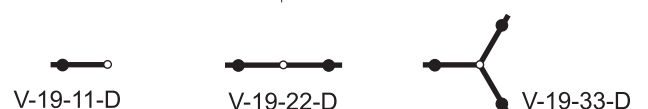
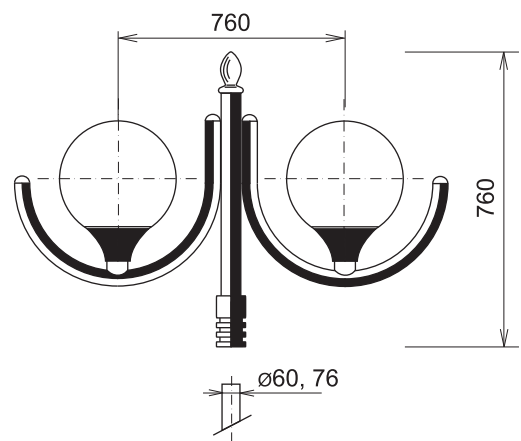
Typ/Type	V-13-11-D	V-13-22-D	V-13-33-D
kg	11	14	18,5



Typ/Type	V-14-12-D	V-14-23-D	V-14-34-D
kg	10	13,5	17,5



Typ/Type	V-15-12-D	V-15-23-D	V-15-34-D
kg	11,5	15,5	20

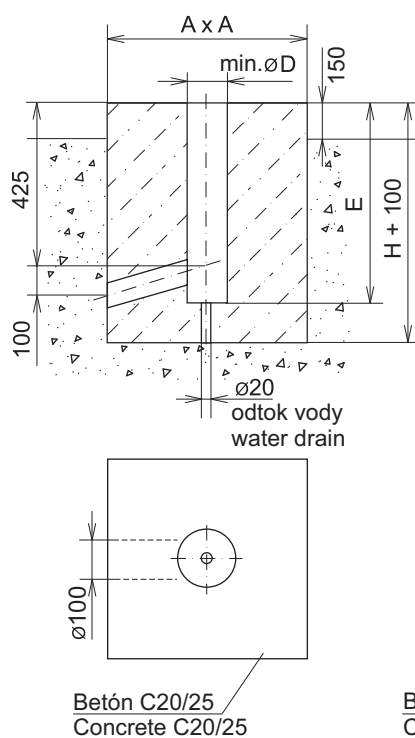


Typ/Type	V-19-11-D	V-19-22-D	V-19-33-D
kg	12	17	21

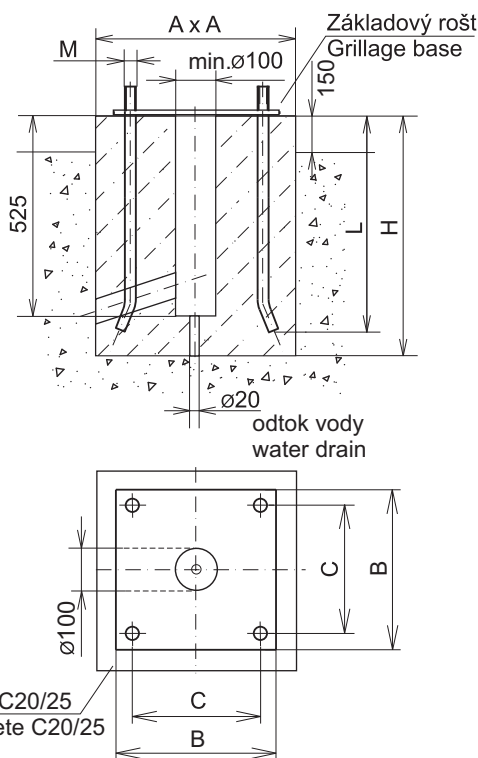
ZÁKLADY A ZÁKLADOVÉ ROŠTY STOŽIAROV

BASEMENTS AND GRILLAGE BASES OF POLES

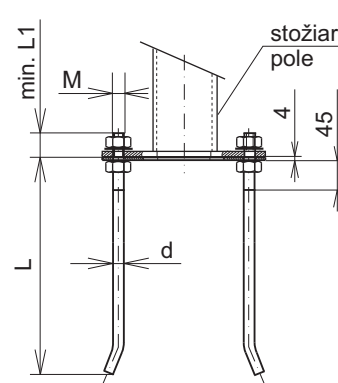
KOTVENIE V ZEMI
GROUND ANCHORING



KOTVENIE K ZÁKLADOVÉMU ROŠTU
GRILLAGE BASE ANCHORING



ZÁKLADOVÝ ROŠT
GRILLAGE BASE



Tab.1 INFORMATÍVNE ÚDAJE
Tab.1 INFORMATIVE DATA

max.Md [kNm]	≤ E (m)	Rozmer základu	
		A [m]	H [m]
10	1,35	0,50	1,35
15	1,50	0,50	1,50
25	1,80	0,50	1,80
12	1,35	0,60	1,35
17	1,50	0,60	1,50
29	1,80	0,60	1,80
16	1,35	0,80	1,35
23	1,50	0,80	1,50
38	1,80	0,80	1,80
20	1,35	1,00	1,35
28	1,50	1,00	1,50
50	1,80	1,00	1,80
25	1,35	1,20	1,35
35	1,50	1,20	1,50
60	1,80	1,20	1,80
30	1,35	1,40	1,35
40	1,50	1,40	1,50
70	1,80	1,40	1,80

Md - výpočtaný klopný moment alebo maximálny klopný moment vo votknutí/kotvení (údaj M z tabuľky stožiarov)

Md - calculated overturning moment or maximum overturning moment at embedding/anchoring (data from poles table)

ZÁKLADOVÝ ROŠT / GRILLAGE BASE

Typ/Type	M = d (mm)	L (mm)	L1 (mm)	B (mm)	C (mm)	S (mm)	kg
ZR 1-5	20	400	45	300	240	4	11
ZR 2-12	24	600	45	400	300	4	16
ZR 3-15	30	700	55	500	400	4	28
ZR 4-20	36x3	1000	65	600	500	4	48

Betónový základ pre stožiare s ukotvením v zemi alebo na základovú prírubu podľa Eurokódov má mať približne rozmery, ktoré sú uvedené v tabuľke č.1. Tabuľka platí pre súdržné zeminy bez prítomnosti spodnej vody, zeminy skupiny F tuhé a lepšie, zeminy skupiny S a G stredne uľahnuté a lepšie, horniny skupiny R bez obmedzenia. Pri inej zemine doporučujeme vykonať výpočet a návrh nového základu. Pre správnosť určenia je potrebné vykonať kontrolný výpočet vzhľadom na únosnosť pôdy a taktiež overiť zhodnosť rozmerov stožiara, základu a základového roštu.

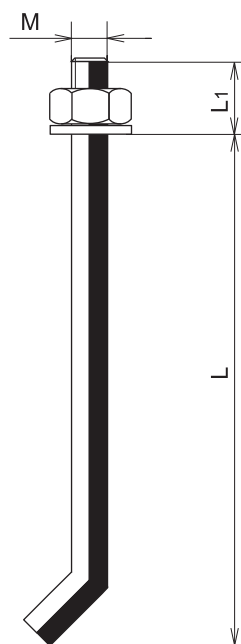
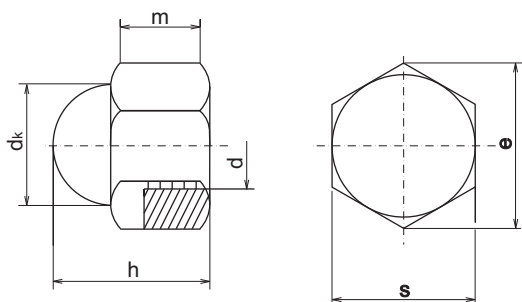
According to the Eurocodes concrete foundation for poles anchored into ground or to a grillage base should be of approximate dimensions listed in the Table 1. The data from the Table are applicable for cohesive soil with no appearance of groundwater, for F soil group - solid and higher, S and G soil group - middle-density and higher, rocks of R group with no limits. When anchoring into another kind of ground, it is recommended to provide calculations and design of a new foundation. For correct application it is necessary to provide a control calculation taking into account the ground bearing capacity and to verify compliance of the pole, foundation and grillage base dimensions.

UZAVRETÉ MATICE A KOTEVNÉ SKRUTKY CLOSED NUTS AND ANCHOR BOLTS

UZAVRETÁ MATICA CLOSED NUT

DIN 1587

d	Váha 100ks/Weight 100pc (kg)	s (mm)	e (mm)	m (mm)	h (mm)	dk (mm)
M 12	2,83	19,0	21,10	10,0	22,0	18,0
M 16	5,43	24,0	26,75	13,0	28,0	23,0
M 20	10,40	30,0	33,53	16,0	34,0	28,0
M 24	21,60	36,0	39,98	19,0	42,0	34,0
M 30	36,70	46,0	52,00	24,0	52,0	42,0



KOTEVNÁ SKRUTKA ANCHOR BOLT

Typ/Type	M (mm)	L1 (mm)	L (mm)	kg
KS 10-200	10	25	200	0,25
KS 20-400	20	45	400	1,20
KS 24-600	24	45	600	2,40
KS 30-700	30	55	700	4,20
KS 36-1000	36x3	55	1000	8,30

UZEMNENIE STOŽIAROV EARTHING OF POLES

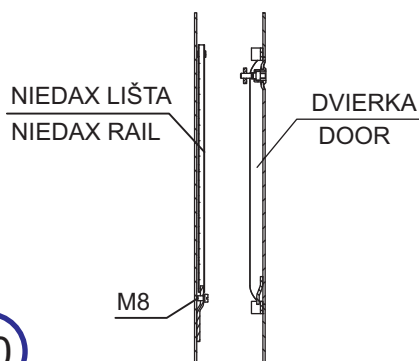
UZEMNENIE VO VNÚTRI DRIEKU EARTHING INSIDE THE SHAFT

ZÁVIT M8

(IBA PRE STOŽIARE S NIEDAX LIŠTOU)

THREAD M8

(ONLY FOR POLES WITH NIEDAX RAIL)



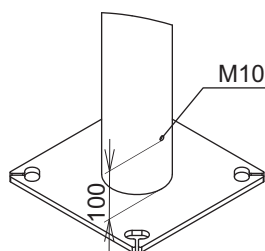
UZEMNENIE NA DRIEKU EARTHING OUTSIDE THE SHAFT

ZÁVIT M10

(OSVETĽOVACIE STOŽIARE)

THREAD M10

(LIGHTING POLES)

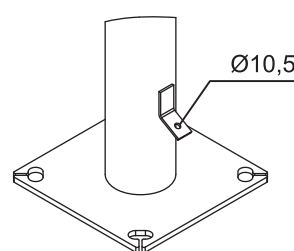


UZEMŇOVACÍ PÁSIK 30x4

(VÝŠKOVÉ, NIEKTORÉ TYPY OSVETĽOVACÍCH A ŠPECIÁLNYCH STOŽIAROV)

EARTHING STRAP 30x4

(HIGH-RISE, SOME TYPES OF LIGHTING AND SPECIAL POLES)



Hlavné zásady pre montáže oceľových osvetľovacích stožiarov

Main principles for assembling of steel lighting poles

1. Stožiare sa osádzajú do betónových základov v závislosti od únosnosti pôdy. Betónový základ môže byť pre osadenie stožiaru so zemou časťou, alebo pre stožiar s prírubou kotvenia na kotviaci rošt, alebo kotevnú skrutku, betónový základ musí mať otvory pre vstup a výstup el. káblov, uzemňovací zvod a otvor pre odvod vody.

2. Osvetľovacie stožiare sa majú stavať tak, aby dverka stožiarovej zvodnice boli umiestnené proti smeru jazdy vozidiel, alebo kolmo na smer jazdy. Osvetľovacie stožiare postavené na železničnom priestranstve majú dverka v smere osi koľajiska. Pri stavbe základov je nutné dbať na túto podmienku vzhľadom na orientáciu vstupných otvorov pre kábel.

3. Po vyzretí betónového základu (min.21 dní) sa stožiar osadí - zafixuje a až potom sa zaisťujú el. káble do stožiaru, prípadne i uzemňovací zvod.

4. Montáž svietidiel, resp. výložníkov a svietidiel na stožiar je možné vykonať pred osadením stožiaru do základu, alebo až po osadení stožiaru pomocou montážnej plošiny.

5. Montáž elektrickej výzbroje a elektroinštalácie môže vykonávať len osoba k tomu oprávnená.

6. Stožiare majú byť chránené pred atmosférickými výbojmi podľa STN 341390, STN 332050 uzemnenie el. zariadení, STN 332000-5-54Z1 uzemňovacie sústavy a ochranné vodiče. Napojenie zvodu je možné z vnútornej resp. vonkajšej strany.

7. Pri montáži je nutné dodržiavať bezpečnostné predpisy pre daný druh montáže.

8. Pri manipulácii sa nesmú používať oceľové laná, aby nedošlo k poškodeniu povrchovej úpravy.

9. Stožiare, ktoré nemajú povrchovú úpravu vykonanú žiarovým zinkovaním, sú natreté základným náterom. Pri dodávke takýchto stožiarov je výrobca povinný udať druh použitého základného náteru, aby užívateľ mohol použiť správny vrchný náter.

10. Podrobný postup montáže je povinná vypracovať tá organizácia, ktorá zabezpečuje realizáciu montáže stožiarov. Doporučujeme konzultovať s výrobcou.

11. Po ukončení montáže stožiaru a pred uvedením do užívania je nutné vykonať východziu revíziu v zmysle STN 331500.

12. Montáž výškových stožiarov a stožiarov nasúvaných tvorí samostatnú časť. Vid'. strana 32 - 33.

13. Na betónovom základe odporúčame vytvoriť spádovú striešku.

1. Poles are embedded into a concrete basement depending on ground bearing capacity. Concrete basement can be used for poles with a ground segment or with a flange used for anchoring on a grillage base or bolts. Concrete basement must be provided with holes for el. cables, earthing and water draining.

2. When installing lighting poles position the pole doors backward to traffic or perpendicular to it. Lighting poles placed in the railway area have their doors in track centre line direction. While preparing concrete basement, it is necessary to respect the requirement regarding orientation of entrance cable holes.

3. After maturing of concrete basement (min. 21 days) a pole is embedded and fixed. Only after that electrical cables or earthing wire might be provided.

4. Fixation of luminaires with or without brackets can be performed before embedding of a pole into concrete basement or after embedding with the help of an assembly platform.

5. Electro-installation can be provided by an authorized person only.

6. Poles are to be protected against atmospherical discharges in compliance with STN 341390, STN 332050 earthing of electrical devices, STN 332000-5-54Z1 earthing sets and protective conductors. Cable drop connection is enabled both from inside and outside.

7. While assembling it is necessary to follow the general safety regulations for a certain method of assembling.

8. It is prohibited to use steel ropes to prevent surface finish damage.

9. Non-galvanized poles must be primer painted. Before delivering producer has to indicate type of primer painting, so that a customer can apply proper finishing coating.

10. Assembling organization responsible for installation of poles is obliged to elaborate a detailed installation procedure. Consultation with producer is recommended.

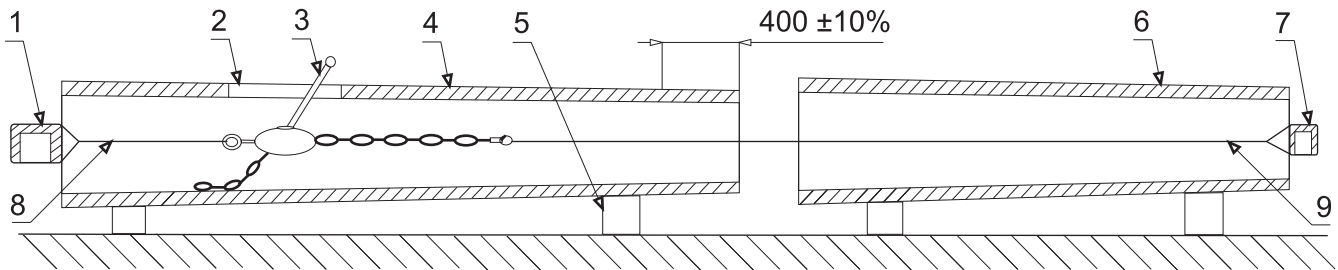
11. After assembling and before using the Initial Revision in compliance with STN 331500 is required.

12. Assembling of high-rise poles – see page 32 - 33.

13. It is recommended to create a tributary shed on a concrete basement.

Spôsob nasúvania UDO stožiarov

Inserting procedure for UDO poles



Obr. č. 1/Drawing No. 1

1. profil U65/profile U65 ; 2. dverka/door ; 3. reťazový kladkostroj/chain pulley block ; 4. spodný driek/bottom shaft ; 5. podperné hranoly/support beams ; 6. vrchný driek/top shaft ; 7. profil U50/profile U50 ; 8. oceľové lano/steel rope ; 9. oceľové lano/steel rope

1. Na podperné hranoly (poz.č.5) položíme diely (poz.č.4 a poz.č.6). Na vrchnú časť dielu (poz.č.4) označíme dĺžku nasunutia 400mm a ešte pridáme 100mm kvôli spätnej kontrole nasunutia. Nasunutie môže byť v tolerancii $\pm 10\%$ z dĺžky 400mm. Pri prenášaní driekov používať výlučne iba konopné laná.

2. Nasadíme lano (poz.č.9) na U profil (poz.č.7) a kladkostroj typ RZC 1.6 (poz.č.3). Lano (poz.č.8) navlečieme na U profil (poz.č.1) a pripevníme o hák kladkostroja, ako je to zobrazené na obr.č.1. Pri nasúvaní dielov je nutné pomáhať údermi kladiva cez drevený hranol v mieste súvania.

3. Dĺžka nasunutia dielov je stanovená na 400 mm $\pm 10\%$. Pri nasúvaní kontrolujeme pozdĺžne zvary jednotlivých dielov v miestach ich spojenia. Tiež je potrebné skontrolovať priamosť drieku stožiaru ako jedného celku.

4. Výrobca odmieta zodpovednosť za škodu spôsobenú nesprávnym (nedostatočným) nasunutím drieku. V prípade problémov pri montáži doporučujeme konzultovať s výrobcom.

Zoznam použitých pomôcok pre montáž stožiarov

Poz.1	U 65 - 500 mm	STN 425570	1ks
Poz.3	Reťazový kladkostroj typ	RZC 1.6 1,5	1ks
Poz.5	Podperné hranoly	150x150-500 mm	4ks
Poz.7	U 50 - 300 mm	STN 425570	1ks
Poz.8	Oceľové lano $\varnothing 14$ -L (podľa typu stožiaru)	STN 02 4322.41	1ks
Poz.9	Oceľové lano $\varnothing 14$ -L (podľa typu stožiaru)	STN 02 4322.41	1ks
	Lanové svorky na lano	14 A35	4ks
	Drevený hranol (podložka na udieranie pri nasúvaní)		1ks
	5 kg kladivo		1ks
	Vidlicové kľúče na dotiahnutie lanovej svorky		2ks
	Ochranné pracovné prostriedky pre pracovníkov		
	Autožeriav (podľa potreby)		

1. Place pole shafts (pos.No. 4 and pos.No. 6) on support billets (pos.No.5 pct.no.1). Mark length of insertion (400mm) on a top shaft (No.4) and add another 100mm for back control. Insertion within tolerance $\pm 10\%$ of 400 mm length. While manipulating with shafts use hemp ropes only.

2. Slide the rope (No.9) over U profile (No.7) and chain pulley block type RZC 1.6 (No.3). Slide the rope (No.8) over U profile (No.1) and fasten it onto a hook of the chain pulley block as shown on drawing No.1. While inserting help yourself with a hammer striking it over the wooden billets.

3. Length of insertion is 400 mm $\pm 10\%$. While inserting check over the longitudinal welding of single shafts in place of joining. It is also necessary to check straightness of a pole shaft as a whole unit.

4. Producer bears no responsibility for damages caused by incorrect shaft insertion. In case of problems during installation it is recommended to contact the producer.

List of used facilities for assembling of poles

Pos.1	U 65 - 500 mm	STN 425570	1pc
Pos.3	Chain pulley block type	RZC 1.6 1,5	1pc
Pos.5	Support billets	150x150-500 mm	4pcs
Pos.7	U 50 - 300 mm	STN 425570	1pc
Pos.8	Steel rope $\varnothing 14$ -L (according to a pole type)	STN 02 4322.41	1pc
Pos.9	Steel rope $\varnothing 14$ -L (according to a pole type)	STN 02 4322.41	1pc
	Rope clamps	14 A35	4pcs
	Wooden billets		1pc
	5 kg hammer		1pc
	Fork wrenches for tightening of clamps		2pcs
	Protective work facilities for workers		
	Automobile crane (if needed)		

STAVBA UDO STOŽIAROV

Erection of UDO poles

1. Pripravený stožiar zdvihneme pomocou opásania drieku nekonečným lanom (poz.č.2), v približne jednej tretine od vrcholu stožiaru. Nekonečné lano je potrebné zaistiť istiacim lanom (poz.č.4), ktoré zabráni prípadnému vyšmyknutiu zo stožiaru (viď. obr.č.2). Pomocou lán a autožeriava premiestnime stožiar do zvislej polohy a presunieme do dutiny základového bloku. Priestor medzi základovým blokom a stožiarom zaistíme drevenými klinmi (poz. č. 6). Kolmost' stožiaru v dvoch navzájom kolmých rovinách treba zaistiť meracím prístrojom TEODOLIT a následne zabetónovať.

V prípade prírubového stožiaru budeme postupovať obdobne a premiestnime stožiar do zvislej polohy nad zabetónovaný základový rošt. Prírubu stožiaru nasunieme na skrutky, ktoré vyčnievajú zo základového roštu a zaistíme maticami.

2. Počas montáže, údržby a obsluhy stožiarov treba dodržiavať všeobecne platné bezpečnostné predpisy, ktoré spracováva na vlastné podmienky montážna, užívateľská alebo servisná organizácia. Rozsah montáže, servisu a údržby je vymedzená objednávkou.

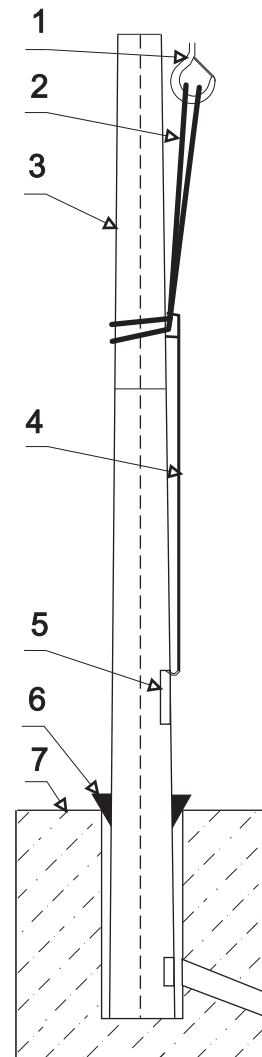
Po ukončení montáže a pred uvedením do prevádzky je nutné vykonať východiskovú revíziu v zmysle STN 331500.

1. An assembled pole must be lifted up with the help of endless rope belted around a pole shaft in about one third from the top of a pole (pos.No2). Endless rope must be secured by a securing rope (pos.No4) that prevents slipping out (pos.No2). By using a rope and automobile crane the pole must be positioned vertically and inserted into a basement block cavity. Trenails must be inserted between basement and pole (pos. No6). It is necessary to ensure uprightness of the pole in two upright positions by TEODOLIT measuring equipment and subsequently to embed it into concrete.

Erection procedure for poles with flange is analogical. Pole must be positioned vertically over a grillage base embedded into concrete. Then a pole flange must be put over the bolts towered above the grillage base and secured by nuts.

2. It is necessary to follow the general safety regulations while assembling, maintaining and servicing. These regulations are processed by an assembling, maintaining or servicing organization. The scope of assembling, maintaining and servicing is ranged by an order.

Having finished the assembling and before starting to use it is necessary to perform the initial inspection in compliance with STN 331500.



Obr.č. 2/Drawing No. 2

1. hák žeriava/hook of crane ; 2. konopné lano/hemp rope ; 3. stožiar/pole ; 4. istiace lano/securing rope ; 5. dvierka/door ; 6. drevené klíny/trenails ; 7. základový blok/basement block

Zoznam použitých pomôcok pri stavaní stožiaru

Zaist'ovacie oceľové lano $\varnothing 8$ -L mm (podľa typu stožiaru) STN 02 4322.41	1ks
Oceľové lano $\varnothing 16$ -2000 mm STN 02 4322.41s dvomi okami	1ks
Konopné lano 3000mm	2ks
Vidlicové kľúče na dotiahnutie lanovej svorky	2ks
Drevené klíny	8ks
Autožeriav	

List of used instruments for erection of a pole

Securing steel rope $\varnothing 8$ -L mm (according to a pole type) STN 02 4322.41	1ks
Steel rope $\varnothing 16$ - 2000 mm STN 02 4322.41 with two eyes	1ks
Hemp endless rope 3000 mm	2ks
Fork wrench for tightening a rope clamp	2ks
Trenails	8ks
Automobile crane	

Výber výložníkov pomocou porovnávacej plochy

Pomôcka pre zákazníkov na výber správneho výložníka z hľadiska únosnosti stožiaru.

Porovnávacia plocha je hodnota odvodená od záťaže, ktorou výložník pôsobí na stožiar v daných podmienkach. Podmienky sú rýchlosť vetra, kategória terénu a svetidlo.

Pre vytvorenie tabuliek „**Porovnávacia plocha**“ bolo počítané zo svetidlom o **náveternej ploche 0,15 m² a hmotnosti 15kg**. Pri použití svetidla, u ktorého sa tieto hodnoty odlišujú o viac ako 10%, tabuľka funguje orientačne. V takomto prípade pre spoľahlivý výber stožiaru s výložníkom kontaktujte výrobcu.


Návod:


1. určenie základnej rýchlosti vetra podľa **STN EN 1991-1-4**.

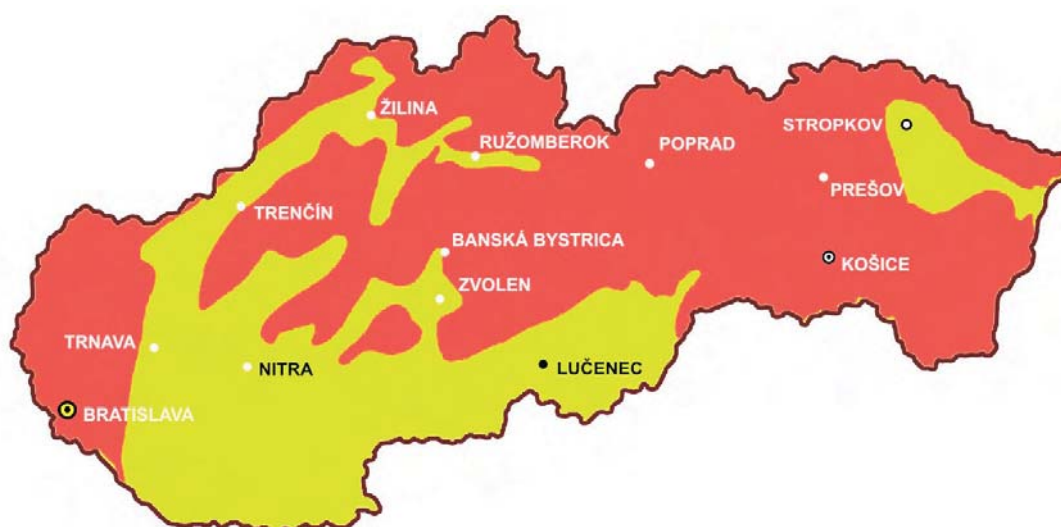
- výber lokality podľa veternej mapy Slovenska. Platí do 700m n.m.

 Oblasť I - $V_{ref,0} = 24$ m/s

 Oblasť II - $V_{ref,0} = 26$ m/s

 Oblasť III - $V_{ref,0} = 30$ m/s (700 - 1300m n.m.)

 Oblasť IV - $V_{ref,0} = 33$ m/s (horské oblasti nad 1300m n.m.)



- výber kategórie terénu I. až IV. Podľa návodu . (vid' nižšie)



Kategória terénu 0

More alebo pobrežné oblasti otvorené k moru



Kategória terénu I

Jazerá alebo oblasti so zanedbateľnou vegetáciou a bez prekážok.



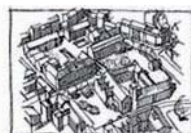
Kategória terénu II

Oblasť s nízkou vegetáciou ako je tráva a izolovanými prekážkami (stromy, budovy), vzdialenými od seba najmenej 20 násobku výšky prekážok.



Kategória terénu III

Oblasť rovnomerne pokrytá vegetáciou, pozemnými stavbami alebo izolovanými prekážkami, ich vzdialenosť je maximálne 20 násobok výšky prekážok (ako sú obce, predmestský terén, súvislý les).



Kategória terénu IV

Oblasť v ktorých je najmenej 15% povrchu pokrátého budovami, ich priemerná výška je väčšia ako 15m.

2. výber stožiaru a výložníka z katalógu .

3. Zistenie vhodnosti kombinácie vybraných dielov. (farebné stĺpce v tab. stĺpov a výložníkov)

-Hodnotu „plocha m²“ stožiaru deliť zistenou hodnotou „porovnávacia plocha“ výložníka. Pri výsledku viac alebo rovná sa 1, výložník môže byť montovaný na vybraný stožiar.

Príklad:

-Stožiar STK 60/60/3. Plocha m² = 0,40

-Výložník V1T-05-D

lokalita - Bratislava. = 26m/s

kategória terénu – predmestie. Podľa návodu kategória terénu = III.

Podľa tabuľky výložníkov porovnávacia plocha = 0,20

Plocha m² / porovnávacia plocha

0,40/0,20 = 2,0 . vyhovuje

Selection of brackets by „comparative surface area“

Guide for a customer to select a suitable bracket in terms of the load capacity of a pole.





Comparative surface area is a value derived from the load of the bracket mounted on the pole in given conditions. These conditions are wind velocity, terrain category and luminaire.

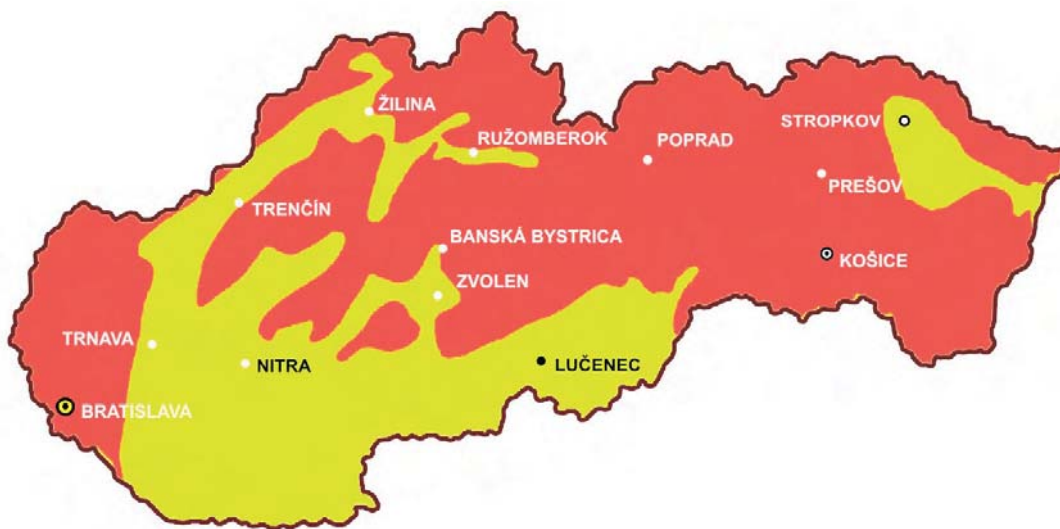
The table „**Comparative Surface Area**“ is based on calculations where luminaire **has 0,15 m² surface area exposed to the wind and its weight is 15 kg**. When using luminaires of values different to those in the table by more than 10% the Comparative Surface Area Table should only be taken as informative. In this case consultation with producer is required.

Instructions:

1. State basic wind velocity in compliance with **STN EN 1991-1-4**:

- Select locality according to wind velocity map of Slovakia. Valid up to 700 m a.s.l.

	Locality I - $V_{ref,0} = 24$ m/s		Locality III - $V_{ref,0} = 30$ m/s (700 - 1300m a.s.l.)
	Locality II - $V_{ref,0} = 26$ m/s		Locality IV - $V_{ref,0} = 33$ m/s (mountain locality up 1300m a.s.l.)



- Select terrain category – from I. to IV according to instructions below.



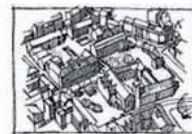
Terrain category 0
Sea, coastal area exposed to the open sea.



Terrain category III
Area with regular cover of vegetation or buildings or with isolated obstacles with separations of maximum 20 obstacle heights (such as villages, suburban terrain, permanent forest)



Terrain category I
Lakes or area with negligible vegetation and without obstacles.



Terrain category IV
area in which at least 15% of the surface is covered with buildings and their average height exceeds 15m.



Terrain category II
Area with low vegetation such as grass and isolated (trees, buildings) with separations of at least 20 obstacle heights.

2. Select type of pole and bracket.

3. Find out if a selected bracket is suitable for a selected pole (coloured columns in the Tables of Poles and Brackets).

- Divide the value „surface in m²“ by the value „Comparative Surface Area“ of the bracket. In case if the result is equal or more than 1, the bracket is suitable for the pole.

Example:

- Pole STK 60/60/3. Surface area m² = 0,40

- Bracket V1T-05-D

Location - Bratislava. = 26m/s

Terrain category – suburbs. According to instructions it is category III.

According to the Table of Brackets the comparative surface area = 0,20

Surface area m² / comparative surface
0,40/0,20 = 2,0 - suitable.

Prefabrikované základy ELV Produkt - PZR

ELV Produkt a.s. Precast foundations type PZR

Použitie

Prefabrikované betónové základy PZR sú vhodnou alternatívou základovej pätky vylievanej na mieste. Svoje využitie nájdu všade kde je sťažený prístup domiešavačom betónu, alebo je nepraktické zabezpečovať betónovanie mokrým procesom.

Konštrukcia

Prefabrikovaný základ je vyrobený z vibrovaného betónu. Obsahuje kotevné skrutky pre kotvenie stožiarov alebo iných konštrukcií s kotevnou platňou. Rozostup skrutiek je zhodná zo základovým roštom typu: ZR1-5. Vo dvoch protiahlých stranách sú otvory pre vedenie káblov. Horná hrana základu má byť osadená 100mm nad úrovňou terénu. Okolité zásypaná zemina má byť zhutnená. Únosnosť základu je závislá na kvalite pôdy.

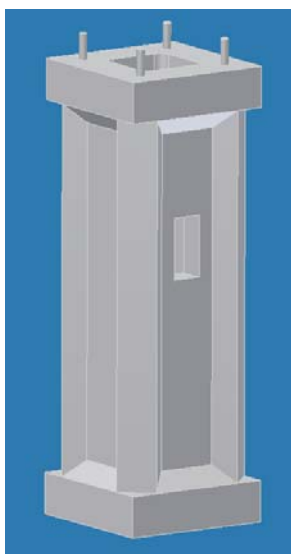
Usage

Precast concrete foundations PZR are designed to be an adequate alternative for a foundation filled-up at site. They are mainly used in places difficult to reach by a concrete agitation truck or for the reason of impracticability of wet-concreting.

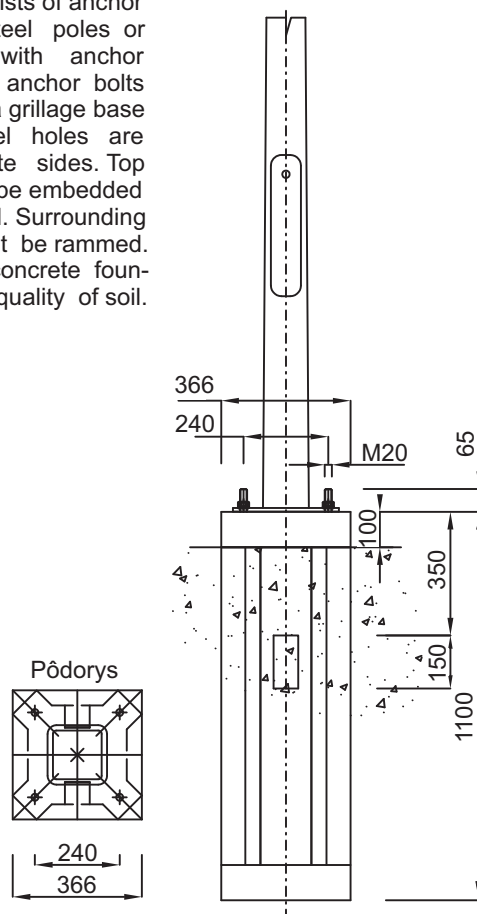
Construction

Precast concrete foundation is made of vibrated concrete. It consists of anchor bolts for anchoring of steel poles or another constructions with anchor flange. Distance between anchor bolts corresponds to those on a grillage base type ZR1-5. Two cable holes are situated on two opposite sides. Top edge of foundation must be embedded 100mm over ground level. Surrounding backfill earth soil must be rammed. Bearing capacity of a concrete foundation depends on the quality of soil.

PZR 1



Hmotnosť 198kg
Weight 198kg



Výber prefabrikovaného základu PZR k jednotlivým stožiarom treba prekontrolovať výpočtom podľa platných noriem. Pre správny výber základov sú potrebné nasledovné údaje:

- typ stožiara
- typ výložníka
- typ alebo údaje svietidla (náveterná plocha, rozmer, hmotnosť)
- pôda
- lokalita umiestnenia, alebo základnú rýchlosť vetra a kategóriu terénu podľa EN 1991-1-4

Selection of a precast concrete foundation type suitable for a particular pole has to be verified by calculation according to existing legislation. To select a suitable foundation the following information is required:

- type of pole
- type of bracket
- type or parameters of lamp (windward surface area, dimensions, weight)
- type of earth soil
- site location or basic wind velocity and terrain category according to EN 1991-1-4



Václavské náměstie - Praha



Aupark - Bratislava



Europa - Banská Bystrica



KIA - Žilina



Praha



Senec



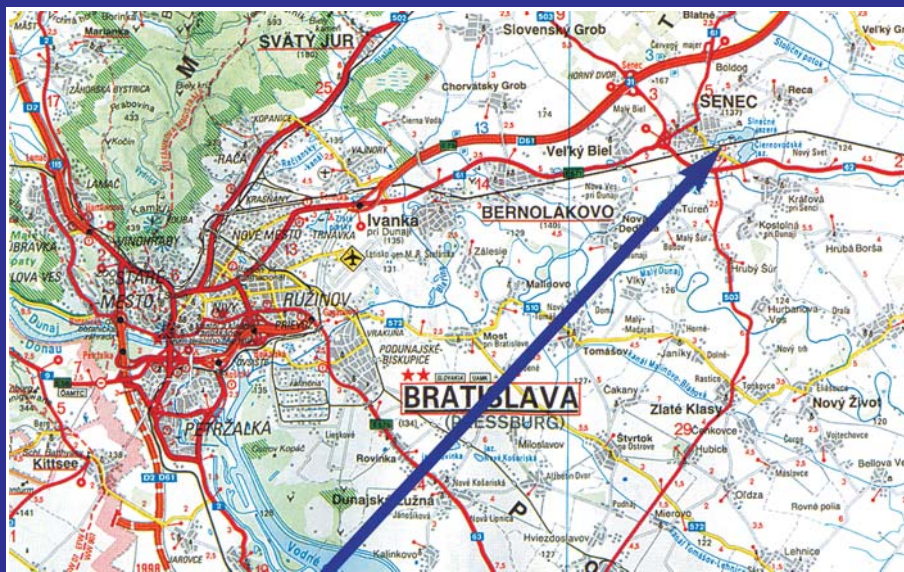
Karlové Vary



Jasná



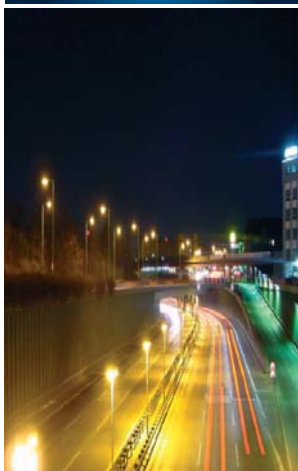
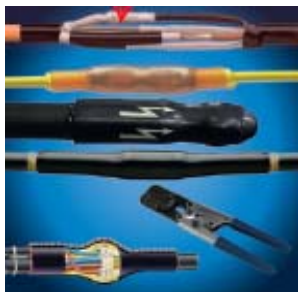
Bratislava



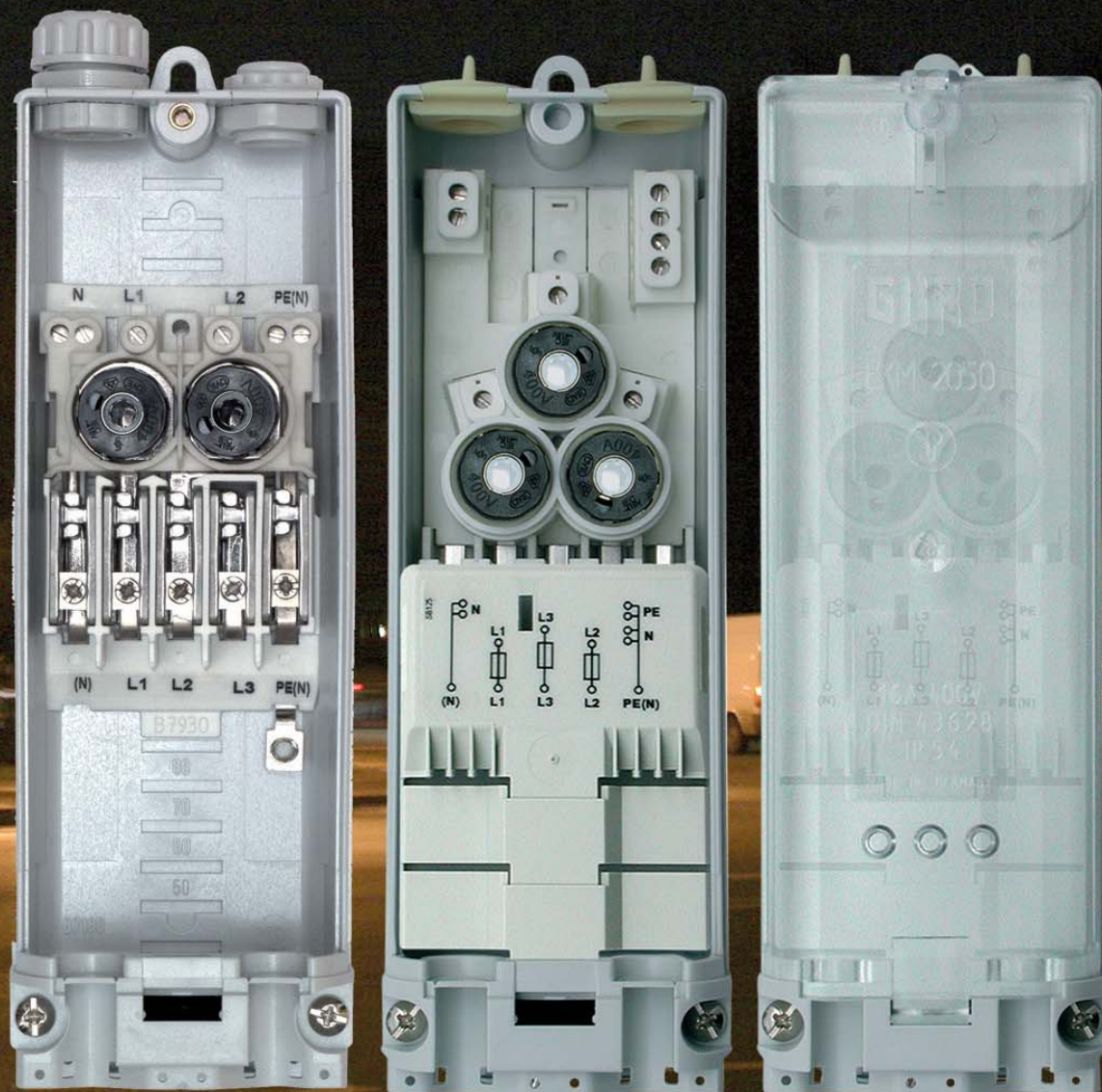
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Stožiarové elektrovýzbroje



PRIPOJOVACIE ROZVODNICE



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Pripojovacie rozvodnice pre verejnú osvetlenie

TECHNICKÉ RIEŠENIE

Pripojovacie rozvodnice sú určené na montáž do stĺpov verejného osvetlenia alebo aj pre vonkajšiu montáž. Sú určené pre pripojenie prívodných káblov a svietidla pri zabezpečení vysokej spoľahlivosti prevádzky. Rozvodnice splňujú vysoký stupeň krytia (IP) a triedu ochrany II, čím je zabezpečená bezpečnosť pri montáži a údržbe zariadenia.

Pripojovacia rozvodnica môžeme rozdeliť na 3 funkčné časti:

1. Ukončenie a pripojenie prívodného kábla
2. Časť s poistkami alebo DIN-lištami
3. Pripojenie káblu k svietidlu

I napriek rozmerom a pevnosti prívodných káblov umožňujú pripojovacie rozvodnice slučkové pripojenie stĺpov. Pre pripojenie káblov sú použité plášťové alebo posuvné svorky.

Poistková časť je osadená 1–3 poistkovými spodkami pre istenie svietidiel a oddelenie od ostatných častí systému verejného osvetlenia. Namiesto poistkových spodkov môžu byť rozvodnice osadené DIN lištami pre montáž prvkov napr. časové relé, ističe a pod.

Časť pre pripojenie svietidla je vybavená radovou svorkovnicou alebo svorkami pre pripojenie káblových ôk. Kábel prechádza cez tesniacu priechodku alebo je utesený skrutkovacou vývodkou.

KONŠTRUKCIA

Kryt pripojovacej rozvodnice je vyrobený z nárazu odolného, oheň nešíriaceho termoplastického materiálu. Všetky kovové časti sú buď z nerezovej ocele alebo z galvanicky pokovenej medenej zliatiny. Pripojovacie spodky sú porcelánové alebo z vysoko pevnostného plastu zosilneného skleneným vláknom. Podľa typu rozvodnice je stupeň krytia v rozsahu od IP 43 do IP 54. Rozvodnica s IP 54 je vhodná pre vonkajšiu montáž. Všetky rozvodnice splňujú triedu ochrany II.

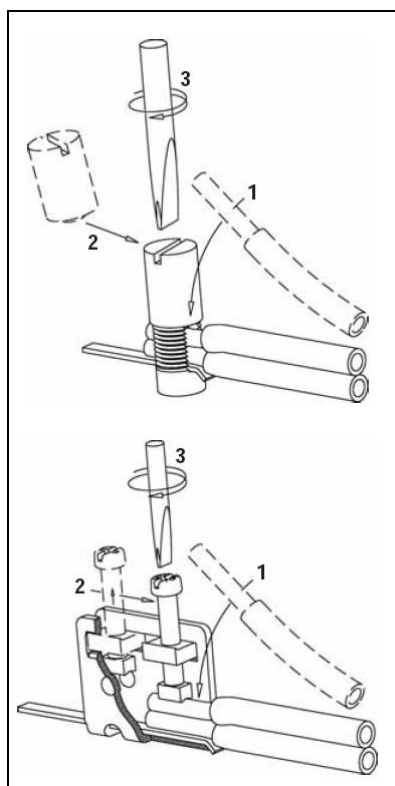
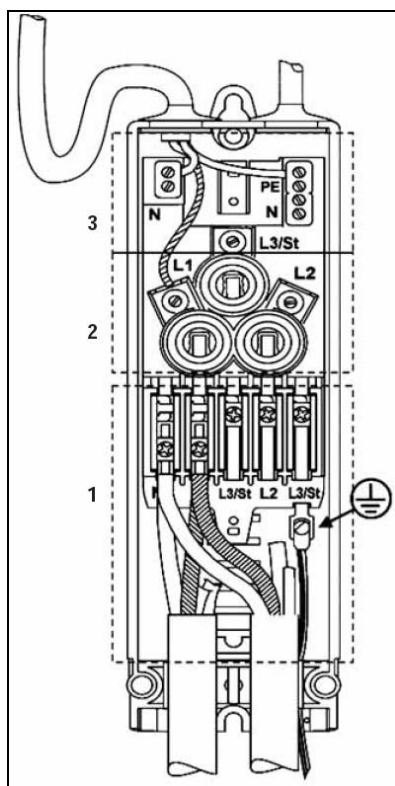
Pripojovacie rozvodnice sa ľahko inštalujú do stĺpov verejného osvetlenia s rozmermi dvierok podľa EN 40-2 (stĺpy verejného osvetlenia – rozmery a tolerancie) a s upevňovacími prvkami podľa DIN 49778 (stĺpy verejného osvetlenia, konzoly s posuvnými skrutkami pre montáž zariadení). Pre iné spôsoby upevnenia je k dispozícii, ako príslušenstvo, adaptér pre upevnenie rozvodnice.

SKÚŠKY

Pripojovacie rozvodnice sú navrhnuté a vyrábané podľa noriem DIN a VDE:

- VDE 0660-505 (spínacie a riadiace prístroje nn ; Špecifikácia pre skrinky poistkových a pripojovacích rozvodníc).
- DIN 43628 (Pripojovacie rozvodnice pre istenie káblov).

Skúšobné protokoly sú k dispozícii na vyžiadanie.



Pripojenie pomocou plášťových a posuvných svoriek

Výberové tabuľky

Pripojovacie rozvodnice

VÝBEROVÁ TABUĽKA PRIPOJOVACIE ROZVODNICE

Podmienky pre voľbu	Rozmery stíпов (mm)		Rozsah použitia káblov (počet žíl x prierez mm ²)			Poistkový spodok	Svorkovnica	Stupeň krytia	Označenie výrobku
	Vnútorň priemer	Dvierka	1 kábel	2 káble	3 káble				
veľmi malé stípy a káble / vonkajšie	59	58x150	5x1,5-4	5x1,5-4	-	1xE14 prepojené, vrátane poistky	radová svorkovnica	IP 55	EKM 2045
malé stípy a káble	84	70x240	5x2,5-16	5x2,5-16	5x2,5-16	2xE14 prepojené, s poistk. hlavami	plášťové svorky	IP 44	EKM 2020
stredné stípy a káble / vonkajšie / 2 / 3 x E14	90	85x270	5x2,5-25	5x2,5-25	5x2,5-16	2/3xE14 prepojené s hlavicami / DIN-lišta	posuvné svorky	IP 54	EKM 2050
stredné stípy a káble / vonkajšie / špeciálne aplikácie	100	85x350	5x2,5-25	5x2,5-25	5x2,5-16	2/3/4xE14 / DIN-lišta	posuvné svorky	IP 54	EKM 2051
stredné stípy / malé káble / 1 x E27	90	80x210	4/5x6-16	4/5x6-16	-	1xE27	plášťové svorky	IP 43	EKM 1271
stredné stípy a káble / 2 x E27	90	80x260	4x6-25	4x6-25	-	2xE27	plášťové svorky	IP 43	EKM 1272
vonkajšie / malé káble / 1/2 x E27	100	80x250	4x6-16	4x6-16 5x10	- 5x10	1/2xE27/ DIN-lišta	plášťové svorky	IP 54	EKM 1261
vonkajšie / malé káble / 2/3 x E14	100	80x250	5x10	5x10	5x6	2/3xE14/ DIN-lišta	plášťové svorky	IP 67	EKM 1261S
stredné stípy / veľké káble	90	80x280	5x6-16, 5x25-35	5x6-16, 5x16-35	-	1/2xE27	plášťové svorky	IP 43	EKM 2072
vonkajšie / veľké káble	120	100x300	5x25 4x35	5x16-25, 4x16-35	-	1/2xE27/ DIN-lišta	plášťové svorky	IP 54	EKM 1281
vonkajšie / veľké káble	120	100x300	5x25 4x35	5x16-25, 4x16-35	-	2/3xE14/ DIN-lišta	posuvné svorky	IP 67	EKM 1281S
veľké stípy a káble	110	90x300	4x4-50	4x4-50	4x4-35	1/2xE27/ DIN-lišta	posuvné svorky	IP 43	EKM 2035
vonkajšia montáž na steny a stípy	--	--	3x1,5-4	--	-	1x10x38	radová svorkovnica	IP 54	EKM 2045-1FN

VÝBEROVÁ TABUĽKA PRIPOJOVACIE ROZVODNICE S PREPÄŤOVOU OCHRANOU – PRE LED SVIETIDLÁ

Objednávacie číslo výrobku s prepäťovou ochranou	Počet ochrán	Typ prepäťovej ochrany	Číslo výrobku
EKM-2020-2D1-1SA	1 x	COBOX-SLSA10-W-O	BM3996-000
EKM-2050-2D1-5S/U-1SA	1 x	COBOX-SLSA10-S-S	BM3991-000
EKM-2050-2D1-5S/U-2SA	2 x	COBOX-SLSA10-S-S	BM3992-000
EKM-2051-2D1-5S/U-2SA	2 x	COBOX-SLSA10-S-D	BM3993-000
EKM-2051-3D1-5S/U-3SA	3 x	COBOX-SLSA10-S-D	BM3994-000
EKM-2051-5S-1R/D-RK-1SA	1 x	COBOX-SLSA10-S-D	BM3313-000

VÝBEROVÁ TABUĽKA DOPLNENIE PREPÄŤOVEJ OCHRANY – PRE LED SVIETIDLÁ

Umiestnenie prepäťovej ochrany	Objednávacie číslo prepäťovej ochrany	Číslo výrobku	Vhodné pre dodatočnú montáž do pripojovacej rozvodnice typ:
Do LED svietidla	COBOX-SLSA10-W-O	BM4003-000	--
Do stĺpa verejného osvetlenia	COBOX-SLSA10-S-X7	BM3285-000	--
Do rozvodnej skrine	COBOX-ADSA30-S-D	BM4005-000	--
Do pripojovacej rozvodnice	COBOX-SLSA10-W-O	BM4003-000	EKM-1261, EKM-1262, EKM-1270 EKM-2020, EKM-2035
Do pripojovacej rozvodnice	COBOX-SLSA10-S-S	BM3314-000	EKM-1281, EKM-1282, EKM-2050
Do pripojovacej rozvodnice	COBOX-SLSA10-S-D	BM3315-000	EKM-2035, EKM-2051
Do pripojovacej rozvodnice	COBOX-ADSA30-S-D	BM4005-000	EKM-2051

Široký výber ďalších typov pripojovacích rozvodníc pre iné prierezy káblov, poistiek a príslušenstva je k dispozícii na vyžiadanie

Pripojovacie rozvodnice pre verejné osvetlenie

ROZVODNICE S POISTKAMI TYPU D 01 (E14)



EKM 2020



EKM 2050

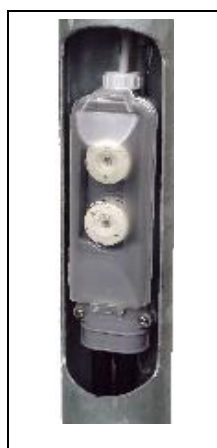


EKM 2051

ROZVODNICE S POISTKAMI TYPU D II (E27)



EKM 1271



EKM 1272



EKM 2072



EKM 2035

ROZVODNICE PRE VONKAJŠIU MONTÁŽ AJ PRE MONTÁŽ DO STĽPOV VEREJNÉHO OSVETLENIA



EKM 2045



EKM 2050FH



EKM 1261

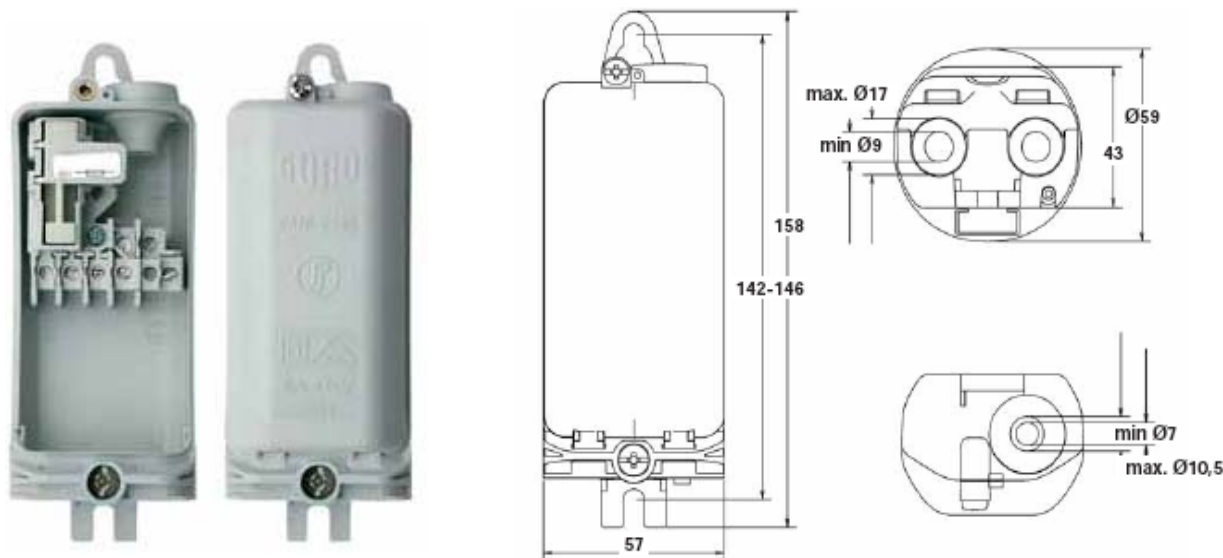


EKM 1281

EKM 2045 - Pripojovacia rozvodnica s poistkami D01 (E14)

Priemer stĺpu ≥ 59 mm aj pre vonkajšiu montáž
Prívodný kábel ≤ 4 mm²

Pripojovacie
rozvodnice



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre vonkajšiu montáž a do stĺpov verejného osvetlenia. Umožňuje slučkovanie prívodných káblov a ochranu svietidla poistkami.

PODMIENKY PRE VOĽBU

- Pre montáž do stĺpov verejného osvetlenia aj vonkajšiu montáž.
Priemer stĺpu: ≥ 59 mm
Rozmery dvierok: $\geq 58 \times 150$ mm
- 5 pólová radová svorkovnica pre 2 káble 1,5 - 4 mm²
- Vrátane poistky D01 - 4 A

TECHNICKÉ ÚDAJE

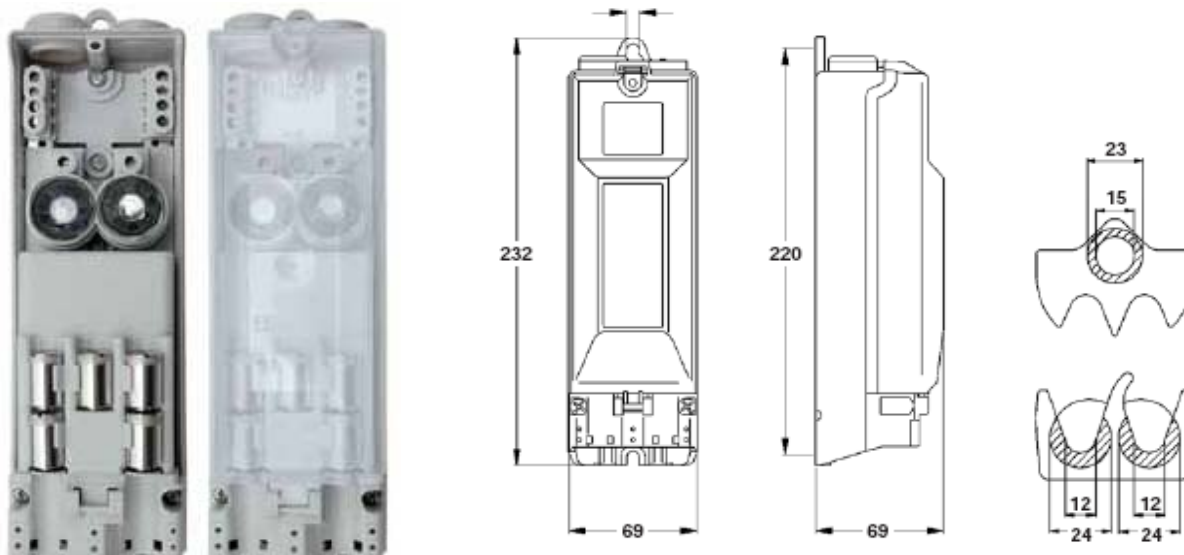
- Zodpovedá DIN VDE 0660-505
- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Šedý kryt
- Špeciálne pripojovacie puzdro
- Poistka zapojená na L1
- Krytie: IP 55
- Trieda ochrany II
- Rozsah utesnenia pre káble
 $\varnothing 9 - 17$ mm prívodný kábel (2x)
 $\varnothing 7 - 10,5$ mm kábel k svietidlu (1x)
(3x 1,5 mm² - 3x2,5 mm²)

Poistkový spodok	Prierez jadier (mm ²)		Objednávacie číslo
	pre 1 a 2 káble	pre 3 káble	
1 x D 01 - 4A	5 x 1,5 - 4	-	EKM-2045-1D1-4

POZNÁMKA: Dodávané s poistkou 4A. Príslušenstvo a náhradné diely pozri stranu 18 a 19

EKM 2020 - Pripojovacia rozvodnica s poistkami D01 (E14)

Priemer stĺpu ≥ 84 mm
Prívodný kábel ≤ 16 mm²



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre montáž do stĺpov verejného osvetlenia. Umožňuje slučkovanie prívodných káblov a ochranu svietidla poistkami.

PODMIENKY PRE VOĽBU

Pre montáž do stĺpov verejného osvetlenia
Priemer stĺpu: ≥ 84 mm
Rozmery dvierok: $\geq 70 \times 240$ mm

- 5 plášťových svoriek pre
2 káble 2,5 - 16 mm²
alebo
3 káble 2,5 - 16 mm²
- Pre 2 poistky D01 (E14) do 16 A

TECHNICKÉ ÚDAJE

- Zodpovedá DIN VDE 0660-505 a DIN 43628
- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Priehľadný kryt
- S poistkovými hlavicami
- Svorky zapojené (N, 1,3,2,PE(N))
- Krytie: IP 44
- Trieda ochrany II
- Rozsah utesnenia pre káble
Ø 10 - 25 mm prívodný kábel (2x)
Ø 10 - 23 mm prívodný kábel (3x)
Ø 8 - 14 mm kábel k svietidlu
(2 utesnenia pre 2 káble k svietidlu
3x 1,5 mm² - 5x2,5 mm²)
- Káble k svietidlu je možné pripojiť aj zo spodku paralelne s prívodnými káblami max. Ø 11,5 mm (2x)

Poistkový spodok	Prierez jadier (mm ²)		Objednávacie číslo
	pre 1 a 2 káble	pre 3 káble	
2 x D01 (E14)	5 x 2,5 - 16	5 x 2,5 - 16	EKM-2020-2D1
2 x D01 (E14)	5 x 2,5 - 16	5 x 2,5 - 16	EKM-2020-2D1-B

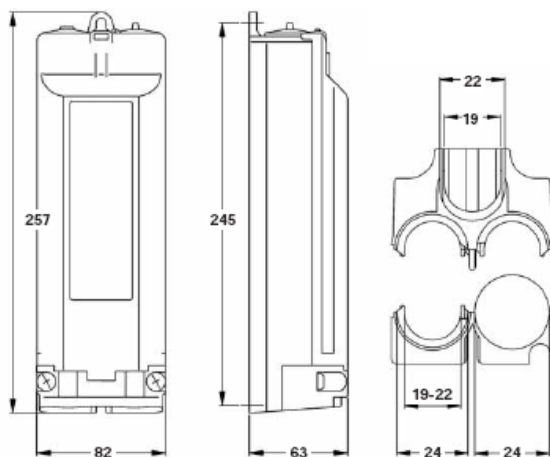
Pripojovacia rozvodnica s prepäťovou ochranou

2 x D01 (E14)	5 x 2,5 - 16	5 x 2,5 - 16	EKM-2020-2D1-1SA
---------------	--------------	--------------	------------------

POZNÁMKA: Poistky nie sú súčasťou rozvodnice. Príslušenstvo a náhradné diely pozri stranu 18 a 19.

EKM 2050 - Pripojovacia rozvodnica s poistkami D01 (E14)

Priemer stĺpu ≥ 90 mm aj pre vonkajšiu montáž
Prívodný kábel ≤ 25 mm²

Pripojovacie
rozvodnice

Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre montáž do stĺpov verejného osvetlenia (typ 2050) a pre vonkajšiu montáž (typ 2050FH). Umožňuje slučkovanie prívodných káblov a ochranu svietidla poistkami.

Pripojovacie rozvodnice pre iné prierezy káblov, typy poistiek a príslušenstvo sú k dispozícii na vyžiadanie.

PODMIENKY PRE VOĽBU

- Typ 2050 pre montáž do stĺpov verejného osvetlenia
Priemer stĺpu: ≥ 90 mm (D01)
Rozmery dvierok: $\geq 85 \times 270$ mm
- Typ 2050F a 2050FH pre vonkajšiu montáž aj do stĺpov verejného osvetlenia
- 5 posuvných svoriek pre 2 káble

2 káble 2,5 - 25 mm²
alebo 3 káble 2,5 - 16 mm²

- Typ 2050, F, FH:
poistky D01 (E14) do 16 A
alebo 1 DIN lišta
- Typy s DIN lištou: Pre montáž 3 zariadení na DIN-lištu do šírky (3 x 18 mm), s max. výškou 64mm.

TECHNICKÉ ÚDAJE

- Zodpovedá DIN VDE 0660-505 a DIN 43628
- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Priehľadný 2050 alebo šedý (F, FH) kryt
- Pripojovacie spodky s poistkovými hlavicami

- Svorkovnica zapojená (N, L1, L3, L2, PE(N))
- Krytie: IP 54
- Trieda ochrany II
- Rozsah utesnenia pre prívodné káble $\varnothing 19 - 24$ mm (2x), $\varnothing 19 - 22$ mm (3x)
- Typ 2050, 2050F rozsah tesniacich káblových priechodiek pre káble k svietidlu: $\varnothing 8 - 14$ mm (2 vývody pre 2 káble k svietidlu 3x 1,5 mm² - 5x2,5 mm²)
- Typ 2050FH skrutková tesniaca priechodka pre káble k svietidlu s rozsahom: $\varnothing 8 - 14$ mm (2 vývody pre 2 káble k svietidlu 3x 1,5 mm² - 5x2,5 mm²)
- Káble k svietidlu je možné pripojiť aj zo spodku paralelne s prívodnými káblami max. $\varnothing 11,5$ mm (2x)

Poistkový spodok	Prierez jadier (mm ²)		Objednávacie číslo
	pre 1 a 2 káble	pre 3 káble	
Pre montáž do stĺpov verejného osvetlenia			
2 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2050-2D1-5S/U
3 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2050-3D1-5S/U-I
F pre vonkajšiu montáž a do stĺpov verejného osvetlenia			
nie je, DIN-lišta *	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2050F-5S-1R/A
F pre vonkajšiu montáž a do stĺpov verejného osvetlenia			
2 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2050FH-2D-5S/U
3 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2050FH-3D1-5S/U-I
nie je, DIN-lišta *	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2050FH-5S-1R/A

PRIPOJOVACIA ROZVODNICA S PREPÄŤOVOU OCHRANOU

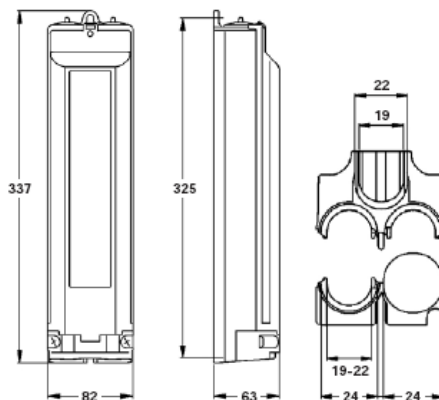
2 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2050-2D1-5S/U-1SA
2 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2050-2D1-5S/U-2SA

* Iba svorkovnica a jedna DIN-lišta

POZNÁMKA: Poistky nie sú súčasťou rozvodnice. Príslušenstvo a náhradné diely pozri stranu 18 a 19.

EKM 2051 - Pripojovacia rozvodnica s poistkami D01 (E14)

Priemer stípu ≥ 100 mm pre zvláštnu výbavu
Prívodný kábel ≤ 25 mm²



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre montáž do stíпов verejného osvetlenia. Umožňuje slučkovanie prívodných káblov a ochranu svietidla poistkami. Zvláštna výbava ako ističe, časové relé, prúdové chrániče a ďalšie zariadenia môžu byť osadené na DIN lišty.

Pripojovacie rozvodnice sú dodávané so svorkovnicou, poistkovými spodkami alebo DIN-lištami. Poistky, časové relé alebo ističe nie sú súčasťou ponúkaných istiacich rozvodníc.

PODMIENKY PRE VOĽBU

- Pre montáž do stíпов verejného osvetlenia

- 5 posuvných svoriek pre 2 káble 2,5 - 25 mm² alebo 3 káble 2,5 - 16 mm²
- Poistky D01 (E14) do 16 A
- Určené pre montáž 3 zariadení na DIN-lištu do šírky (3 x 18 mm), s max. výškou 69,5 mm.

TECHNICKÉ ÚDAJE

- Zodpovedá DIN VDE 0660-505 a DIN 43628
- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Priehľadný (2051) alebo šedý (2051FH) kryt

- Krytie: IP 54
- Trieda ochrany II
- Rozsah utesnenia pre prívodné káble $\varnothing 19 - 24$ mm (2x), $\varnothing 19 - 22$ mm (3x)
- Typ 2051 rozsah tesniacich káblových priechodiek pre káble k svietidlu : $\varnothing 8 - 14$ mm
- (2 vývody pre 2 káble k svietidlu 3x 1,5 mm² - 5x2,5 mm²)
- Typ 2051FH skrutková tesniaca priechodka pre káble k svietidlu s rozsahom: $\varnothing 8 - 14$ mm
- (2 vývody pre 2 káble k svietidlu 3x 1,5 mm² - 5x2,5 mm²)
- Káble k svietidlu je možné pripojiť aj zo spodku paralelne s prívodnými káblami max. $\varnothing 11,5$ mm (2x)

Poistkový spodok	Prierez jadier (mm ²)		Objednávacie číslo
	pre 1 a 2 káble	pre 3 káble	
Pre montáž do stíпов verejného osvetlenia			
2 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051-2D1-5S/U
2 x D01 (E14), DIN- lišta*	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051-2D1-5S/U-1R/D
nie je, 2 DIN-lišty**	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051-5S-2R/D
F pre vonkajšiu montáž a do stíпов verejného osvetlenia			
2 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051FH-2D1-5S/U
3 x D01 (E14), 1DIN- lišta*	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051FH-3D1-5S/U-1R/D
4 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051FH-3D1-5S/U-1R/D
nie je, 2 DIN-lišty**	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051FH-2R/A

PRIPOJOVACIA ROZVODNICA S PREPÄŤOVOU OCHRANOU

2 x D01 (E14)	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051-2D1-5S/U-2SA
3 x D01 (E14), 1DIN- lišta*	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051-3D1-5S/U-3SA
nie je, 1 DIN-lišta*	5(4) x 2,5 - 16(25)	5 x 2,5 - 16	EKM-2051-3D1-5S-1R/D-RK-1SA

* Iba svorkovnica a jedna DIN-lišta.

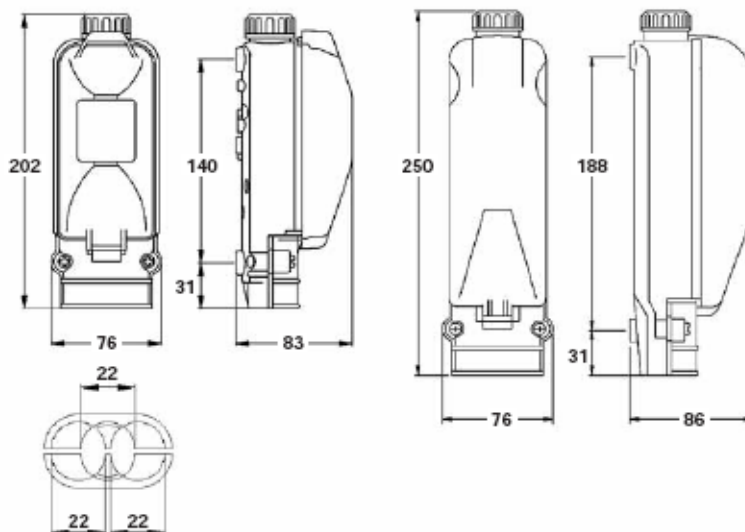
** Iba svorkovnica a 2 posuvné DIN-lišty.

POZNÁMKA: Poistky nie sú súčasťou rozvodnice. Príslušenstvo a náhradné diely pozri stranu 18 a 19.

EKM 1271, EKM 1272 - Pripojovacia rozvodnica s poistkami DII (E27)

Priemer stípu ≥ 90 mm
Prívodný kábel ≤ 25 mm²

Pripojovacie rozvodnice



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre montáž do stĺpov verejného osvetlenia. Umožňuje pripojenie káblov do slučky a ochranu svietidla poistkami.

PODMIENKY PRE VOĽBU

- Pre montáž do stĺpov verejného osvetlenia
Priemer stípu: ≥ 90 mm
Rozmery dvierok:
EKM 1271 $\geq 80 \times 210$ mm
EKM 1272 $\geq 80 \times 260$ mm
- 4 alebo 5 plášťových svoriek pre 2 káble
EKM 1271/1272 6 - 16 mm² alebo
EKM 1272 10 - 25 mm²

Poistky D II (E27) do 25 A

TECHNICKÉ ÚDAJE

- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Priehľadný kryt poistiek
- Krytie: IP 43
- Trieda ochrany II
- Vstup pre prívodné káble max. $\varnothing 22$ mm (2x)
- Skrutková tesniaca priechodka pre káble k svietidlu: $\varnothing 8 - 14$ mm (pre 1 kábel 3x 1,5 mm² - 5x2,5 mm²)

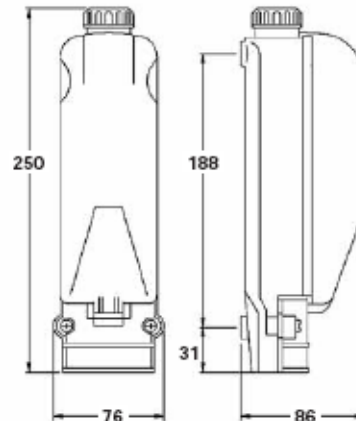
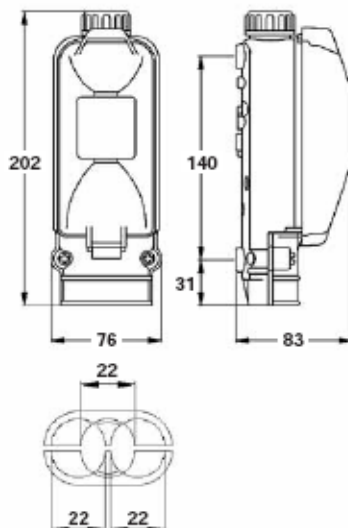
Poistkový spodok	Prierez jadier (mm ²)		Objednávacie číslo
	pre 1 a 2 káble	pre 3 káble	
1 x DII (E27)	4 x 6 - 16	-	EKM-1271-1D2-4X16
1 x DII (E27)	5 x 6 - 16	-	EKM-1271-1D2-5X16-I I
2 x DII (E27)	4 x 6 - 16	-	EKM-1272-2D2-4X16
2 x DII (E27)	4 x 10 - 25	-	EKM-1272-2D2-4X25

POZNÁMKA: Poistky, pripojovacie dotyky a hlavice nie sú súčasťou dodávky.

POZNÁMKA: Príslušenstvo a náhradné diely pozri stranu 18 a 19.

EKM 1261 - Pripojovacia rozvodnica s poistkami DII (E27)

Priemer stĺpu ≥ 100 mm aj pre vonkajšiu montáž
Prívodný kábel ≤ 16 mm²



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre vonkajšiu montáž a do stĺpov verejného osvetlenia. Umožňuje slučkovanie prívodných káblov a ochranu svietidla poistkami.

Typy 1261S- majú špeciálne utesnenie a krytie IP67. Sú použiteľné pre oblasti ohrozené povodňami.

PODMIENKY PRE VOĽBU

- Pre vonkajšiu montáž a do stĺpov verejného osvetlenia.
Priemer stĺpu: ≥ 100 mm
Rozmery dvierok: $\geq 80 \times 250$ mm
- 4 alebo 5 plášťových svoriek pre 2 káble $6 - 16$ mm²
- Poistky D II (E27) do 25 A

TECHNICKÉ ÚDAJE

- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Priesvitný kryt poistiek
- Krytie: IP 54
- Trieda ochrany II
- Vstup pre prívodné káble max. $\varnothing 22$ mm (2x, 3x) bez tesnenia max. $\varnothing 25$ mm (2x)
- Skrutková tesniaca priechodka pre káble k svietidlu: $\varnothing 8 - 14$ mm (2 vývody typ 2D2 pre 2 káble k svietidlu 3x 1,5 mm² - 5x2,5 mm²)

Poistkový spodok	Prierez jadier (mm ²)		Objednávacie číslo
	pre 1 a 2 káble	pre 3 káble	
1 x DII (E27)	4 x 6 - 16	-	EKM-1261-1D2-4X16-2CG-C2
1 x DII (E27)	5 x 6 - 16	-	EKM-1261-1D2-5X16-2PG-C2
2 x DII (E27)	4 x 6 - 16	-	EKM-1261-2D2-4X16-2CG-C3
2 x DII (E27)	5 x 6 - 16	5 x 10	EKM-1261-2D2-5X16-2CG-C3
nie je, DIN-lišta *	5 x 6 - 16	-	EKM-1261-5X16-1R-1CG-C
Typ S – krytie: IP67			
2 x D01 (E14)	5 x 10	5 x 6	EKM-1261S-2D1-5X10-1CG-C3
3 x D01 (E14)	5 x 10	5 x 6	EKM-1261S-3D1-5X10-1CG-C3

* Iba svorkovnica a jedna DIN-lišta.

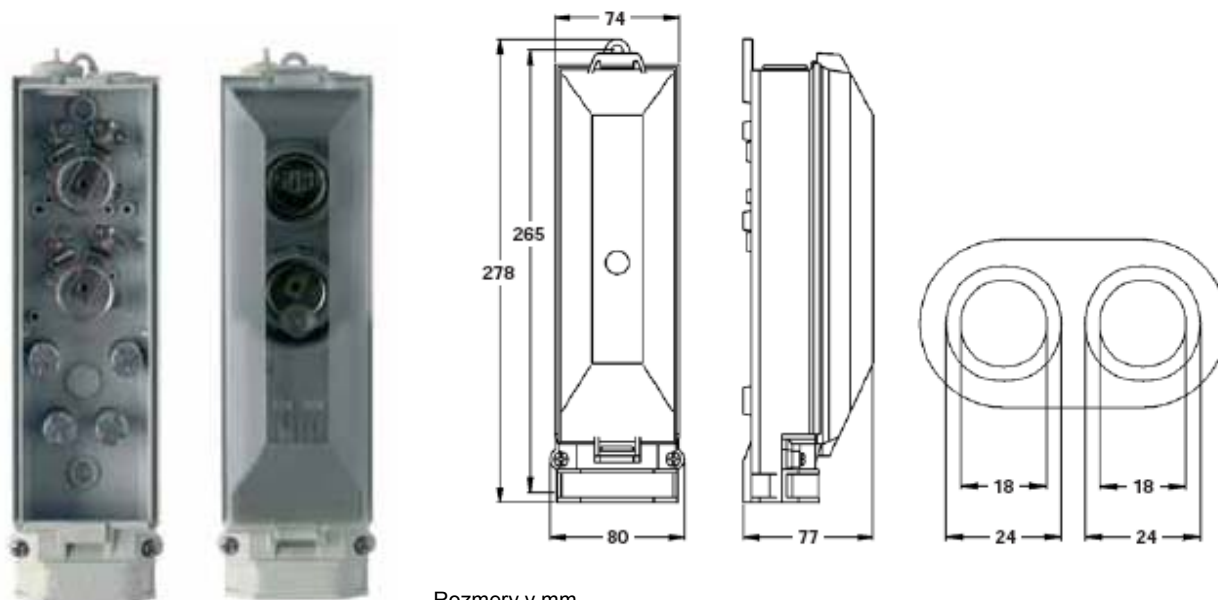
POZNÁMKA: Poistky, pripojovacie dotyky a hlavice nie sú súčasťou dodávky. Príslušenstvo a náhradné diely pozri stranu 18 a 19.

POZNÁMKA: Rozvodnice bez poistkových spodkov sú k dispozícii na vyžiadanie.

EKM 2072 - Pripojovacia rozvodnica s poistkami DII (E27)

Pripojovacie rozvodnice

Priemer stĺpu ≥ 90 mm
Prívodný kábel ≤ 35 mm²



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre montáž do stĺpov verejného osvetlenia. Umožňuje pripojenie káblov do slučky a ochranu svietidla poistkami.

PODMIENKY PRE VOĽBU

- Pre montáž do stĺpov verejného osvetlenia
Priemer stĺpu: ≥ 90 mm
Rozmery dvierok: $\geq 80 \times 280$ mm
- 4 alebo 5 plášťových svoriek pre
2 káble 4 - 16 mm²
alebo
2 káble 16 - 35 mm²

Poistky D II (E27) do 25 A

TECHNICKÉ ÚDAJE

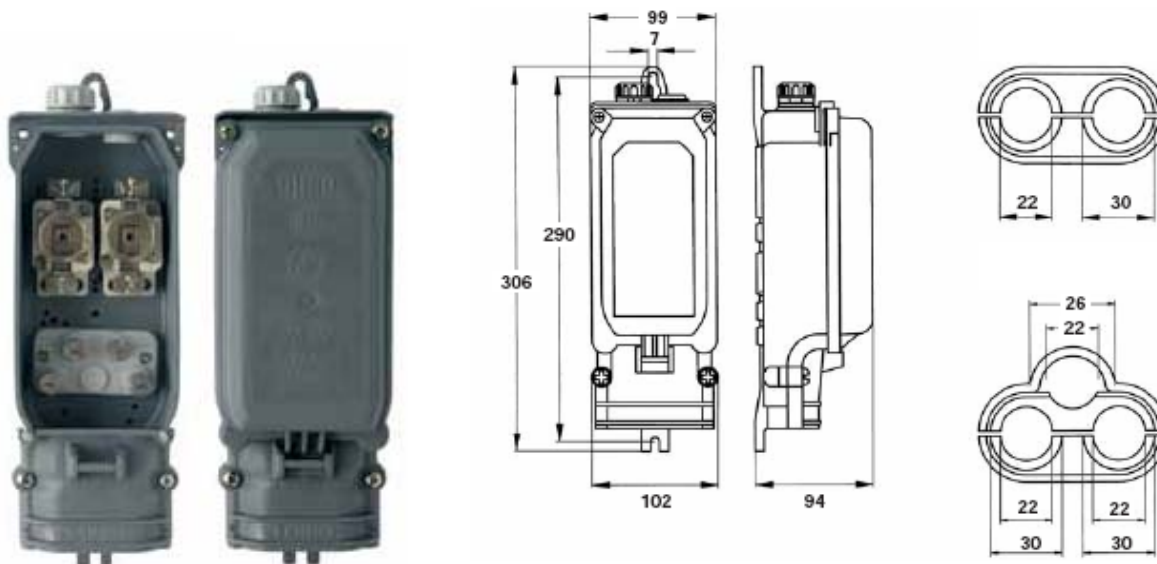
- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Prieľadný kryt poistiek
- Krytie: IP 43
- Trieda ochrany II
Rozsah utesnenia káblov
Ø 19 - 29 mm prívodný kábel
Ø 8 - 14 mm kábel k svietidlu
(2 vývody pre 2 káble k svietidlu
3x 1,5 mm² - 5x2,5 mm²)

Poistkový spodok	Prierez jadier (mm ²)			Objednávacie číslo
	pre 1 kábel	pre 2 káble	pre 3 káble	
1 x DII (E27)	5 x 6 - 16	5 x 6 - 16	-	EKM-2072-1D2-5X16-I
2 x DII (E27)	5 x 6 - 16	5 x 6 - 16	-	EKM-2072-2D2-5X16-I
1 x DII (E27)	4 x 25 - 35	4 x 16 - 35	-	EKM-2072-1D2-4X35-I
2 x DII (E27)	4 x 25 - 35	4 x 16 - 35	-	EKM-2072-2D2-4X35-I
1 x DII (E27)	4 x 25 - 35	4 x 16 - 35	-	EKM-2072-1D2-5X35
2 x DII (E27)	4 x 25 - 35	4 x 16 - 35	-	EKM-2072-2D2-5X35-I

POZNÁMKA: Poistky, pripojovacie dotyky a hlavice nie sú súčasťou dodávky. Príslušenstvo a náhradné diely pozri stranu 18 a 19.

EKM 1281 - Pripojovacia rozvodnica s poistkami DII (E27)

Priemer stĺpu ≥ 120 mm aj pre vonkajšiu montáž
Prívodný kábel ≤ 35 mm²



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre vonkajšiu montáž a do stĺpov verejného osvetlenia. Umožňuje slučkovanie prívodných káblov a ochranu svietidla poistkami.

Typy 1281S- majú špeciálne tesnenie a krytie IP67. Sú použiteľné pre oblasti ohrozené povodňami.

Pripojovacie rozvodnice pre iné prierezy káblov, typy poistiek a príslušenstvo sú k dispozícii na vyžiadanie.

PODMIENKY PRE VOĽBU

- Pre montáž do stĺpov verejného osvetlenia
Priemer stĺpu: ≥ 120 mm
Rozmery dvierok: $\geq 100 \times 300$ mm
- 4 alebo 5 plášťových svoriek pre
2 káble 16 - 25 mm²
alebo
2 káble 16 - 35 mm²
- Poistky D II (E27) do 25 A

TECHNICKÉ ÚDAJE

- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Krytie: IP 54
- Trieda ochrany II
- Rozsah utesnenia prívodných káblov
 $\varnothing 22 - 30$ mm (2x)
- Skrutková tesniaca priechodka pre kábel k svietidlu:
 $\varnothing 8 - 14$ mm
(2 vývody pre 2 káble k svietidlu
 $3 \times 1,5$ mm² - $5 \times 2,5$ mm²)

Poistkový spodok	Prierez jadier (mm ²)			Objednávacie číslo
	pre 1 kábel	pre 2 káble	pre 3 káble	
1 x DII (E27)	5 x 25	5 x 16 - 25	-	EKM-1281-1D2-5X25-2CG-C2
2 x DII (E27)	4 x 25	4 x 16 - 25	-	EKM-1281-1D2-5X25-2CG-C2
1 x DII (E27)	4 x 35	4 x 16 - 35	-	EKM-1281-2D2-4X35-2CG-C2
2 x DII (E27)	5 x 25	5 x 25	5 x 16	EKM-1281-2D2-5X25-2CG-C3
1 x DII (E27)	5 x 25	5 x 16 - 25	-	EKM-1281-2D2-5X25-2CG-C2
Typ S – krytie: IP67				
2 x D01 (E14)	5(4) x 2,5 - 16(25)	5(4) x 2,5 - 16(25)	5 x 16	EKM-1281S-2D1-5S/U-2PG-C2
3 x D01 (E14)	5(4) x 2,5 - 16(25)	5(4) x 2,5 - 16(25)	5 x 16	EKM-1281S-3D1-5S/U-2PG-C2

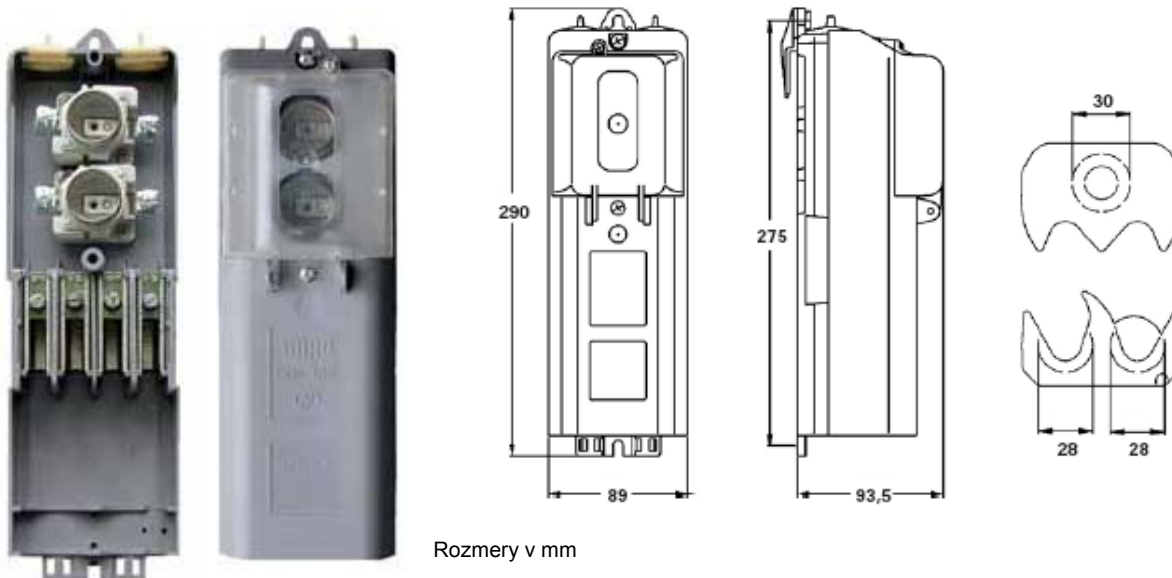
POZNÁMKA:

Poistky, pripojovacie dotyky a hlavice nie sú súčasťou dodávky. Príslušenstvo a náhradné diely pozri stranu 18 a 19. Rozvodnice bez poistkových spodkov sú k dispozícii na vyžiadanie

EKM 2035 - Pripojovacia rozvodnica s poistkami DII (E27)

Pripojovacie
rozvodnice

Priemer stĺpu ≥ 110 mm
Prívodný kábel ≤ 50 mm²



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre montáž do stĺpov verejného osvetlenia. Umožňuje slučkovanie prívodných káblov a ochranu svietidla poistkami. Zvláštna výbava ako sú ističe, časové relé, prúdové chrániče a ďalšie zariadenia môžu byť osadené na DIN lišty.

PODMIENKY PRE VOĽBU

- Pre montáž do stĺpov verejného osvetlenia
Priemer stĺpu: ≥ 110 mm
Rozmery dvierok: $\geq 90 \times 300$ mm
- 4 posuvné svorky pre
2 káble 4 - 50 mm² alebo
3 káble 4 - 35 mm²
- Poistky D II (E27) do 25 A
- Určené pre montáž zariadení na DIN-lištu do šírky max. 3 modulov (3 x 18 mm), s max. výškou 75 mm.

TECHNICKÉ ÚDAJE

- Nárazu odolný termoplast
- Všetky kovové časti chránené voči korózii
- Prieľadný kryt poistiek
- Krytie: IP 43
- Trieda ochrany II
Rozsah utesnenia káblov
Ø 16 – 35 mm prívodný kábel
Ø 8 - 14 mm kábel k svietidlu
(2 vývody pre 2 káble k svietidlu
3x 1,5 mm² - 5x2,5 mm²) alebo
2 - 4 vodiče Ø 1,5 - 3 mm

Poistkový spodok	Prierez jadier (mm ²)		Objednávacie číslo
	pre 1 a 2 káble	pre 3 káble	
1 x DII (E27)	4 x 4 - 50	4 x 4 - 35	EKM-2035-1D2
2 x DII (E27)	4 x 4 - 50	4 x 4 - 35	EKM-2035-2D2
nie je *	4 x 4 - 50	4 x 4 - 35	EKM-2035-0D0
nie je, DIN-lišta **	4 x 4 - 50	4 x 4 - 35	EKM-2035-1R

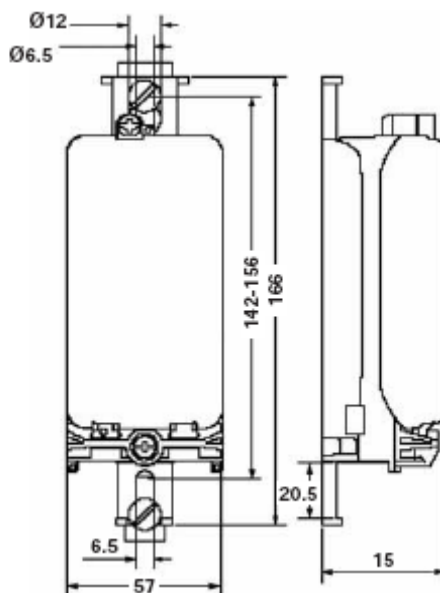
* Iba svorkovnica a skrutky k poistkovým spodkom.

** Iba svorkovnica a DIN lišta pre 3 ističe.

POZNÁMKA: Poistky, pripojovacie dotyky a hlavice nie sú súčasťou dodávky.
Príslušenstvo a náhradné diely pozri stranu 18 a 19.

EKM 2045-1FN - Pripojovacia rozvodnica s poistkami veľkosti 10x38

Pre vonkajšiu montáž
Prívodný kábel $\leq 4 \text{ mm}^2$



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre vonkajšiu montáž na steny a na stĺpy verejného osvetlenia. Pripája sa medzi prívodný kábel (do 4 mm^2) a svietidlo. Napájacie káble sú buď odbočné káble z odbočnej spojky uloženej v zemi alebo zo vzdušného vedenia. Upevnenie na steny je 6 mm skrutkami a na stĺpy kovovou upevňovacou páskou v šírke do 20 mm.

PODMIENKY PRE VOĽBU

Pre vonkajšiu montáž na steny a stĺpy (betónové) s napájaním zo vzdušného vedenia.

TECHNICKÉ ÚDAJE

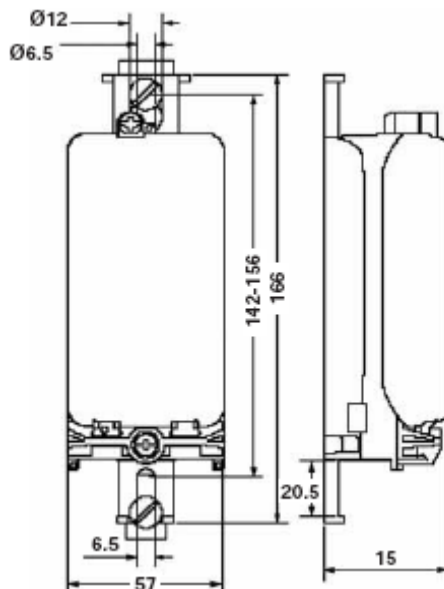
- Nárazu odolný termoplast
- So špeciálnym poistkovým spodkom vrátane odpojovača nulového vodiča
- Krytie: IP 54
- Trieda ochrany II
- Rozsah utesnenia káblov $\varnothing 9 - 17 \text{ mm}$ prívodný kábel / kábel k svietidlu

Poistkový spodok	Prierez jadier (mm^2)	Zapojenie	Farba	Objednávacie číslo
1 x pre 10x38	3 x 1,5 - 4	L, N	šedá	EKM-2045-1FN-G
1 x pre 10x38	3 x 1,5 - 4	L, N, PE	šedá	EKM-2045-1FNT-G

POZNÁMKA: Poistky nie sú súčasťou rozvodnice.
Príslušenstvo a náhradné diely pozri stranu 18 a 19

EKM 2045-XMAS - Pripojovacia rozvodnica pre slávnostné osvetlenie

Pre vonkajšiu montáž
Prívodný kábel $\leq 4 \text{ mm}^2$

Pripojovacie
rozvodnice

Vstupy káblov

Rozmery v mm

POUŽITIE

Rozvodnica je určená pre použitie na slávnostné osvetlenie. Poskytuje funkčné riešenie pre pripojenie a chráni všetky druhy dočasných osvetľovacích zariadení až do 10 A, s využitím integrovanej sieťovej zásuvky. Priestorovo úsporné inštalácie možno vykonať na stenách domov alebo priamo na stĺpoch. Integrovaný elektronický prúdový chránič chráni všetky pripojené zariadenia v prípade zemných porúch. Táto rozvodnica sa pripája medzi prívodný kábel (do 4 mm^2) a svietidlo. Napájacie káble sú buď odbočné káble v zemi alebo zo vzdušného vedenia.

PODMIENKY PRE VOĽBU

Pre vonkajšiu montáž na steny a stĺpy (betónové, kovové) s napájaním zo zemného alebo vzdušného vedenia. Upevnenie na steny je 6 mm skrutkami a na stĺpy kovovou upevňovacou páskou v šírke do 20 mm.

TECHNICKÉ ÚDAJE

- Nárazu odolný samozhášavý termoplast
- Krytie: IP 54
- Trieda ochrany II
- káblové pripojenie pre 1 kábel
- Radové svorky

- Uzatvárateľný kryt- plombovateľný
- S alebo bez ochrany proti poruchovému prúdom pomocou automatického ističa COBOX-12
- COBOX-12 je automatický prúdový chránič s autodiagnostikou a voliteľnou funkciou opätovného zapnutia
- Ochrana proti dotyku podľa BGV A3
- Výstup na svietidlo kruhový s tesniacim viečkom (pripojeným)
- Farba: šedá, hnedá, béžová a čierna
- Utesnenie káblov $\varnothing 7 - 17 \text{ mm}$ prívodný kábel /kábel k svietidlu

Prúdový chránič	Prierez jadier (mm^2)	Zapojenie	Farba	Objednávacie číslo
Bez prúdového chrániča	2 x 1,5 - 4	L1, N	šedá	EKM-2045-XMAS-G
S chráničom COBOX-12	2 x 1,5 - 4	L1, N	šedá	EKM-2045-FI-XMAS-G
PRIPOJOVACIA ZÁSTRČKA s 3 m káblom H07RN-F 2 x 1,5 mm^2			čierna	GURO-CC-2x1,5-3-CPC

Prúdový chránič COBOX-12	Spínacia kapacita	2-polový do 10 A
	Menovité napätie	190 - 265 V, 50/60 Hz
	Čitlivosť	30 mA
	Prevádzková teplota	-20 až +60°C
	Indikácia poruchy	integrované LED svetlo
	Reštart funkčnosti	zopnutie po odpojení a opätovnom pripojení napájacieho napätia až 3-krát za 10/30/60 s alebo 01/30/60 min (voliteľné prepínačom)

Poistky, dotyky, pripojovacie hlavice a pripojovacie puzdra

PRIPOJOVACIE PUZDRO B 6770 vrátane poistky D01 (E14)

POUŽITIE

Pre montáž do stĺpov malých priemerov alebo istenie svietidiel.
Pre pripojenie vodičov do 4 mm² na oboch stranách.



Menovitý prúd	Objednávacie číslo
2 A	GURO-FC-1D1-02
4 A	GURO-FC-1D1-04
6 A	GURO-FC-1D1-06
10 A	GURO-FC-1D1-10

PRÍSLUŠENSTVO POISTIEK TYPU D01 - E14



Menovitý prúd	Objednávacie číslo		
	Poistky D01 (E14)	Poistkový dotyk	Poistková hlavica
2 A	GURO-F-D1-02	GURO-F-D1-AS02	GURO-F-D1-SC
4 A	GURO-F-D1-04	GURO-F-D1-AS04	
6 A	GURO-F-D1-06	GURO-F-D1-AS06	
10 A	GURO-F-D1-10	GURO-F-D1-AS10	
16 A	GURO-F-D1-16	-	

POZNÁMKA: Pripojovacie spodky pre poistky typu D01 sa môžu použiť aj bez pripojovacieho dotyku.

PRÍSLUŠENSTVO POISTIEK TYPU DII – E27



Menovitý prúd	Objednávacie číslo		
	Poistky D01 (E14)	Poistkový dotyk	Poistková hlavica
2 A	GURO-F-D2-02	GURO-F-D2-AS02	GURO-F-D2-SC
4 A	GURO-F-D2-04	GURO-F-D2-AS04	
6 A	GURO-F-D2-06	GURO-F-D2-AS06	
10 A	GURO-F-D2-10	GURO-F-D2-AS10	
16 A	GURO-F-D2-16	GURO-F-D2-AS16	
20 A	GURO-F-D2-20	GURO-F-D2-AS20	
25 A	GURO-F-D2-25	GURO-F-D2-AS25	

POZNÁMKA: Poistkový spodok pre poistky typu DII musí byť so zodpovedajúcim poistkovým dotykom.

POISTKY VEĽKOSTI 10 x 38

Menovitý prúd	Objednávacie číslo
2 A	GURO-F-CC-02
4 A	GURO-F-CC-04
6 A	GURO-F-CC-06
10 A	GURO-F-CC-10
16 A	GURO-F-CC-16

Ochranné rámčeky pre vstup káblov do stĺpov verejného osvetlenia, náhradné kryty rozvodníc a adaptér pre zavesenie rozvodnice

OCHRANNÉ RÁMČEKY pre vstupy káblov do stĺpov verejného osvetlenia podľa normy EN40



POUŽITIE

Rámček môžeme osadiť do otvoru stĺpu pre káblový prívod podľa EN 40. Chráni plášte káblov proti poškodeniu ostrými hranami otvoru stĺpu. Je zabezpečený v otvore aj keď sú káble vyťahované zo stĺpu.

TECHNICKÉ ÚDAJE

Pre rozmery otvoru pre káblový prívod 50 x 150 mm podľa normy EN 40.
Materiál : Polyetylén Je vhodný pre stĺpy s priemerom > 90 mm

Objednávacie číslo	Káblový otvor (mm)	Min. priemer stĺpu (mm)
GURO-CPF	50 x 150	90

ADAPTÉRY PRE MONTÁŽ ROZVODNÍC na priečne lišty v stĺpoch



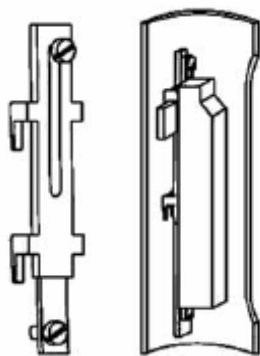
POUŽITIE

Adaptér GURO-B7324 sa zasunie hákom do oka rozvodnice a spoločne s rozvodnicou sa nasunie na priečnu lištu v stĺpe verejného osvetlenia.

TECHNICKÉ ÚDAJE

Rozmery: šírka 30 mm, hĺbka 19 mm, výška 58 mm, priemer háku 10,5 mm;

Objednávacie číslo	Rozmery mm)	Priemer háku (mm)
GURO-HOOK-UNI	30 x 58 x 19	10,5



Adaptér GURO-Hxxxx sa skladá z s hliníkových koľajničiek a dvojitého posuvného háku. Adaptér sa pripevní na zadnú časť rozvodnice a nasunie sa na priečnu lištu v stĺpe verejného osvetlenia. Pri použití adaptéru s rozvodnicou sa min. priemer stĺpu zvyšuje o 10 mm v porovnaní s min. priemerom stĺpu pre samotnú rozvodnicu. Dĺžka hliníkových koľajničiek je prispôbená dĺžke poistkovej rozvodnice.

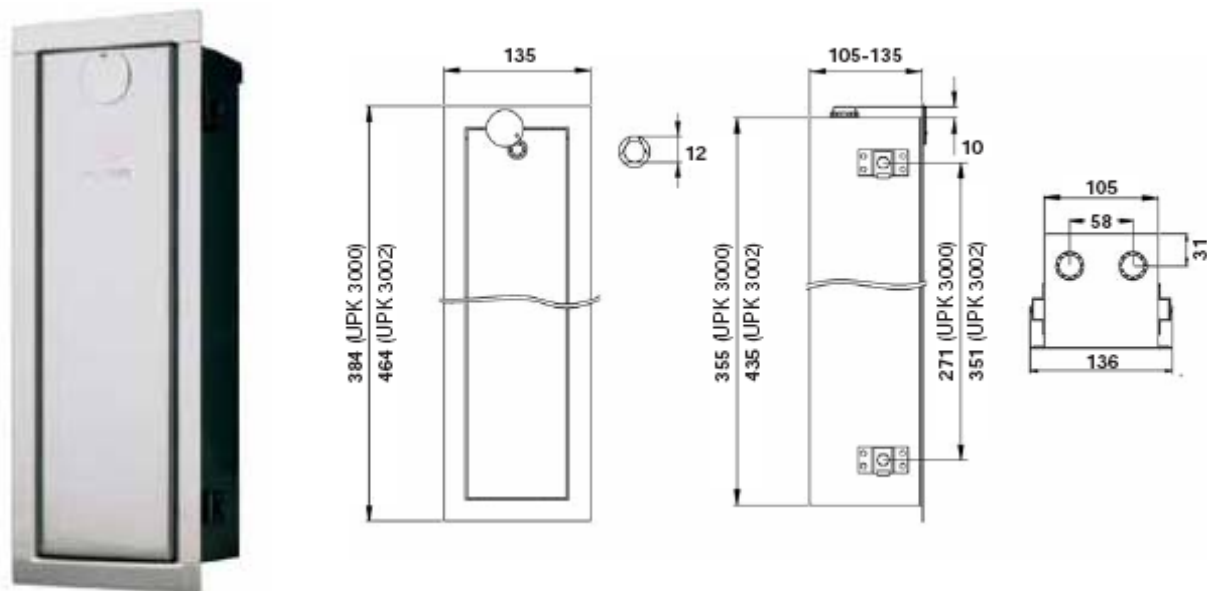
Menovitý prúd	Objednávacie číslo
GURO H2050	EKM-2050
GURO H2051	EKM-2051
GURO H2035	EKM-2035
GURO H2072	EKM-2072
GURO H2020	EKM-2020
GURO H1261	EKM-1261
GURO H1281	EKM-1281

NÁHRADNÉ KRYTY pre pripojovacie rozvodnice



Objednávacie číslo	Kryt pre rozvodnice typ
GURO-CO-2020	EKM-2020 nízka
GURO-CO-2050	EKM-2050 nízka
GURO-CO-2050-H	EKM-2050 vysoká
GURO-CO-2050-FH	EKM-2050FH nízka
GURO-CO-2050-F/H	EKM-2050F(H) vysoká
GURO-CO-2051-	EKM-2051 nízka
GURO-CO-2051-H	EKM-2051 vysoká
GURO-CO-2051-FH	EKM-2051F(H) nízka
GURO-CO-2051-F/H	EKM-2051F(H) vysoká
GURO-CO-1271	EKM-1271
GURO-CO/H-EKM1270/72/75	EKM-1272
GURO-CO/H-EKM1261-D2	EKM-1261
GURO-CO-2072	EKM-2072
GURO-CO-1281-400	EKM-1281

Do steny zapustené pripojovacie skrine – UPK 3000 / 3002



Rozmery v mm

POUŽITIE

Do steny zapustená pripojovacia skriňa je určená na upevnenie do steny. Krycí rám skrine je navrhnutý tak, aby prekryl otvor v stene s toleranciou do 30 mm.

PODMIENKY PRE VOĽBU

UPK 3000 je vhodná pre pripojovacie rozvodnice EKM 1261, EKM 1271, EKM 1272, EKM 2020, EKM 2050, EKM 2072.

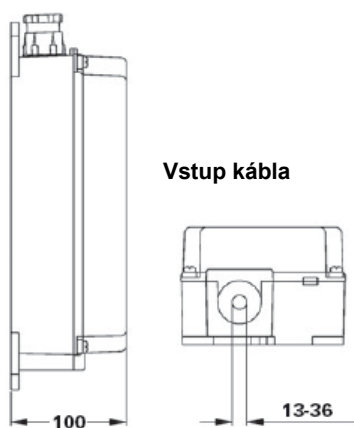
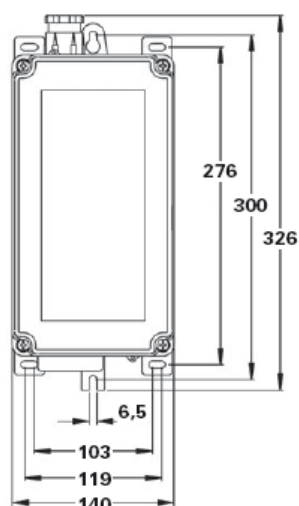
UPK 3002 je vhodná pre rozvodnice EKM 2051.

TECHNICKÉ ÚDAJE

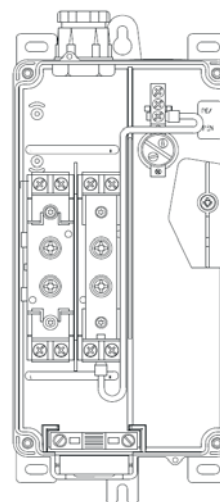
- Vyrobené z nerezovej ocele z lisovanými prednými dvierkami
- Dodávané so štandardnými zámkami: trojuholníkový kľúč 8 mm, 12mm (Iné zámky sú k dispozícii na vyžiadanie)
- Vstup zemného kábla: otvorený
- Výstup na osvetlenie: 2 membránové upchávky M25

Pripojovacia rozvodnica typ	Zámok	Objednávacie číslo
EKM 2020, EKM 2050, EKM 1271, EKM 1272, EKM 1261, EKM 2072	Δ 8mm	UPK 3000-SW08
EKM 2051	Δ 12mm	UPK 3002-SW12
EKM 2020, EKM 2050, EKM 1271, EKM 1272, EKM 1261, EKM 2072	Δ 12mm	UPK-3000-SW12

AK 2085 - Pripojovacia skrinka podľa DIN / VDE 0660 T.505

Pripojovacie
rozvodnice

Rozmery v mm



POUŽITIE

Táto skrinka je určená pre vonkajšiu pevnú montáž na striedavé napájanie a napojenie na verejnú nn sieť napríklad: napájacie systémy pre signalizáciu, telefónne búdky, mestský mobiliár, svetelné reklamy, autobusové zastávky, automaty na cestovné lístky.

PODMIENKY PRE VOĽBU

- Rozmery d x š x v:
326 x 140 x 100 mm
- Poistkový spodok pre 1 alebo 2 poistky - 63A (bez poistky), s ochranou proti dotyku
- Nulová lišta NH
- PE / N svorka, svorky 2,5-50 mm² (svorky sú vhodné pre medené vodiče)

TECHNICKÉ ÚDAJE

- Nárazu odolný polykarbonát
- Všetky kovové časti chránené voči korózii
- Krytie: IP 54
- Trieda ochrany II
- Vstupný kábel:
1 kábel 4 x 2,5 až 4 x 50 mm²:
Ø 13 -36 mm
- Výstupný kábel:
1 kábel 3 x 2,5 až 3 x 10 mm²:
Ø 11 -19 mm

Výrobok	Prierez jadier (mm ²) pre 1 kábel	Objednávacie číslo
JOR-90295	4 x 25 - 50	AK 2085 - 1 x NH00
JOR-90297	4 x 25 - 50	AK 2085 - 2 x NH00
JOR-90293*	4 x 25 - 50	AK 2085 - 1 x NH00

* Špeciálny dizajn pre pripojenie telekomunikačných zariadení, do vonkajšieho prostredia, napojenie na sieť nn v súlade s technickými pokynmi VDN 06/200.





Kapitola II

Ochrana LED svietidiel

Ochrana elektronických prvkov proti prepätiu v sieťach verejného osvetlenia

Prvky na ochranu proti prepätiu pre dodatočnú montáž.....	25
Prepät'ové ochrany do pripojovacích rozvodníc pre dodatočnú montáž.....	26
Pripojovacie rozvodnice verejného osvetlenia s integrovanými obmedzovačmi prepätia.....	27
Schémy pripojenia.....	28
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Ochrana elektronických prvkov proti prepätiu v sieťach verejného osvetlenia

VŠEOBECNE

Verejné osvetlenie so svetelnými zdrojmi LED sa v poslednej dobe stále viac projektuje a používa vďaka vysokej účinnosti, predpokladanej dlhej životnosti, výraznému zníženiu nákladov na elektrickú energiu a jednoduchú a rýchlu reguláciu intenzity osvetlenia (úspora elektrickej energie).

Avšak táto atraktívna technológia má však jednu slabinu - svetidlá LED sú citlivé na atmosférické prepätia v dôsledku úderov bleskov v blízkosti svetidiel aj na prepätia v dôsledku spínacích dejov v napájacej sieti (krátkodobý výpadok na distribučnom transformátore, vypnutie a opätovné zapnutie napájacieho napätia, regulačné pochody v sieťach a pod.). Prepätie je akékoľvek napätie, vyššie ako prevádzkové napätie v elektrickom obvode. Prepätia majú najčastejšie charakter prechodných javov. Elektronické zariadenia môžu zlyhať alebo byť nenapraviteľne poškodené vplyvom spínacieho prepätia, priemyselného prepätia alebo skratu v sieti, atmosférického prepätia, alebo prepätia spôsobeného elektrostatickými výbojmi.

Vzhľadom k priestorovému rozmiestneniu svetidiel LED a umiestneniu vo výškach sú práve tieto svetidlá veľmi často vystavené vplyvom prepätia. Prepätie má za následok poškodenie PN prechodu vlastnej LED (čo znamená zníženie intenzity svetla, skrátenie životnosti LED alebo aj jej výpadok) alebo zničenie napájacieho zdroja (predradníka).

Je potrebné si uvedomiť, že pre zničenie svetidiel LED nie je potrebný priamy úder blesku. Indukčnou väzbou sa môžu naindukovať do elektrického vedenia prepäťové špičky s amplitúdou niekoľko desiatok tisíc V až do vzdialenosti 2 km. Na viac pokiaľ dôjde k úderu blesku do stožiaru verejného osvetlenia, šíri sa prepätie cez spoločný uzemňovací pásik spájajúci jednotlivé stĺpy medzi sebou, takže vypadne aj niekoľko susedných svetidiel LED. Ani prepätia prichádzajúce zo strany napájacej siete nie sú zanedbateľné. Pri spínacích procesoch v napájacej sieti (pripínanie a odopínanie vetiev siete či veľkých spotrebičov) vznikajú prepätia až 6 kV, čo postačuje na poškodenie či zničenie nechránených svetidiel LED.

Aby sa skutočná životnosť svetidiel LED priblížila deklarovanej životnosti 50.000 – 100 000 hod, je nevyhnutné ochrániť ako napájací zdroj tak aj vlastné LED svetidlo pred prepätím vhodnou prepäťovou ochranou. Prepäťové ochranné zariadenia musia byť v súlade s normou IEC 61643

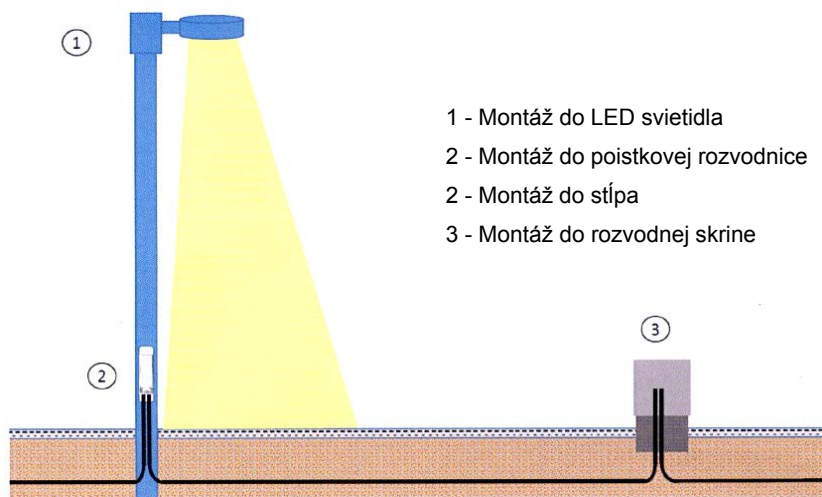
UPOZORNENIE

Chyby (opraviteľné aj neopraviteľné) na svetidle spôsobené prepätím nie sú chránené zárukou. Preto odporúčame používať dodatočnú ochranu svetidiel pred prepätím, obzvlášť u svetidiel s ochrannou izoláciou triedy II.

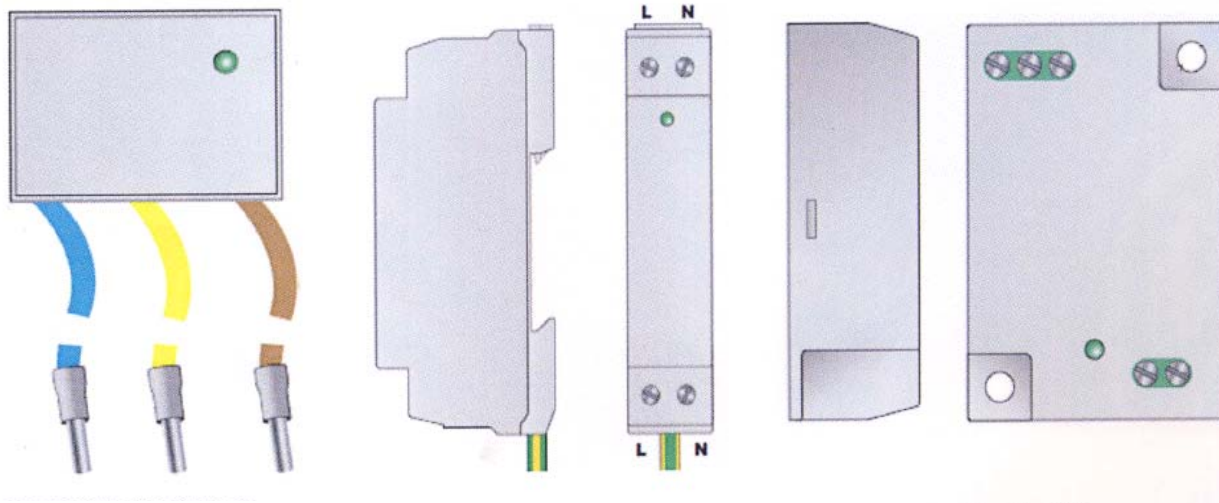
Tradičné výbojkové svetidlá, ktoré sa skladajú z robustného jadra, cievky predradníka a vysokotlakových výbojok neboli ovplyvnené týmto javom. Treba to mať na pamäti, ak sa v existujúcej inštalácii mení takéto svetidlo za LED svetidlo!

MIESTA PRE MONTÁŽ PREPÄŤOVEJ OCHRANY

TE Connectivity poskytuje kompletné riešenie prepäťových ochrán, ktoré majú byť inštalované na rôznych miestach siete verejného osvetlenia, ako sú svetidlá, stĺpy verejného osvetlenia a pouličné rozvodné skrine.



Prvky na ochranu proti prepätiu – pre dodatočnú montáž



COBOX- SLSA10-W-O

COBOX- SLSA10-S-D

COBOX- SLSA10-S-S

POUŽITIE

Ochranné prvky proti prepätiu sú určené na montáž, dodatočnú montáž do siete verejného osvetlenia, ktorá používa LED svetidlá.

PODMIENKY PRE VOĽBU

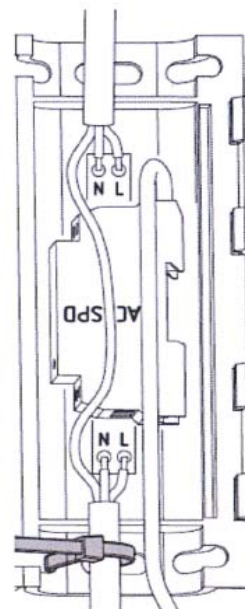
Ochranné prvky proti prepätiu pre dodatočnú montáž sa volia podľa miesta umiestnenia v sieti verejného osvetlenia. Pozri tabuľka popis umiestnenia.

Umiestnenie	Objednávacie číslo prepäťovej ochrany	Popis umiestnenia	Číslo výrobku
Do LED svetidla	COBOX-SLSA10-W-O	Dodatočná montáž do svetidla	BM4003-000
Do stípa	COBOX-SLSA10-S-X7	Dodatočná montáž do stípa na káble k svetidlu, krytie IP67	BM3285-000
Do poistkovej rozvodnice	COBOX-SLSA10-W-O	Dodatočná montáž do namontovaných existujúcich pripojovacích rozvodníc	BM4003-000
	COBOX-SLSA10-S-S		BM3314-000
	COBOX-SLSA10-S-D		BM3315-000
Do rozvodnej skrine	COBOX-ADSA30-S-D	Dodatočná montáž do rozvodnej skrine	BM4005-000

Prepät'ové ochrany do pripojovacích rozvodníc – pre dodatočnú montáž



COBOX-SLSA10-S-X7



POUŽITIE

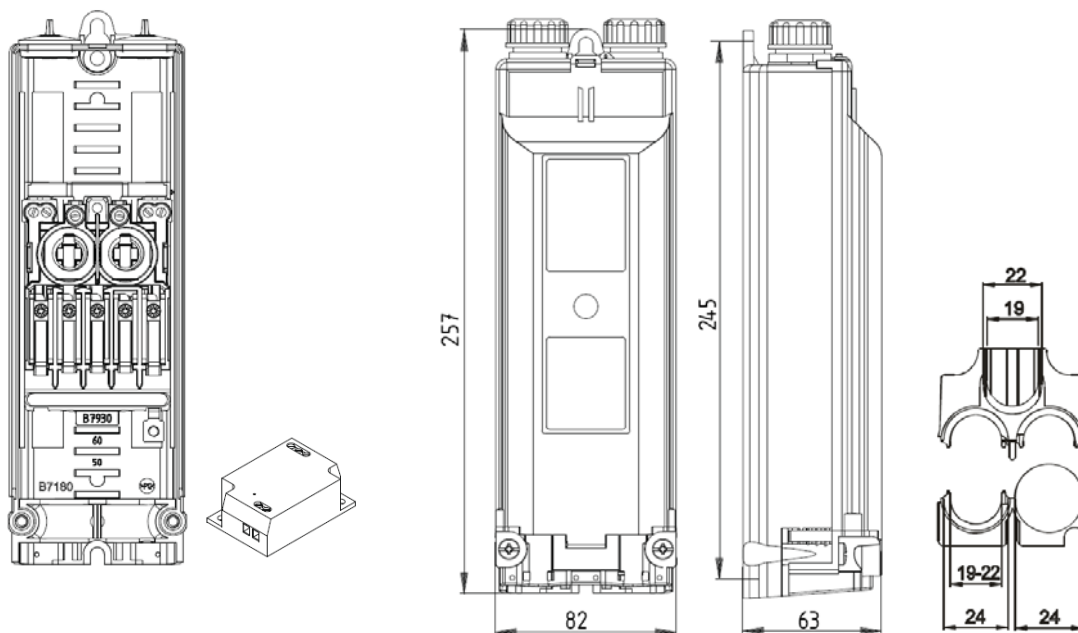
Ochranné prvky proti prepät'iu sú určené na dodatočnú montáž do pripojovacích rozvodníc v sieti verejného osvetlenia, napájacích systémov pre signalizáciu, v mestskom mobiliári, pre svetelné reklamy, autobusové zastávky, automaty na cestovné lístky kde sa používajú LED svetidlá.

PODMIENKY PRE VOĽBU

Vzhľadom k nízkej energetickej spotrebe LED svetidiel a podľa spôsobu ovládania zníženia výkonu je potrebné skontrolovať, koľko fáz musí byť chránených proti prepät'iu. Priestor v existujúcich pripojovacích rozvodniciach môže byť obmedzený, a nemôže byť doplnený o ochranu proti prepät'iu. Potom môže byť potrebná zmena pripojovacej rozvodnice, alebo použitie prepät'ovej ochrany do stípa.

Umiestnenie	Vhodné pre dodatočnú montáž do pripojovacej rozvodnice typu	Číslo výrobku
COBOX-SLSA10-W-O	EKM-1261, EKM-1262, EKM-1270, EKM-2020, EKM-2035	BM4003-000
COBOX-SLSA10-S-S	EKM-1281, EKM-1282, EKM-2050	BM3314-000
COBOX-SLSA10-S-D	EKM-2035, EKM-2051	BM3315-000
COBOX-ADSA30-S-D	EKM-2051, EKM-2072,	BM4005-000

Pripojovacie rozvodnice s integrovanými ochranami proti prepätiu



Rozmery v mm

POUŽITIE

Táto rozvodnica je určená pre montáž do stĺpov verejného osvetlenia s LED osvetlením alebo do zariadení používajúce LED svetidlá. Umožňuje ochranu svetidla poistkami a má zabudovanú ochranu, alebo viac ochrán proti prepätiu.

PODMIENKY PRE VOĽBU

Na základe existujúcich typov pripojovacích rozvodníc, ponúkame nasledujúce typy rozvodníc s integrovanými obmedzovačmi prepätia určené pre LED svetidlá.

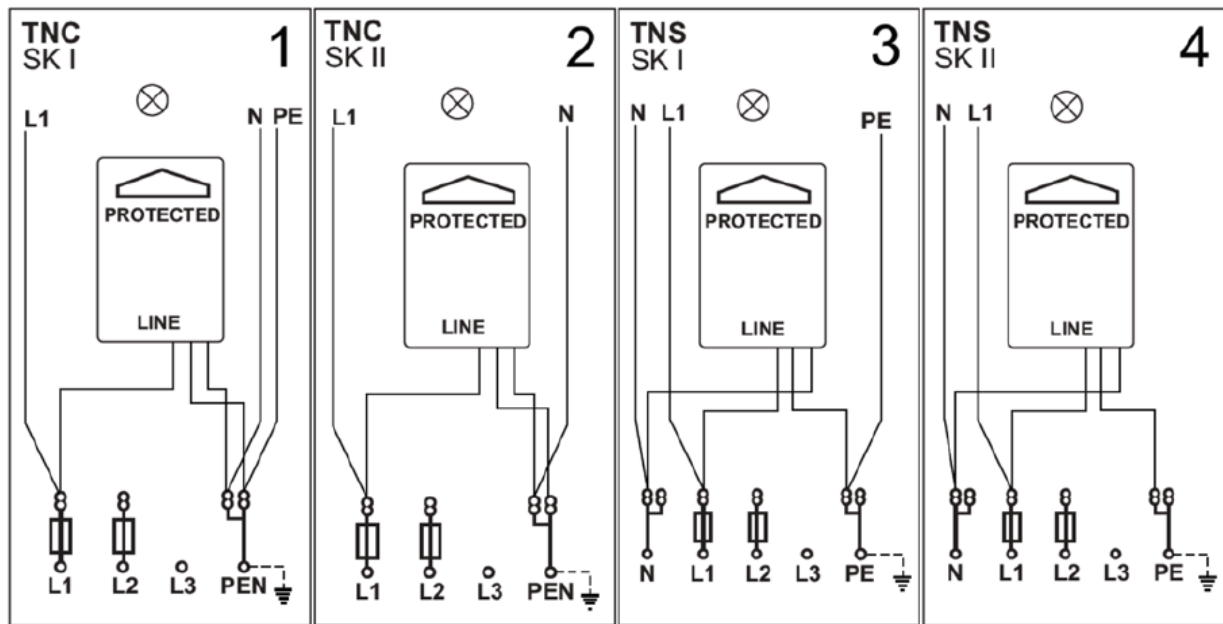
Objednávacie číslo	Počet ochrán	Typ prepät'ovej ochrany	Číslo výrobku
EKM-2020-2D1-1SA	1	COBOX-SLSA10-W-O	BM3996-000
EKM-2050-2D1-5S/U-1SA	1	COBOX-SLSA10-S-S	BM3285-000
EKM-2050-2D1-5S/U-2SA	2	COBOX-SLSA10-S-S	BM3992-000
EKM-2050-2D1-5S/U-2SA	2	COBOX-SLSA10-S-D	BM3993-000
EKM-2050-3D1-5S/U-3SA	3	COBOX-SLSA10-S-S	BM3994-000
EKM-2051-5S-1R/D-RK-1S	1	COBOX-SLSA10-S-D	BM3313-000

Schémy pripojenia

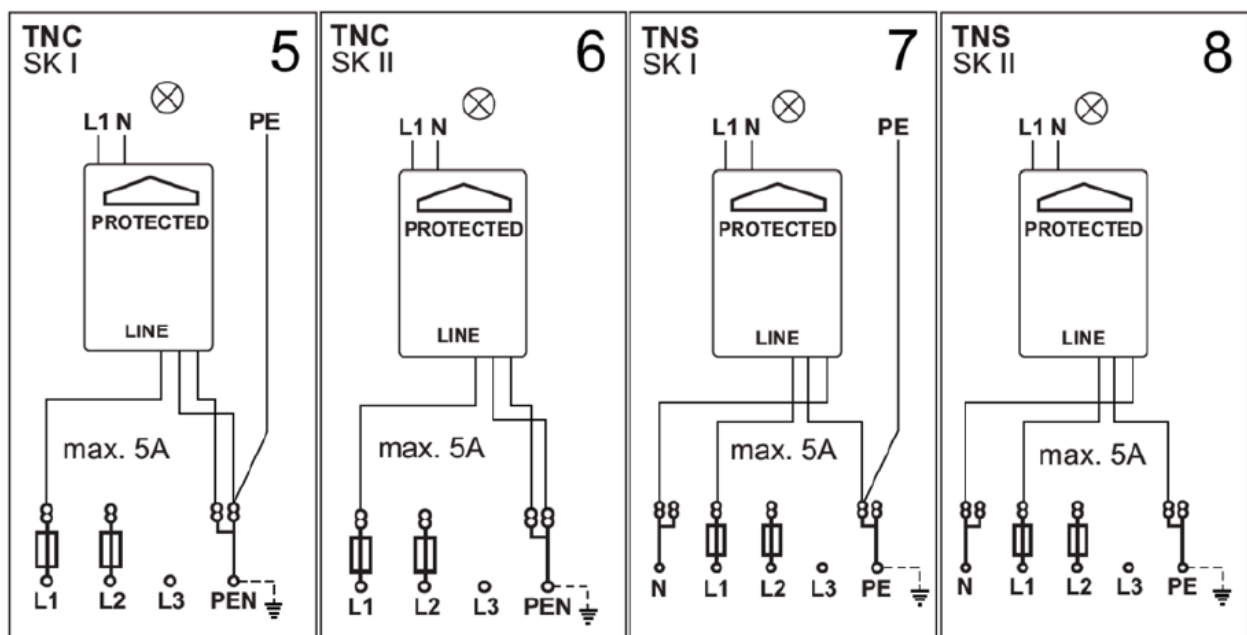
POUŽITIE

V závislosti na type siete, triede ochrany a princípe činnosti (s alebo bez pokračovania svetidla v prevádzke po zničení obmedzovača prepätia), existuje až osem rôznych schém pripojenia. Vzhľadom k tejto rôznorodosti, pripojovacie rozvodnice s obmedzovačmi prepätia nie sú dodávané s kabelážou, zapojenie musí byť vykonané na mieste.

SVIETIDLO SVIETI - svetidlo pokračuje v prevádzke s chybným obmedzovačom prepätia, svetidlo svieti, iba modul chybného obmedzovača prepätia je oddelený od siete.



SVIETIDLO NESVIETI - svetidlo nepokračuje v prevádzke - s chybným obmedzovačom prepätia je svetidlo odpojené spoločne s chybným obmedzovačom prepätia

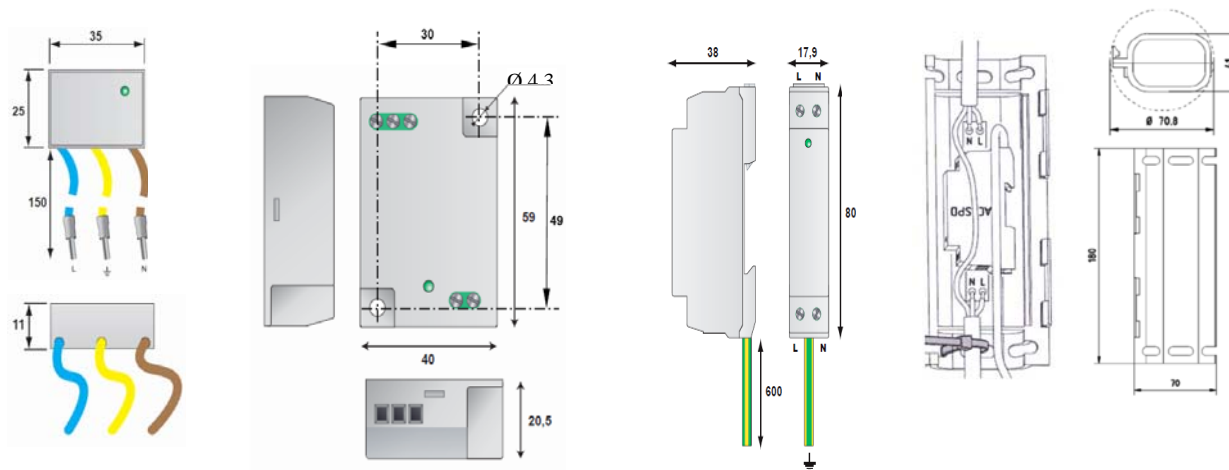


Technické údaje a rozmery

	COBOX-ADSA30-S-D	COBOX-SLSA10-S-D	COBOX-SLSA10-S-S	COBOX-SLSA10-W-O
Obmedzovač prepätia	Typ 2 3 - fazový	Typ 2 + 3 1 - fazový	Typ 2 + 3 1 - fazový	Typ 3 1 - fazový
Menovité napätie U_n :	230 V	230 – 277 V	230 – 277 V	230 V
Max. prevádzkové napätie (AC) :	440 V	320 V	320 V	255 V
Max. záťažový prúd $I_{z\ max}$:	–	5 A	5 A	–
Úroveň ochrany (pri I_n), U_p :	1,25 kV	1,5 kV	1,5 kV	1,5 kV
Menovitý vybíjací prúd Impulz 15 x 8/20 μ s I_n :	20 kA	5 kA	5 kA	3 kA
Max. vybíjací prúd Impulz 1 x 8/20 μ s I_{max} :	40 kA	10 kA	10 kA	6 kA
Prípustný skratový prúd I_{SCCR} :	10 kA	10 kA	10 kA	6 kA
Rozmery (mm):	2 TE, zásuvný 90x36x67	80x17,9x38	59x40x20,5	35x25x11
Signalizácia poruchy	mechanická červená	LED nesvieti	LED nesvieti	LED nesvieti
Signalizačný kontakt	áno	nie	nie	nie
Stupeň krytia	IP 20	IP 20	IP 20	IP 20
Norma	EN 61643-11	EN 61643-11	EN 61643-11	EN 61643-11
S pokračovaním svetidla v prevádzke	x	x	x	x
Bez pokračovania svetidla v prevádzke	–	x	x	–

Ochrana
LED
svetidiel

ROZMERY



Rozmery v mm

COBOX-SLSA10-W-O

COBOX-SLSA10-S-S

COBOX-SLSA10-S-D

COBOX-SLSA10-S-X7

TE Connectivity je globálna spoločnosť s obrátom 12 miliárd USD, ktorá navrhuje a vyrába viac ako 500 000 výrobkov, ktoré prepájajú a chránia prenos energie a dát vo vnútri výrobkov dotýkajúcich sa všetkých aspektov nášho života. Našich takmer 75 000 zamestnancov vytvára partnerské vzťahy so zákazníkmi prakticky v každom odvetví - od spotrebnej elektroniky, energetiky a zdravotníctva, po automobilový, letecký priemysel a komunikačné siete - a umožňujú prepojenie výrobkov s inteligentnejšími rýchlejšími a lepšími technológiami.

Viac informácií o TE Connectivity je k dispozícii na: www.TE.com

- Povrchové a hlbinné bane
- Jadrové elektrárne
- Výrobcovia el. zariadení
- Nadzemná distribučná sieť
- Petrochemický priemysel
- Železnice
- Verejné osvetlenie
- Rozvodne
- Prenosová sieť
- Podzemná distribučná sieť
- Veterné elektrárne
- Solárne systémy
- Vodné elektrárne
- Tepelné elektrárne

VŠADE TAM, KDE TEČIE ELEKTRICKÁ ENERGIA, NÁJDETE VÝROBKY TE ENERGY



te.com/energy

PRE VIAC INFORMÁCIÍ OBRÁŤTE SA PROSÍM NA :

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te.com/energy

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Svietidlá

Overview of product data:
5XA5904K1B08P

SL10mc,ST1.2a,LED2860lm740,Plus

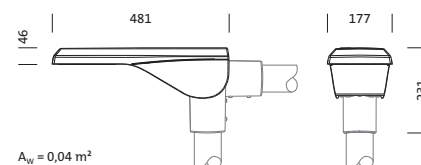
1/4



LED

Product description

Streetlight 10 micro LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, primary optical cover: cover, of PMMA, transparent, light distribution: ST1.2a, light emission: direct distribution, primary light characteristic: asymmetric, installation type: side-entry, post-top, LED, LED High Power, luminous flux: 2.860 lm, luminous efficacy: 104lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Plus, control: power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation, overheat protection, electronic power reduction, with terminal, 5-pole, max. 2.5mm², mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 28 W, end of lifetime: 28 W, reduction: 12 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 7025), length: 481 mm, width: 176 mm, height: 138mm, spigot size: 42/60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA59000XM4, 60mm: 5XA59000XM2, 76mm: 5XA59000XM1, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, permissible ambient temperature for outdoor applications: -25..+50°C, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps:	LED
Wt. (kg):	3.4
Order No.:	5XA5904K1B08P
GTIN (EAN):	4050737848266

You can find a complete overview of lighting technology / planning data from page 4.

siteco AN OSRAM BUSINESS 5XA5904K1B08P

The luminaire contains built-in LED lamps

} LED

The LED-lamps cannot be changed in the luminaire

874/2012

Product data details:
5XA5904K1B08P
SL10mc,ST1.2a,LED2860lm740,Plus

2/4


Detailed technical description
Key data

- Product type: mast luminaire
- Family: Streetlight 10 micro LED
- Order No.: 5XA5904K1B08P

Lighting technology | Lamps | Control gear
Component 1
Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised
- Cover: cover, transparent
- Light distribution: ST1.2a
- Beam angle: wide distribution
- Symmetry: asymmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 2860lm
- Luminous efficacy: 104lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 28
- Pnom end service life: 28
- Pred at 50% lumin. flux: 12

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), please order mast flange separately, inclination adjustable at 0°, 5°, 10°, 15°
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, on mast

Electrical connection

- Connection: terminal, 5-pole, max. 2.5mm²
- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 481mm
- Width: 176mm
- Height: 138mm
- Mast head: spigot size: 42/60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA59000XM4, 60mm: 5XA59000XM2, 76mm: 5XA59000XM1
- Weight: 3.4kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0% at 0° inclination

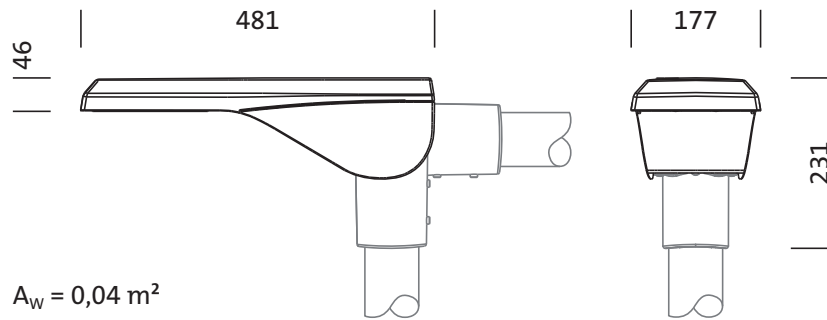
Service life

- Service life: service life 100,000h (L90/B10)

Dimensions:
5XA5904K1B08P

SL10mc,ST1.2a,LED2860lm740,Plus

3/4



$A_w = 0,04 \text{ m}^2$

Lighting technology / Planning data:
5XA5904K1B08P

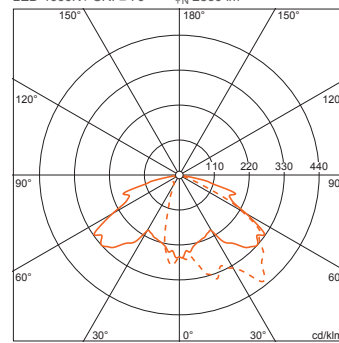
SL10mc,ST1.2a,LED2860lm740,Plus

4/4

5XA5904K1B08P: 1x LED 4000K / CRI ≥ 70

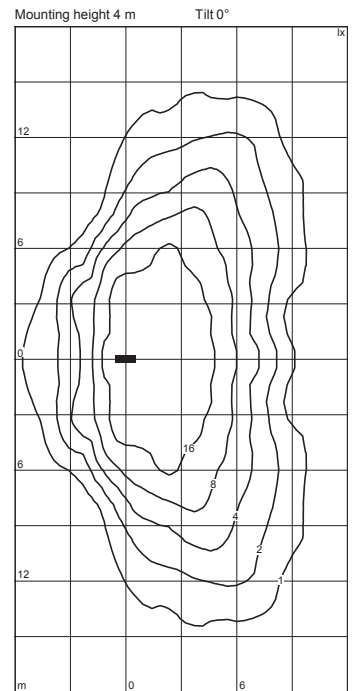
4050737848266
5XA5904K1B08P

LED 4000K / CRI ≥ 70 ϕ_N 2860 lm



— C 0/180 - - - C 90/270

Luminous intensity class
according to
EN13201-2: G3



Overview of product data:
5XA5131K1B08A2

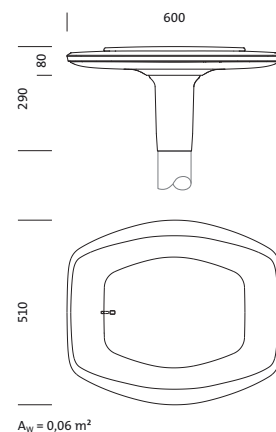
DL30,ST1.2a,LED1600lm740,Plus

1/4



Product description

DL® 30 LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, highly specular, primary optical cover: cover, of PMMA, structured, transparent, light distribution: ST1.2a, light emission: direct distribution, primary light characteristic: asymmetric, installation type: post-top, LED, LED High Power, luminous flux: 1.600 lm, luminous efficacy: 92lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Plus, control: overheat protection, flexible luminous flux parameterisation, time-dependent luminous flux control, constant luminous flux control, digital communication interface, power reduction, electronic power reduction, mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 17 W, end of lifetime: 20 W, reduction: 9 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 600 mm, width: 510 mm, height: 290mm, spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, impact resistance: IK08, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps:	LED
Wt. (kg):	7.7
Order No.:	5XA5131K1B08A2
GTIN (EAN):	4050737836256

You can find a complete overview of lighting technology / planning data from page 4.

siteco AN OSRAM BUSINESS 5XA5131K1B08A2

The luminaire contains built-in LED lamps

The LED-lamps cannot be changed in the luminaire

874/2012

Product data details:
5XA5131K1B08A2

DL30,ST1.2a,LED1600lm740,Plus

2/4



Detailed technical description

Key data

- Product type: mast luminaire
- Family: DL® 30 LED
- Order No.: 5XA5131K1B08A2

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised, highly specular
- Cover: cover, transparent, structured
- Light distribution: ST1.2a
- Beam angle: wide distribution
- Symmetry: asymmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 1600lm
- Luminous efficacy: 92lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 17
- Pnom end service life: 20
- Pred at 50% lumin. flux: 9

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S)
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: post-top, on mast

Electrical connection

- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 600mm
- Width: 510mm
- Height: 290mm
- Mast head: spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm
- Weight: 7.7kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Impact resistance: IK08
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0%

Service life

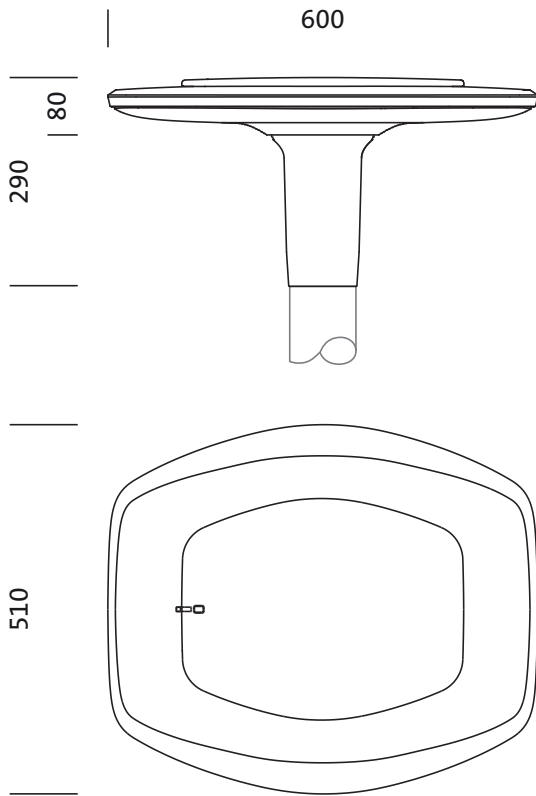
- Service life: service life 100,000h (L85/B10)

Dimensions:

5XA5131K1B08A2

DL30,ST1.2a,LED1600lm740,Plus

3/4



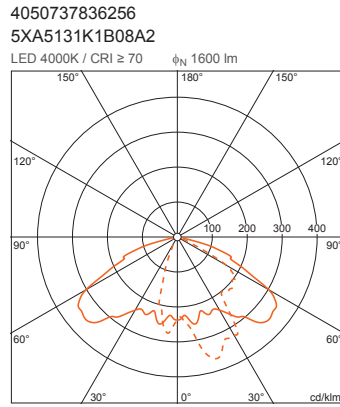
$A_w = 0,06 \text{ m}^2$

Lighting technology / Planning data:
5XA5131K1B08A2

DL30,ST1.2a,LED1600lm740,Plus

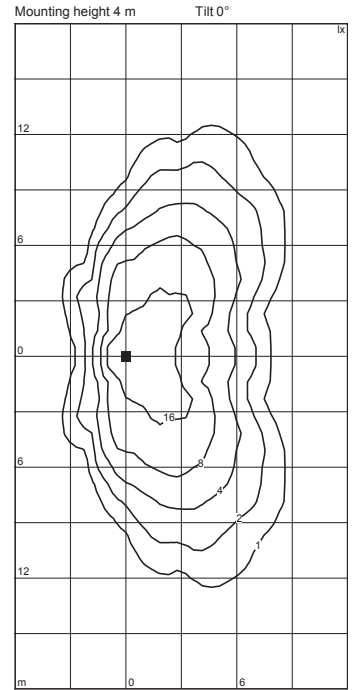
4/4

5XA5131K1B08A2: 1x LED 4000K / CRI ≥ 70



— C 0/180 - - - C 90/270

Luminous intensity class
according to
EN13201-2: G3



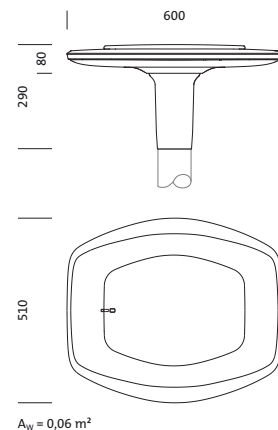
Overview of product data:
5XA5131K1B08A4

DL30,ST1.2a,LED2830lm740,Plus



Product description

DL® 30 LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, highly specular, primary optical cover: cover, of PMMA, structured, transparent, light distribution: ST1.2a, light emission: direct distribution, primary light characteristic: asymmetric, installation type: post-top, LED, LED High Power, luminous flux: 2.830 lm, luminous efficacy: 101lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Plus, control: overheat protection, flexible luminous flux parameterisation, time-dependent luminous flux control, constant luminous flux control, digital communication interface, power reduction, electronic power reduction, mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 28 W, end of lifetime: 31 W, reduction: 14 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 600 mm, width: 510 mm, height: 290mm, spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, impact resistance: IK08, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps:	LED
Wt. (kg):	7.8
Order No.:	5XA5131K1B08A4
GTIN (EAN):	4050737833965

You can find a complete overview of lighting technology / planning data from page 4.

siteco AN OSRAM BUSINESS 5XA5131K1B08A4

The luminaire contains built-in LED lamps

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The LED-lamps cannot be changed in the luminaire

874/2012

Product data details:
5XA5131K1B08A4

DL30,ST1.2a,LED2830lm740,Plus

2/4



Detailed technical description

Key data

- Product type: mast luminaire
- Family: DL® 30 LED
- Order No.: 5XA5131K1B08A4

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised, highly specular
- Cover: cover, transparent, structured
- Light distribution: ST1.2a
- Beam angle: wide distribution
- Symmetry: asymmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 2830lm
- Luminous efficacy: 101lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 28
- Pnom end service life: 31
- Pred at 50% lumin. flux: 14

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S)
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: post-top, on mast

Electrical connection

- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 600mm
- Width: 510mm
- Height: 290mm
- Mast head: spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm
- Weight: 7.8kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Impact resistance: IK08
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0%

Service life

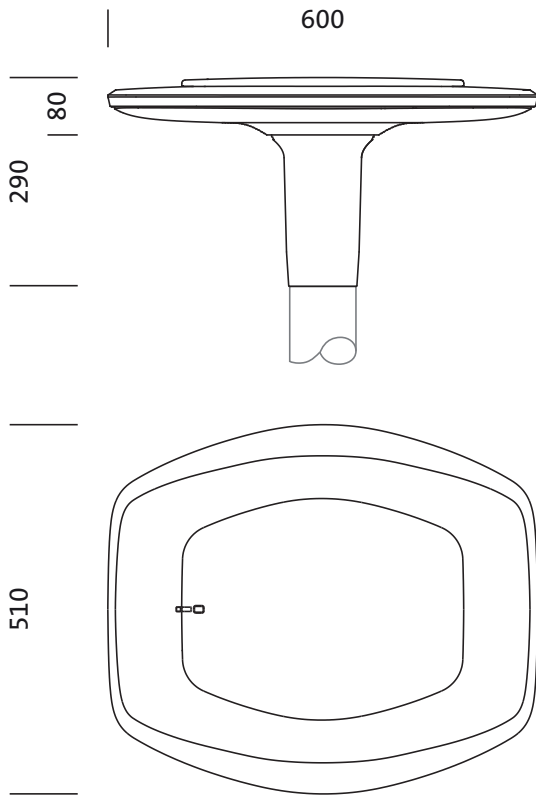
- Service life: service life 100,000h (L90/B10)

Dimensions:

5XA5131K1B08A4

DL30,ST1.2a,LED2830lm740,Plus

3/4



$A_w = 0,06 \text{ m}^2$

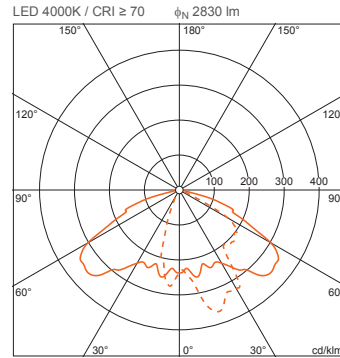
Lighting technology / Planning data:
5XA5131K1B08A4

DL30,ST1.2a,LED2830lm740,Plus

4/4

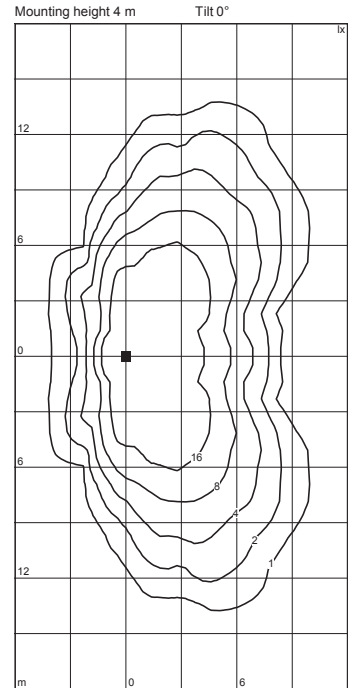
5XA5131K1B08A4: 1x LED 4000K / CRI ≥ 70

4050737833965
5XA5131K1B08A4



— C 0/180 - - - C 90/270

Luminous intensity class
according to
EN13201-2: G3



Overview of product data:
5XA5131K1B08A5

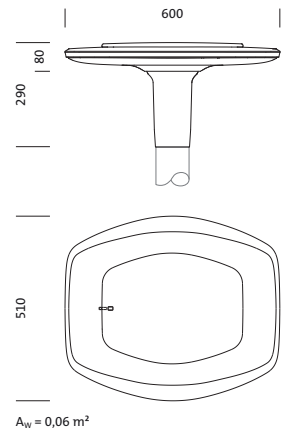
DL30,ST1.2a,LED4200lm740,Plus

1/4



Product description

DL® 30 LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, highly specular, primary optical cover: cover, of PMMA, structured, transparent, light distribution: ST1.2a, light emission: direct distribution, primary light characteristic: asymmetric, installation type: post-top, LED, LED High Power, luminous flux: 4.200 lm, luminous efficacy: 96lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Plus, control: overheat protection, flexible luminous flux parameterisation, time-dependent luminous flux control, constant luminous flux control, digital communication interface, power reduction, electronic power reduction, mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 44 W, end of lifetime: 62 W, reduction: 21 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 600 mm, width: 510 mm, height: 290mm, spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, impact resistance: IK08, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps:	LED
Wt. (kg):	7.8
Order No.:	5XA5131K1B08A5
GTIN (EAN):	4050737839011

You can find a complete overview of lighting technology / planning data from page 4.

siteco AN OSRAM BUSINESS 5XA5131K1B08A5

The luminaire contains built-in LED lamps

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The LED-lamps cannot be changed in the luminaire

874/2012

Product data details:
5XA5131K1B08A5

DL30,ST1.2a,LED4200lm740,Plus

2/4



Detailed technical description

Key data

- Product type: mast luminaire
- Family: DL® 30 LED
- Order No.: 5XA5131K1B08A5

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised, highly specular
- Cover: cover, transparent, structured
- Light distribution: ST1.2a
- Beam angle: wide distribution
- Symmetry: asymmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 4200lm
- Luminous efficacy: 96lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 44
- Pnom end service life: 62
- Pred at 50% lumin. flux: 21

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S)
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: post-top, on mast

Electrical connection

- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 600mm
- Width: 510mm
- Height: 290mm
- Mast head: spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm
- Weight: 7.8kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Impact resistance: IK08
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0%

Service life

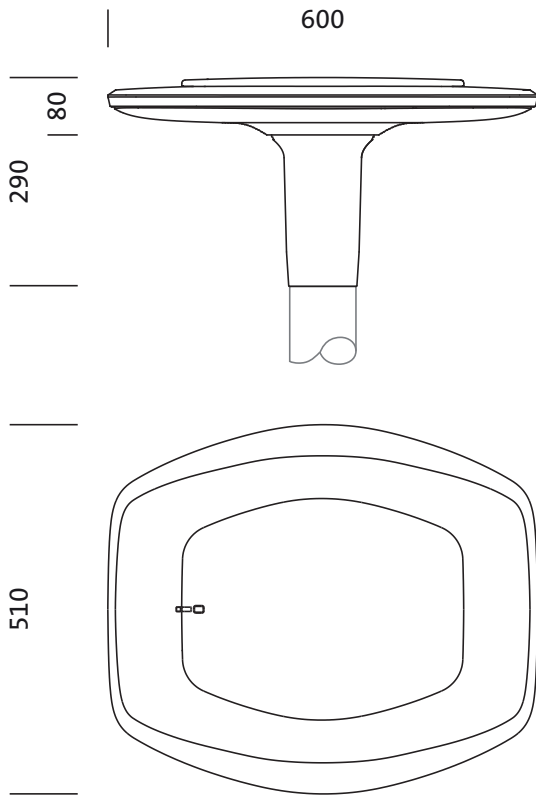
- Service life: service life 100,000h (L75/B10)

Dimensions:

5XA5131K1B08A5

DL30,ST1.2a,LED4200lm740,Plus

3/4



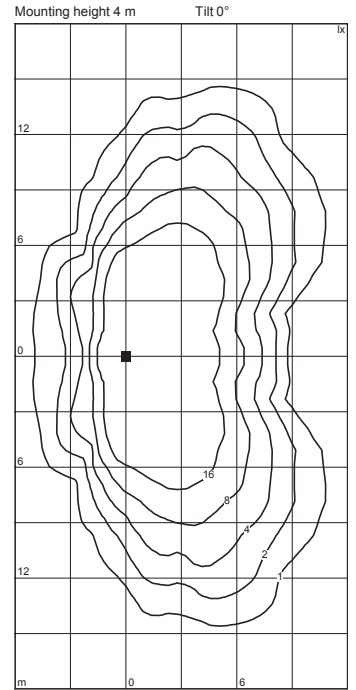
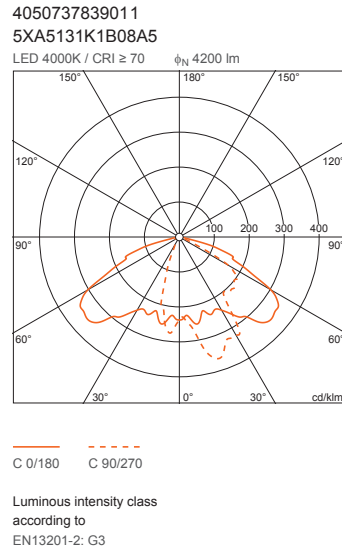
$A_w = 0,06 \text{ m}^2$

Lighting technology / Planning data:
5XA5131K1B08A5

DL30,ST1.2a,LED4200lm740,Plus

4/4

5XA5131K1B08A5: 1x LED 4000K / CRI ≥ 70



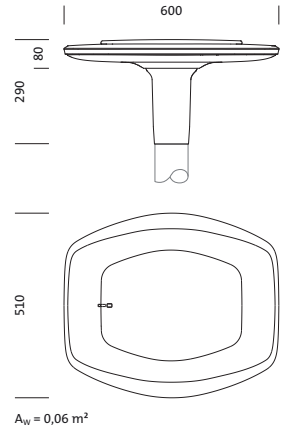
Overview of product data:
5XA5131R1A08A4

DL30, PL1.2s, LED4010lm740, Basic



Product description

DL® 30 LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, highly specular, primary optical cover: cover, of PMMA, transparent, structured, light distribution: PL1.2s, light emission: direct distribution, primary light characteristic: symmetric, installation type: post-top, LED, LED High Power, luminous flux: 4.010 lm, luminous efficacy: 94lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Basic, control: power reduction, overheat protection, electronic power reduction, mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 43 W, end of lifetime: 43 W, reduction: 20 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 600 mm, width: 510 mm, height: 290mm, spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, impact resistance: IK08, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps: LED
Wt. (kg): 7.8
Order No.: 5XA5131R1A08A4
GTIN (EAN): 4050737839035

siteco AN OSRAM BUSINESS 5XA5131R1A08A4

The luminaire contains built-in LED lamps

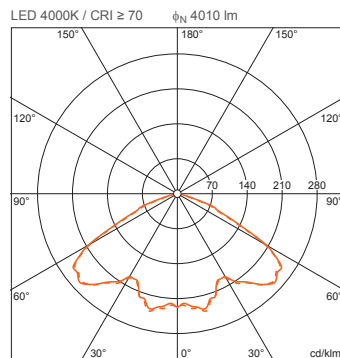
LED

The LED-lamps cannot be changed in the luminaire

874/2012

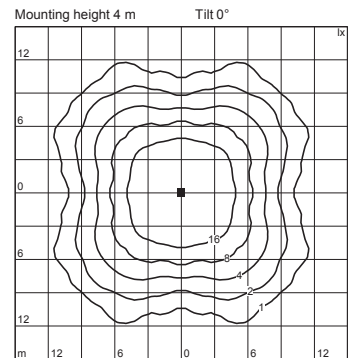
5XA5131R1A08A4: 1x LED 4000K / CRI ≥ 70

4050737839035
5XA5131R1A08A4



C 0/180 C 90/270

Luminous intensity class according to EN13201-2: G6



Product data details:
5XA5131R1A08A4

DL30,PL1.2s,LED4010lm740,Basic

2/3



Detailed technical description

Key data

- Product type: mast luminaire
- Family: DL® 30 LED
- Order No.: 5XA5131R1A08A4

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised, highly specular
- Cover: cover, transparent, structured
- Light distribution: PL1.2s
- Beam angle: wide distribution
- Symmetry: symmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 4010lm
- Luminous efficacy: 94lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 43
- Pnom end service life: 43
- Pred at 50% lumin. flux: 20

Operating device:

- Control gear: ECG Basic
- Control: Basic
- Equipment: overheat protection, power reduction
- Switching method: electronic power reduction

Material | Colour

- Luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S)
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: post-top, on mast

Electrical connection

- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 600mm
- Width: 510mm
- Height: 290mm
- Mast head: spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm
- Weight: 7.8kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Impact resistance: IK08
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0%

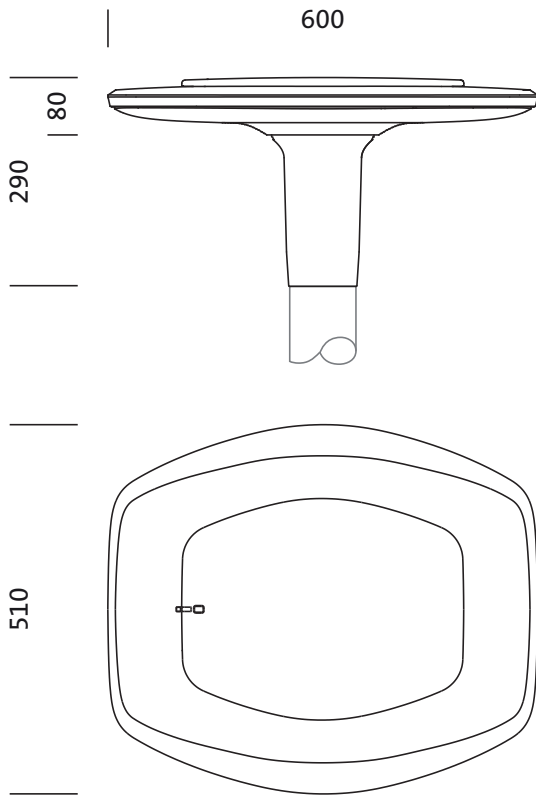
Service life

- Service life: service life 100,000h (L85/B10)

Dimensions:

5XA5131R1A08A4

DL30,PL1.2s,LED4010lm740,Basic



$A_w = 0,06 \text{ m}^2$

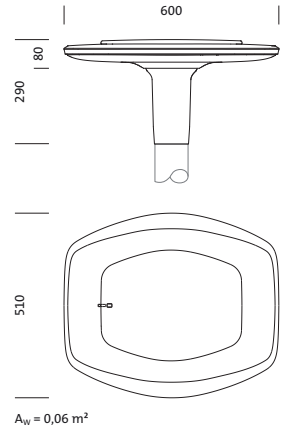
Overview of product data:
5XA5131R1A08A5

DL30,PL1.2s,LED5360lm740,Basic



Product description

DL® 30 LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, highly specular, primary optical cover: cover, of PMMA, transparent, structured, light distribution: PL1.2s, light emission: direct distribution, primary light characteristic: symmetric, installation type: post-top, LED, LED High Power, luminous flux: 5.360 lm, luminous efficacy: 87lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Basic, control: power reduction, overheat protection, electronic power reduction, mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 62 W, end of lifetime: 62 W, reduction: 27 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 600 mm, width: 510 mm, height: 290mm, spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, impact resistance: IK08, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps: LED
 Wt. (kg): 7.8
 Order No.: 5XA5131R1A08A5
 GTIN (EAN): 4050737836676

sitEco AN OSRAM BUSINESS 5XA5131R1A08A5

The luminaire contains built-in LED lamps

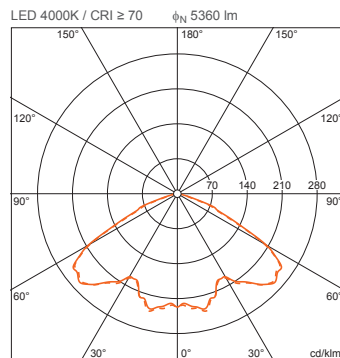
LED

The LED-lamps cannot be changed in the luminaire

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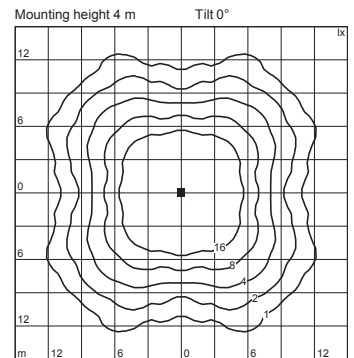
5XA5131R1A08A5: 1x LED 4000K / CRI ≥ 70

4050737836676
 5XA5131R1A08A5



C 0/180 C 90/270

Luminous intensity class according to EN13201-2: G6



Product data details:
5XA5131R1A08A5

DL30,PL1.2s,LED5360lm740,Basic

2/3



Detailed technical description

Key data

- Product type: mast luminaire
- Family: DL® 30 LED
- Order No.: 5XA5131R1A08A5

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised, highly specular
- Cover: cover, transparent, structured
- Light distribution: PL1.2s
- Beam angle: wide distribution
- Symmetry: symmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 5360lm
- Luminous efficacy: 87lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 62
- Pnom end service life: 62
- Pred at 50% lumin. flux: 27

Operating device:

- Control gear: ECG Basic
- Control: Basic
- Equipment: overheat protection, power reduction
- Switching method: electronic power reduction

Material | Colour

- Luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S)
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: post-top, on mast

Electrical connection

- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 600mm
- Width: 510mm
- Height: 290mm
- Mast head: spigot size: d x l = 76 x 100mm (post-top) | with reducer (accessory) 60 x 100mm
- Weight: 7.8kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Impact resistance: IK08
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0%

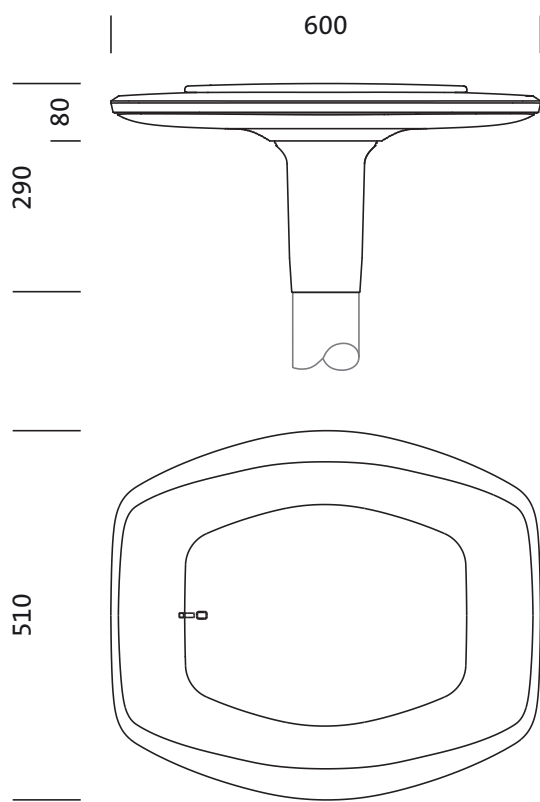
Service life

- Service life: service life 100,000h (L70/B10)

Dimensions:

5XA5131R1A08A5

DL30,PL1.2s,LED5360lm740,Basic



$A_w = 0,06 \text{ m}^2$

Overview of product data:
5XA5914K1B08

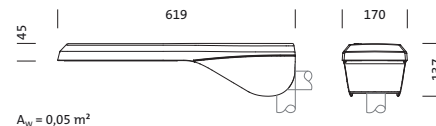
SL10mn,ST1.2a,LED3290lm740,Plus

1/4



Product description

Streetlight 10 mini LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, primary optical cover: cover, of PMMA, transparent, light distribution: ST1.2a, light emission: direct distribution, primary light characteristic: asymmetric, installation type: side-entry, post-top, LED, LED High Power, luminous flux: 3.290 lm, luminous efficacy: 123lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Plus, control: power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation, overheat protection, electronic power reduction, with terminal, 6-pole, max. 2.5mm², mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 27 W, end of lifetime: 27 W, reduction: 13 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 7025), length: 620 mm, width: 170 mm, height: 137mm, spigot size: 42/60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA59000XM4, 60mm: 5XA59000XM2, 76mm: 5XA59000XM1, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, permissible ambient temperature for outdoor applications: -25..+50°C, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps: LED
Wt. (kg): 4.5
Order No.: 5XA5914K1B08
GTIN (EAN): 4050737849256

You can find a complete overview of lighting technology / planning data from page 4.

siteco AN OSRAM BUSINESS 5XA5914K1B08

The luminaire contains built-in LED lamps

The LED-lamps cannot be changed in the luminaire

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Product data details:
5XA5914K1B08

SL10mn,ST1.2a,LED3290lm740,Plus

2/4



Detailed technical description

Key data

- Product type: mast luminaire
- Family: Streetlight 10 mini LED
- Order No.: 5XA5914K1B08

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised
- Cover: cover, transparent
- Light distribution: ST1.2a
- Beam angle: wide distribution
- Symmetry: asymmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 3290lm
- Luminous efficacy: 123lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 27
- Pnom end service life: 27
- Pred at 50% lumin. flux: 13

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), please order mast flange separately, inclination adjustable at 0°, 5°, 10°, 15°
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, on mast

Electrical connection

- Connection: terminal, 6-pole, max. 2.5mm²
- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 620mm
- Width: 170mm
- Height: 137mm
- Mast head: spigot size: 42/60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA59000XM4, 60mm: 5XA59000XM2, 76mm: 5XA59000XM1
- Weight: 4.5kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0% at 0° inclination

Service life

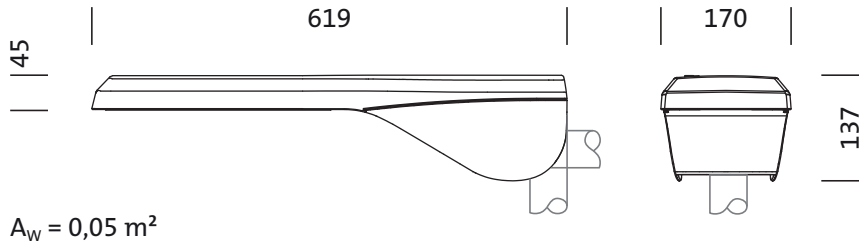
- Service life: service life 100,000h (L90/B10)

Dimensions:

5XA5914K1B08

SL10mn,ST1.2a,LED3290lm740,Plus

3/4



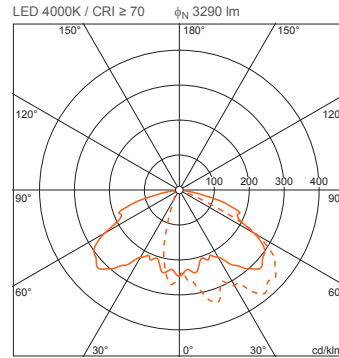
Lighting technology / Planning data:
5XA5914K1B08

SL10mn,ST1.2a,LED3290lm740,Plus

4/4

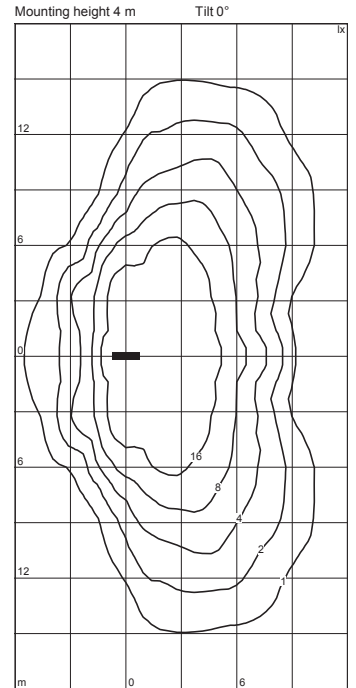
5XA5914K1B08: 1x LED 4000K / CRI ≥ 70

4050737849256
5XA5914K1B08



— C 0/180 - - - C 90/270

Luminous intensity class
according to
EN13201-2: G3



Overview of product data:
5XA5914K1B08P

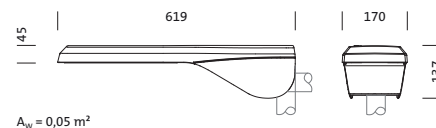
SL10mn,ST1.2a,LED7230lm740,Plus

1/4



Product description

Streetlight 10 mini LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, primary optical cover: cover, of PMMA, transparent, light distribution: ST1.2a, light emission: direct distribution, primary light characteristic: asymmetric, installation type: side-entry, post-top, LED, LED High Power, luminous flux: 7.230 lm, luminous efficacy: 108lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Plus, control: power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation, overheat protection, electronic power reduction, with terminal, 6-pole, max. 2.5mm², mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 67 W, end of lifetime: 70 W, reduction: 32 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 620 mm, width: 170 mm, height: 137mm, spigot size: 42/60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA59000XM4, 60mm: 5XA59000XM2, 76mm: 5XA59000XM1, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, permissible ambient temperature for outdoor applications: -25..+50°C, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps:	LED
Wt. (kg):	4.5
Order No.:	5XA5914K1B08P
GTIN (EAN):	4050737849317

You can find a complete overview of lighting technology / planning data from page 4.

siteco AN OSRAM BUSINESS 5XA5914K1B08P

The luminaire contains built-in LED lamps

The LED-lamps cannot be changed in the luminaire

874/2012

Product data details:
5XA5914K1B08P

SL10mn,ST1.2a,LED7230lm740,Plus

2/4



Detailed technical description

Key data

- Product type: mast luminaire
- Family: Streetlight 10 mini LED
- Order No.: 5XA5914K1B08P

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised
- Cover: cover, transparent
- Light distribution: ST1.2a
- Beam angle: wide distribution
- Symmetry: asymmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 7230lm
- Luminous efficacy: 108lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 67
- Pnom end service life: 70
- Pred at 50% lumin. flux: 32

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), please order mast flange separately, inclination adjustable at 0°, 5°, 10°, 15°
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, on mast

Electrical connection

- Connection: terminal, 6-pole, max. 2.5mm²
- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 620mm
- Width: 170mm
- Height: 137mm
- Mast head: spigot size: 42/60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA59000XM4, 60mm: 5XA59000XM2, 76mm: 5XA59000XM1
- Weight: 4.5kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

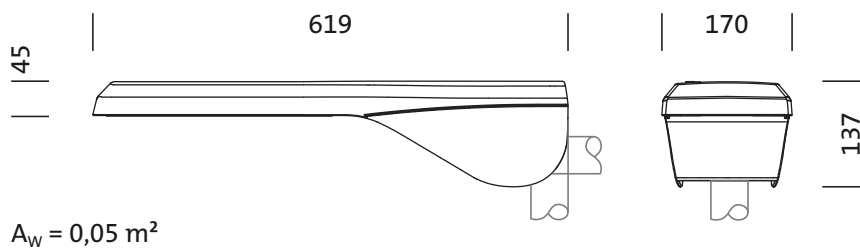
- Light emission: 0% at 0° inclination

Service life

- Service life: service life 100,000h (L85/B10)

Dimensions:
5XA5914K1B08P

SL10mn,ST1.2a,LED7230lm740,Plus



$A_w = 0,05 \text{ m}^2$

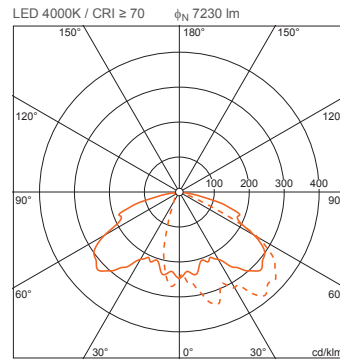
Lighting technology / Planning data:
5XA5914K1B08P

SL10mn,ST1.2a,LED7230lm740,Plus

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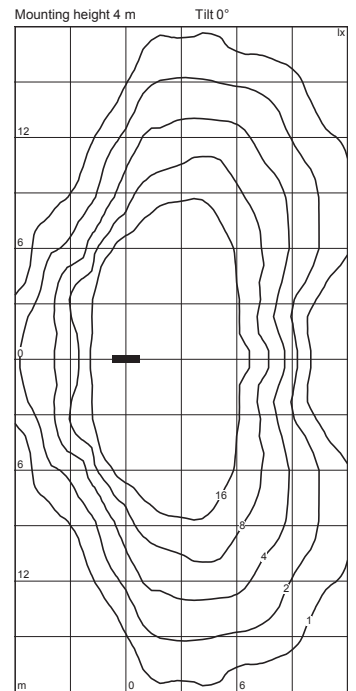
5XA5914K1B08P: 1x LED 4000K / CRI ≥ 70

4050737849317
5XA5914K1B08P



— C 0/180 - - - C 90/270

Luminous intensity class
according to
EN13201-2: G3



Overview of product data:
5XA5824K1B08

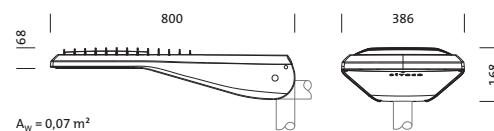
SL10md,ST1.2a,LED8890lm740,Plus

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Product description

Streetlight 10 midi LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, primary optical cover: cover, of PMMA, transparent, light distribution: ST1.2a, light emission: direct distribution, primary light characteristic: asymmetric, installation type: side-entry, post-top, LED, LED High Power, luminous flux: 8.890 lm, luminous efficacy: 123lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Plus, control: overheat protection, flexible luminous flux parameterisation, time-dependent luminous flux control, constant luminous flux control, digital communication interface, power reduction, electronic power reduction, with terminal, 5-pole, max. 2.5mm², mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 72 W, end of lifetime: 74 W, reduction: 36 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 800 mm, width: 387 mm, height: 168mm, spigot size: 60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA58100XM4, 60mm: 5XA58100XM2, 76mm: 5XA58100XM1, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, permissible ambient temperature for outdoor applications: -25..+50°C, standard-compliant lighting for roads and squares, packaging unit: 1 piece



Lamps:	LED
Wt. (kg):	11.4
Order No.:	5XA5824K1B08
GTIN (EAN):	4050737922652

You can find a complete overview of lighting technology / planning data from page 4.

siteco AN OSRAM BUSINESS 5XA5824K1B08

The luminaire contains built-in LED lamps

} LED

The LED-lamps cannot be changed in the luminaire

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Product data details:
 5XA5824K1B08

SL10md,ST1.2a,LED8890lm740,Plus



Detailed technical description

Key data

- Product type: mast luminaire
- Family: Streetlight 10 midi LED
- Order No.: 5XA5824K1B08

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised
- Cover: cover, transparent
- Light distribution: ST1.2a
- Beam angle: wide distribution
- Symmetry: asymmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 8890lm
- Luminous efficacy: 123lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 72
- Pnom end service life: 74
- Pred at 50% lumin. flux: 36

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), please order mast flange separately, inclination adjustable at 0°, 5°, 10°, 15°
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, on mast

Electrical connection

- Connection: terminal, 5-pole, max. 2.5mm²
- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 800mm
- Width: 387mm
- Height: 168mm
- Mast head: spigot size: 60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA58100XM4, 60mm: 5XA58100XM2, 76mm: 5XA58100XM1
- Weight: 11.4kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0% at 0° inclination

Service life

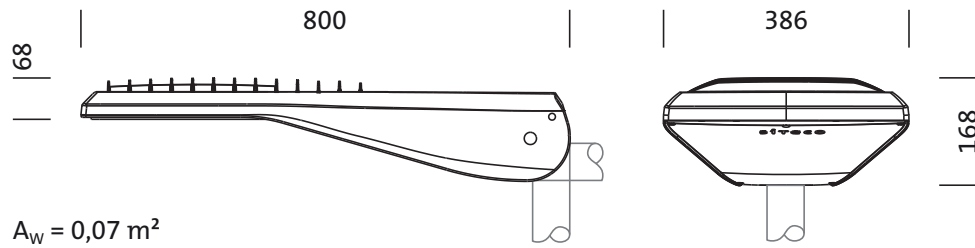
- Service life: service life 100,000h (L90/B10)

Dimensions:

5XA5824K1B08

SL10md,ST1.2a,LED8890lm740,Plus

3/4



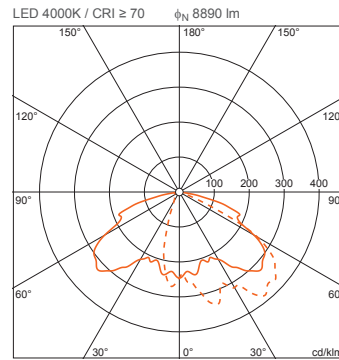
Lighting technology / Planning data:
5XA5824K1B08

SL10md,ST1.2a,LED8890lm740,Plus

4/4

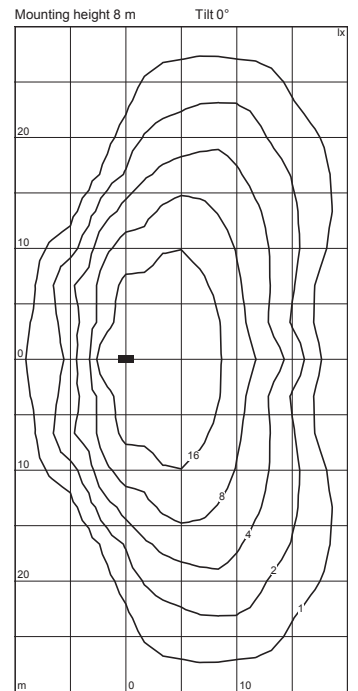
5XA5824K1B08: 2x LED 4000K / CRI ≥ 70

4050737922652
5XA5824K1B08



— C 0/180 - - - C 90/270

Luminous intensity class
according to
EN13201-2: G3



Overview of product data:
5XA5824K1B08P

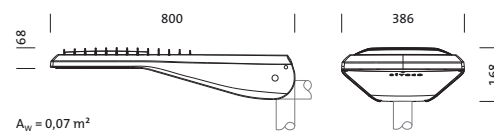
SL10md,ST1.2a,LED15140lm740,Plus

1/4



Product description

Streetlight 10 midi LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, primary optical cover: cover, of PMMA, transparent, light distribution: ST1.2a, light emission: direct distribution, primary light characteristic: asymmetric, installation type: side-entry, post-top, LED, LED High Power, luminous flux: 15.140 lm, luminous efficacy: 109lm/W, light colour: 740, colour temperature: 4000K, control gear: ECG Plus, control: overheat protection, flexible luminous flux parameterisation, time-dependent luminous flux control, constant luminous flux control, digital communication interface, power reduction, electronic power reduction, with terminal, 5-pole, max. 2.5mm², mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 139 W, end of lifetime: 149 W, reduction: 61 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 800 mm, width: 387 mm, height: 168mm, spigot size: 60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA58100XM4, 60mm: 5XA58100XM2, 76mm: 5XA58100XM1, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, permissible ambient temperature for outdoor applications: -25..+50°C, standard-compliant lighting for roads and squares, packaging unit: 1 piece



siteco AN OSRAM BUSINESS 5XA5824K1B08P

The luminaire contains built-in LED lamps

The LED-lamps cannot be changed in the luminaire

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Lamps:	LED
Wt. (kg):	11.4
Order No.:	5XA5824K1B08P
GTIN (EAN):	4050737922720

You can find a complete overview of lighting technology / planning data from page 4.

Product data details:
5XA5824K1B08P

SL10md,ST1.2a,LED15140lm740,Plus

2/4



Detailed technical description

Key data

- Product type: mast luminaire
- Family: Streetlight 10 midi LED
- Order No.: 5XA5824K1B08P

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised
- Cover: cover, transparent
- Light distribution: ST1.2a
- Beam angle: wide distribution
- Symmetry: asymmetric distribution
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 15140lm
- Luminous efficacy: 109lm/W
- Colour temperature: 4000K
- Light colour: 740
- Pnom begin service life: 139
- Pnom end service life: 149
- Pred at 50% lumin. flux: 61

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), please order mast flange separately, inclination adjustable at 0°, 5°, 10°, 15°
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, on mast

Electrical connection

- Connection: terminal, 5-pole, max. 2.5mm²
- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 800mm
- Width: 387mm
- Height: 168mm
- Mast head: spigot size: 60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA58100XM4, 60mm: 5XA58100XM2, 76mm: 5XA58100XM1
- Weight: 11.4kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Supplement: standard-compliant lighting for roads and squares
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0% at 0° inclination

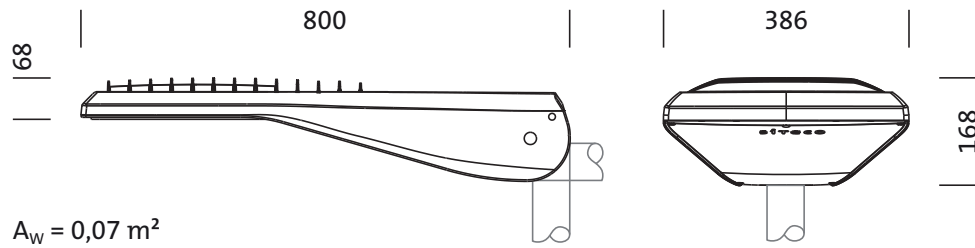
Service life

- Service life: rated lifetime: L80 B10 at 100,000h

Dimensions:
5XA5824K1B08P

SL10md,ST1.2a,LED15140lm740,Plus

3/4



Lighting technology / Planning data:
5XA5824K1B08P

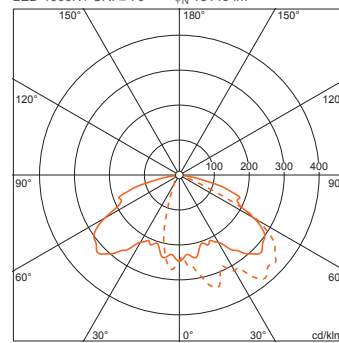
SL10md,ST1.2a,LED15140lm740,Plus

4/4

5XA5824K1B08P: 2x LED 4000K / CRI ≥ 70

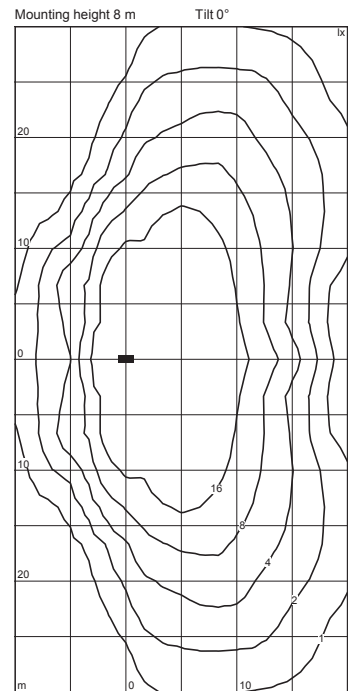
4050737922720
5XA5824K1B08P

LED 4000K / CRI ≥ 70 Φ_N 15140 lm



— C 0/180 - - - C 90/270

Luminous intensity class
according to
EN13201-2: G3



Overview of product data:
2NA552E1MS01

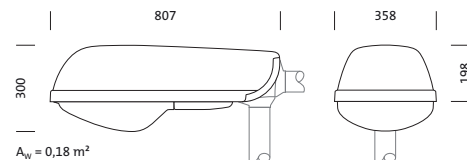
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

1/12



Product description

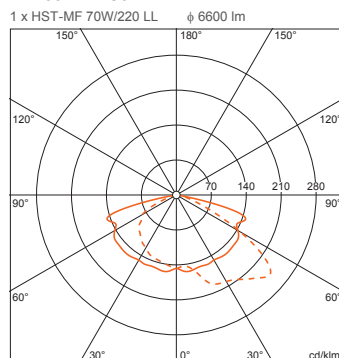
SR 100, mast luminaire, primary light control with radial faceted optic, of aluminium, faceted, primary optical cover: enclosure, of PMMA, transparent, light emission: direct distribution, installation type: post-top, side-entry, for 1 x HST | HSE, 50W, high pressure sodium vapour lamp, superimposed pulse ignitor with auto. power-off, control gear: LLCG, with thermal protection switch, parallel p.f. corrected, with plug, 5-pole, mains connection: 230V, AC, 50Hz, luminaire housing, of diecast aluminium, coated, light grey (RAL 7035), length: 806 mm, width: 358 mm, height: 302mm, spigot size: 60/76mm (post-top) and 42/60mm (side-entry), protection rating (complete): IP55*, insulation class (complete): insulation class II (safety insulation), certification: CE, standard: EN 50419, * according IEC 60598-1 / EN60529, packaging unit: 1 piece



Lamps: 1x HST | HSE 50W
 Socket: E27
 Wt. (kg): 13.4
 Order No.: 2NA552E1MS01
 GTIN (EAN): 4039806420534

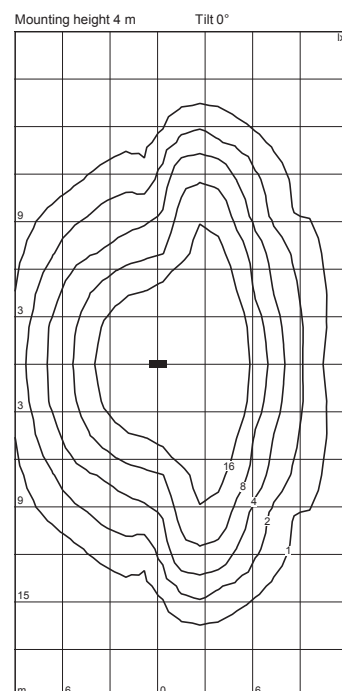
2NA552E1MS01: 1x HST-MF 70W/220 LL; individual setting: RP= 5

4039806420534
 2NA552E1MS01



C 0/180 C 90/270

Luminous intensity class according to EN13201-2: G3



You can find a complete overview of lighting technology / planning data from page 4.

Product data details:
2NA552E1MS01

SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

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Detailed technical description

Key data

- Product type: mast luminaire
- Family: SR 100
- Order No.: 2NA552E1MS01

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: radial faceted optic of aluminium, faceted
- Cover: enclosure, transparent
- Beam angle: wide distribution
- Light emission: direct distribution

Lamps:

- Lamps: for high pressure sodium vapour lamp, 1x HST | HSE 50W
- Socket: E27

Operating device:

- Control gear: LLCG w. th. prot.

Material | Colour

- luminaire housing: diecast aluminium, coated, light grey (RAL 7035), please order mast flange separately
- Cover: enclosure of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, to mast, on mast
- Arrangement: single arrangement

Electrical connection

- Connection: plug, 5-pole
- Nominal voltage: 230V, AC, 50Hz

Dimensions | Weight

- Length: 806mm
- Width: 358mm
- Height: 302mm
- Mast head: spigot size: 60/76mm (post-top) and 42/60mm (side-entry)
- Weight: 13.4kg

Certificates | Standards

- Protection rating: IP55*
- Insulation class: insulation class II (safety insulation)
- Supplement: * according IEC 60598-1 / EN60529
- Standard: EN 50419
- Certification, designation: CE

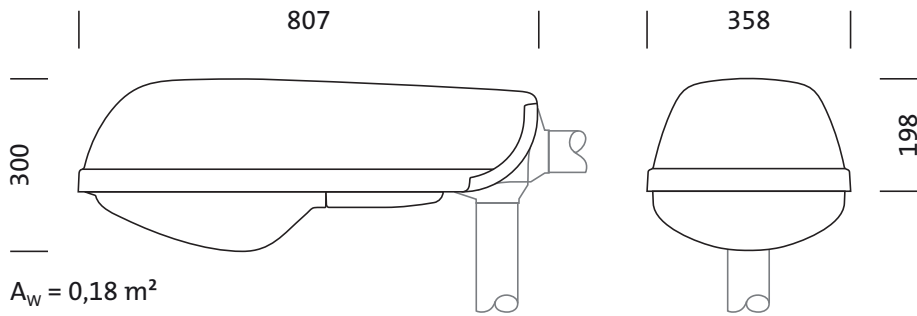
Light emission

- Light emission: < 3%

Dimensions:
2NA552E1MS01

SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

3/12

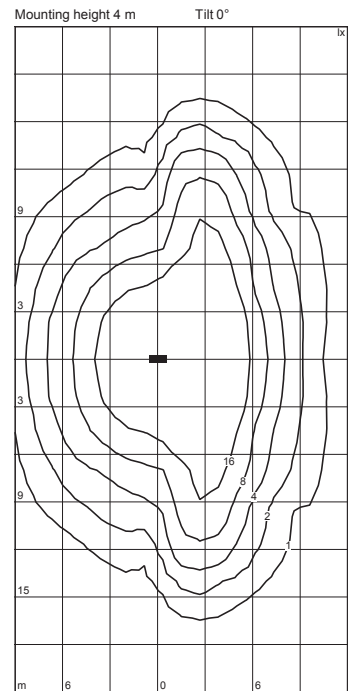
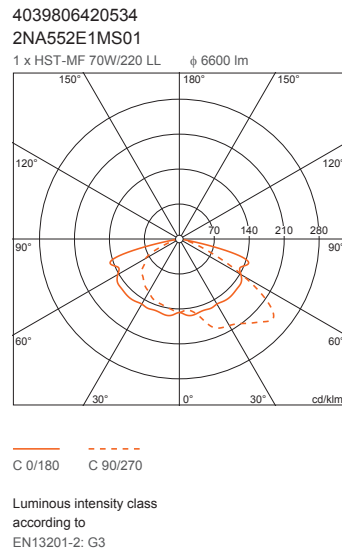


Lighting technology / Planning data:
2NA552E1MS01

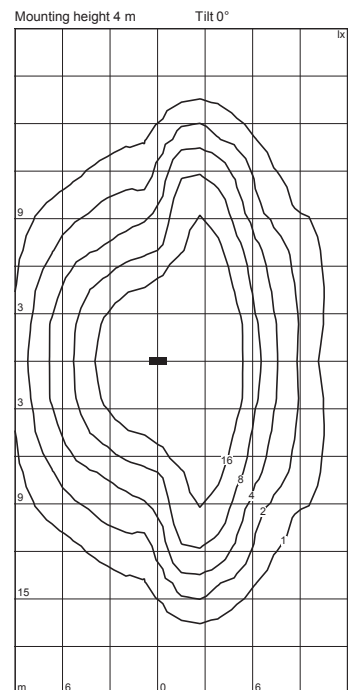
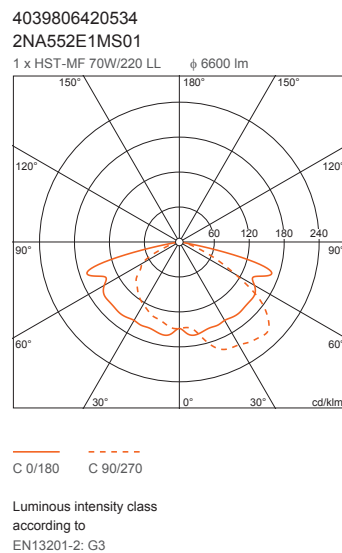
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

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2NA552E1MS01: 1x HST-MF 70W/220 LL; individual setting: RP= 5



2NA552E1MS01: 1x HST-MF 70W/220 LL; individual setting: RP= 4

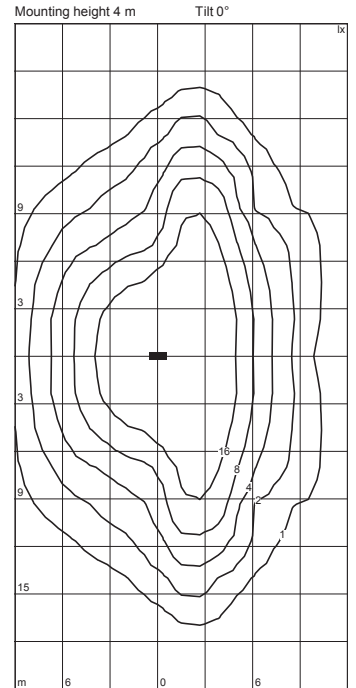
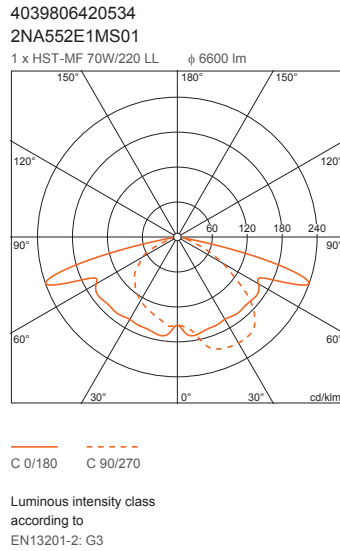


Lighting technology / Planning data:
2NA552E1MS01

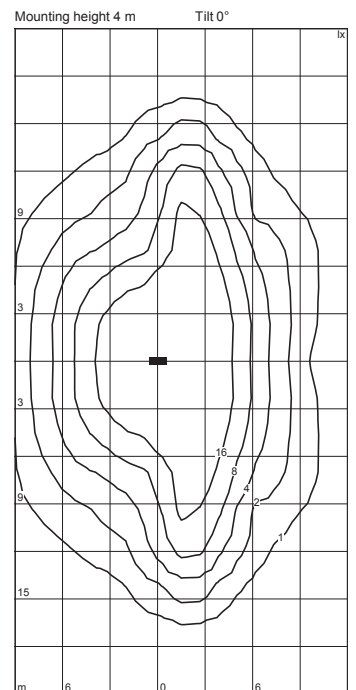
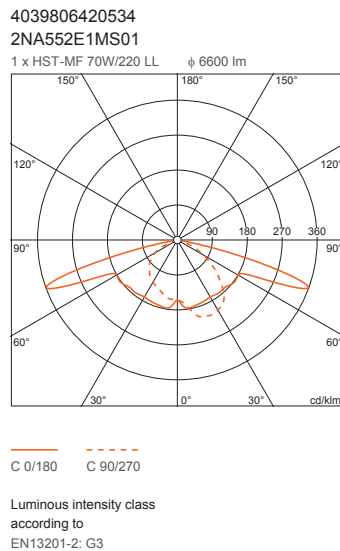
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

5/12

2NA552E1MS01: 1x HST-MF 70W/220 LL; factory setting: RP= 3



2NA552E1MS01: 1x HST-MF 70W/220 LL; individual setting: RP= 2

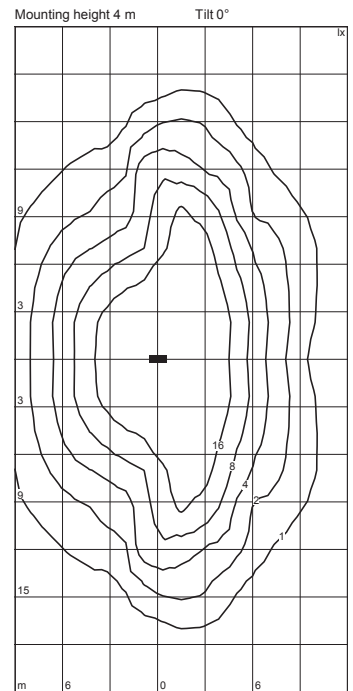
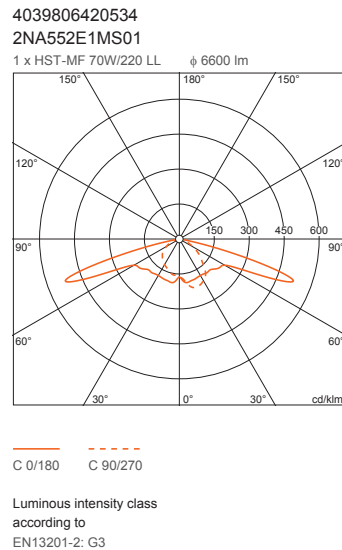


Lighting technology / Planning data:
2NA552E1MS01

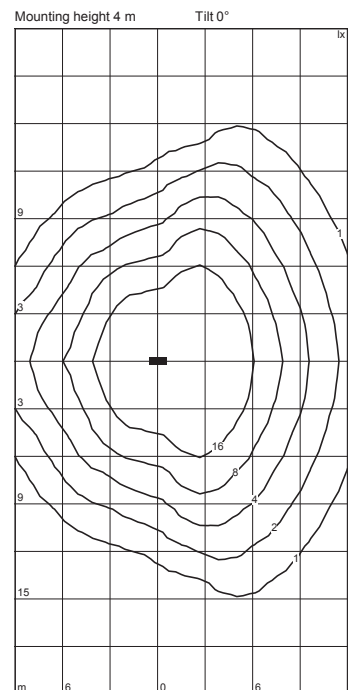
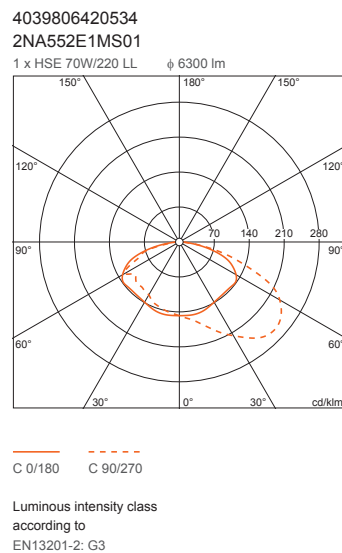
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

6/12

2NA552E1MS01: 1x HST-MF 70W/220 LL; individual setting: RP= 1



2NA552E1MS01: 1x HSE 70W/220 LL; individual setting: RP= 7

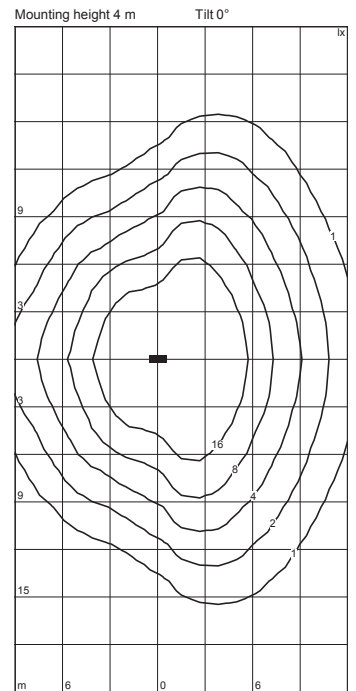
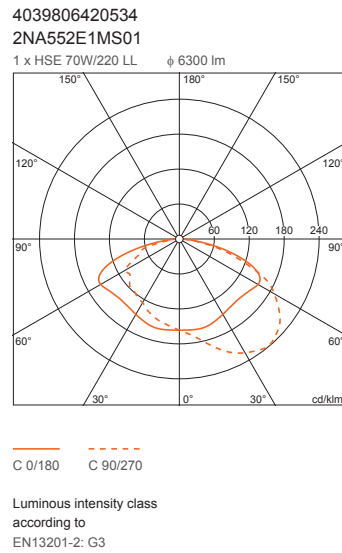


Lighting technology / Planning data:
2NA552E1MS01

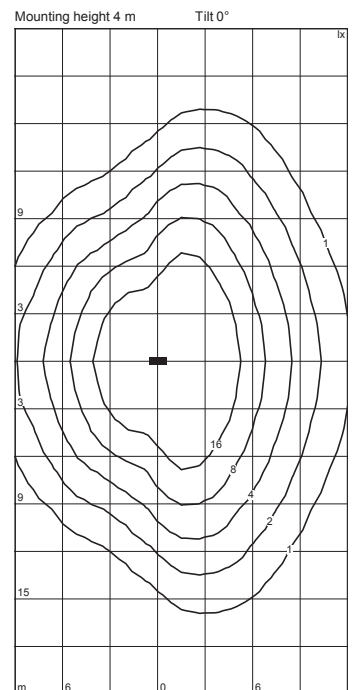
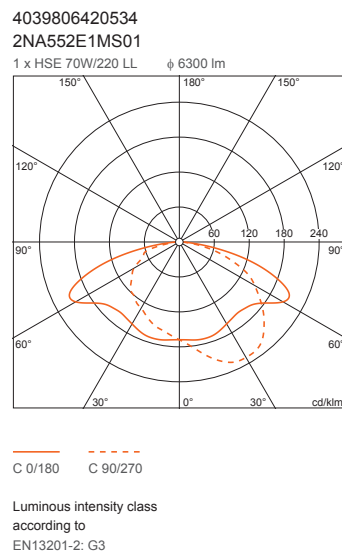
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

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2NA552E1MS01: 1x HSE 70W/220 LL; individual setting: RP= 5



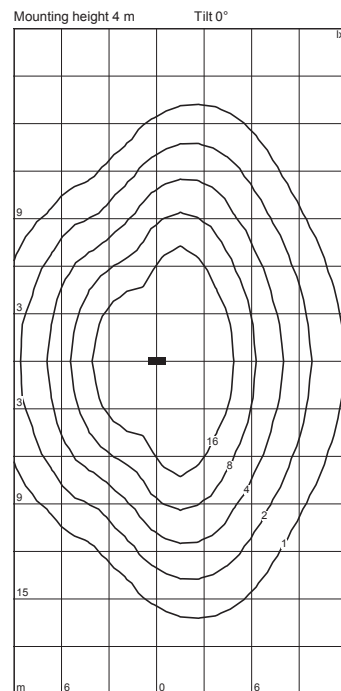
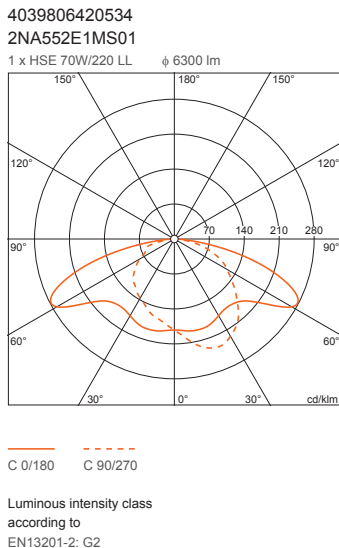
2NA552E1MS01: 1x HSE 70W/220 LL; factory setting: RP= 3



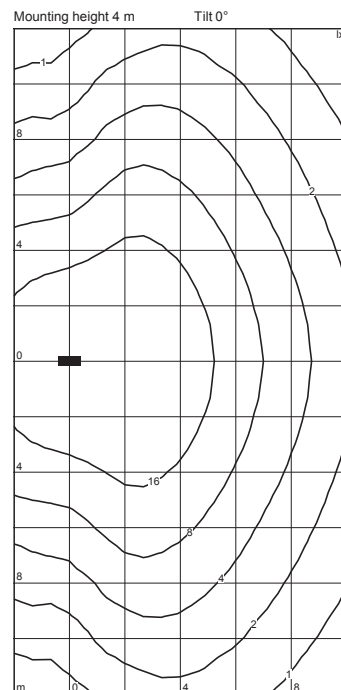
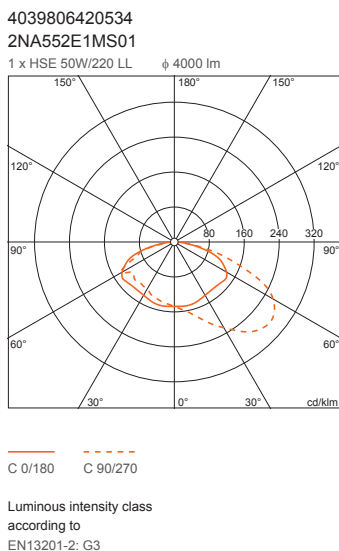
Lighting technology / Planning data:
2NA552E1MS01

SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

2NA552E1MS01: 1x HSE 70W/220 LL; individual setting: RP= 1



2NA552E1MS01: 1x HSE 50W/220 LL; individual setting: RP= 7

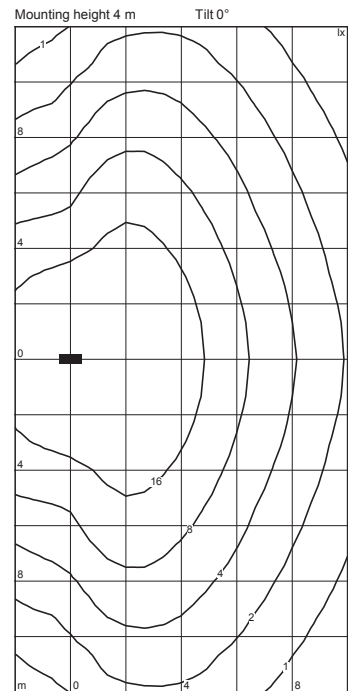
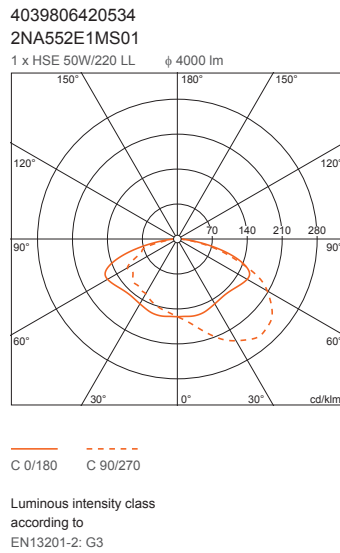


Lighting technology / Planning data:
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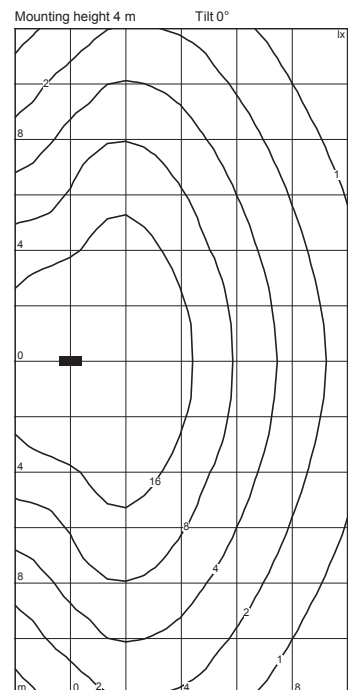
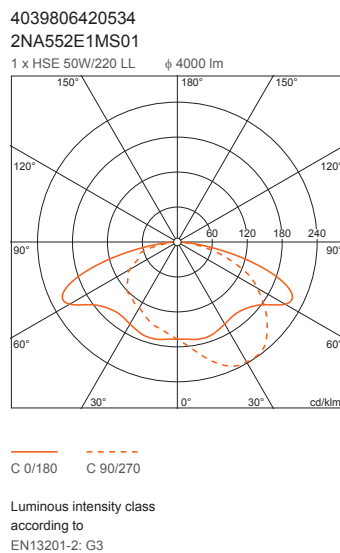
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

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2NA552E1MS01: 1x HSE 50W/220 LL; individual setting: RP= 5



2NA552E1MS01: 1x HSE 50W/220 LL; factory setting: RP= 3

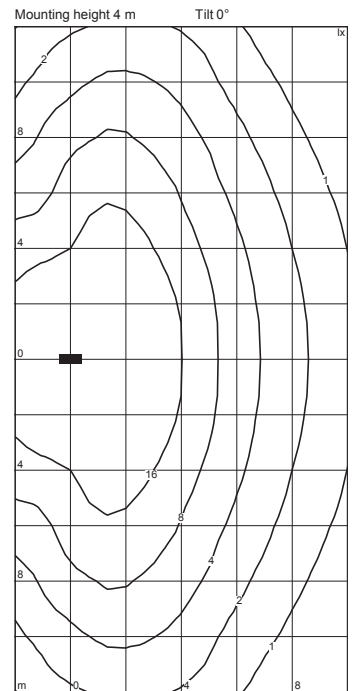
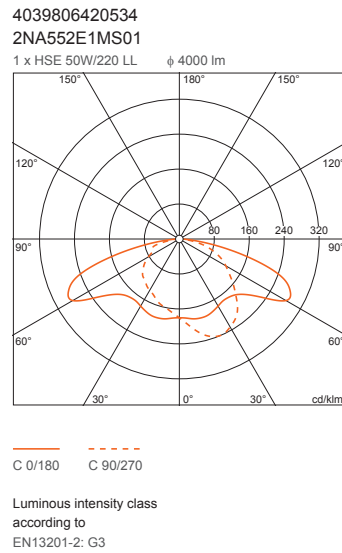


Lighting technology / Planning data:
2NA552E1MS01

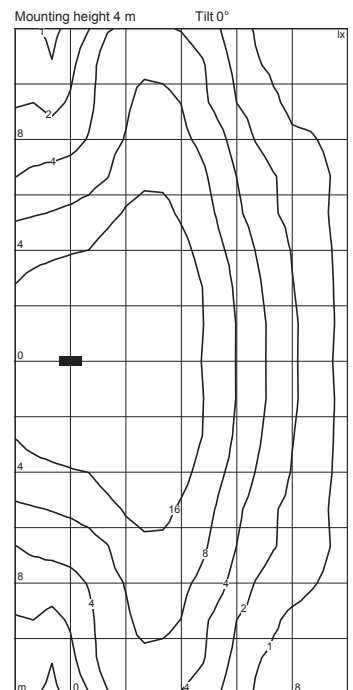
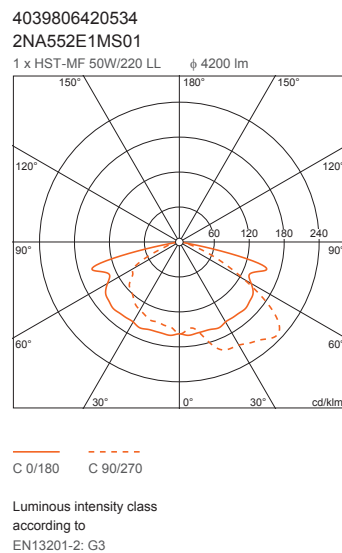
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

10/12

2NA552E1MS01: 1x HSE 50W/220 LL; individual setting: RP= 1



2NA552E1MS01: 1x HST-MF 50W/220 LL; individual setting: RP= 5

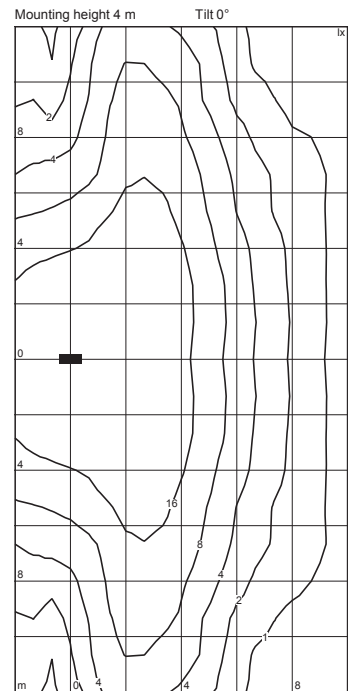
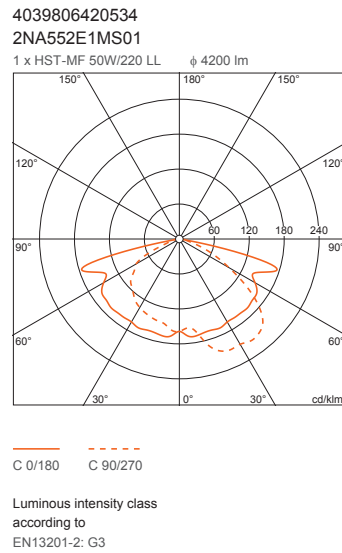


Lighting technology / Planning data:
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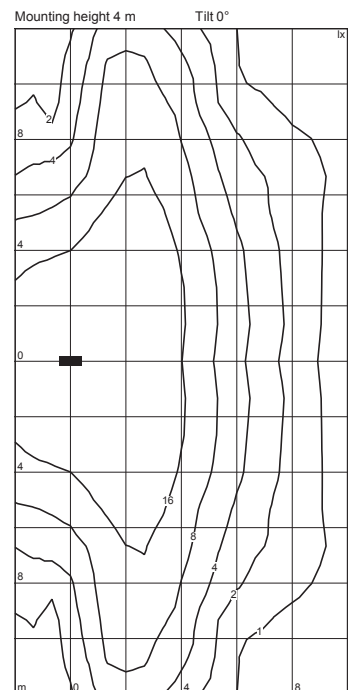
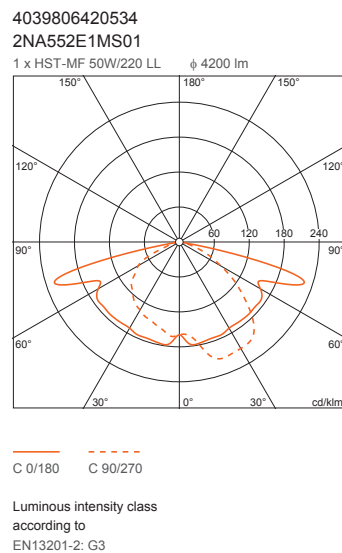
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

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2NA552E1MS01: 1x HST-MF 50W/220 LL; individual setting: RP= 4



2NA552E1MS01: 1x HST-MF 50W/220 LL; factory setting: RP= 3

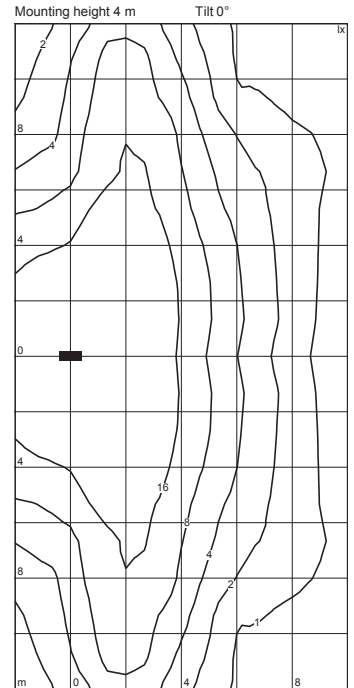
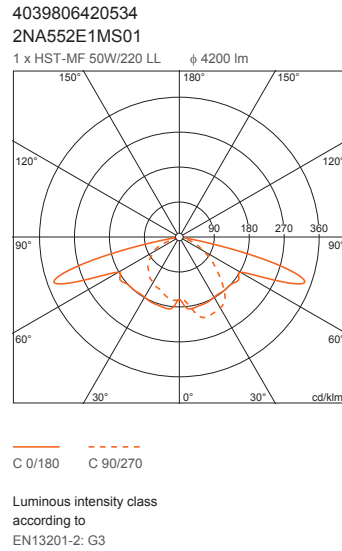


Lighting technology / Planning data:
2NA552E1MS01

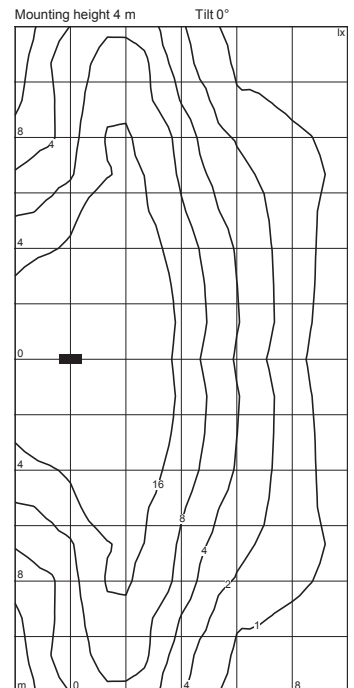
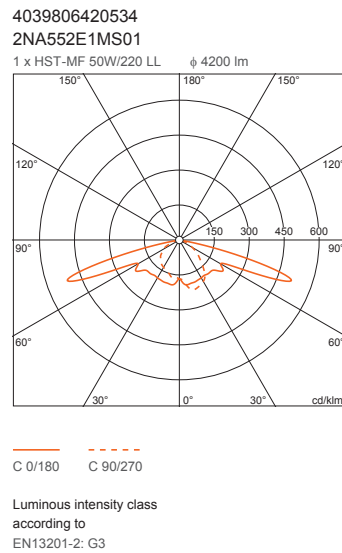
SR100,1x50W,HST/E,LLCG,TP,PMMA,dir,top

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2NA552E1MS01: 1x HST-MF 50W/220 LL; individual setting: RP= 2



2NA552E1MS01: 1x HST-MF 50W/220 LL; individual setting: RP= 1



Overview of product data:
2NA552E1NT01

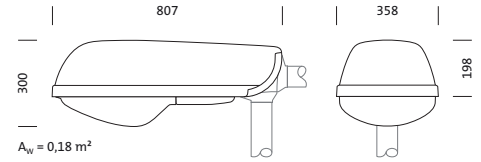
SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

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Product description

SR 100, mast luminaire, primary light control with radial faceted optic, of aluminium, faceted, primary optical cover: enclosure, of PMMA, transparent, light emission: direct distribution, installation type: post-top, side-entry, for 1 x HST, 100W, high pressure sodium vapour lamp, superimposed pulse ignitor with auto. power-off, control gear: LLCG, with thermal protection switch, parallel p.f. corrected, with plug, 5-pole, mains connection: 230V, AC, 50Hz, luminaire housing, of diecast aluminium, coated, light grey (RAL 7035), length: 806 mm, width: 358 mm, height: 302mm, spigot size: 60/76mm (post-top) and 42/60mm (side-entry), protection rating (complete): IP65, insulation class (complete): insulation class II (safety insulation), certification: CE, standard: EN 50419, packaging unit: 1 piece

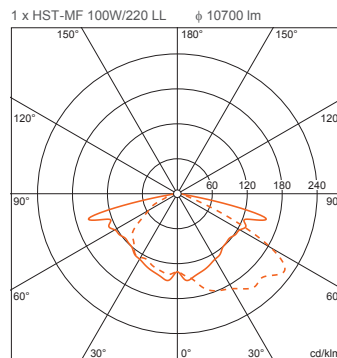


IP 65

Lamps: 1x HST 100W
 Socket: E40
 Wt. (kg): 13.6
 Order No.: 2NA552E1NT01
 GTIN (EAN): 4039806420596

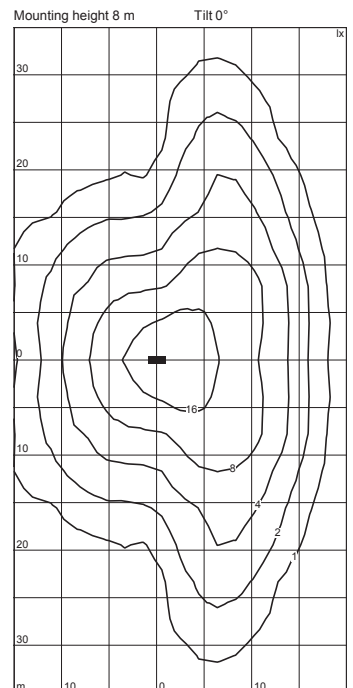
2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 30

4039806420596
 2NA552E1NT01



C 0/180 C 90/270

Luminous intensity class according to EN13201-2: G3



You can find a complete overview of lighting technology / planning data from page 4.

Product data details:
2NA552E1NT01

SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

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Detailed technical description

Key data

- Product type: mast luminaire
- Family: SR 100
- Order No.: 2NA552E1NT01

Light emission

- Light emission: < 3%

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: radial faceted optic of aluminium, faceted
- Cover: enclosure, transparent
- Beam angle: wide distribution
- Light emission: direct distribution

Lamps:

- Lamps: for high pressure sodium vapour lamp, 1x HST 100W
- Socket: E40

Operating device:

- Control gear: LLCG w. th. prot.

Material | Colour

- luminaire housing: diecast aluminium, coated, light grey (RAL 7035), please order mast flange separately
- Cover: enclosure of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, to mast, on mast
- Arrangement: single arrangement

Electrical connection

- Connection: plug, 5-pole
- Nominal voltage: 230V, AC, 50Hz

Dimensions | Weight

- Length: 806mm
- Width: 358mm
- Height: 302mm
- Mast head: spigot size: 60/76mm (post-top) and 42/60mm (side-entry)
- Weight: 13.6kg

Certificates | Standards

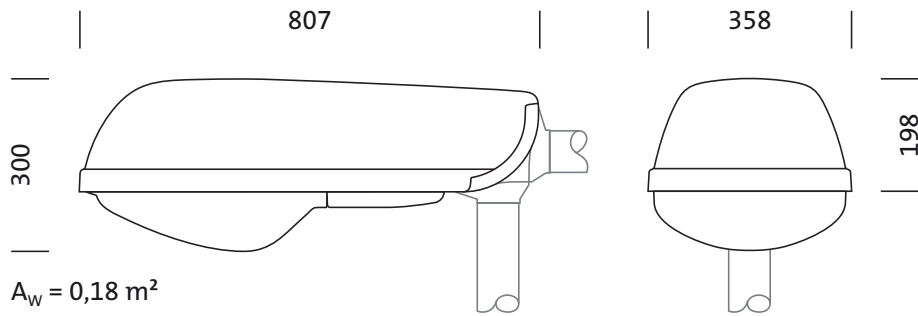
- Protection rating: IP65
- Insulation class: insulation class II (safety insulation)
- Standard: EN 50419
- Certification, designation: CE

Dimensions:

2NA552E1NT01

SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

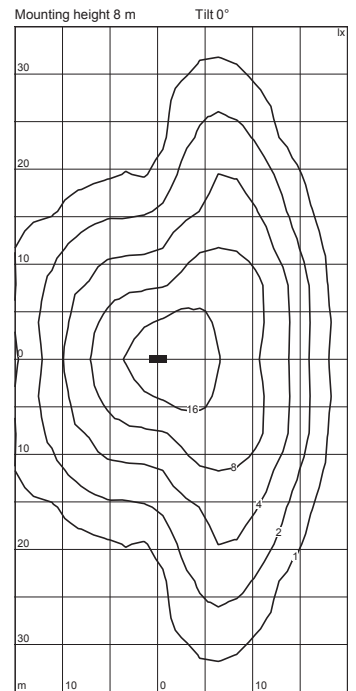
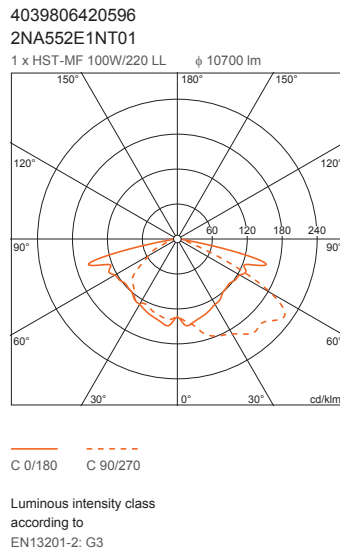
3/15



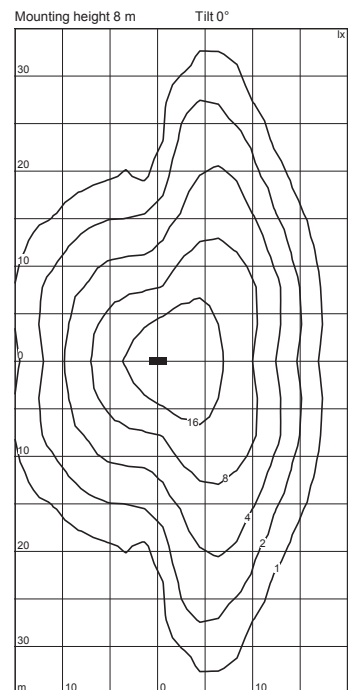
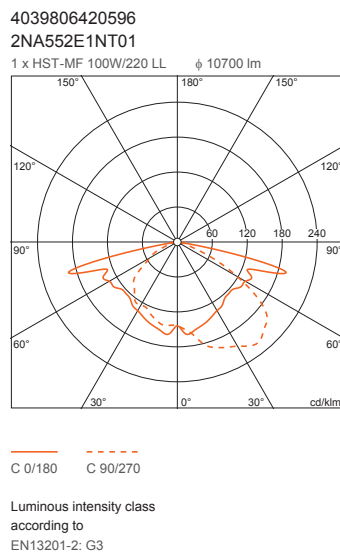
Lighting technology / Planning data:
2NA552E1NT01

SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 30



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 5, LPV= 30

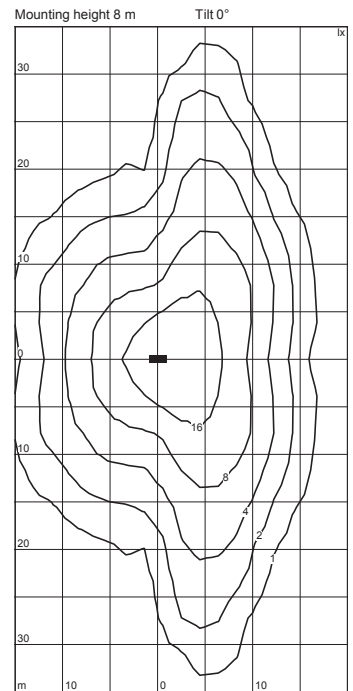
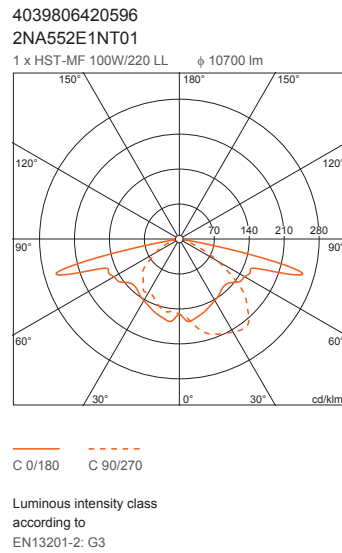


Lighting technology / Planning data:
2NA552E1NT01

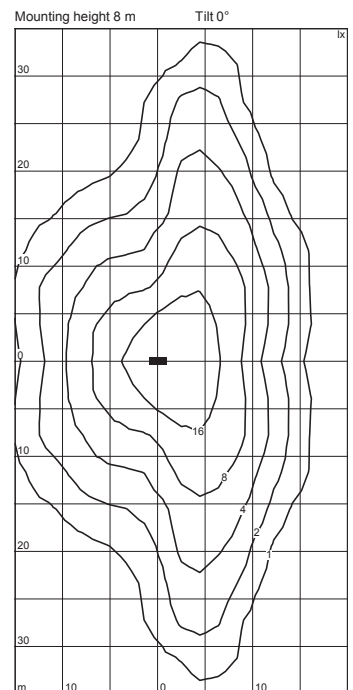
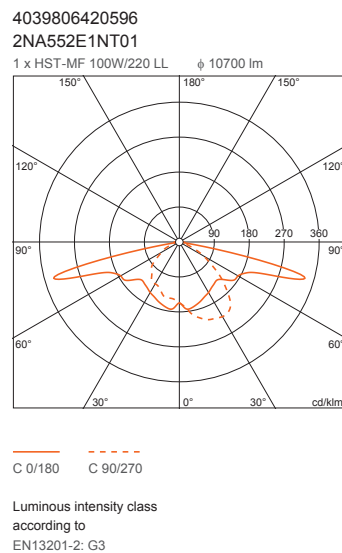
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SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 4, LPV= 30



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 3, LPV= 30

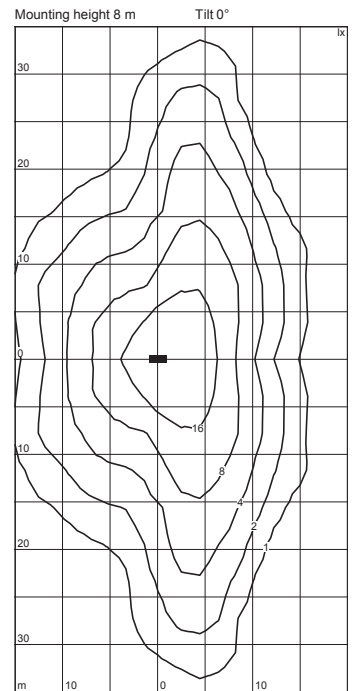
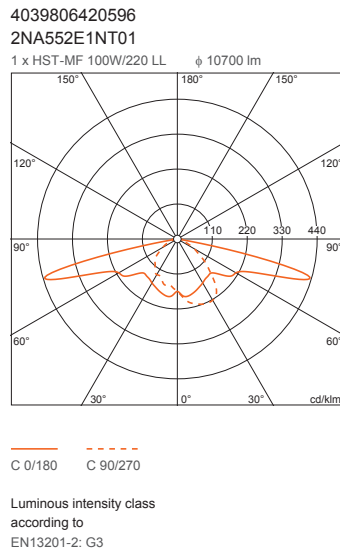


Lighting technology / Planning data:
2NA552E1NT01

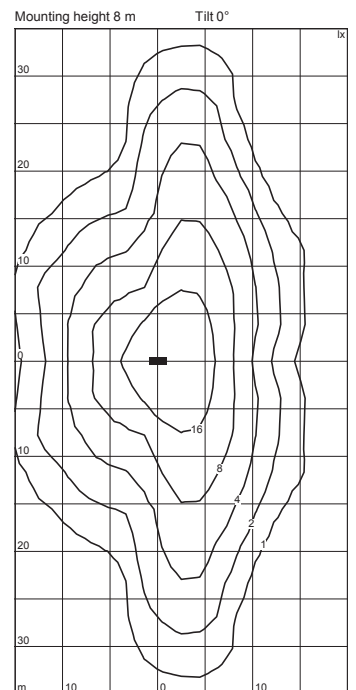
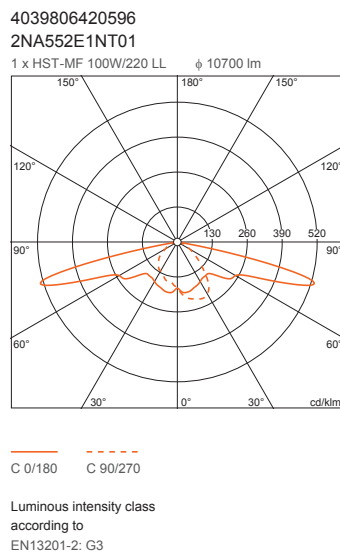
SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

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2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 2, LPV= 30



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 1, LPV= 30

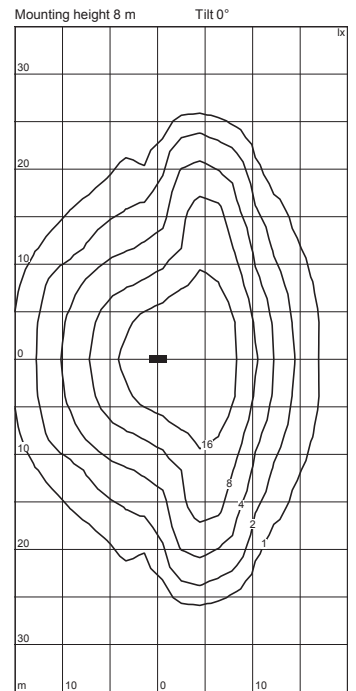
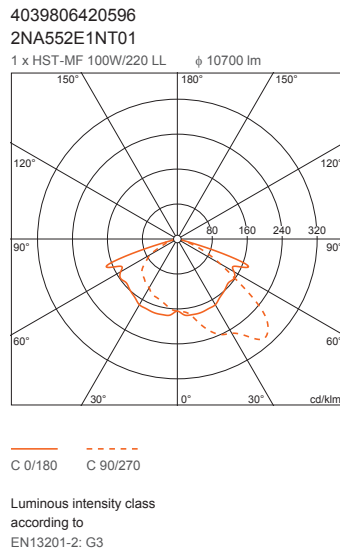


Lighting technology / Planning data:
2NA552E1NT01

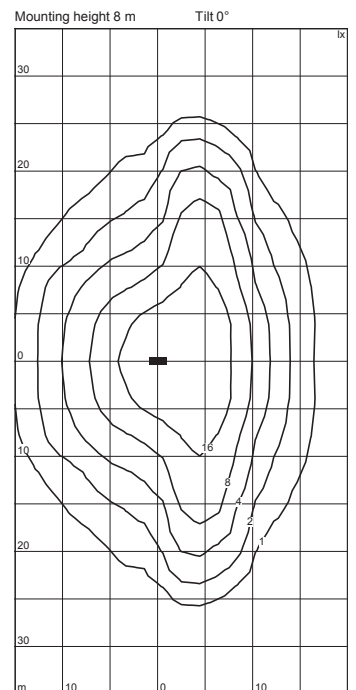
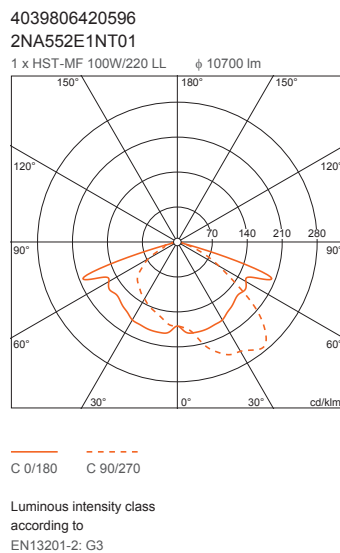
SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

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2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 45



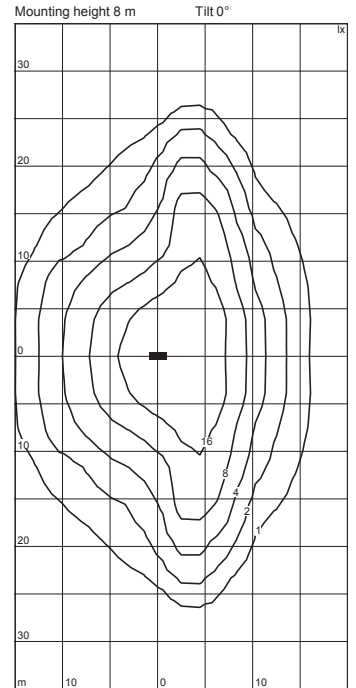
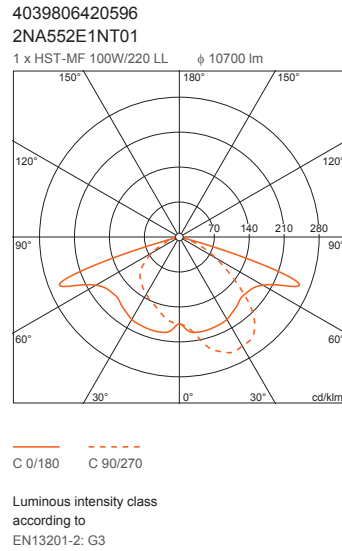
2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 5, LPV= 45



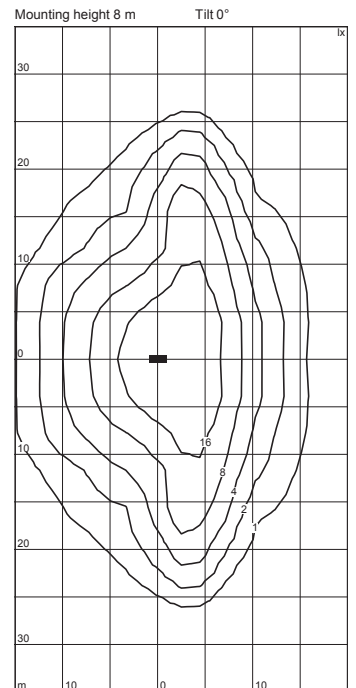
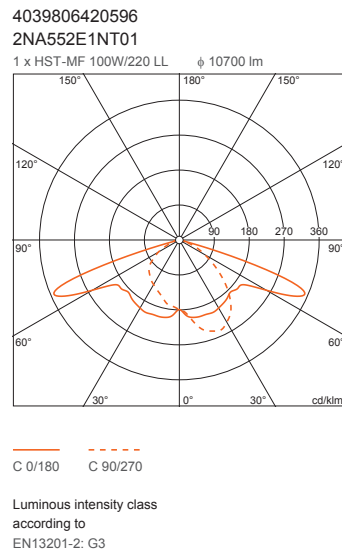
Lighting technology / Planning data:
2NA552E1NT01

SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1NT01: 1x HST-MF 100W/220 LL; factory setting: RP= 4, LPV= 45



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 3, LPV= 45

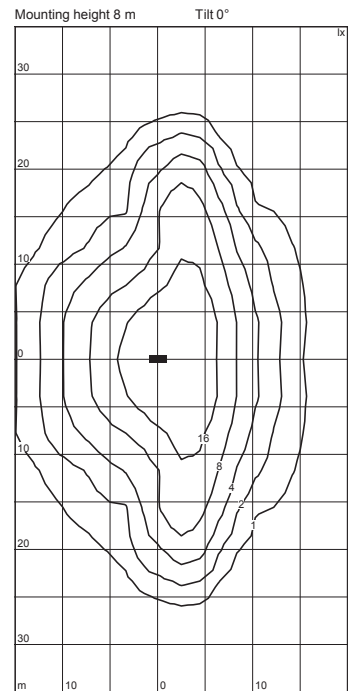
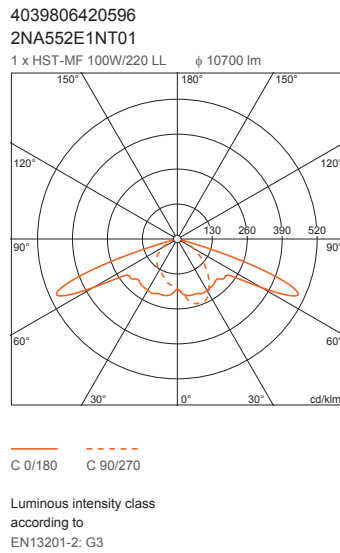


Lighting technology / Planning data:
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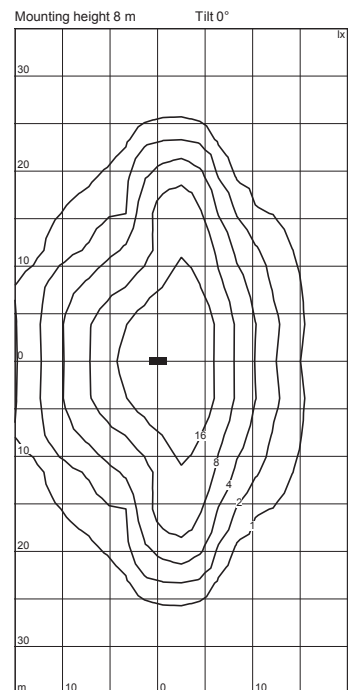
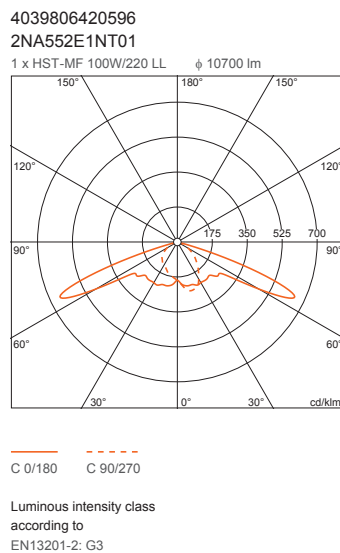
9/15

SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 2, LPV= 45



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 1, LPV= 45

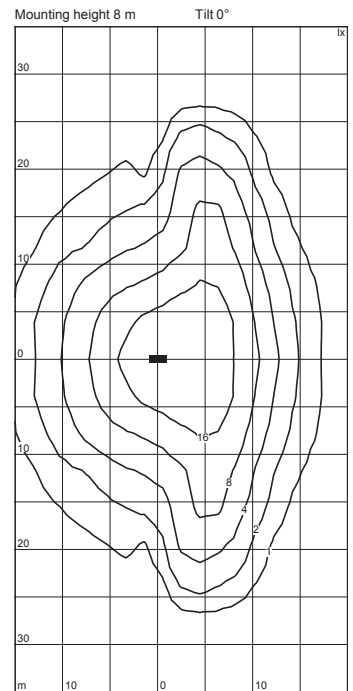
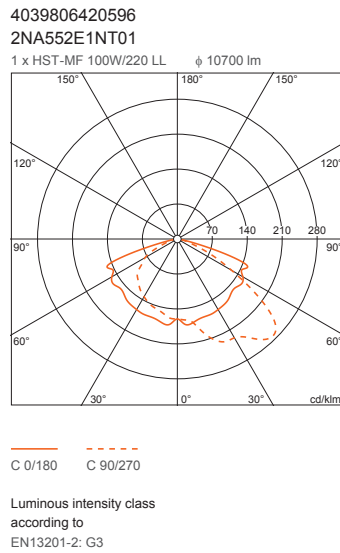


Lighting technology / Planning data:
2NA552E1NT01

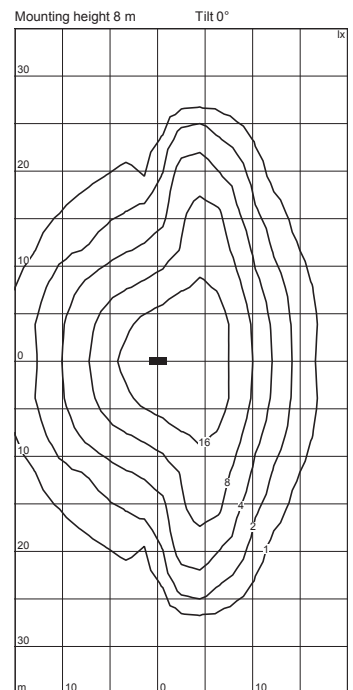
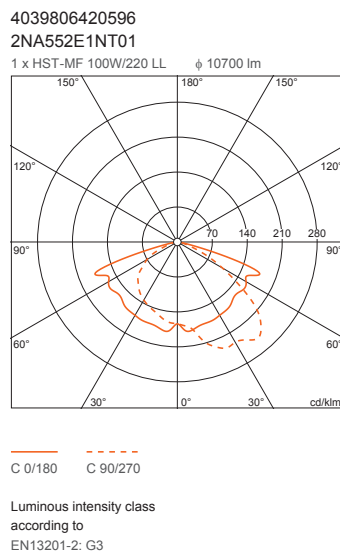
SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

10/15

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 40



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 5, LPV= 40

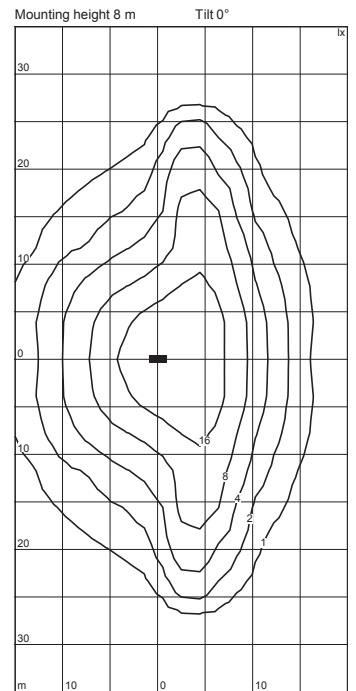
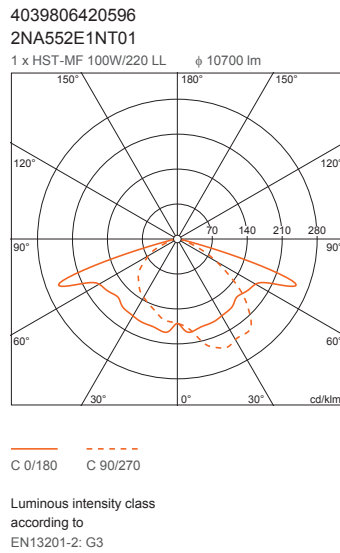


Lighting technology / Planning data:
2NA552E1NT01

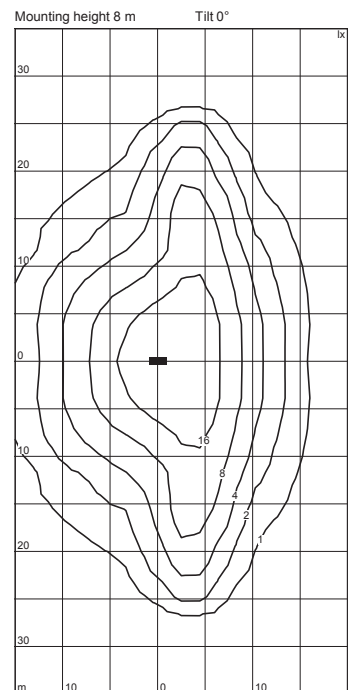
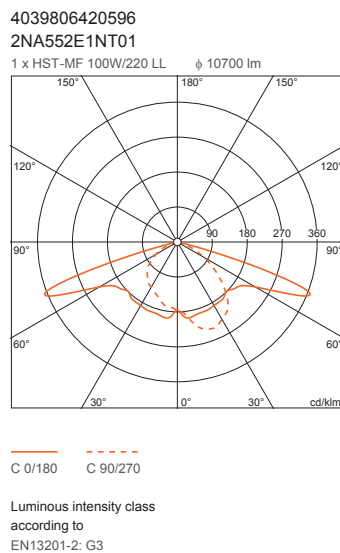
11/15

SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 4, LPV= 40



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 3, LPV= 40

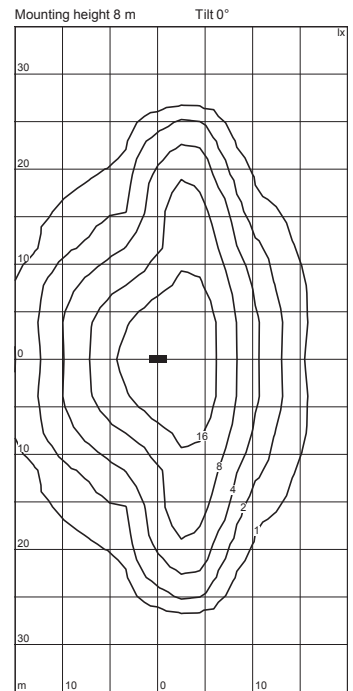
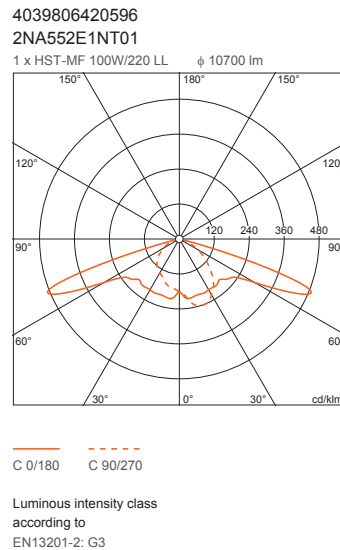


Lighting technology / Planning data:
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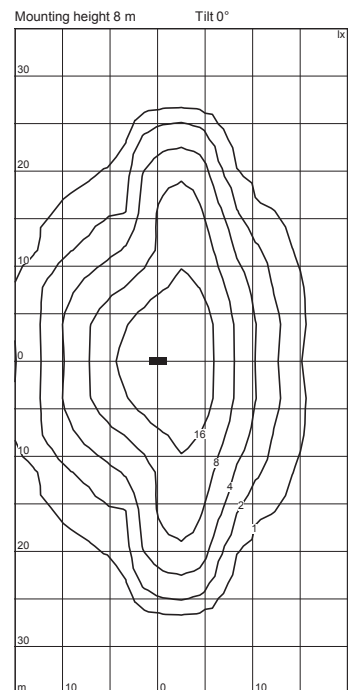
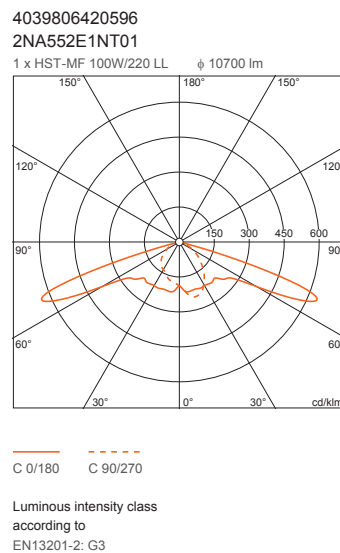
12/15

SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 2, LPV= 40



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 1, LPV= 40

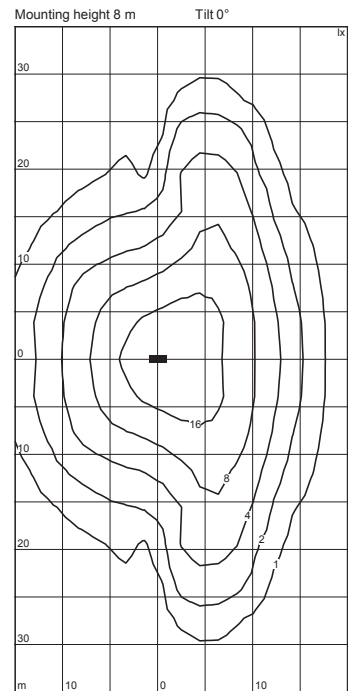
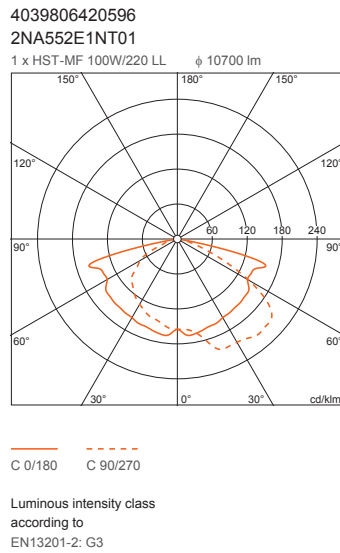


Lighting technology / Planning data:
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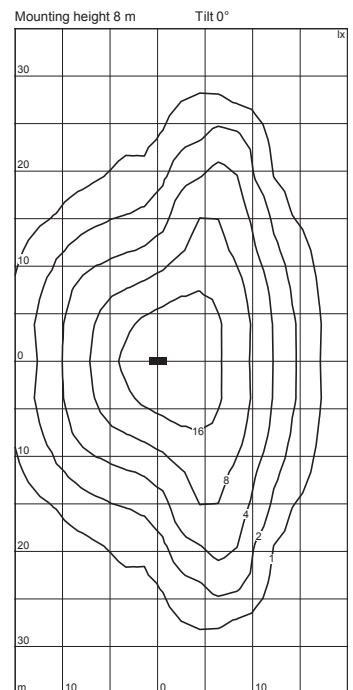
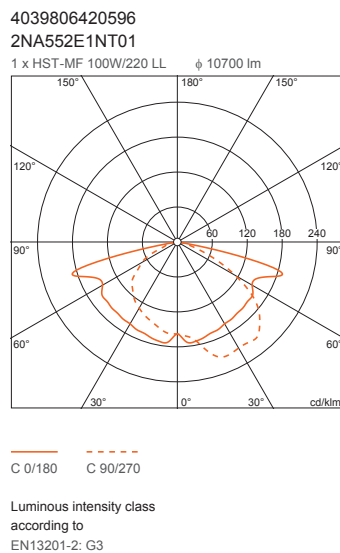
SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

13/15

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 35



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 5, LPV= 35

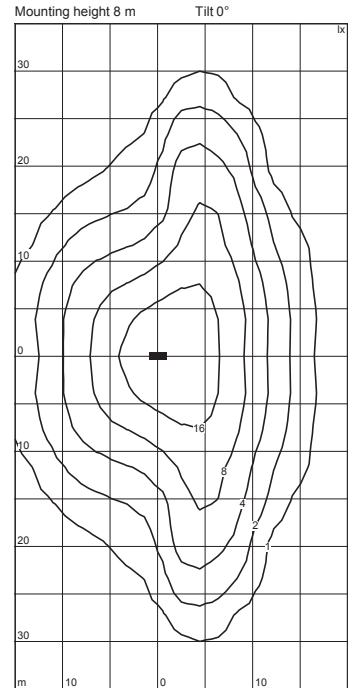
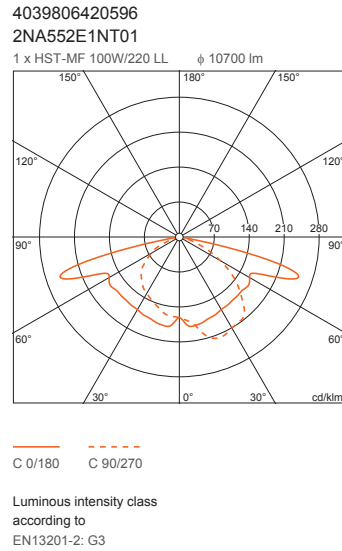


Lighting technology / Planning data:
2NA552E1NT01

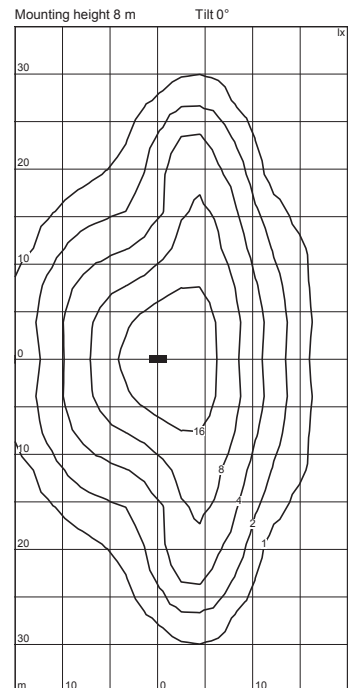
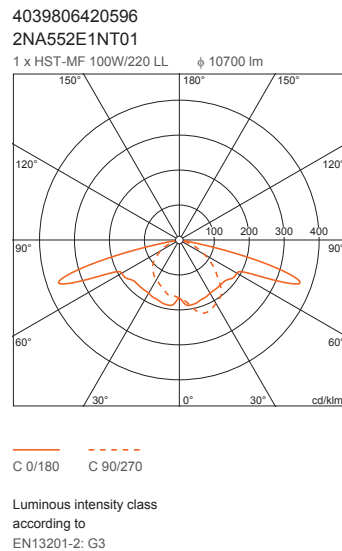
SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

14/15

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 4, LPV= 35



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 3, LPV= 35

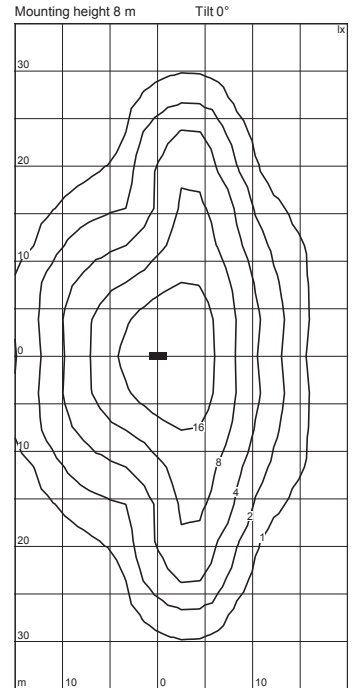
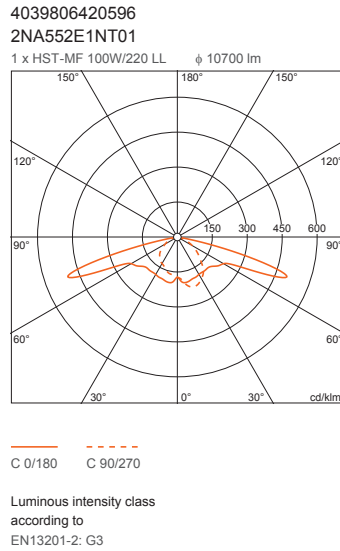


Lighting technology / Planning data:
2NA552E1NT01

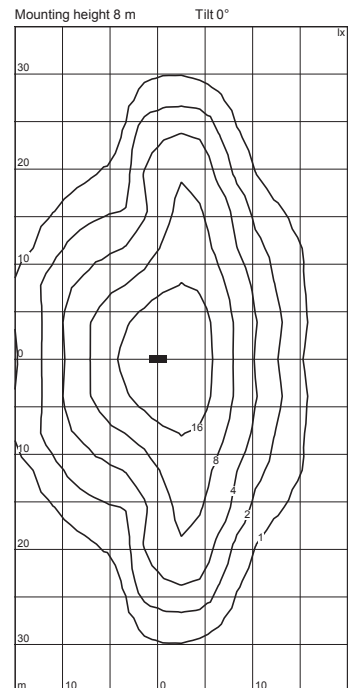
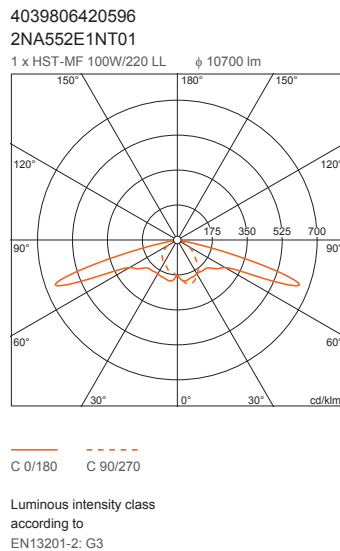
15/15

SR100,1x100W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 2, LPV= 35



2NA552E1NT01: 1x HST-MF 100W/220 LL; individual setting: RP= 1, LPV= 35



Overview of product data:
2NA552E1PT01

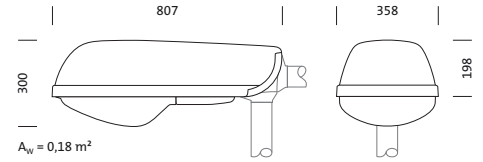
1/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd



Product description

SR 100, mast luminaire, primary light control with radial faceted optic, of aluminium, faceted, primary optical cover: enclosure, of PMMA, transparent, light emission: direct distribution, installation type: post-top, side-entry, for 1 x HST, 150W, high pressure sodium vapour lamp, superimposed pulse ignitor with auto. power-off, control gear: LLCG, with thermal protection switch, parallel p.f. corrected, with plug, 5-pole, mains connection: 230V, AC, 50Hz, luminaire housing, of diecast aluminium, coated, light grey (RAL 7035), length: 806 mm, width: 358 mm, height: 302mm, spigot size: 60/76mm (post-top) and 42/60mm (side-entry), protection rating (complete): IP65, insulation class (complete): insulation class II (safety insulation), certification: CE, standard: EN 50419, packaging unit: 1 piece

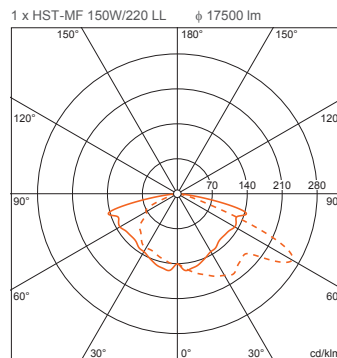


IP 65

Lamps: 1x HST 150W
 Socket: E40
 Wt. (kg): 14.0
 Order No.: 2NA552E1PT01
 GTIN (EAN): 4039806419231

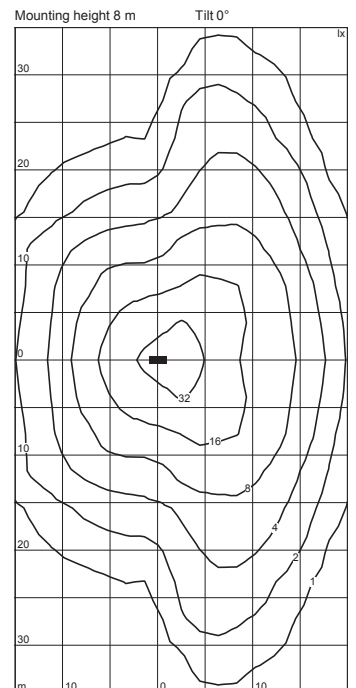
2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 6, LPV= 30

4039806419231
 2NA552E1PT01



— C 0/180 - - - C 90/270

Luminous intensity class according to EN13201-2: G3



You can find a complete overview of lighting technology / planning data from page 4.

Product data details:
2NA552E1PT01

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

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Detailed technical description

Key data

- Product type: mast luminaire
- Family: SR 100
- Order No.: 2NA552E1PT01

Light emission

- Light emission: < 3%

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: radial faceted optic of aluminium, faceted
- Cover: enclosure, transparent
- Beam angle: wide distribution
- Light emission: direct distribution

Lamps:

- Lamps: for high pressure sodium vapour lamp, 1x HST 150W
- Socket: E40

Operating device:

- Control gear: LLCG w. th. prot.

Material | Colour

- luminaire housing: diecast aluminium, coated, light grey (RAL 7035), please order mast flange separately
- Cover: enclosure of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, to mast, on mast
- Arrangement: single arrangement

Electrical connection

- Connection: plug, 5-pole
- Nominal voltage: 230V, AC, 50Hz

Dimensions | Weight

- Length: 806mm
- Width: 358mm
- Height: 302mm
- Mast head: spigot size: 60/76mm (post-top) and 42/60mm (side-entry)
- Weight: 14.0kg

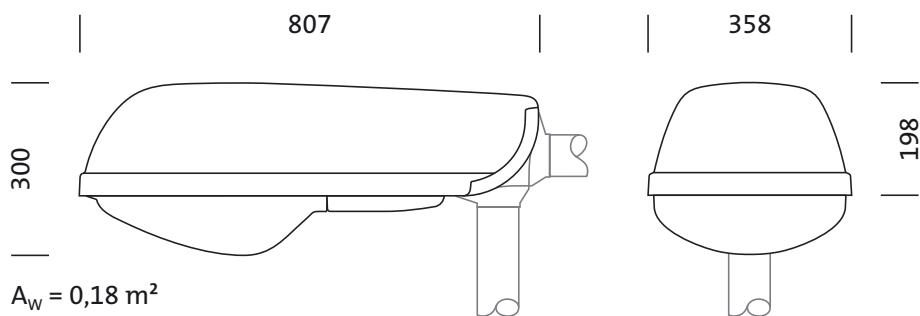
Certificates | Standards

- Protection rating: IP65
- Insulation class: insulation class II (safety insulation)
- Standard: EN 50419
- Certification, designation: CE

Dimensions:
2NA552E1PT01

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

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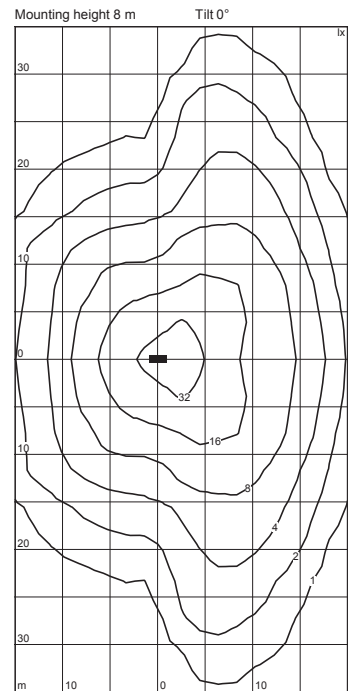
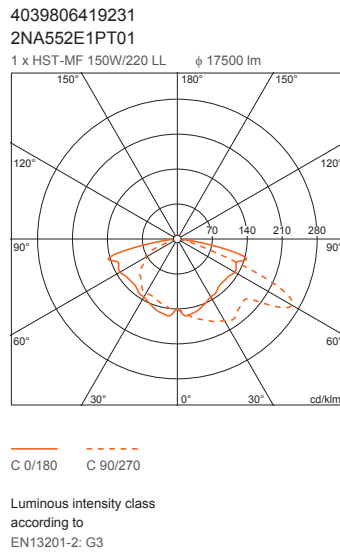


Lighting technology / Planning data:
2NA552E1PT01

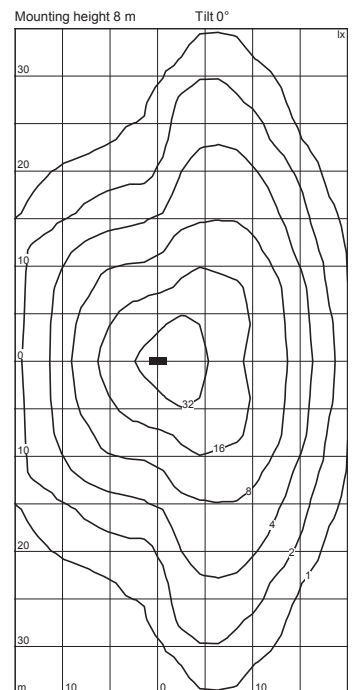
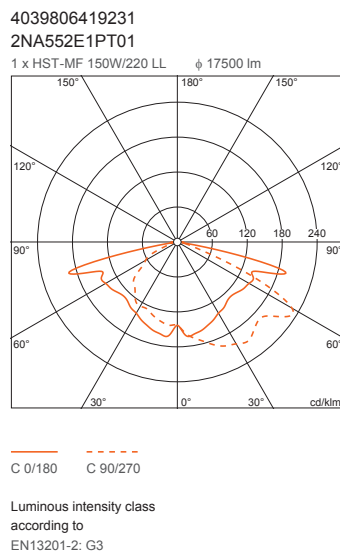
4/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 6, LPV= 30



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 5, LPV= 30

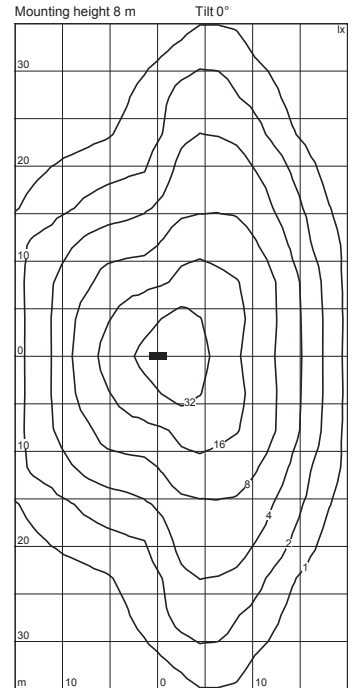
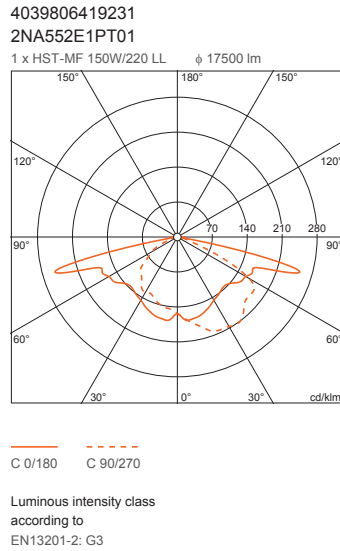


Lighting technology / Planning data:
2NA552E1PT01

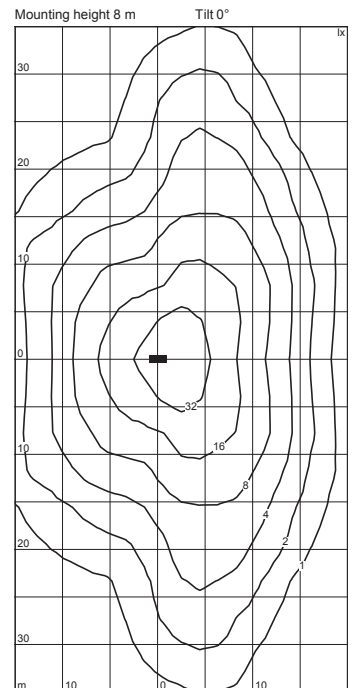
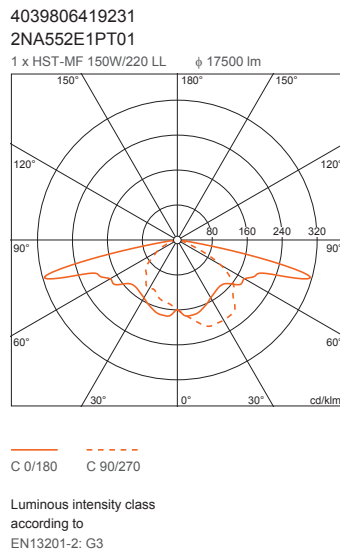
SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

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2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 4, LPV= 30



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 3, LPV= 30

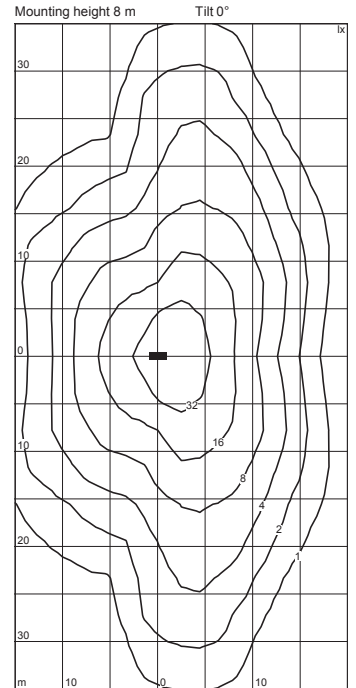
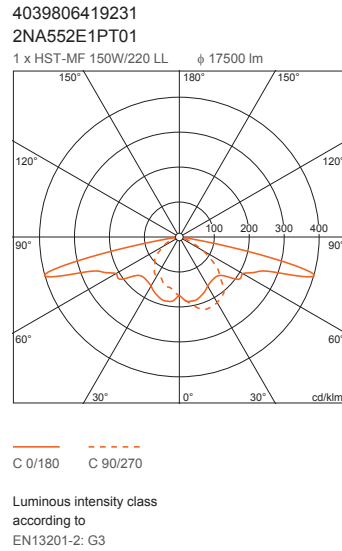


Lighting technology / Planning data:
2NA552E1PT01

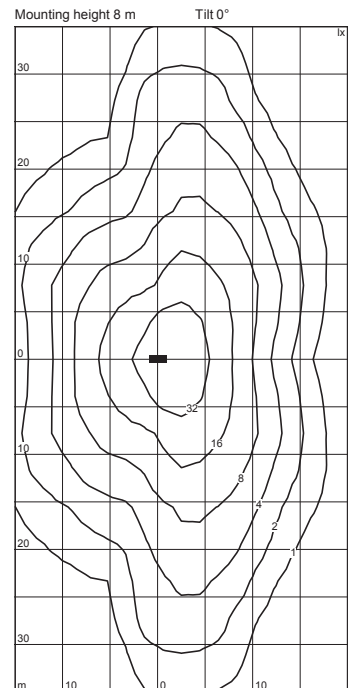
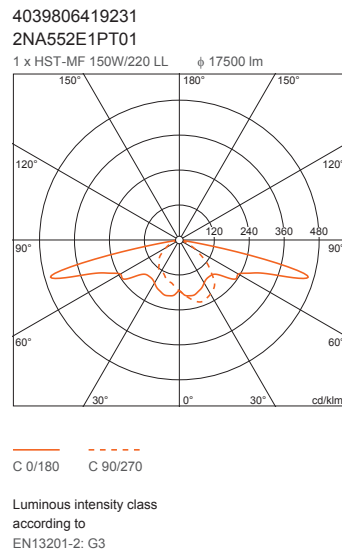
6/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 2, LPV= 30



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 1, LPV= 30

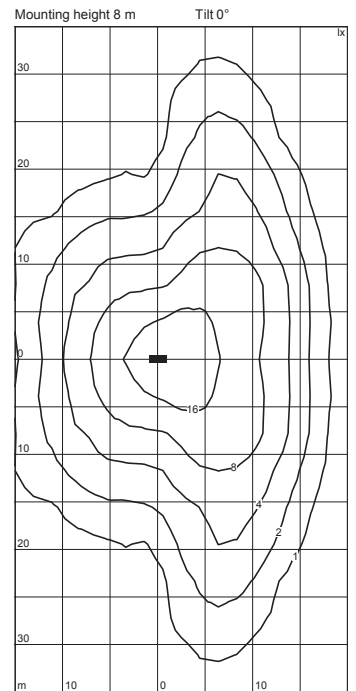
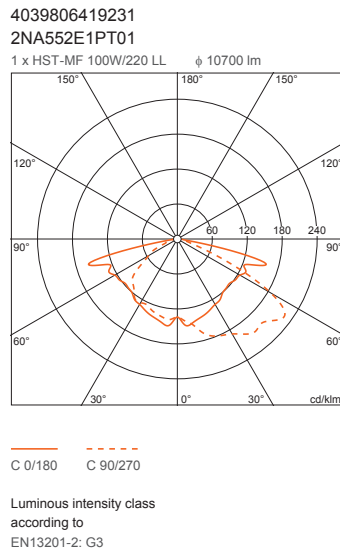


Lighting technology / Planning data:
2NA552E1PT01

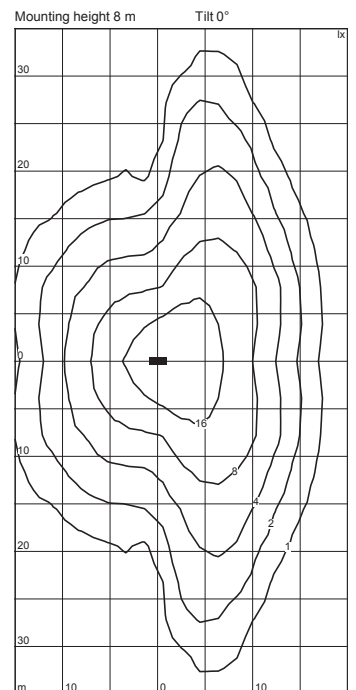
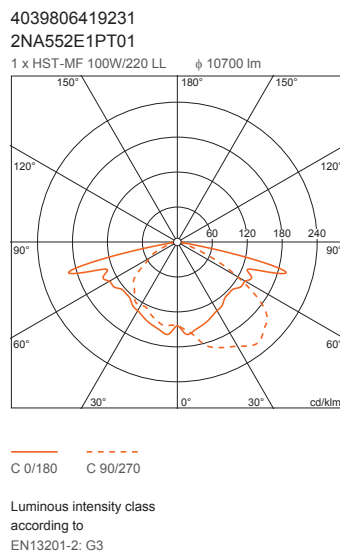
SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

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2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 30



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 5, LPV= 30

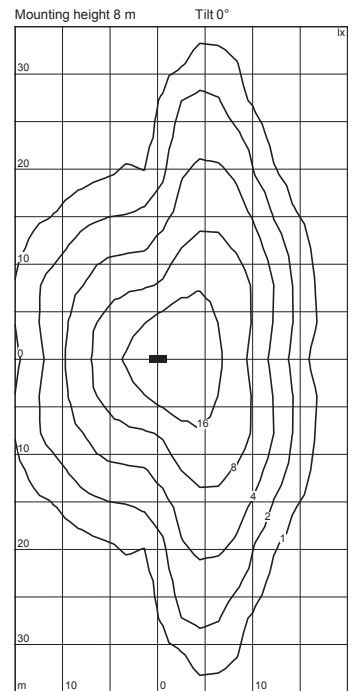
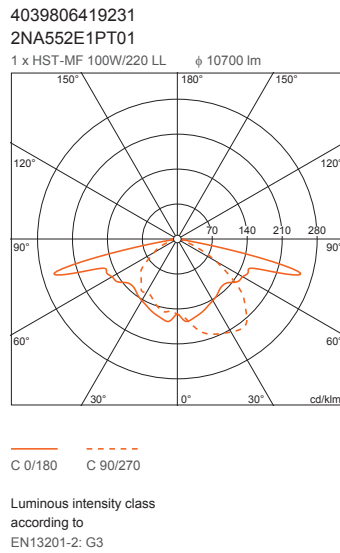


Lighting technology / Planning data:
2NA552E1PT01

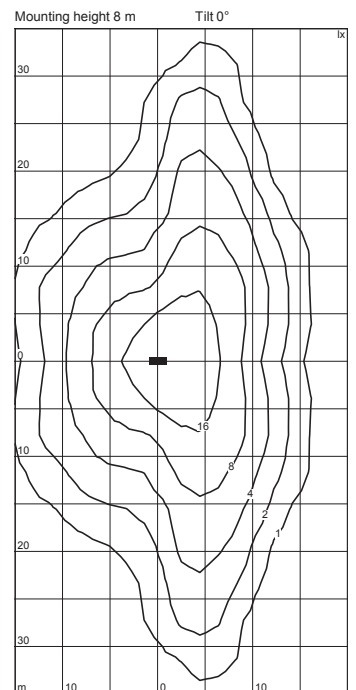
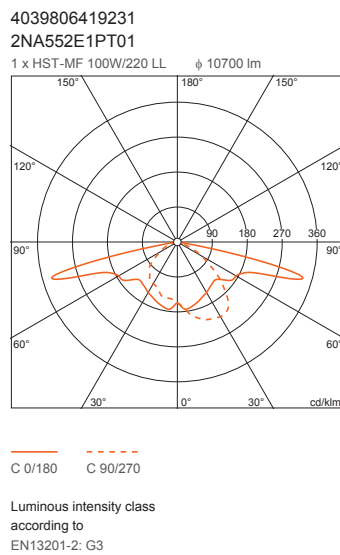
8/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 4, LPV= 30



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 3, LPV= 30

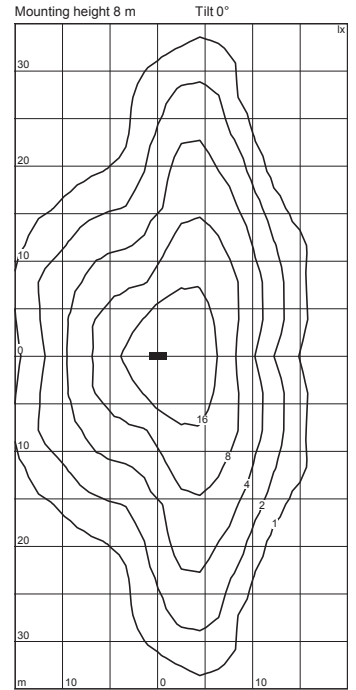
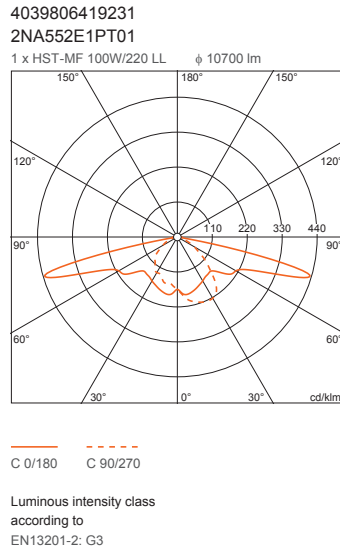


Lighting technology / Planning data:
2NA552E1PT01

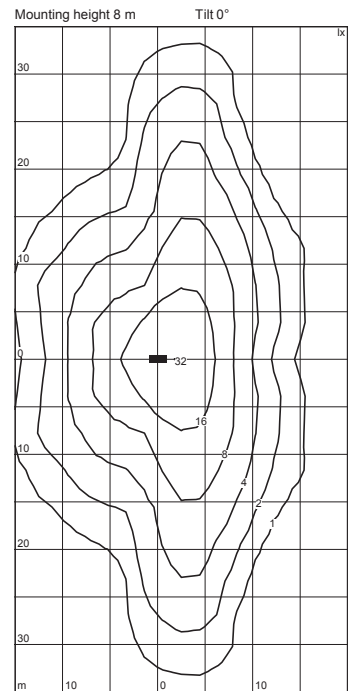
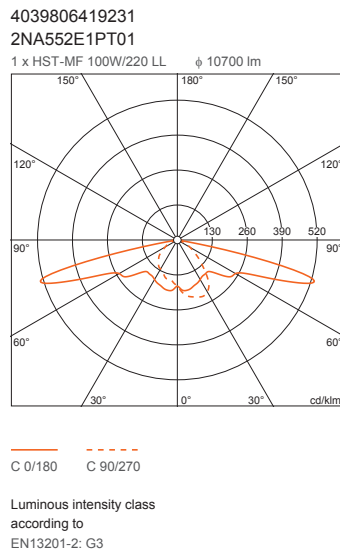
9/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 2, LPV= 30



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 1, LPV= 30

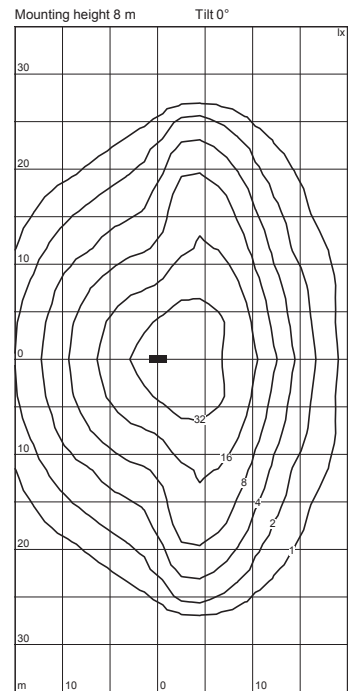
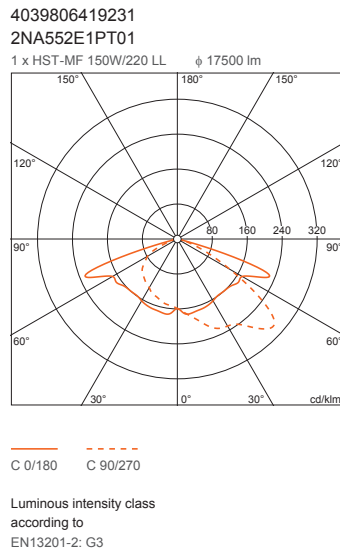


Lighting technology / Planning data:
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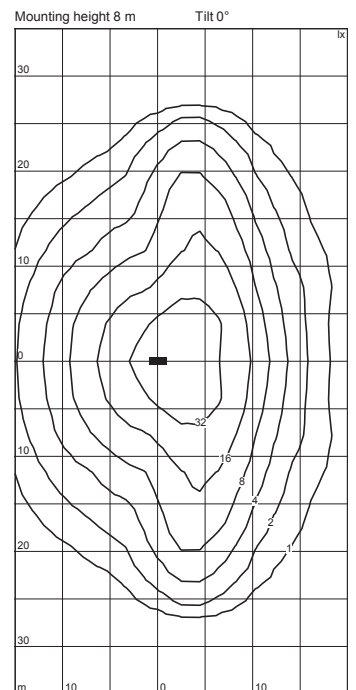
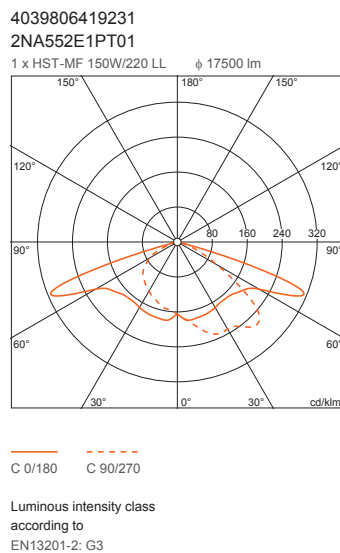
10/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 6, LPV= 45



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 5, LPV= 45

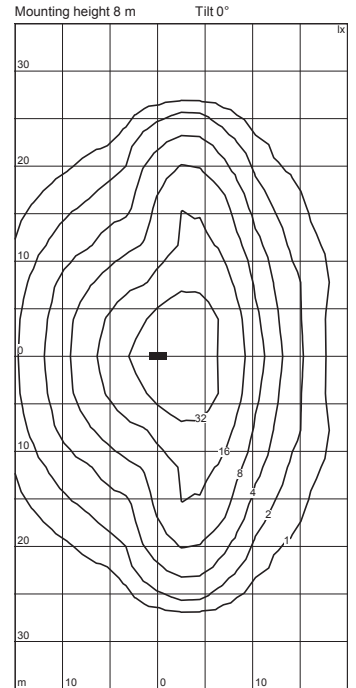
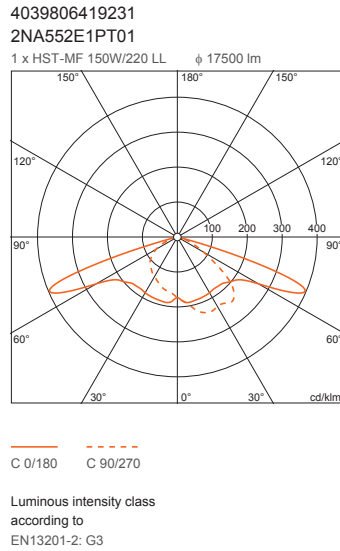


Lighting technology / Planning data:
2NA552E1PT01

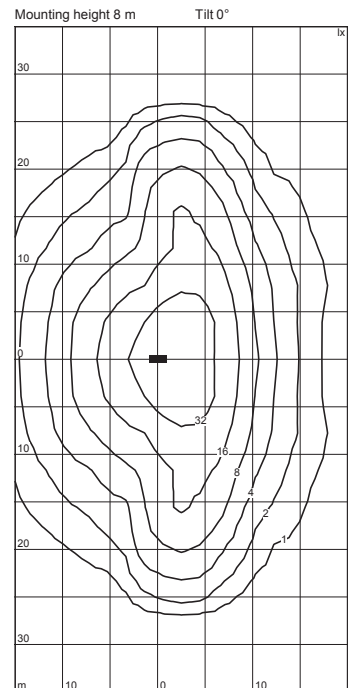
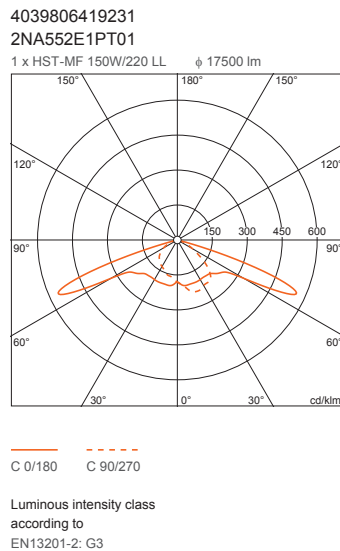
SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

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2NA552E1PT01: 1x HST-MF 150W/220 LL; factory setting: RP= 4, LPV= 45



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 3, LPV= 45

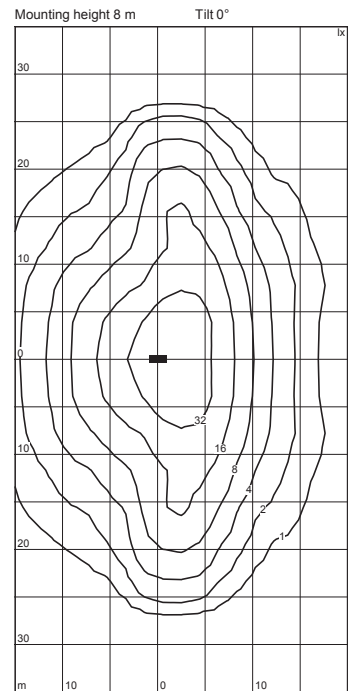
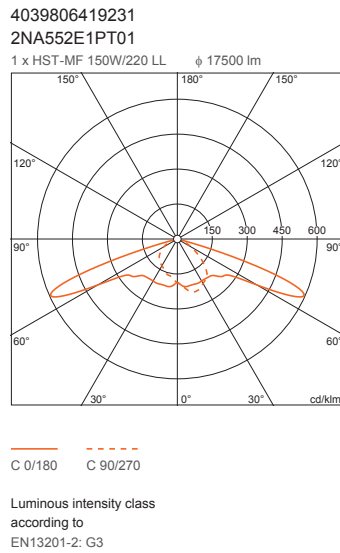


Lighting technology / Planning data:
2NA552E1PT01

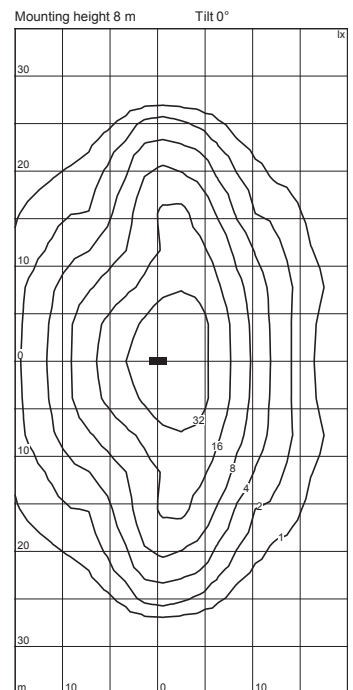
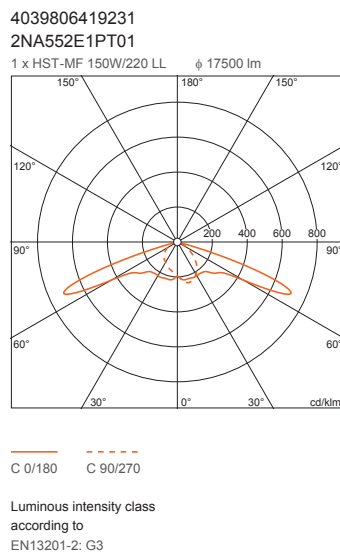
12/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 2, LPV= 45



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 1, LPV= 45

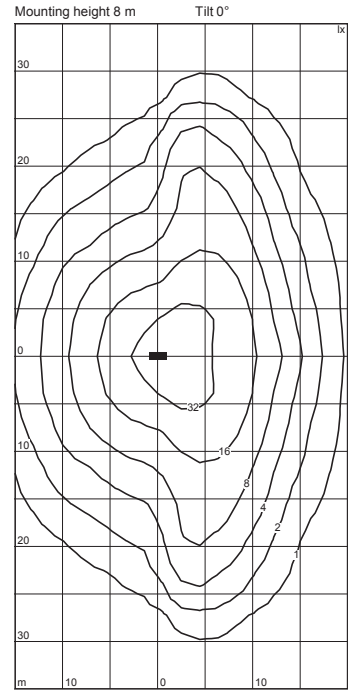
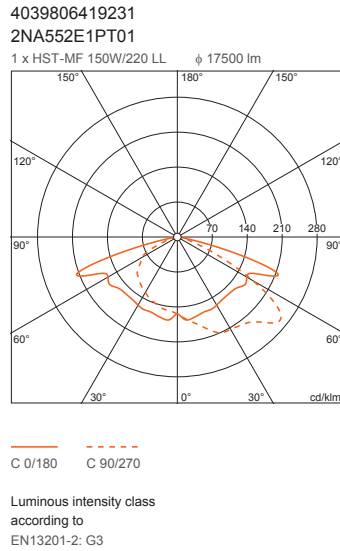


Lighting technology / Planning data:
2NA552E1PT01

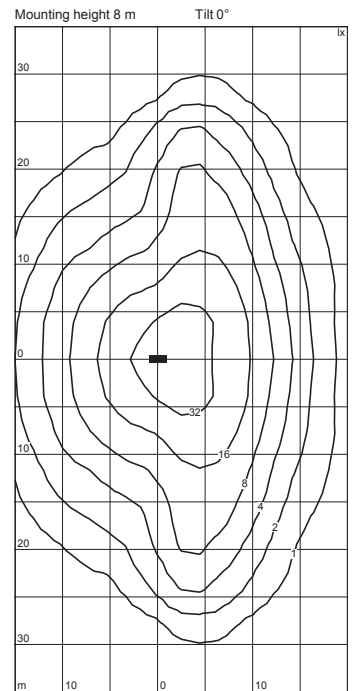
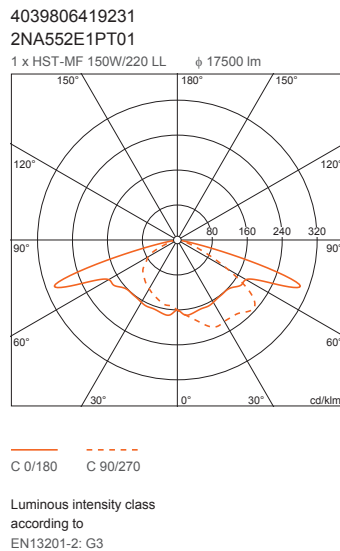
13/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 6, LPV= 40



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 5, LPV= 40

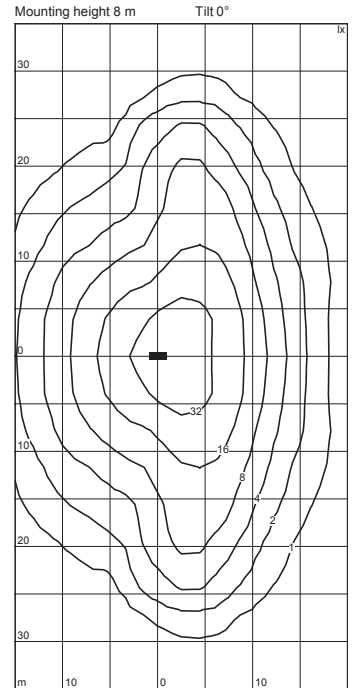
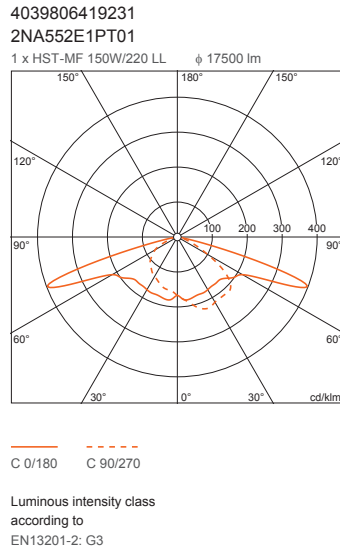


Lighting technology / Planning data:
2NA552E1PT01

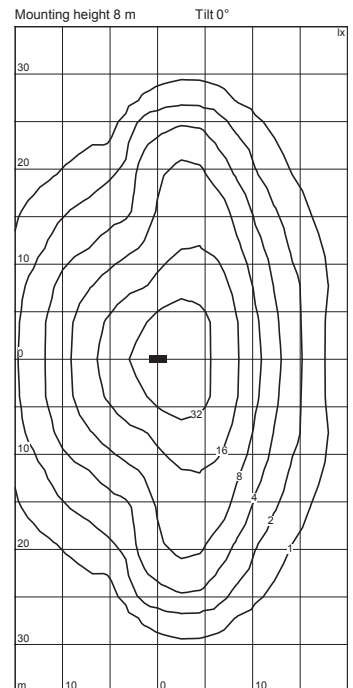
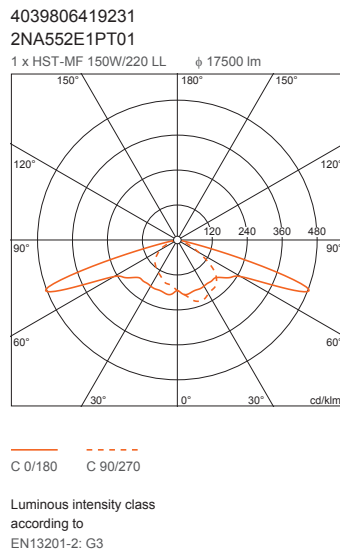
14/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 4, LPV= 40



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 3, LPV= 40

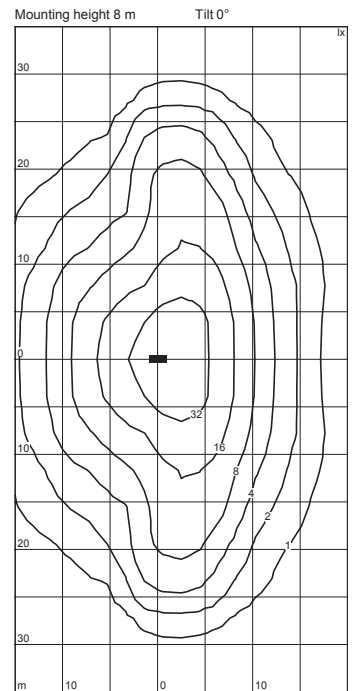
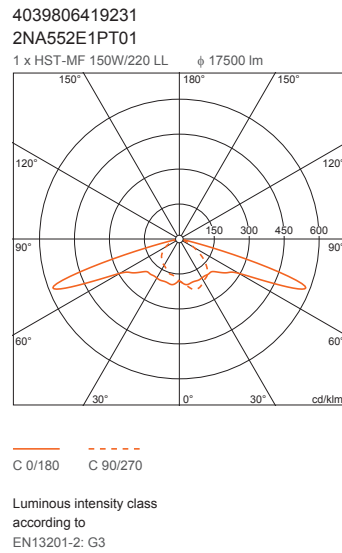


Lighting technology / Planning data:
2NA552E1PT01

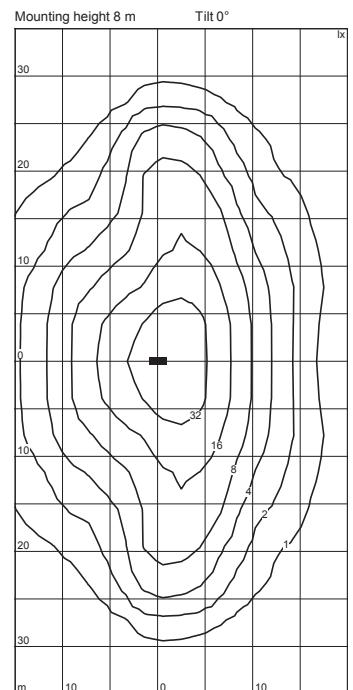
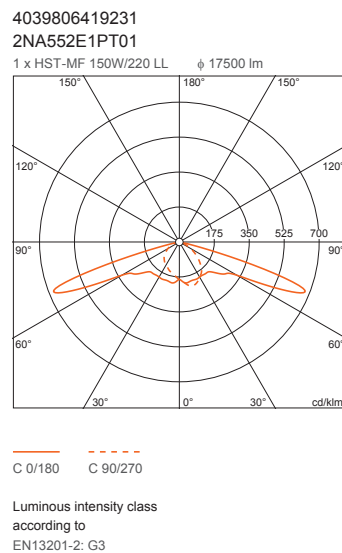
15/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 2, LPV= 40



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 1, LPV= 40

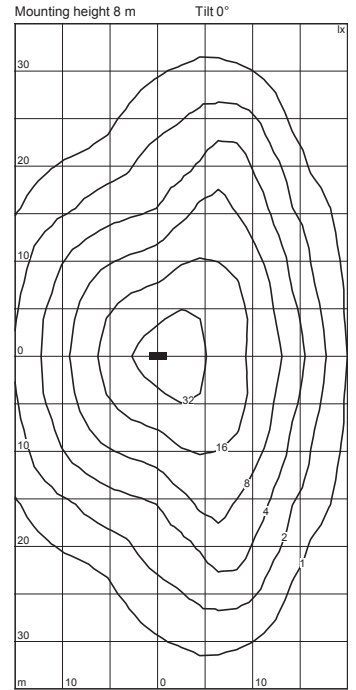
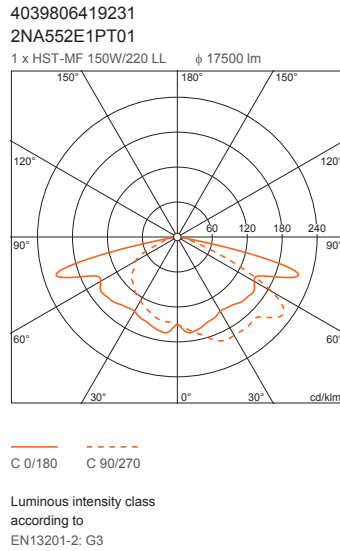


Lighting technology / Planning data:
2NA552E1PT01

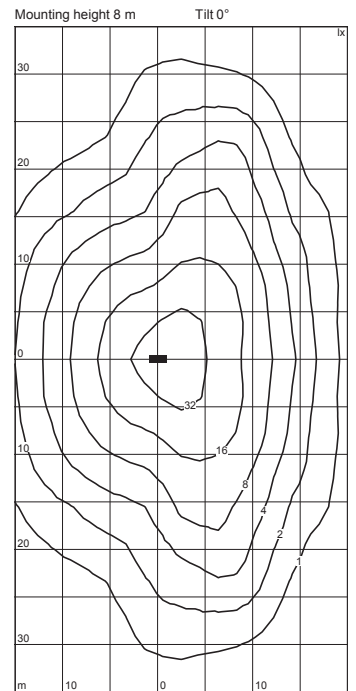
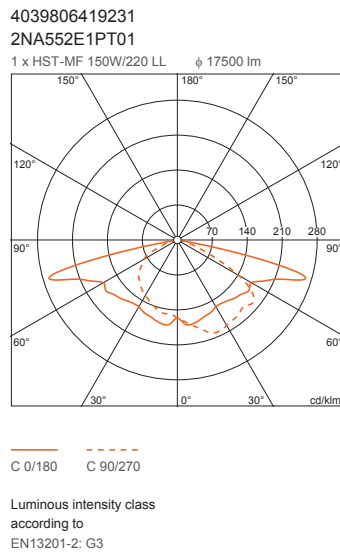
16/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 6, LPV= 35



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 5, LPV= 35

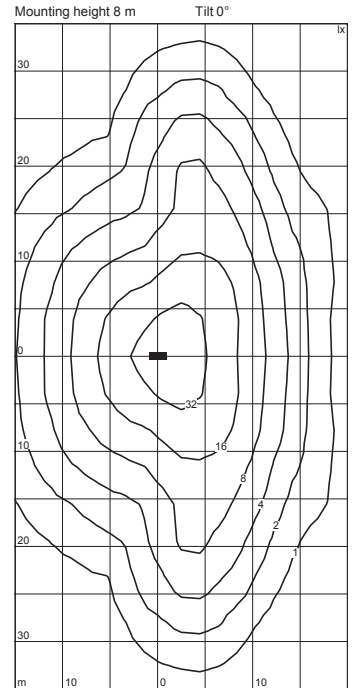
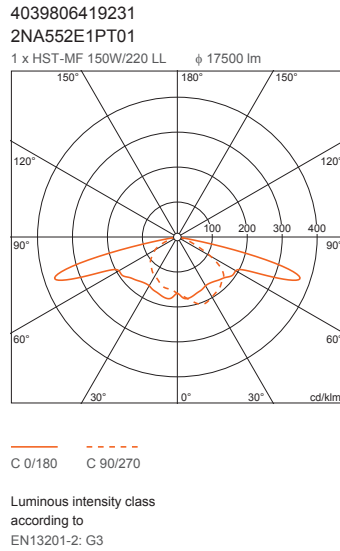


Lighting technology / Planning data:
2NA552E1PT01

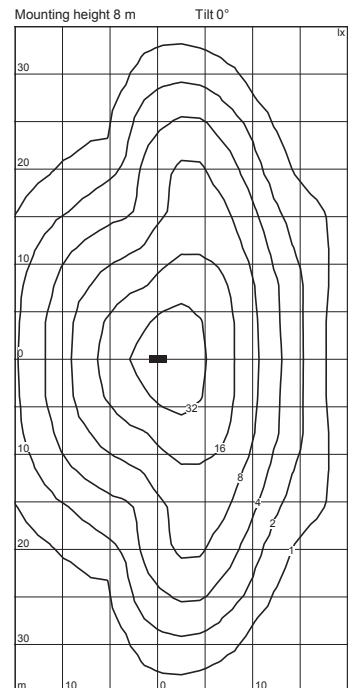
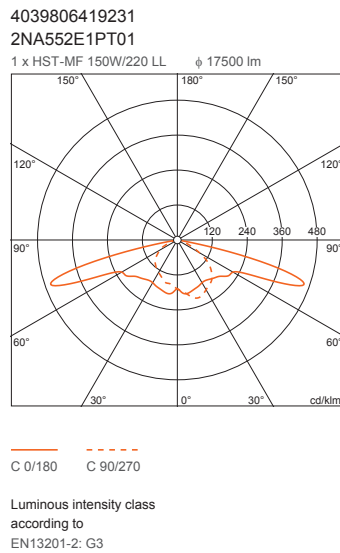
17/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 4, LPV= 35



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 3, LPV= 35

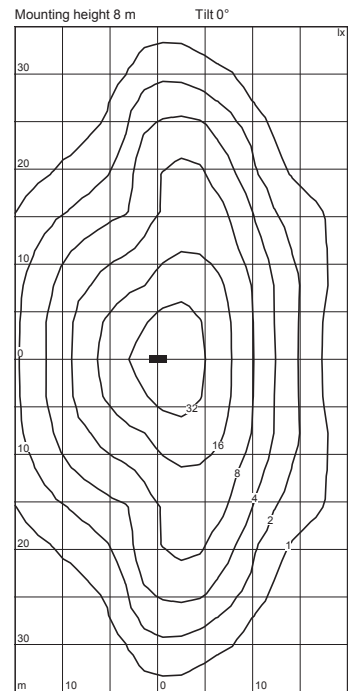
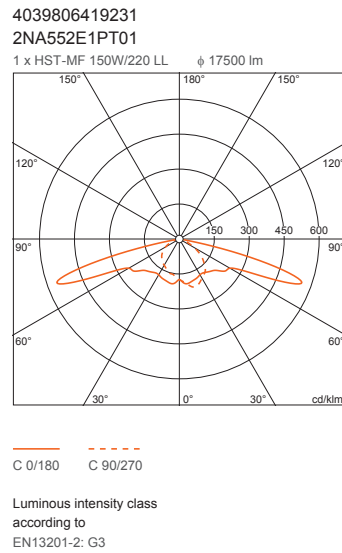


Lighting technology / Planning data:
2NA552E1PT01

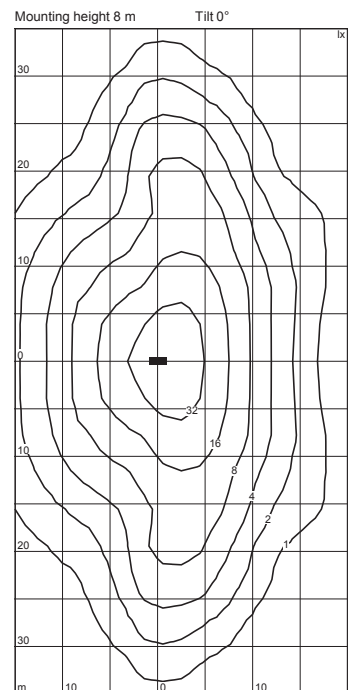
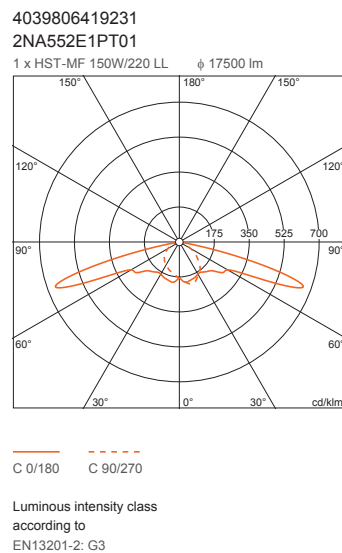
18/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 2, LPV= 35



2NA552E1PT01: 1x HST-MF 150W/220 LL; individual setting: RP= 1, LPV= 35

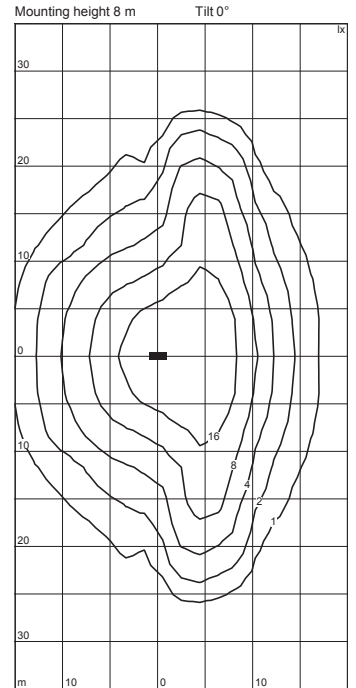
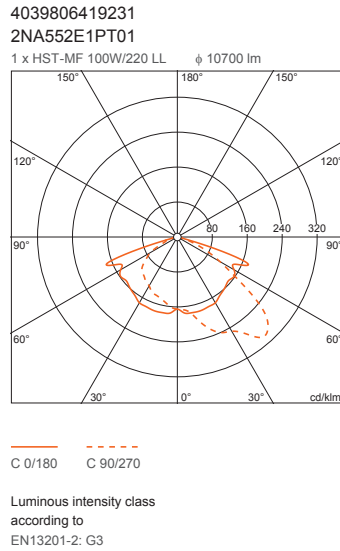


Lighting technology / Planning data:
2NA552E1PT01

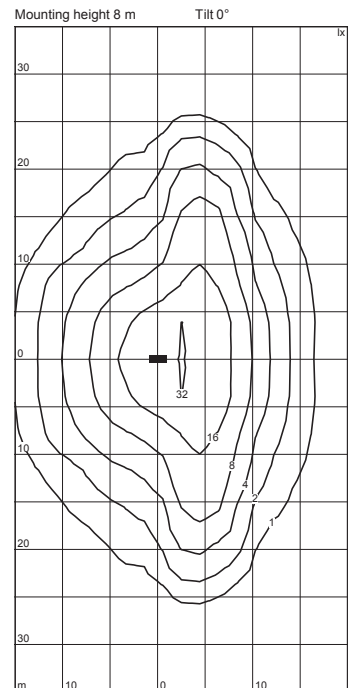
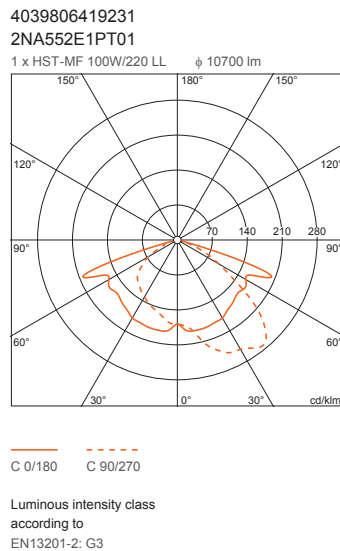
19/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 45



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 5, LPV= 45

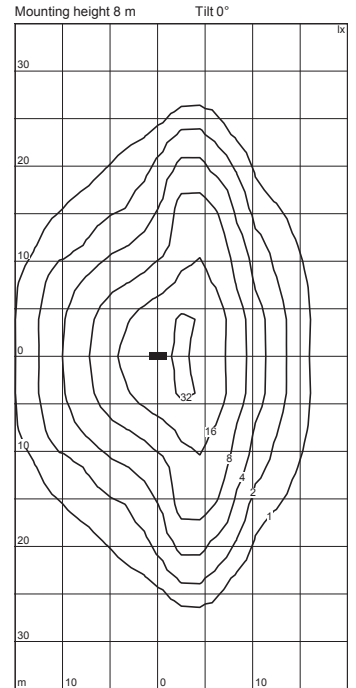
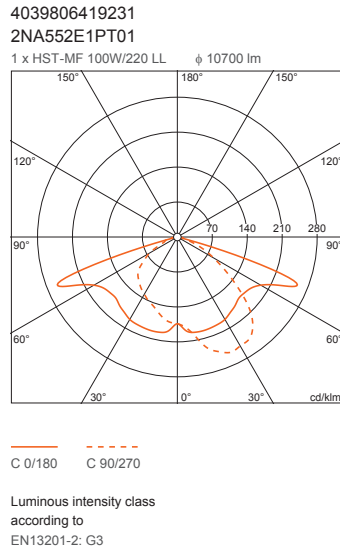


Lighting technology / Planning data:
2NA552E1PT01

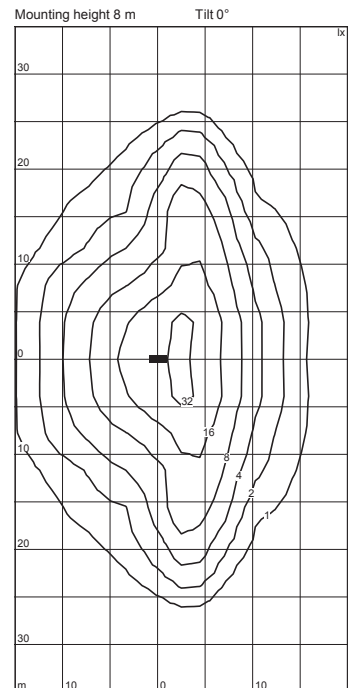
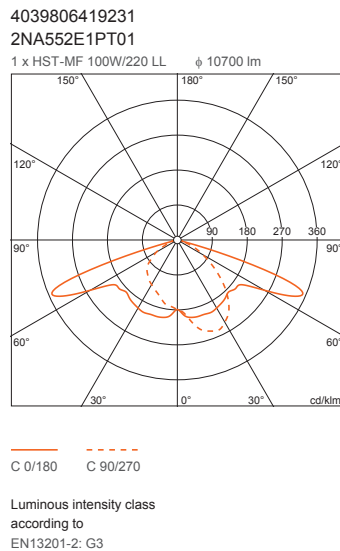
20/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; factory setting: RP= 4, LPV= 45



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 3, LPV= 45

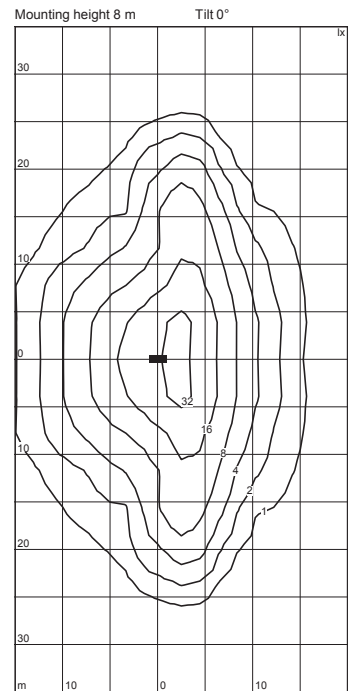
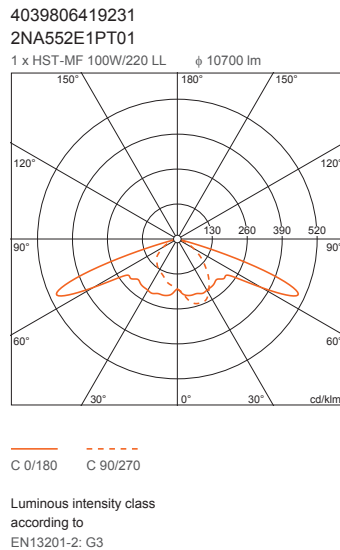


Lighting technology / Planning data:
2NA552E1PT01

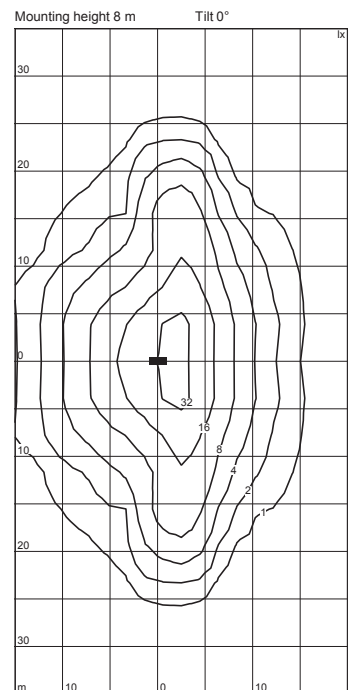
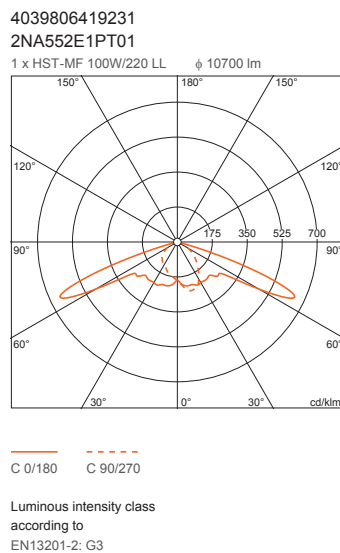
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SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 2, LPV= 45



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 1, LPV= 45

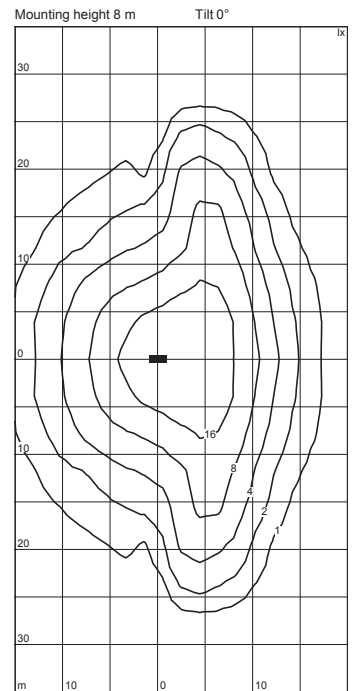
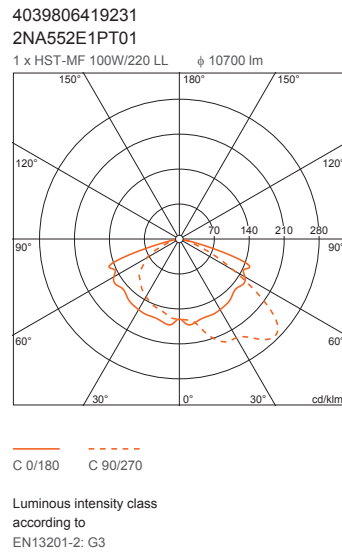


Lighting technology / Planning data:
2NA552E1PT01

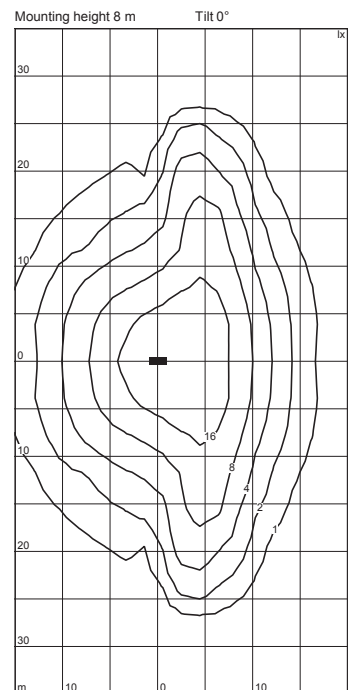
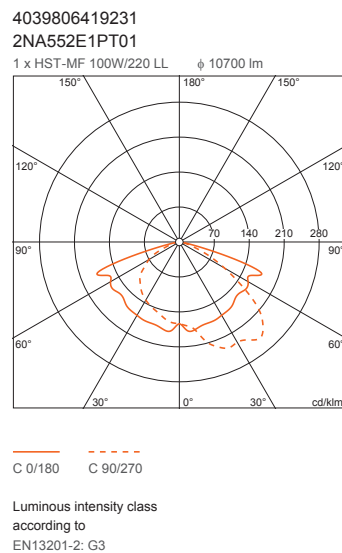
22/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 40



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 5, LPV= 40

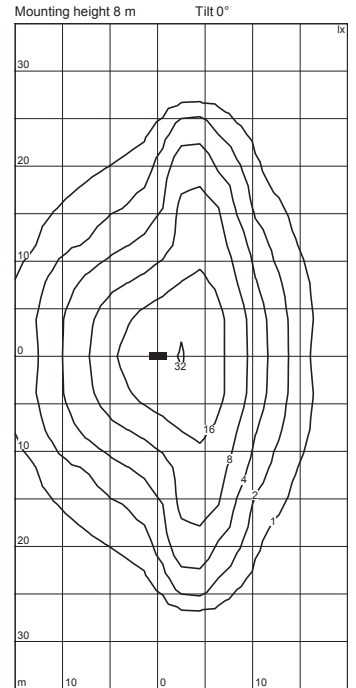
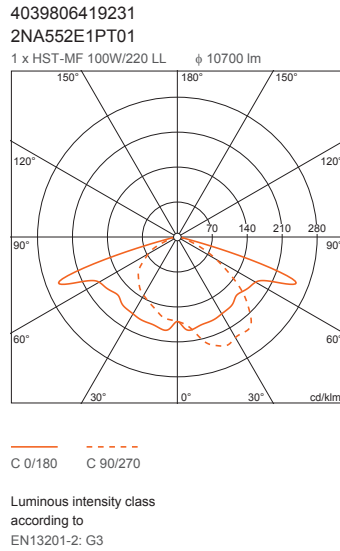


Lighting technology / Planning data:
2NA552E1PT01

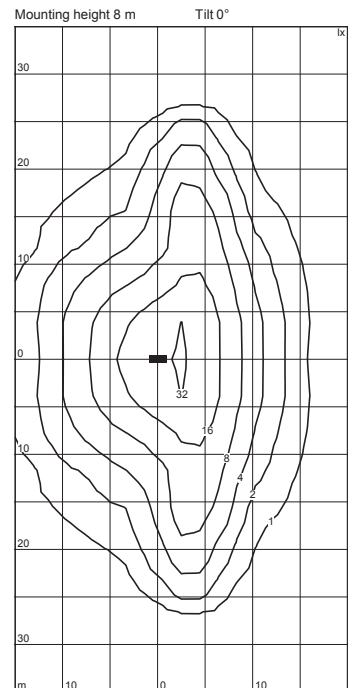
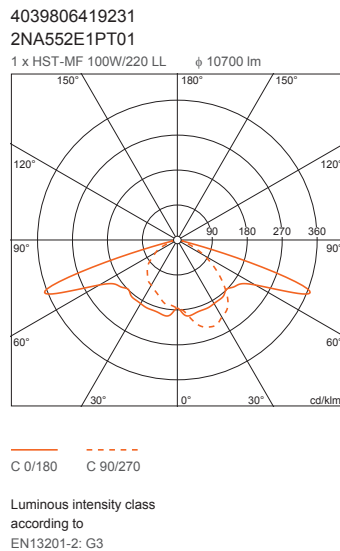
SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

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2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 4, LPV= 40



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 3, LPV= 40

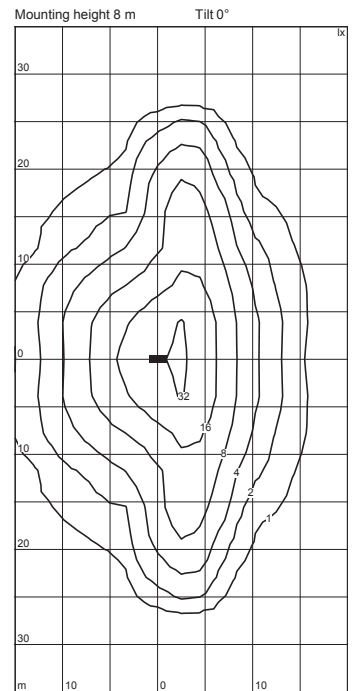
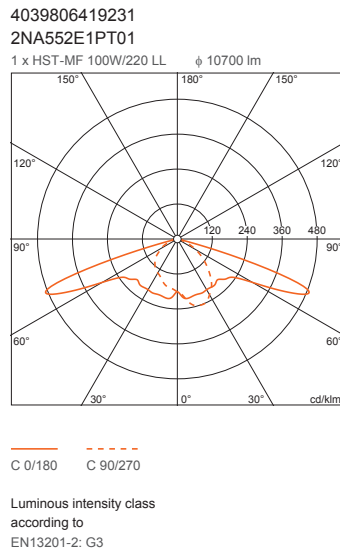


Lighting technology / Planning data:
2NA552E1PT01

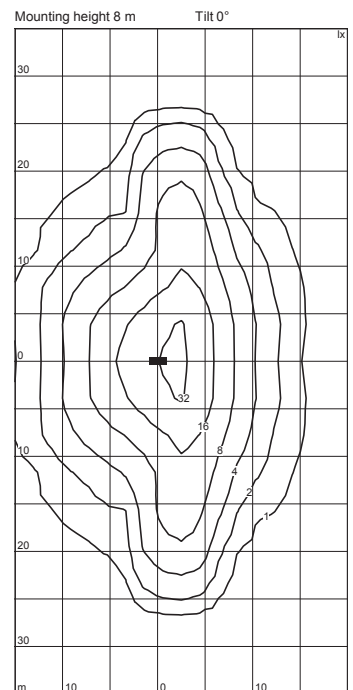
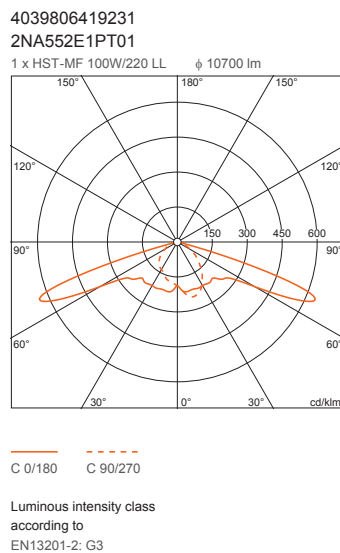
24/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 2, LPV= 40



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 1, LPV= 40

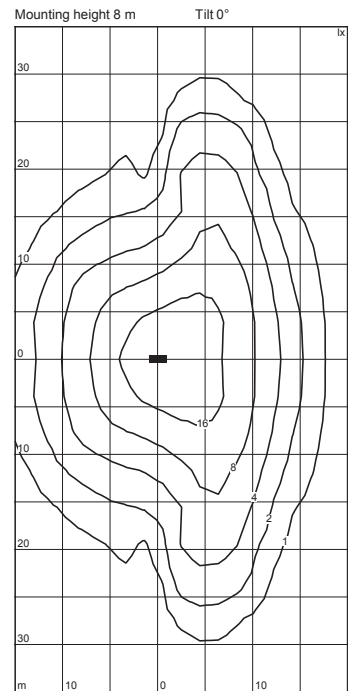
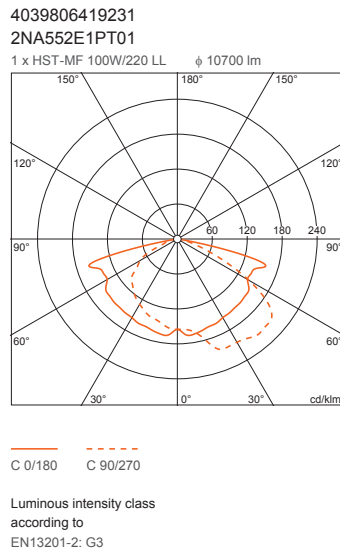


Lighting technology / Planning data:
2NA552E1PT01

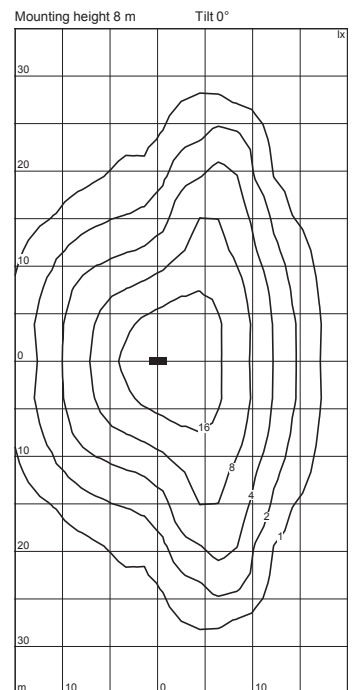
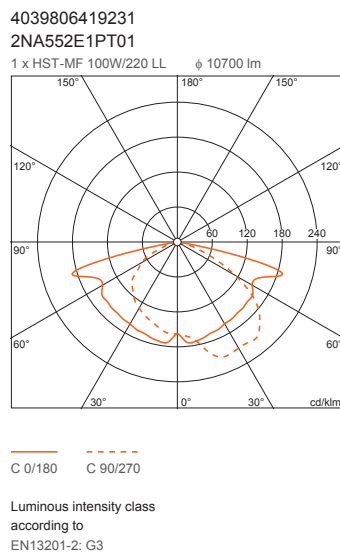
25/27

SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 6, LPV= 35



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 5, LPV= 35

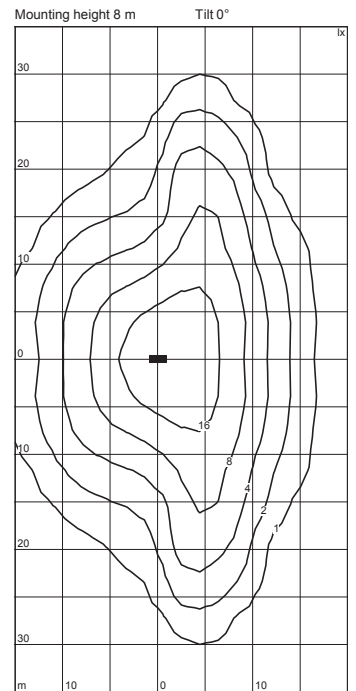
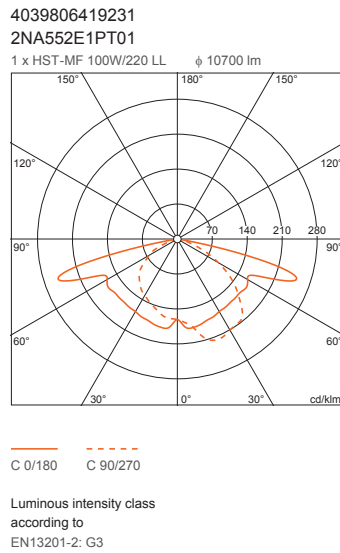


Lighting technology / Planning data:
2NA552E1PT01

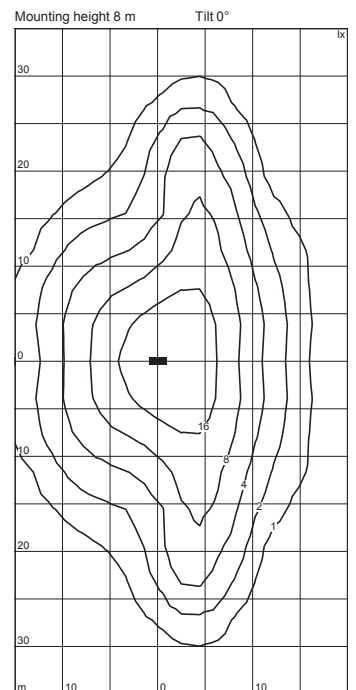
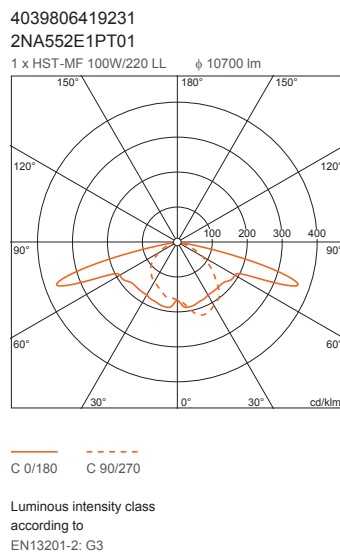
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SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 4, LPV= 35



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 3, LPV= 35

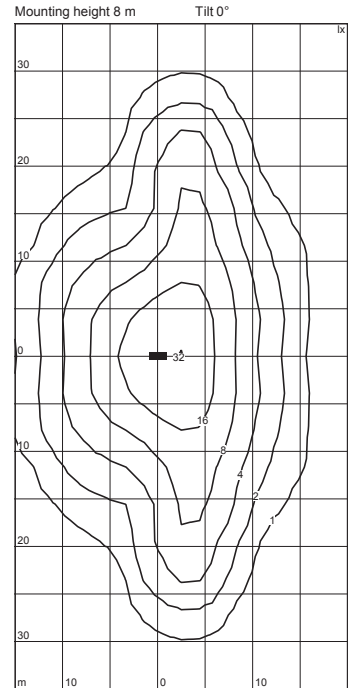
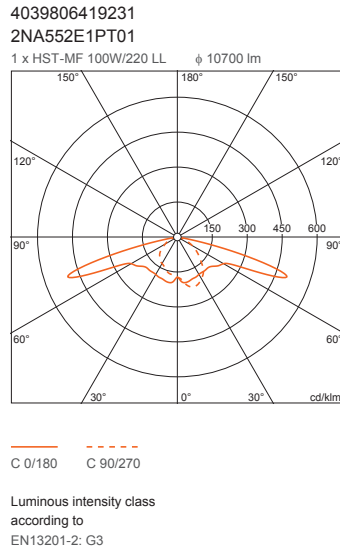


Lighting technology / Planning data:
2NA552E1PT01

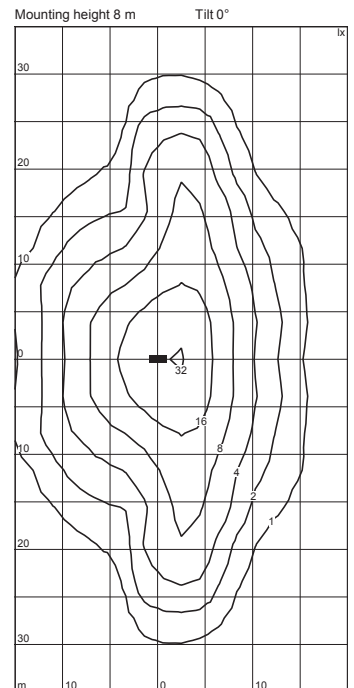
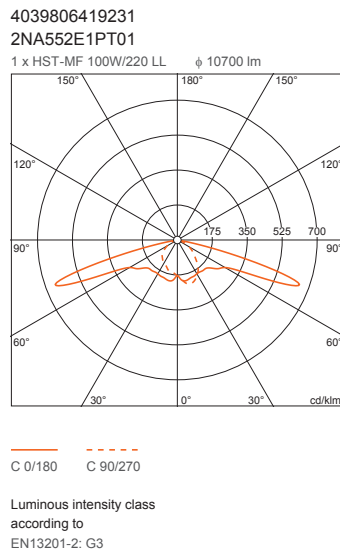
SR100,1x150W,HST,LLCG,TP,PMMA,dir,top,sd

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2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 2, LPV= 35



2NA552E1PT01: 1x HST-MF 100W/220 LL; individual setting: RP= 1, LPV= 35



Overview of product data:
5XA5824D1B08

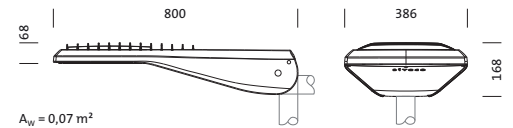
SL10md,PC-R,LED8630lm750,Plus

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Product description

Streetlight 10 midi LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, primary optical cover: cover, of PMMA, transparent, light distribution: PC-R, light emission: direct distribution, primary light characteristic: asymmetric, right, installation type: side-entry, post-top, LED, LED High Power, luminous flux: 8.630 lm, luminous efficacy: 117lm/W, light colour: 750, colour temperature: 5000K, control gear: ECG Plus, control: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation, electronic power reduction, with terminal, 5-pole, max. 2.5mm², mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 74 W, end of lifetime: 75 W, reduction: 36 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 800 mm, width: 387 mm, height: 168mm, spigot size: 60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA58100XM4, 60mm: 5XA58100XM2, 76mm: 5XA58100XM1, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, permissible ambient temperature for outdoor applications: -25..+50°C, packaging unit: 1 piece



siteco AN OSRAM BUSINESS 5XA5824D1B08

The luminaire contains built-in LED lamps

LED

The LED-lamps cannot be changed in the luminaire

874/2012

Lamps:	LED
Wt. (kg):	11.4
Order No.:	5XA5824D1B08
GTIN (EAN):	4050737922379

You can find a complete overview of lighting technology / planning data from page 4.

Product data details:
5XA5824D1B08

SL10md,PC-R,LED8630lm750,Plus



Detailed technical description

Key data

- Product type: mast luminaire
- Family: Streetlight 10 midi LED
- Order No.: 5XA5824D1B08

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised
- Cover: cover, transparent
- Light distribution: PC-R
- Beam angle: wide distribution
- Symmetry: asymmetric, right
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 8630lm
- Luminous efficacy: 117lm/W
- Colour temperature: 5000K
- Light colour: 750
- Pnom begin service life: 74
- Pnom end service life: 75
- Pred at 50% lumin. flux: 36

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), please order mast flange separately, inclination adjustable at 0°, 5°, 10°, 15°
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, on mast

Electrical connection

- Connection: terminal, 5-pole, max. 2.5mm²
- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 800mm
- Width: 387mm
- Height: 168mm
- Mast head: spigot size: 60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA58100XM4, 60mm: 5XA58100XM2, 76mm: 5XA58100XM1
- Weight: 11.4kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Certification, designation: CE, ENEC, VDE

Light emission

- Light emission: 0% at 0° inclination

Service life

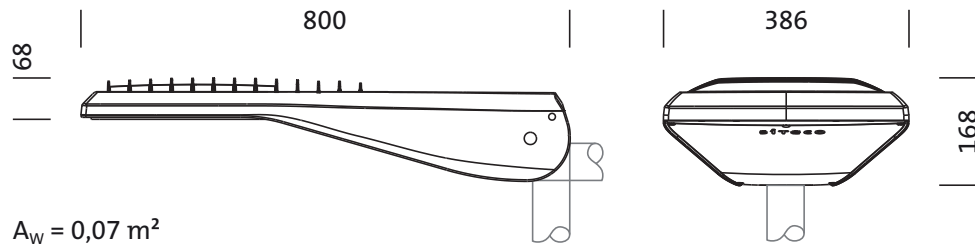
- Service life: service life 100,000h (L90/B10)

Dimensions:

5XA5824D1B08

SL10md,PC-R,LED8630lm750,Plus

3/4



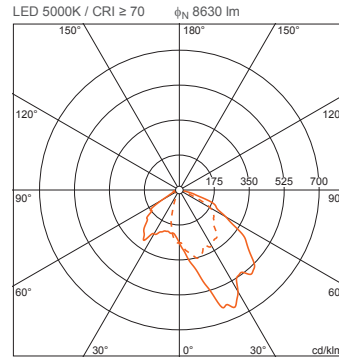
Lighting technology / Planning data:
5XA5824D1B08

SL10md,PC-R,LED8630lm750,Plus

4/4

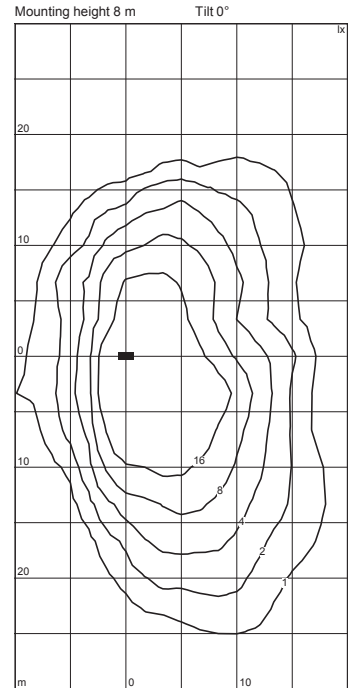
5XA5824D1B08: 2x LED 5000K / CRI ≥ 70

4050737922379
5XA5824D1B08



— C 0/180 - - - C 90/270

Luminous intensity class
according to
EN13201-2: G4



Overview of product data:
5XA5824D1B08P

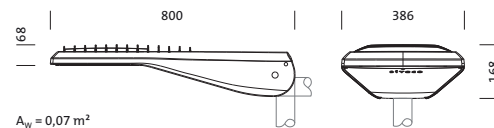
SL10md,PC-R,LED14490lm750,Plus

1/4



Product description

Streetlight 10 midi LED, mast luminaire, primary light control with 3 zone faceted reflector, of plastic, aluminium vaporised, primary optical cover: cover, of PMMA, transparent, light distribution: PC-R, light emission: direct distribution, primary light characteristic: asymmetric, right, installation type: side-entry, post-top, LED, LED High Power, luminous flux: 14.490 lm, luminous efficacy: 104lm/W, light colour: 750, colour temperature: 5000K, control gear: ECG Plus, control: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation, electronic power reduction, with terminal, 5-pole, max. 2.5mm², mains connection: 220..240V, AC, 50/60Hz, start of lifetime: 139 W, end of lifetime: 149 W, reduction: 61 W, luminaire housing, of diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), length: 800 mm, width: 387 mm, height: 168mm, spigot size: 60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA58100XM4, 60mm: 5XA58100XM2, 76mm: 5XA58100XM1, protection rating (complete): IP66, insulation class (complete): insulation class II (safety insulation), certification: CE, ENEC, VDE, permissible ambient temperature for outdoor applications: -25..+50°C, packaging unit: 1 piece



Lamps:	LED
Wt. (kg):	11.4
Order No.:	5XA5824D1B08P
GTIN (EAN):	4050737922393

You can find a complete overview of lighting technology / planning data from page 4.

siteco AN OSRAM BUSINESS **5XA5824D1B08P**

The luminaire contains built-in LED lamps

The LED-lamps cannot be changed in the luminaire

874/2012

Product data details:
5XA5824D1B08P

SL10md,PC-R,LED14490lm750,Plus



Detailed technical description

Key data

- Product type: mast luminaire
- Family: Streetlight 10 midi LED
- Order No.: 5XA5824D1B08P

Lighting technology | Lamps | Control gear

Component 1

Lighting technology:

- Light control: 3 zone faceted reflector of plastic, aluminium vaporised
- Cover: cover, transparent
- Light distribution: PC-R
- Beam angle: wide distribution
- Symmetry: asymmetric, right
- Light emission: direct distribution

Lamps:

- Lamps: with LED High Power, LED
- Net luminous flux: 14490lm
- Luminous efficacy: 104lm/W
- Colour temperature: 5000K
- Light colour: 750
- Pnom begin service life: 139
- Pnom end service life: 149
- Pred at 50% lumin. flux: 61

Operating device:

- Control gear: ECG Plus
- Control: Plus
- Equipment: overheat protection, power reduction, digital communication interface, constant luminous flux control, time-dependent luminous flux control, flexible luminous flux parameterisation
- Switching method: electronic power reduction

Material | Colour

- luminaire housing: diecast aluminium, powder-coated, Siteco® metallic grey (DB 702S), please order mast flange separately, inclination adjustable at 0°, 5°, 10°, 15°
- Cover: cover of PMMA

Mounting

- Mounting method, mounting location: side-entry, post-top, on mast

Electrical connection

- Connection: terminal, 5-pole, max. 2.5mm²
- Nominal voltage: 220..240V, AC, 50/60Hz
- Surge voltage resistance: 6kV 1.2/50µs

Dimensions | Weight

- Length: 800mm
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- Mast head: spigot size: 60/76mm (post-top) and 42/60mm (side-entry), mast flange for spigot size: 42mm: 5XA58100XM4, 60mm: 5XA58100XM2, 76mm: 5XA58100XM1
- Weight: 11.4kg

Certificates | Standards

- Protection rating: IP66
- Insulation class: insulation class II (safety insulation)
- Certification, designation: CE, ENEC, VDE

Light emission

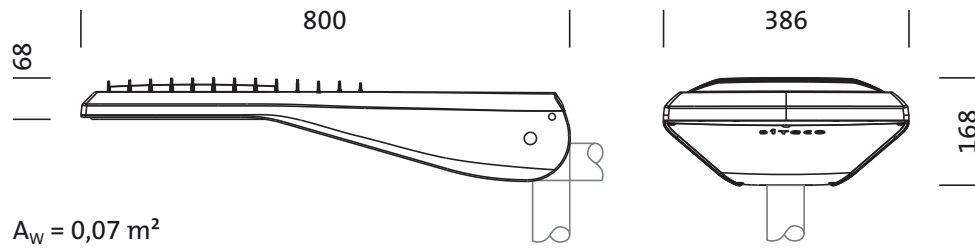
- Light emission: 0% at 0° inclination

Service life

- Service life: rated lifetime: L80 B10 at 100,000h

Dimensions:
5XA5824D1B08P

SL10md,PC-R,LED14490lm750,Plus



Lighting technology / Planning data:
5XA5824D1B08P

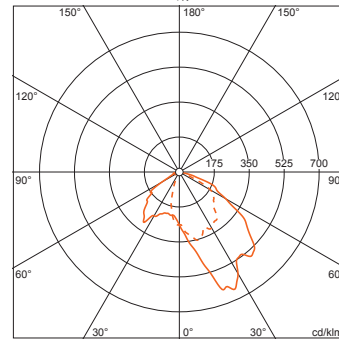
SL10md,PC-R,LED14490lm750,Plus

4/4

5XA5824D1B08P: 2x LED 5000K / CRI ≥ 70

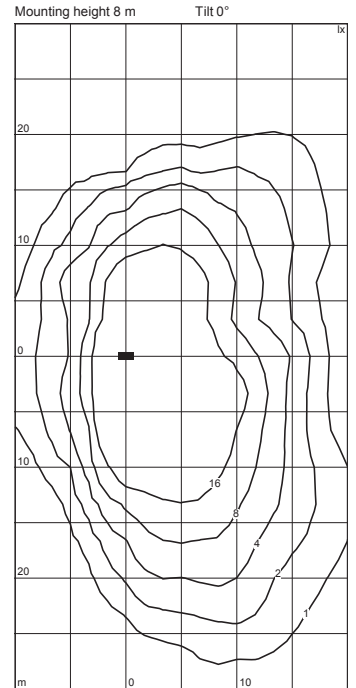
4050737922393
5XA5824D1B08P

LED 5000K / CRI ≥ 70 Φ_{N} 14490 lm



— C 0/180 - - - C 90/270

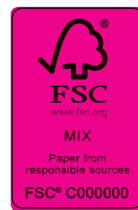
Luminous intensity class
according to
EN13201-2: G4



Now even more powerful and efficient



Order number 7QCP021GB
01.2015 | Technical modifications and errors subject to change.



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Member of



Light is economical Siteco Streetlight 10 LED

The luminaire family for efficient road lighting and good light quality.

Light is **OSRAM**



Streetlight 10 LED complete range for optimum lighting results

Innovative LED technology, embedded into an equally innovative and sustainable luminaire concept and coupled with a consciousness for both costs and the environment is what sums up Streetlight 10 LED from Siteco. State-of-the-art LED technology meets outstanding photometrics, and a modular concept ensures that luminaires are upgradable and fit for the future as mast and catenary luminaire. Streetlight 10 micro, mini and midi: for the standard-compliant and highly efficient lighting of roads, parking lots and outdoor industrial areas.

- Rapid amortisation via major energy savings compared to standard technology
- Good quality of light thanks to sophisticated optics
- Sustainable and environmentally conscious via reduction of carbon dioxide and material preservation
- Additional savings potential due to upgrade option to future LED generations
- Maximum future compatibility via modular design



Streetlight 10 midi LED catenary luminaire



Streetlight 10 midi LED



Streetlight 10 mini LED



Streetlight 10 micro LED

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A convincing solution for all mounting scenarios

One solution for all applications, and with only three construction sizes. The micro is optimal for the illumination of residential streets and areas. The luminaire also has a quality appearance in classic, decorative lighting applications, with parking facilities and plazas for example. The Streetlight 10 mini LED has been designed for the standard-compliant lighting of residential and collecting

streets as well as for parking lots and urban areas. The Streetlight 10 midi LED, equipped with two LED modules, illuminates main roads, collecting roads, roundabouts and large squares. The catenary luminaire versions of the Streetlight 10 LED range are the first choice for the efficient and high-quality illumination of traffic routes with mounting points directly over the road.



Lighting classes	P1	P2	P3	P4	P5	P6	M1	M2	M3	M4	M5	M6
Streetlight 10 micro LED				•	•	•					•	•
Streetlight 10 mini LED		•	•	•	•	•				•	•	•
Streetlight 10 midi LED	•	•	•	•	•	•	•	•	•	•	•	•
Streetlight 10 mini LED catenary luminaire		•	•	•	•	•				•	•	•
Streetlight 10 midi LED catenary luminaire	•	•					•	•	•	•	•	•

The Streetlight 10 LED complies with the standards of all lighting classes for technical road lighting. Uniform lighting installations are ensured thanks to three construction sizes.



Maximum efficiency in every detail

Efficiency is for some merely a catchword. With the Streetlight 10 LED though it is the fundamental construction principle in all luminaire components, for all applications and over the complete lifespan, and all Streetlight 10 LED components are thus optimised for maximum efficiency.

This has resulted in a luminaire with extremely low energy consumption, which in turn means that investments are rapidly amortised. The highly robust and low-maintenance system and the extremely long-life LED modules reduce maintenance and servicing overheads and the use of personnel.



Efficiency factors

LED quality

Only the latest LED technology with highest quality is sourced from respected manufacturers.

Lighting technology

This optimized lighting technology provides maximum light to the illuminated area, while significantly reducing glare by using optimized reflector technology.

Thermal management

Sophisticated thermal management effectively dissipates the heat of the LEDs, increasing the efficiency of the diodes.

Control options

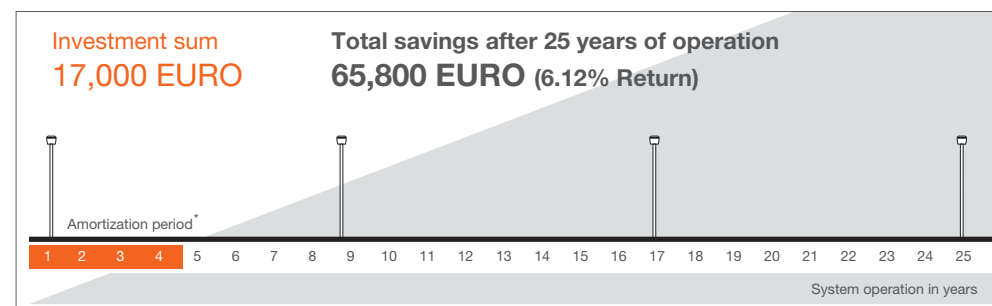
The intelligent control system enables adaptation of luminous flux according to needs and also cuts operating costs.

Design concept

The modular concept allows further increases in efficiency to be optimally exploited from future LED modules.



Relative luminous flux



Basis for calculation: static cost comparison, 1 km carriageway, 30 light points, 4,000 operating hours/year, 0.20 Euro per kWh;
 Old system: HME 125W (137W), 4,000h with 100 %
 New system: Streetlight 10 mini LED BASIC, (4000K) 1,600h with 100 % = 27W; 2,400h reduced mode = 13W
 8.6t CO₂ saving per km/a
 *Amortization of additional investment costs after approx. 4.6 years

Rapid amortisation

Clever investments consider costs over the complete life cycle of a product. As well as purchasing costs, energy costs are also decisive for road lighting. The comparative calculation demonstrates that Streetlight 10 LED is already amortised after a good four years, and also with light complying to standards, a requirement that old systems often cannot achieve.

Calculate the amortisation times for your system with the SLEO and the Siteco Cost Efficiency Calculator. More on page 36 or see www.siteco.com/sleo

Pioneering solutions

Particularly efficient, uniform light: Extremely versatile and modular in use: the Streetlight 10 LED family provides almost universal options for modern, standardized street lighting.

A unique, future-fit ecological design

Perfect protection of resources: the Streetlight 10 LED also impresses with material preservation of the luminaire. The housing of high quality diecast aluminium, once mounted, can stay fixed to the mast for decades. The LED modules do not have to be replaced until 100,000 hours operation have elapsed, depending on the operating conditions. This is a decisive advantage compared to many LED luminaires, as most other models cannot be modernised and have to be disposed of in some cases in less than ten years. Other luminaires with replaceable modules are designed so that housing components must be replaced along with the modules, and thus a large part of the luminaire itself. This consumes resources and also energy required for luminaire recycling. Streetlight 10 LED is different, and the value attached to the mast is preserved.

Ecological design standard specifications

The ErP 2009/125/EC guideline sets rules for the ecological design of products. The 244/2009 and 245/2009 directives resulting from this define minimal requirements for the energy efficiency of lamps, luminaires and ballasts.

Energy squanderers are banned.

The most famous example is the banning of incandescent lamps. The manufacture of obsolete fluorescent tubes has also been prohibited since 2010. The same applies since 2015 in street lighting for still widespread high-pressure mercury vapor lamps.



Due to the modular construction, the LED module and control unit can be replaced independently of each other. This makes upgrading to higher performance, future LED modules simple.



90 % Material preservation

If an LED module is replaced, 90 % of the luminaire remains on the mast in the form of housing and gear tray. Material preservation also means outstanding value preservation for operators.



10 % Flexible components

Only 10 % of the complete material of the luminaire is replaced when replacing the Streetlight 10 LED module, and replacement of the slender, lightweight module needs just a few manual steps.

High-end technology for a high-end luminaire

The decisive difference between high and low quality LED road luminaires is found in their lighting technology. Streetlight 10 LED sets new standards with its innovative, efficient technical solutions. The LED module with its highly precise optical systems of LED arrays, HD (high definition) reflectors and HD cover guides the light onto the road

surface with a high degree of precision. In contrast to the all-round light distribution of conventional lamps, LEDs radiate light exclusively into the lower hemisphere. Emitted light is guided highly precisely onto the road via the faceted surfaces of each HD reflector. The HD cover enables light to be emitted almost without reflection.

Streetlight 10 LED-Modul

High Power LEDs are thermally coupled to the aluminium housing of the module. The complete module is tightly screw-fastened to the luminaire housing. This gives a large contact surface via which the heat of the LEDs is dissipated with maximum efficiency.

— Secure bonding

The high definition cover is completely bonded with the module support all-round. Humidity, dirt particles and insects cannot enter to soil the optics, and the quality of light is permanently ensured.

— Immediate luminous flux

The LED module provides full luminous flux immediately after switching on (and even after repeated switching). This means standard-compliant light from the beginning.

— Secure mounting

Keyhole suspension means easy replacement of the module: the screws only need to be loosened by a few turns. The screw head still holds the module during mounting.



High Definition Cover (HD-C)

The wave-formed cover of the Streetlight 10 LED is adapted to the beam emission angle of the light rays. The luminaire head features an all-round frame into which the Streetlight 10 LED module flush fits. Light is only emitted into the lower hemisphere, making the Streetlight 10 LED dark-sky compatible to 100%.

High Definition Reflector (HD-R)

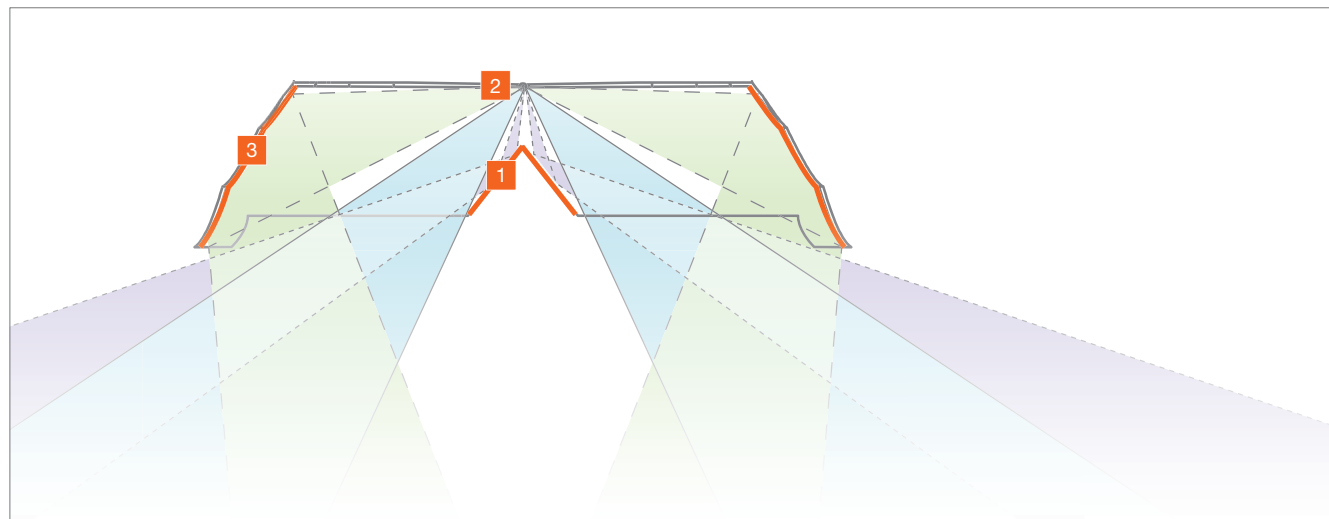
High-precision faceted reflectors split the rays of the high power LEDs into wide-area light. In this way they prevent glare distracting drivers, pedestrians and residents and illuminate roads, paths and plazas with a high level of uniformity – and with improved efficiency thanks to a special way of silver coating.



Greater safety with optimal light distribution

The Streetlight 10 LED sets new standards in terms of light distribution, with highly homogeneous illumination along the carriageway even with wide mast distances. This means greater safety in traffic situations, because the vision of drivers need not be adapted to alternating brightness levels, meaning that drivers are able to more rapidly detect sudden obstacles for quicker response

times. Objects and people are even clearly visible behind approaching vehicles with dazzling headlights. The basis for this technological progress is the efficient high definition reflector, a consistent continuation of the world-renowned Siteco radial faceted optics for conventional lamp technologies.



High Definition Reflector: light distribution across three zones

- 1 Far field:**
The central, V-shaped faceted reflector guides most of the emitted light specifically into the far field. Excessive, uncontrolled radiation to the ground below the luminaire is prevented. Direct viewing of the LEDs is not possible from typical observer positions.
- 2 Mid-field:**
Light is emitted without deflection and highly efficiently, directly from the luminaire. The position of the LEDs is specified so that the diodes cannot be viewed from the typical observer position, thus avoiding direct glare.
- 3 Near field:**
The lateral faceted reflector guides the light to the area directly below the luminaire. The light distribution ensures best possible glare restriction.



Perfect visibility
Streetlight 10 LED mini with residential streets achieves perfect visual conditions. The high quality of light with neutral white light supports well-being and a sense of security for residents, and thus improves the quality of life. Optimal contrast and color vision ensure a pleasant atmosphere.

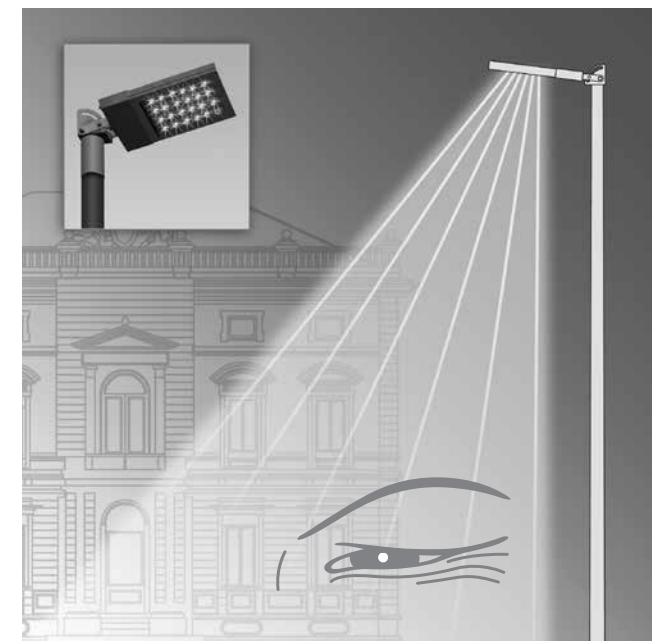




Maximum visual comfort due to glare reduction

In contrast to LED luminaires with openly positioned diodes or diodes equipped with lenses, the risk of glare with Streetlight 10 LED is minimised. The high definition reflectors distribute the light homogeneously over the light emission surface at the luminaire head. The result is low-glare light that in the functional road lighting sector can hardly find its match. From the typical observer position the luminaire is subjectively not experienced as producing

glare, and glare as evaluated by standards is significantly below stipulated limit values. At the same time, traffic routes are uniformly illuminated. Statistical evaluations prove that these factors in particular significantly reduce risks of accident, and the severity of accidents is tangibly lessened. These are the factors that significantly reduce the risk of accidents and their severity.



Glare and visual comfort with LEDs

A measurement for specifying psychological glare is the threshold increase TI with luminance systems (ME classes). When calculating systems in accordance with lighting classes, limitation of psychological glare can be defined by specifying a luminous intensity class (G1–G6).

The values described above and subjectively perceived glare can however strongly deviate, even with two luminaires with identical light distribution, threshold increase and luminous intensity class.



The reason for this is the size of the light emission, perceived as the luminous surface.

High-definition Streetlight 10 LED specular reflectors split the high luminance levels of single diodes into many small, glare-free light points. This means that the luminous surface is usually larger than with luminaires featuring lens systems. In practice, it has been repeatedly proven that precisely this light control principle with LED luminaires is perceived as being especially comfortable.

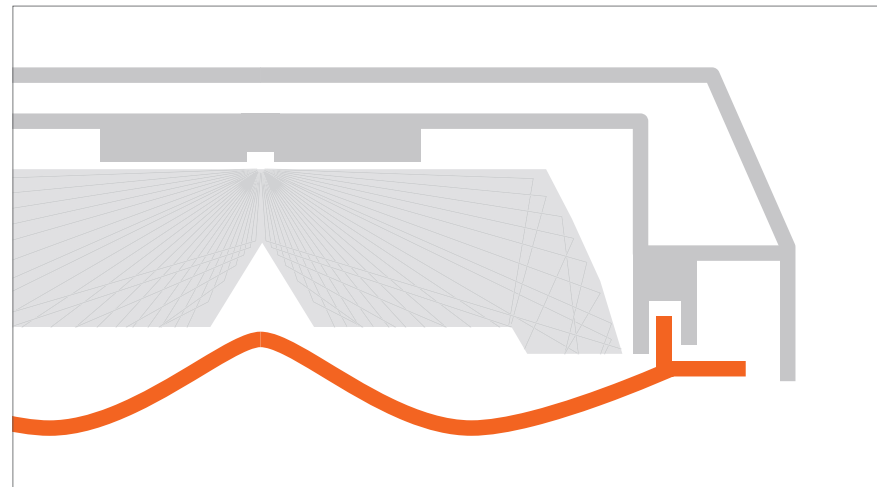
Streetlight 10 midi LED for collecting roads

With collecting roads, uniform lighting supports visual performance.

Light on the road, not in the sky

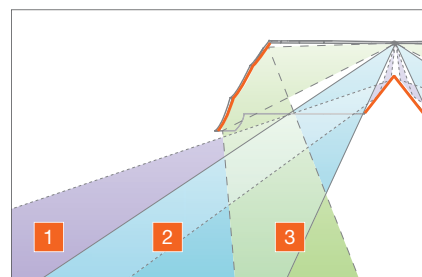
The high definition cover unites the advantages of both convex and flat luminaire enclosures, and its wave form emits light almost completely without reflection. Efficiency losses are prevented. The almost flat basic construction ensures at the same time that light from the Streetlight 10 LED is only directed onto the road. The luminaire frame

completely prevents light immission into the sky. A further advantage of the construction is the low level of soiling. The cover is mostly removed from the effects of weather and the surface of the high definition cover is of high quality, specially coated PMMA, with a permanently high level of light transparency and minimal tendency for soiling.



Compliance with Dark Sky directives

Light pollution is a growing problem. Luminaires emitting light into the sky hamper star gazing and attract night-active insects. Streetlight 10 LED is different, fulfilling the most stringent dark sky directives, avoiding light pollution and ensuring optimal lighting conditions on the ground, and only on the ground.



Glare-free for drivers

With Streetlight 10 LED the risk of glare from the typical observer situation of a car driver is considerably reduced both in the far, mid and near field.

- 1 Far field
- 2 Mid-field
- 3 Near field



Streetlight 10 mini LED for residential roads

The Streetlight 10 mini LED authentically renders the colors of the surrounding environment, thus ensuring excellent visual comfort. This improves safety and increases well-being, and thus also the quality of life in the vicinity.

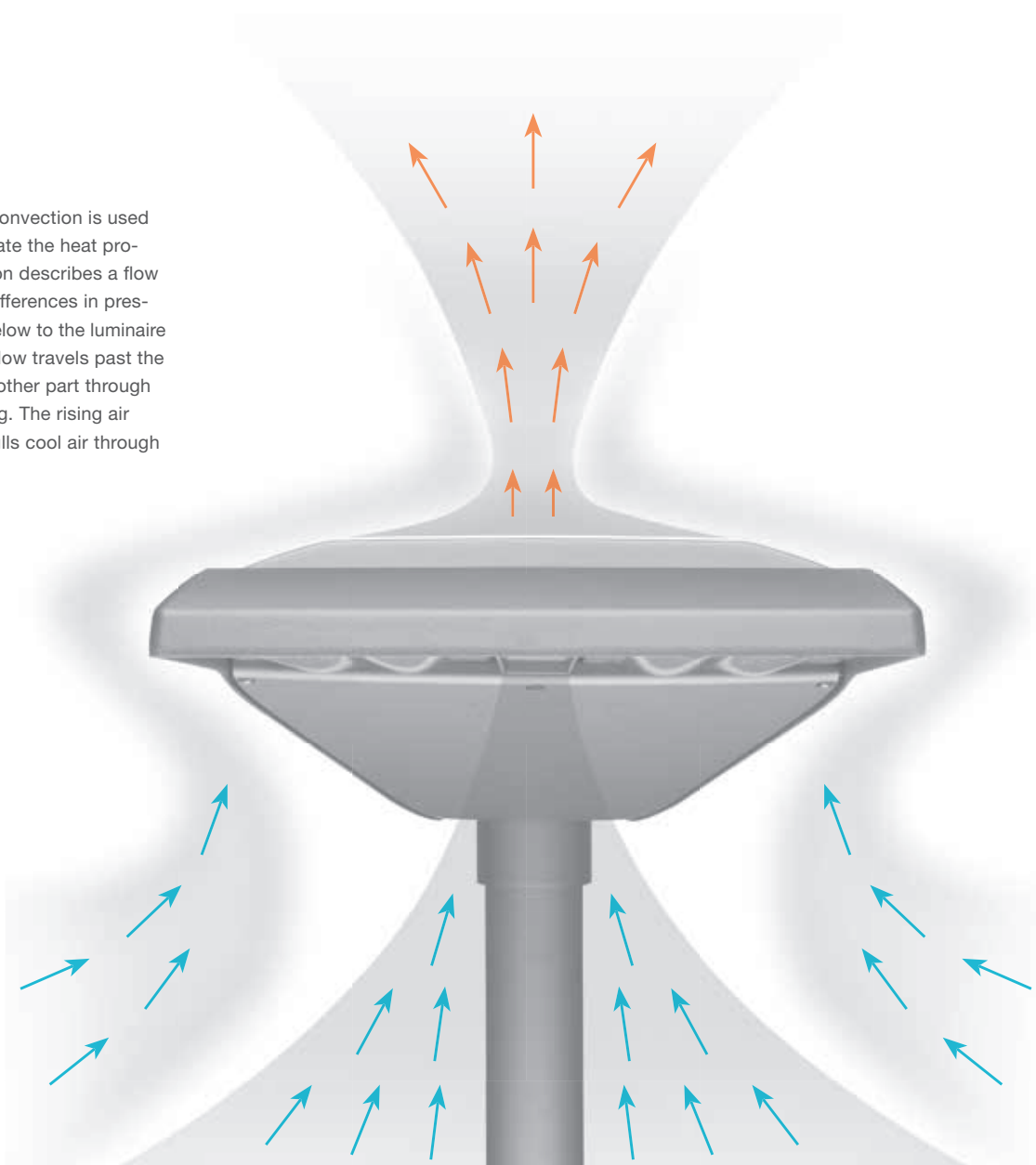
An efficient cooling system for a long service life

The Streetlight 10 family features long-life and low maintenance. A decisive factor in this respect are the highly efficient thermal management systems, defending against the most serious enemy of the luminaire: heat. In all versions the LED modules are screw-fastened to the luminaire housings. The metal support of each module effectively dissipates the heat typical of LEDs over the luminaire housing. With Streetlight 10 micro and mini LED, development of heat is very low. Here cooling via the

slender luminaire housing is sufficient. Streetlight 10 midi LED with its higher light output uses a sophisticated cooling system with special air apertures and cooling ribs. With all modules, a service life of up to 100,000 operating hours at an ambient temperature range of $-25\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ is thus ensured. Thermal management also helps to save energy, because the better an LED luminaire is cooled the better is the ratio of luminous efficacy per watt. The better an LED luminaire is cooled, the better the luminous efficacy.

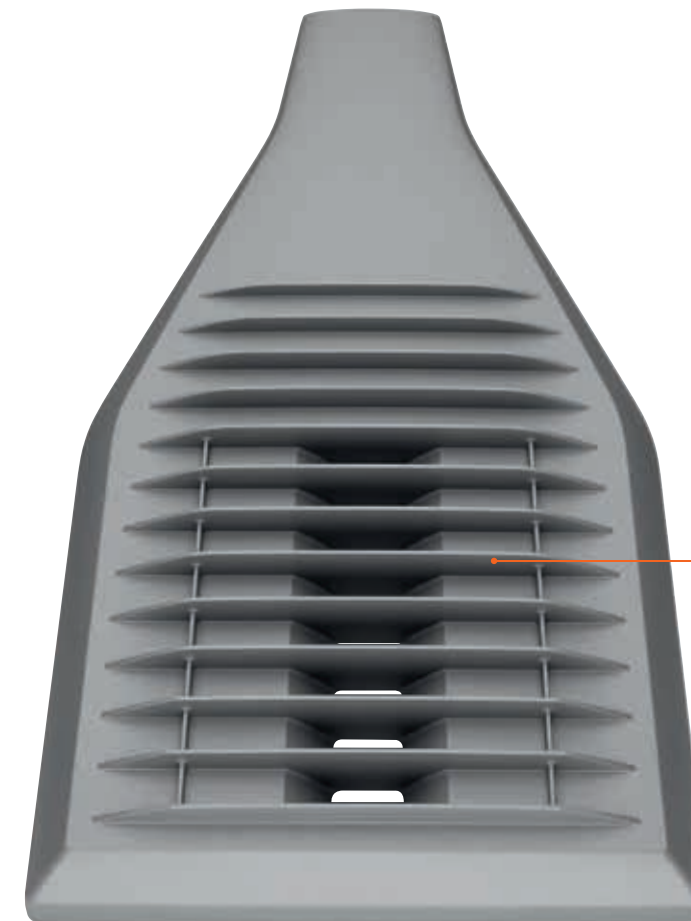
Principle of convection

The physical principle of convection is used to highly effectively dissipate the heat produced by LEDs. Convection describes a flow movement produced by differences in pressure: cool air flows from below to the luminaire housing. A part of the air flow travels past the housing on the sides, the other part through air apertures in the housing. The rising air dissipates the heat and pulls cool air through after it.



Air apertures

The cooling system of the Streetlight 10 midi LED features vertical air apertures that ensure constant dissipation of heat and prevent heat build-up. The individual modules are fixed in the housing and weather-protected.



Cooling ribs

The cooling ribs extend the housing surface and thus improve heat exchange. The rib distance is designed to prevent the catching of falling leaves. The diecast aluminium housing has a flat surface so that dirt particles are washed away with the rain.

More comfort and new ideas

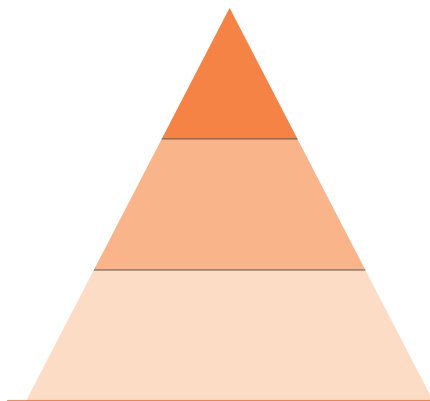
Intelligent control improves the quality of life

In cars, ABS, ESP and dynamic headlighting provide improved safety, and the intelligent control of heating, blinds, lighting and air-conditioning improves the living quality in new buildings. With the Streetlight 10 LED, intelligent control electronics ensure that precisely the right quantity of light is emitted to the specific target at the right time, in turn improving energy efficiency and the quality of life in public spaces.

Intelligent light management improves the level of comfort in public spaces and represents a positive location factor for competing municipalities – inner city areas that have a gastronomic flair are transformed into oases of well-being thanks to inviting light. Sightseeing attractions highlighted with light are harmoniously emphasised because wide-area and road lighting systems are matched accordingly. Residential areas also radiate a high quality of life, because residents are aware during the day and night that they are in surroundings worth living in.

Streetlight 10 LED luminaires completely exploit the potential of mature LED technology. Thanks to intelligent control, luminaires can be set individually or as groups for specific lighting tasks, and dimming values and durations can be specified, meaning operation is according to requirements and with optimised energy consumption.

Three functional packages are available:



Premium functional package

- Maximum flexibility and efficiency via integration into intelligent, networked light management and monitoring systems

Plus functional package

- Intelligent, self-sufficient light management system for lighting according to requirements based on individual programming
- Electronic type plate and automatic data exchange for smart performance updates

Basic functional package

- Night-time reduction at times of low traffic density to 50% rated luminous flux, at less than 50 % rated power, via one control wire

Functional package details

	Standard		Efficiency			Communication			
	Overheat protection	Power reduction	Flexible luminous flux configuration	Time-dependent luminous flux control	Constant luminous flux control	Digital communication interface	Street Light Control	Automatic data exchange	Electronic type plate
Premium	•	•	•	•	•	•	•	•	•
Plus	•	•	•	•	•	•	•	•	•
Basic	•	•							

Streetlight 10 LED for smart cities

Internet access via luminaires



WLAN in public spaces is no longer just a distant reality and primarily no longer a mammoth infrastructure project. This growing desire of politicians, companies and residents can now become reality – with the Street Light Control (SLC) light management system, a component of the Streetlight 10 LED Premium functional package.

The new generation of the SLC system wirelessly connects luminaires via radio in a network, based on the new, future-fit IP V6 network standard. Information is transmitted from light head to light head and communicated with a router via internet to the central control point. The system has sufficient flexibility to intelligently search for another path in a self-healing way if a unit fails.

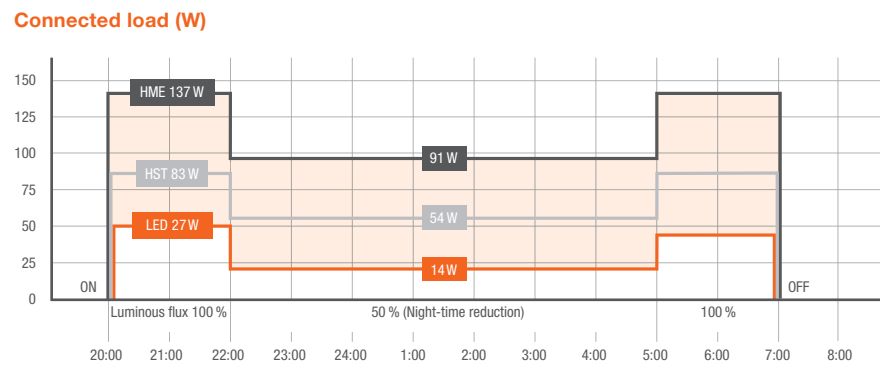
This radio network is available everywhere where luminaires are located, and has the capability to become the backbone for completely new smart city services – on the one hand for wide-area information network structures in towns and cities, and on the other for new sensor-supported services, used for example to register free parking lots or measure traffic density levels, navigating drivers to parking spots and guiding complete traffic flows through urban areas. Municipal services can also be connected up to the system, for example when sensors communicate the filling states of garbage containers. Appealing technical options also become available for advertisers with the supply of real-time information to displays.

LED – already today the most efficient technology

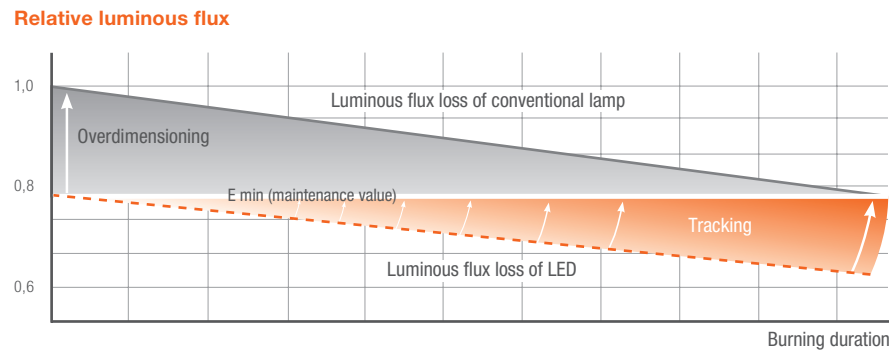
The mature and intelligent technology of the Streetlight 10 LED, in itself highly efficient, makes the most of savings potential. Its unbeatable advantage is the stepless and loss-free reduced mode. Conventional luminaires of course can also be reduced, although for 50 % luminous flux, 65 % of energy is required even with a modern HST luminaire. In comparison, Streetlight 10 LED achieves 50 % luminous flux with less than 50 % energy. All light sources lose luminous flux over the years. For this reason, when planning

with conventional lamps the luminous flux is set to exceed the standard-compliant requirement. The disadvantage: more energy is consumed at the start than is needed. Constant luminous flux control with the Streetlight 10 LED Plus is different: its luminous flux is set from the start to the individually required level and this is automatically maintained over the complete service life. Energy waste becomes a thing of the past.

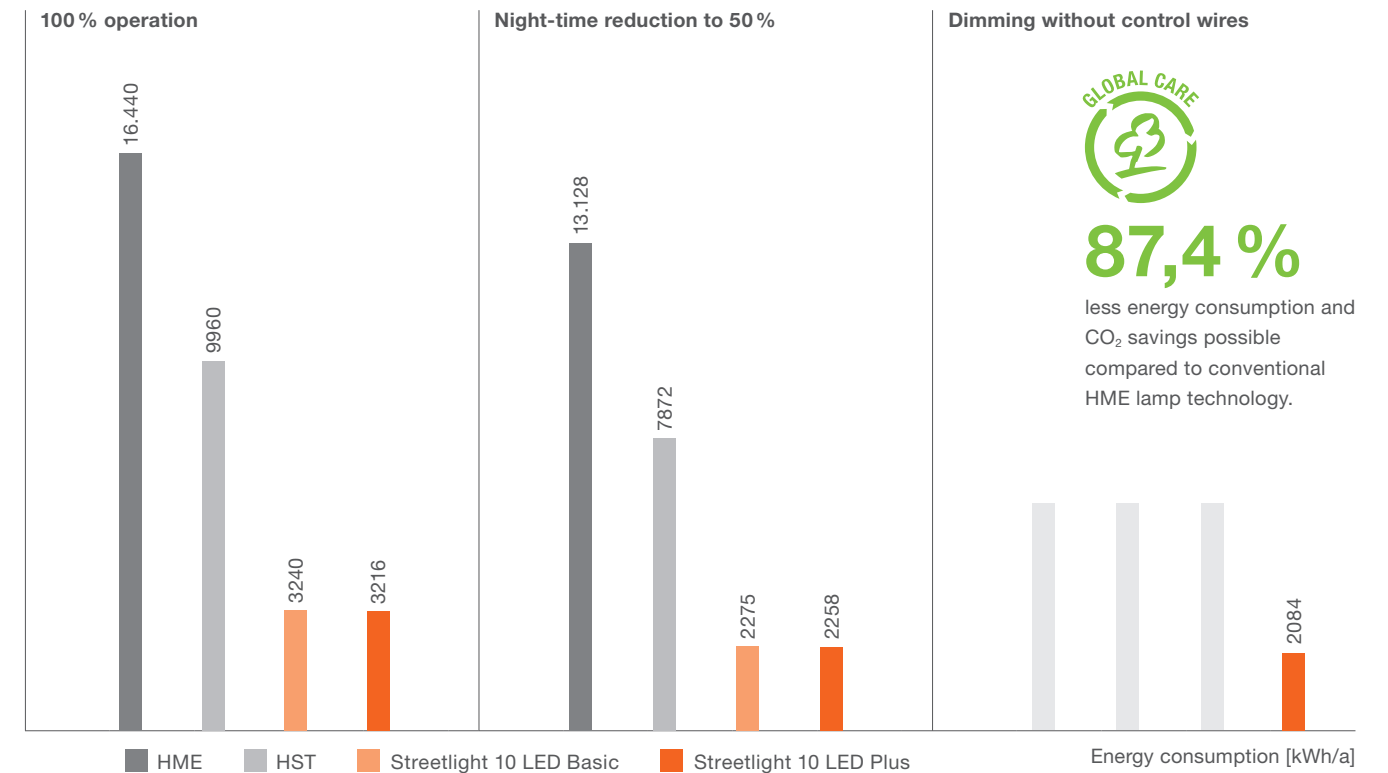
Step 2:
Saving energy via reduced operation: luminous flux reduction to 50 % with HME and HST lamps means significantly less energy savings than with Streetlight 10 LED Basic.



Step 3:
Constant luminous flux control compensates for the reduction of luminous flux resulting from ageing. Over-dimensioning is no longer necessary, achieving minimisation of the power consumption/road surface with constant lighting level. The effect: Up to further 15 % in savings compared to step 2 and maximisation of the service life.



Energy consumption



Save efficiency in three steps

100 % operation

1. Disadvantage for HME and HST: With luminous efficacy and optical efficiency these are inferior to LED technology. Streetlight 10 LED Basic advantage: Achieves best values due to optimal light control of the Siteco LED technology.

Streetlight 10 LED Basic advantage:
Best values due to optimal light control

Night-time reduction to 50 %

2. Disadvantage for HME and HST: Reduction to 50 % luminous flux saves only 40 % energy. Streetlight 10 LED Basic advantage: The less LEDs are fed with current the more efficiently they function. With a reduction to 50 % luminous flux more than 50 % of energy is saved.

Streetlight 10 LED Basic advantage:
Power reduction with efficiency bonus

Dimming without control wires

3. Disadvantage for HME and HST: They must be retrofitted with a control unit. Streetlight 10 LED Plus advantage: Luminous flux can be set according to requirements. The setting for maximum operating level and two reduction levels can be freely defined and programmed with the Siteco® Servicebox.

Streetlight 10 LED Plus advantage:
A "plus" with intelligent efficiency

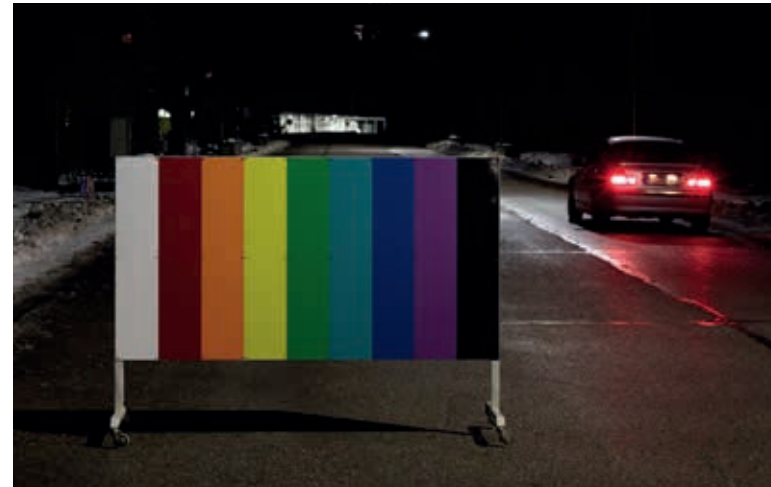
Streetlight 10 LED Plus advantage:
Additional savings potential of up to 15 % as a result of constant luminous flux control

Streetlight 10 LED Plus advantage:
Light as required due to intelligent control

Basis for calculation: 1 km road; light points: 30; lighting class: M6; mounting height: 6.5 m; mast spacing 36 m; 4,000 operating hours/year; with reduced operation: 1,600 h at 100 % operation, 2,400 h at 50 % operation; CO₂ factor: 0.6 kg CO₂/kWh. All luminaires fulfil the same photometric task. Connected load: HME: 125 W, power consumption 137 W (50 %: 91 W); HST: 70 W, power consumption 83 W (50 %: 54 W); Streetlight 10 LED Basic: power consumption 27 W (50 %: 13.6 W); Streetlight 10 LED Plus: power consumption 26.8 W (50 %: 13.5 W).

Safety, well-being, acceptance

Extensive comparative research by the Darmstadt Technical University in Germany proves the level of acceptance for qualitative LED road luminaires. In their survey, luminaires with HME (high pressure mercury vapour) lamps, HST (high pressure sodium vapour) lamps and LED technology were installed on a 500 metre-long residential street with identical mast distances. Test persons always positively evaluated the LED luminaires whether in terms of road brightness, recognition of pavement edges, impediments and people with warning vests, a personal feeling of safety, color rendition and light color. The responses were almost always significantly better than with comparative luminaires.



Streetlight 10 LED – pleasant neutral white light for realistic color rendering. $R_a > 70$ for 4,000 K and $R_a > 80$ for 3,000 K version



HST – road and surroundings have a yellow tinge. Color rendering is poor. $R_a \leq 25$

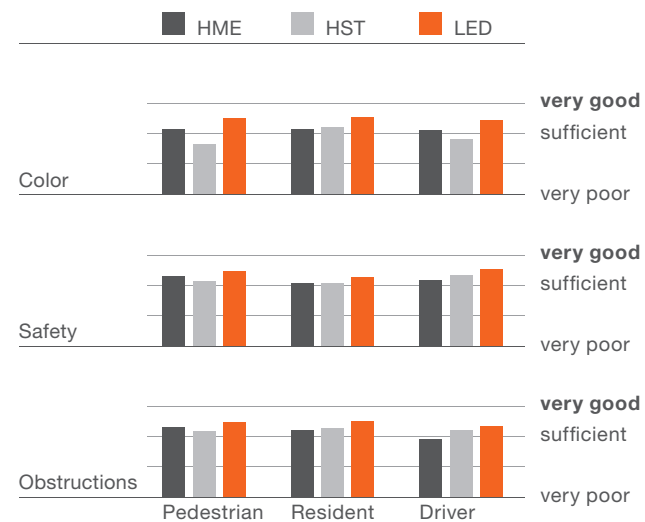


HME – road and environs have a blue-green tinge. Color rendering is limited. $R_a 45-60$

Research documents acceptance*

Positive responses to LED technology: all test groups judged the light quality of LED to be superior by far. The feeling of safety was also highest. Car drivers criticised that the perception of obstacles with HME lighting was insufficient.

Evaluation of the light quality

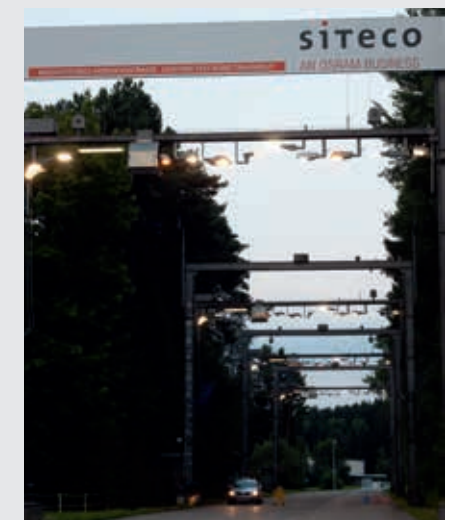


* Outdoor Lighting: comparison of road lighting with LEDs and conventional light sources. Analysis based on a scientifically-based test road. Dipl.-Ing. Christoph Schiller, Dipl.-Ing. Thomas Kuhn, Marvin Böll, Prof. Tran Quoc Khanh, Darmstadt. Published in: LICHT 10/2009

Luminaire test road

Scientific surveys are one thing, but personal experience counts for more. Those interested can experience a comparison between LED systems and conventional luminaires on the luminaire test road at the Siteco company premises in Traunreut, Germany. A wide variety of application scenarios can be simulated. Various mounting heights, mast spacing distances and luminaire technologies can be specified to achieve realistic situations. In addition, the effect of the Streetlight 10 LED on the in-house luminaire park can be experienced.

Interested? Then simply contact your personal sales representative.





Perfect for new systems and modernisation

Technically planned and designed to the last detail for maximum flexibility: Streetlight 10 LED can be used both as a post-top and side entry luminaire, and the inclination of the luminaire head can be adjusted according to needs. In this way Streetlight 10 LED is able to adapt to nearly any lighting situation. With three sizes of mast flange the innovative LED luminaire can also be fixed to all standard masts. A

major advantage with refurbishments is that existing masts can still be used. Costs are saved, and with new systems Streetlight 10 LED has a further major plus: its extremely high performance lighting technology enables wide mast distances and therefore less light points per mile are needed. Streetlight 10 LED constructed with high quality diecast aluminium also supplies quality for decades.



One luminaire for all standard masts and mountings
The inclination of Streetlight 10 LED can be adjusted without special tools. For 42, 60 and 76 mm mast spigots.

Maximum flexibility

Suitable for various road widths, mounting heights and positions: optimal luminaire alignment is achieved for all lighting needs with just a few twists of the wrist.



Maximum quality throughout



Easy handling of Streetlight 10 mini LED: simply flip the luminaire head upwards. The control gear compartment is exposed, with easy access to all components.



The dependable gear tray technology is equipped with all electrical and electronic components.



Everything easily accessible: The electronic ballast is very easy to connect and can be replaced in just a few steps when required.



Installation sequence
Streetlight 10 mini LED download
 On the internet at www.streetlight10.com/mini-mounting or simply read in the QR code with your SmartPhone.



Installation sequence
Streetlight 10 micro LED download
 On the internet at www.streetlight10.com/micro-mounting or simply read in the QR code with your SmartPhone.

Streetlight 10 LED is characterised by a quality that convinces when it comes to practical use. The luminaire head can be simply and quickly mounted and connected with a few turns of the hand, and special tools are not required. Relamping as required with conventional lamps every two or four years is no longer required due to the long service life of the LED modules. Additional maintenance work after connecting the module is not necessary. And the luminaire housing and encapsulated LED module comply with IP66



























protection. Streetlight 10 LED has an extremely weather-resistant Siteco metallic grey coating. An additional maintenance advantage of this high quality surface treatment is that the smooth surface reduces the collection of dirt particles. In addition, LED light hardly attracts insects that are often an additional soiling factor for luminaires. The optical enclosure of tough PMMA is flat and embedded into the luminaire housing, meaning that the surface available to the adverse effects of weather is minimised.

LED luminaires in permanent operation

Theoretical models are one thing, but proof in practice is something else. This is why Siteco continuously works on the optimisation and further development of LED technology according to the factors of fitness for everyday duty and practical reliability. As such, the first LED road luminaire from Siteco, the DL[®] 10 is currently undergoing a long-term test. It has been operating continuously for more than 65,000 h at the company headquarters in Traunreut, Germany. And it's running and running and running ...



The right luminaire for any application

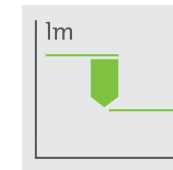
Type of luminaire	Lighting classes	Optics	Application	Light color			Light management performance package
				Warm white 3,000 K	Neutral white 4,000 K	Daylight white 5,000 K	
Streetlight 10 micro LED — For side streets and pedestrian paths — Mounting heights: 3 to 6 m — Mast spacing: up to 40 m — Light color: 3,000 K, 4,000 K, 5,000 K — Variants from 1,230 lumens to a power variant with 3,030 lumens	P4 P5 P6 	Optics (ST1.2a) for wide roads – wide distribution		LED module for standard-compliant road lighting with high uniformity		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
		Optics (P1.0a) for standard paths – extremely wide distribution		LED module for path lighting with large distances between light points		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
Streetlight 10 mini LED — For service roads, collecting roads and plazas — For outdoor and logistics areas in industry — Mounting heights: 4 to 8 m — Mast spacing: up to 40 m — Light color: 3,000 K, 4,000 K, 5,000 K — Variants from 2,850 lumens to a power variant with 7,670 lumens	P2 P3 P4 P5 P6 M4 M5 M6 	Optics (ST1.2a) for wide roads – wide distribution		LED module for standard-compliant road lighting with high uniformity		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
		Optics (P1.0a) for standard paths – extremely wide distribution		LED module for path lighting with large distances between light points		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
		Optics (ST1.2P1.0) for roads with rear paths		LED module for standard-compliant road lighting with high uniformity		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
		Optics (PC-L/PC-R) for pedestrian crossings		LED module for pedestrian crossings		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
Streetlight 10 midi LED — For main roads, collecting roads, roundabouts and plazas — For outdoor and logistics areas in industry — Mounting heights: 6 to 12 m — Mast spacing: up to 50 m — Light color: 3,000 K, 4,000 K, 5,000 K — Variants from 7,670 lumens to a power variant with 16,490 lumens	P1 P2 M1 M2 M3 M4 M5 M6 	Optics (ST1.2a) for wide roads – wide distribution		LED module for standard-compliant road lighting with high uniformity		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
		Optics (PC-L/PC-R) for pedestrian crossings		LED module for pedestrian crossings		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
		Optics (ST1.2P1.0) for roads with rear paths		LED module for standard-compliant road lighting with high uniformity		<input checked="" type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
Streetlight 10 LED mini catenary luminaire Streetlight 10 LED midi catenary luminaire — For main roads and collecting roads — Mounting heights: 4 to 8 m (mini), 6 to 12 m (midi) — Light color: 3,000 K, 4,000 K, 5,000 K — Versions from 7,670 lumens to power version with 17,040 lumens (midi), versions from 2,850 lumens to power version with 6,220 lumens (mini)	P2 P3 P4 P5 P6 M4 M5 M6  (mini)  (midi)	Optic (ST1.2s) for wide roads – wide distribution. Mounting in road center		LED module for standard-compliant road lighting with high uniformity		<input type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic	
			<input type="checkbox"/> Premium <input checked="" type="checkbox"/> Plus <input type="checkbox"/> Basic				

Light according to needs with intelligent control

Intelligent control functions are a part of all Siteco LED outdoor luminaires. With such intelligence integrated into the LED operating electronics, the efficiency potential of LEDs can be exploited even further. The control functions make use of the outstanding feature of LED light sources to reduce luminous flux without loss in order to increase energy and cost savings.

The control functions of Streetlight 10 LED are contained in three different functional packages: Basic, Plus and Premium. The values for luminous flux are either factory-set (Basic), can be individually set with the Siteco® Servicebox (Plus) or centrally set via Street Light Control (Premium). The Plus and Premium versions offer the widest spectrum of efficient control of LED luminaires according to requirements.

Basic functional package	Plus functional package	Premium functional package
Power reduction, overheat protection	Power reduction, overheat protection, constant luminous flux control, flexible luminous flux parameterisation, time-dependent luminous flux control, digital communication interface, automatic data exchange, electronic type plate	Power reduction, overheat protection, constant luminous flux control, flexible luminous flux parameterisation, time-dependent luminous flux control, automatic data exchange, electronic type plate, Street Light Control
Advantage: <ul style="list-style-type: none"> Wired power reduction to 50 % via control wire possible (twilight switching) 	Advantage: <ul style="list-style-type: none"> precise parameterisation of the luminaire to ambient conditions or application is possible additional functions for optimising light points can be set can be activated via the Siteco® Servicebox no additional control components required Module change without manual adjustment of luminous flux parameters (automatic data exchange) Electronic type plate for fast identification of components 	Advantage: <ul style="list-style-type: none"> central control and automatic monitoring of each light point is possible no additional cabling required less maintenance trips, lower costs improved safety via adaptation of lighting according to needs Feeling of safety increased due to adapting of lighting according to requirements



Power reduction

All Siteco LED luminaires are equipped with an intelligent connection for detection of power reduction via a switched control wire (230 V). Factory setting with power reduction via control wire:

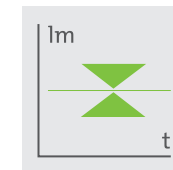
- $L_{st} = 230\text{ V} > 100\%$ luminous flux (full night)
- $L_{st} = 0\text{ V} > 50\%$ luminous flux (twilight)

The switching logic can be reversed with the Servicebox for luminaires in the Plus version. With no control wire the luminaire emits 100 % luminous flux (L_{st} connection remains free).



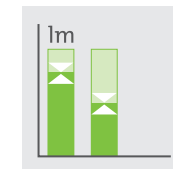
Overheat protection

The temperature of the LED module and operating electronics is permanently monitored. With excessive temperature the lighting level and consumption is automatically reduced and the luminaire can cool down. When a lower temperature threshold is attained the luminaire returns to the original lighting and consumption level. This function is purely a protective function to secure the long service life despite possible operating errors (e.g. unintended daytime switching with very high ambient temperatures or with direct sunlight). During operation within the predefined specifications, luminaire temperatures remain safe.



Constant luminous flux control

All light sources, including LEDs, are subject to luminous flux degradation with progression of the service life. This must be taken into account in the planning phase and the system must be correspondingly over-planned. This leads to excessive illuminance and energy waste. The Siteco constant luminous flux control counteracts this degradation, and continuously adds to the output of the LEDs. Luminous flux remains constant over the service life. The light source degradation factor is 1, the maintenance factor is increased. In this way, over-planning is no longer necessary. This means energy-optimised and standard-compliant lighting at all times.



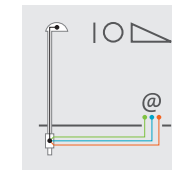
Flexible luminous flux parameterisation

By the binding to fixed wattages with conventional lamps (e.g. 70 W, 100 W, 150 W) only in rare cases is the calculated result of a lighting installation achieved. The next higher wattage must be specified, the system is overlit, energy is wasted. With flexible luminous flux setting the light level can be adapted individually and precisely to the calculated result. Both switch-on value (full night) and reduction values (twilight) can be adapted according to needs.



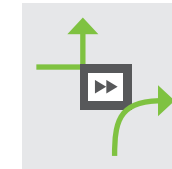
Time-dependent luminous flux control

Siteco LED Plus luminaires allow reducing the light and therefore energy consumption automatically and without external control components in the late evening hours. The luminaire calculates an artificial (virtual) midnight based on the nominal operating period of the previous five days. On the basis of this midnight value, time windows can be defined in which the luminaire is reduced in one or two steps to freely settable lighting levels. Because of the constant internal updating of the nocturnal operating hours the luminaire adapts automatically to the seasonally varied burning durations.



Digital communication interface

This function represents the interface between the luminaire and the external world. It enables all required parameters such as lighting level, reduction wire control and automatic night-time reduction to be modified according to needs via the Siteco® Servicebox. Connection to higher-level control systems is also via this interface (on request).



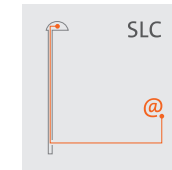
Automatic data exchange

This enables exchange of the module without manual readjustment of the luminous flux parameters: if a module (PLUS ECG or LED module) is replaced at any time within the system service period, the luminaire will automatically continue operation at the same lighting level and with the same operating settings (timer, light levels). The modules exchange performance and operating data independently of module type and module generation.



Electronic type plate

This enables the simple and rapid identification of the ECG module and LED module and possible replacement parts. It contains all information about the module and operating settings (serial number, module performance data, operating data/operating hours and operating settings such as dimming levels and timer settings). The electronic type plate can be read out with the Servicebox and can be used as the basis for generating operating statistics.



Street Light Control

Street Light Control provides the option of individually addressing the luminaires from a central point without additional cabling, controlling them according to requirements and monitoring them. Data transmission is via the existing power network via a standard LON protocol. By integrating additional sensors the system can also be expanded according to requirements. Consumption values are recorded and logged, and any luminaire faults are registered automatically via e-mail or SMS. Maintenance plans can be set as desired and maintenance trips optimised.

Maintenance factor with Siteco LED outdoor luminaires

The technological transformation caused by LED technology has also caused a change in consideration of the maintenance factor. Until now, luminaire manufacturers only had to bear in mind the luminaire maintenance factor (LMF).

Maintenance factor until now (conventional lamp):

MF	=	LLMF	×	LSF	×	LMF
maintenance factor		Lamp lumen output maintenance factor		Lamp service life factor		Luminaire maintenance factor
		Lamp manufacturer				Luminaire manufacturer

With the use of LED technology, a luminaire manufacturer must now take into account all three elements of the maintenance factor, as LEDs have become an integral part of the complete concept of a luminaire.

Maintenance factor with LED luminaires:

MF	=	LLMF	×	LSF	×	LMF
maintenance factor		Lamp lumen output maintenance factor		Lamp service life factor		Luminaire maintenance factor
		Luminaire manufacturer				

Because the functionality and capabilities of LEDs differ fundamentally from conventional light sources, there are now new features to be considered with the specific characteristics of this maintenance factor comparison. It must also be considered how different manufacturers handle the technical possibilities and potential of LEDs and take these into account.

About the specific factors:

1. LLMF (lamp lumen maintenance factor)

This considers the physically-dependent luminous flux decrease of a lamp over the lamp service life (degradation). LEDs are also subject to this ageing process. And here as well there is an age-dependent reduction in luminous flux. How this reduction in luminous flux is specified is dependent upon a wide variety of factors such as the quality of LEDs, their current feed and also thermal management. This is why with Siteco luminaires there is no fixed LLMF value but a value individually specified according to the LEDs used in the luminaire. This value is taken from the characteristic curve of the manufacturer. With the SL10, all LLMF values refer though to an operating life of 100,000 hours and a nominal ambient temperature of 25 °C. In Central Europe the average outdoor temperature during luminaire operating hours is +5 °C. This temperature, 20 K less than ambient temperature in laboratory conditions, leads in practice to improvements in efficiency and service life. For the 4,000 K versions of the Streetlight 10 micro, mini and midi LED Basic the lamp lumen maintenance factor is 0.95 (B10).

Improvement of LLMF via intelligent control (with Plus and Premium)

Because Siteco cleverly exploits the electronic control capabilities of LEDs for increasing efficiency, the ageing-dependent reduction in luminous flux of LEDs is compensated for with power tracking. This ensures constant luminous flux over the complete service life up to 100,000 hours. This function for constant luminous flux control is available with the Streetlight 10 LED Plus and Premium versions. The LLMF is thus 1 for the Streetlight 10 micro, mini, midi LED Plus and Premium.

2. LSF (lamp survival factor)

This considers premature failing of lamps. Because of the high demand for quality when selecting LEDs for Siteco outdoor luminaires, the probability of failure of an LED is very low. The failure rate is between 0 and 2 %. Lamp failures are usually resolved immediately with outdoor lighting, otherwise dangerous dark zones are created. In this case then, considering a reduction in luminous flux due to lamp failures is not required, and use of the values is limited to economic considerations. For planning purposes, LSF = 1 is set.

3. LMF (luminaire maintenance factor)

The LMF considers the following factors:

1. protection rating in the lamp compartment
2. cleaning interval
3. air impurities in the luminaire vicinity

The protection rating with Siteco outdoor luminaires is always IP5X or IP6X. The cleaning interval and air impurities are criteria that need to be specified individually according to situation and on-site conditions. The factor is specified for the protection rating in relation to the cleaning interval (1, 2, 3, 4 years) and soiling from the vicinity (low, middle, high). The values can be seen in the table expanded for the special features of Siteco LED luminaires.

Table for defining the LMF for Siteco LED luminaires

Cleaning interval (in years)	1			2			3			4		
	L	M	H	L	M	H	L	M	H	L	M	H
Air pollution												
Protection rating of lamp compartment												
IP 5X	0.99	0.96	0.96	0.97	0.92	0.91	0.95	0.88	0.82	0.94	0.85	0.75
IP 6X	1.00	0.98	0.98	0.98	0.95	0.95	0.97	0.93	0.90	0.96	0.92	0.86

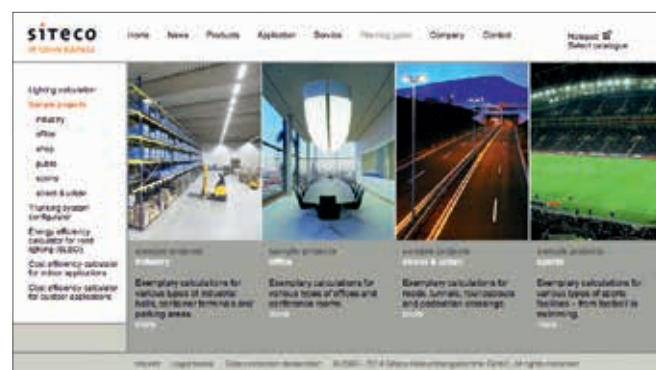
Air pollution: L = low; M = middle; H = high

MF = maintenance factor, LLMF = lamp lumen maintenance factor, LSF = lamp survival factor, LMF = luminaire maintenance factor

Lighting planning

Tools for calculating outdoor lighting systems

The modernisation of obsolete streetlighting systems pays off. Around 2.7 billion kWh of energy, 1.6 million tons of CO₂ and therefore 400 million euros are available for this in Germany alone. The quickest way to implement this is the refurbishment of old lighting installations with new, energy-efficient luminaires and lighting technologies. With Siteco's online calculation programme you can easily find out which energetic savings potential exists. Our website has tools such as the cost efficiency calculator for just such purposes:



Sample systems

These are differentiated in the various applications of office, industry, traffic, shopping, public and sports, and saved in the form of lighting calculations (Relux, Dialux and PDFs), based on specifically valid standards. The sample systems are components for planning support with application suggestions. With specific examples, the sample systems show the results achieved with which luminaires in this application sector. This makes initial conceptions easier and more time-saving for users and serves as the basis for an overview of power consumption and economy (W/m²).

Direct link to sample systems:
www.siteco.com/sample-projects

Main project data

Project number:

Project name: Floor:

Building developer: Agric.:

Road: Road:

ZIP: ZIP:

Location: Location:

Telephone: Telephone:

Fax: Fax:

E-Mail: E-Mail:

Main data for dynamic amortization calculation

Yearly rate of inflation (%): Yearly rate of price increases of electricity kWh:

Interest rate (%):

← back continue →

Cost Efficiency Calculator

The Siteco Cost Efficiency Calculator is a web application for evaluating the cost efficiency of two outdoor lighting installations. The installations (comparison installation and new installation) can be compared to each other over a variable service life in terms of investment costs and operating costs. For evaluating cost efficiency the amortisation of an investment over the service life is calculated both statically and dynamically and displayed in figures and tables.

The cost efficiency calculator makes available the following information and services:

- a clear comparison of the old and new system
- precise data for investment, operating and energy costs
- reliable amortisation calculations
- tabular and graphical display of results
- simple step-for-step user guidance
- creation and saving of individual projects
- documentation and download of results as PDF files

Direct to the cost efficiency calculator at
www.siteco.com/eco-calculator-outdoor

Optimally planned, suitably implemented.

Here you can find important aids for a perfect lighting design:

Siteco Lighting Tool
 Requirements: ReluxSuite 2015.1.1 and higher, DIALUX 4.7 and higher, NET Framework 4.5
 If you have any questions please contact lighting@siteco.com
 Version: 06/2014
 200.00 kWh year

ReluxSuite
 Requirements: 3D luminaire models
 Version: 06/2014
 200.00 kWh year
 ReluxSuite Intl. Siteco luminaire data with 3D luminaire models
 Version: 06/2014
 400.00 kWh year

Data plugins
 Lighting quality
 Version: 06/2014
 English: 6.50 kWh / h; German: 8.33 kWh / h

Luminaire data / luminaire models outdoor
 Formats DWG, DXF, IFC, IFCxml
 Version: 04/2013
 100.00 kWh year
 Luminaire library in IFC format for ARCHICAD
 A collection of approx. 100 3D luminaire models
 Version: 09/2008
 English: 201.00 kWh / h; German: 200.00 kWh / h

Luminaire data / luminaire models indoor
 Formats DWG, DXF, IFC, IFCxml
 Version: 04/2013
 200.00 kWh year
 Luminaire library in IFC format for ARCHICAD
 A collection of approx. 100 3D luminaire models
 Version: 09/2008
 English: 201.00 kWh / h; German: 200.00 kWh / h

Siteco Lighting Tool

The tool enables the selection of a product with just a few clicks and the forwarding of this to the Relux and Dialux lighting planning programs. The indoor and outdoor product ranges are available for this purpose. Products can be selected using the catalog structure (product segment, group or family) or via features (mounting method, lamp type, lamp quantity, control gear etc.). The tool also provides a full search feature for more detailed searches. Specific data can be forwarded to Dialux or Relux via drag and drop. The Siteco Lighting Tool is currently being expanded with an indoor and outdoor application search. The tool is aimed at users with lighting design experience and experience in handling specifically valid standards. The tool is intended to provide support when searching

for an optimum luminaire from the Siteco product range, and among other questions provides answers to the following (example of road lighting): Which luminaire complies with the specified lighting class, and with the widest mast distance? Which luminaire complies with the specified lighting class with the lowest energy consumption per meter? Which lighting class is complied with by a luminaire for a specific road configuration? The result can be printed out via "output" or saved as a PDF.

Direct link to the Siteco Lighting Tool:
www.siteco.com/lighting-calculation



Online catalogue pages. Genuine environmental protection. Always technically up-to-date.

Conveniently locate the catalogue pages for our Streetlight 10 LED range, always up-to-date as a PDF, for downloading at www.siteco.com/order-service – this lets us save paper and protect valuable resources.



Light is pioneering Siteco DL[®] 30 LED

Modern lighting for residential streets, plazas and paths. **Light is OSRAM**

Our Brands

siteco traxonecue

OSRAM

Time for new thinking

DL® 30 LED – designing the future with outstanding product design

Good design is not just about good looks, but applies to all components of a product, providing best possible utilisation and a qualitative appearance.

The DL® 30 LED in this sense meets all aspects of good design, combining a modern construction form with strong aesthetic appeal, mature LED technology with strong performance values and a purist, highly durable and extremely stable luminaire concept.

The DL® 30 LED represents a new level in decorative street lighting, transforming the possibilities provided by LED technology into a completely new post-top luminaire.

The range features three reflector geometries and two light colours for maximum design flexibility, and in just a single pioneering construction for the consistently uniform design of residential streets, plazas, shopping boulevards, green areas and parking spaces.



Pinpoint control. The light emission apertures of the otherwise structured cover are precisely matched to the position of the LED units.

Impressive – the DL® 30 LED

- High quality LED technology in a modern luminaire design
- Very high quality of light and good optical control, providing more quality of life in urban environments
- Three light distribution patterns and two light colours for diverse applications with only one luminaire design
- Highly efficient operation with major cost benefits due to good luminaire luminous efficacy (up to 101 lumens/watt)
- Extremely long service life of up to 100,000 operating hours (L90/B10) with typical use
- Vandalism protection due to robust construction and high quality of materials (IK08)
- Extremely simple mounting and low-maintenance luminaire concept



Strength for innovation, courage for modernity
The aesthetics of the DL° 30 LED.
Shown: symmetric light distribution, 3000 K

A contemporary design for today and tomorrow

A slender luminaire housing with outstanding technology. The DL® 30 LED: designed completely for LED technology.



No chance for vandalism

Durability and quality characterise the housing and optical enclosure of the DL® 30 LED, and PMMA with IK08 impact resistance gives it toughness. Vandalism has no chance. Only polycarbonate covers otherwise provide such protection, but these tend to cloud over after four to five years with significantly less light transmission capability. The PMMA of the DL® 30 LED remains clear, with optimum light transmission.

Innovative. The low construction height of the housing characterises the luminaire design, as do premium materials and a quality appearance.



Harmonious. Seen from typical observer positions, the structure of the optical enclosure emphasises the contemporary look.



All-round. The luminaire housing completely surrounds the optical enclosure to also provide a drip edge.

An openness for new design

New forms of technology are able to improve the quality of life, create needs, sharpen perception and influence tastes. This applies in particular to innovative LED road luminaires, as these are visible during the daytime and night and characterise towns and cities, meeting places and residential areas.

With qualitative photometric systems, road, park and urban area luminaires from OSRAM and Siteco set new standards in visual comfort. This new quality of vision is reflected in an increasing openness for new design.

More than just technical LED luminaires

The level of acceptance of LED road, town and park luminaires in residential streets and urban districts depends, in addition to quality of light, strongly on their design appearance. Today they no longer need to be lantern-shaped, and should not have the typical appearance of technical luminaires. As a consequence, aesthetically convincing overall solutions are needed that represent innovative design translations of LED technology. As typified by the DL® 30 LED.

Technology is an opportunity

The DL® 30 LED consistently exploits the options provided by LED technology, featuring an extremely low construction height as well as concise design lines for the luminaire housing and optical enclosure. The LED units are directly connected to the upper housing surface for optimum heat dissipation, and the housing is of robust diecast aluminium with a weather-resistant Siteco® grey metallic (DB 702S) powder coating.

Innovative light for well-being

High quality of light and visual guidance – the DL® 30 LED creates a pleasant ambience and facilitates orientation on the road.

High light quality improves the quality of life

Many LED road luminaires mainly emit high quantities of light onto roads, but the DL® 30 LED does more, converting the high luminance values of the LEDs into glare-free light with harmonious luminance transitions. The result is homogeneous illumination of the road.

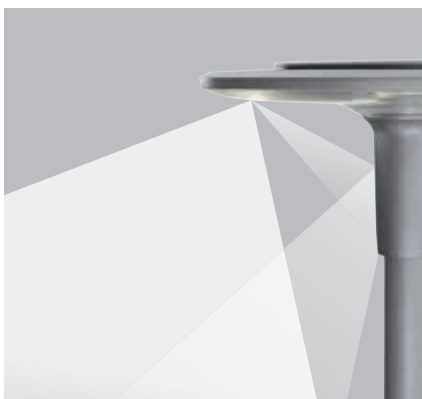
It's this high quality of light that characterises good outdoor LED luminaires, and this in turn improves the quality of life in residential areas and inner cities. High light quality improves the quality of stay and increases a sense of safety.

Light colours emphasise atmosphere

A selection between two light colours can be made according to the application and desired effect. Warm white (3000 K) is often used for gardens, parks and heritage areas, and neutral white (4000 K) on roads and paths.

Visual guidance improves orientation

The optical guidance of the DL® 30 LED is a special feature: precisely defined quantities of stray light are emitted onto the mast mounting element and reflected by its surface. This effect is so discreet that residents are not disturbed and are not exposed to glare, but it also has a marking function to serve orientation and improve perception of the road section.



Discreet. Reflectors guide light to the ground. Slight stray light is cast onto the mast mounting element for reflection.



Precise. Reflectors are aligned to avoid direct emittance of light onto the mast.



More quality of life in towns

With the high light quality of the DL® 30 LED.

Shown: asymmetric wide light distribution, 4000 K

Flexibility for a diversity of applications

Three light distribution patterns and various lumen packages – the DL® 30 LED enables standard-compliant lighting solutions for applications ranging from residential streets to urban plazas.



Quality in detail. Structuring between the reflector wings provides additional glare reduction.



DL® 30 LED – three light distributions and various lumen packages

The DL® 30 LED is characterised by a uniform language of design and high application flexibility. The luminaire with its three light distribution patterns has been designed for typical urban applications.

Various lumen packages enable use in diverse lighting classes. Luminaires have two or four light emission apertures according to lumen output.



1280 lm - 1810 lm

- asymmetric wide distribution (ST1.2a)
- asymmetric extremely wide distribution (P1.0a)



2170 lm - 5500 lm

- asymmetric wide distribution (ST1.2a)
- asymmetric extremely wide distribution (P1.0a)



2740 lm - 5360 lm

- symmetric wide distribution (PL1.2s)

Glare reduction increases traffic safety

LED road luminaires with strong glare are a nuisance for traffic participants, pedestrians and residents, and diodes that can be directly viewed disturb vehicle drivers because they create glare and reduce response capacity.

Such hazards are solved by the DL® 30 LED with Siteco's reliable 3-zone faceted reflector technology. These reflectors manufactured with extreme precision disperse the high luminance of the LEDs and convert it into soft, distributed light, for less glare and a harmonious appearance.

Light distributions facilitate planning

Precisely dimensioned lumen packages and matched reflectors provide new options for lighting design. The DL® 30 LED features light distribution patterns designed for typical urban lighting applications.

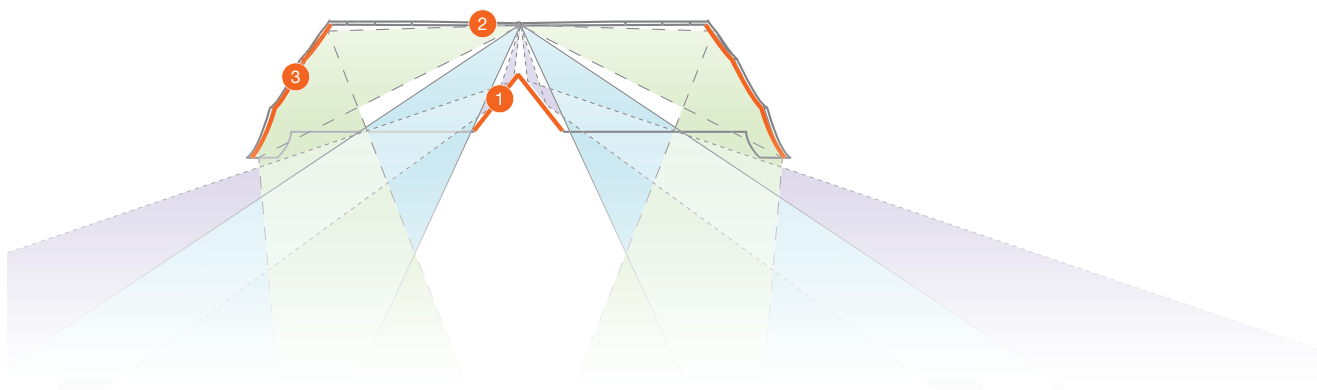
See pages 20/21 for detailed information.

Precise light control protects flora and fauna

The appeal and acceptance of a municipality are based today on a variety of aspects, and the harmonious cohabitation between people and their environment is becoming ever more important. Thanks to the outstanding reflector technology of the DL® 30 LED, light is emitted only to the ground and not into the hemisphere. Birds are not pestered and nocturnal insects are attracted less, and unlit green areas remain unaffected as refuge areas for small animals.



3-zone faceted reflector light distribution



1 Far field

The central faceted reflector guides most of the emitted light specifically into the far field.

2 Central field

Light is emitted without deflection and highly efficiently directly from the luminaire. LEDs cannot be seen from typical observer positions. Direct glare is impossible.

3 Near field

The lateral faceted reflector guides the light to the area directly below the luminaire. Light distribution ensures best possible glare restriction.

A cost-saving system over many years

With efficient LED units and highly durable components, the DL® 30 LED cuts energy consumption and provides major cost benefits in the long term.

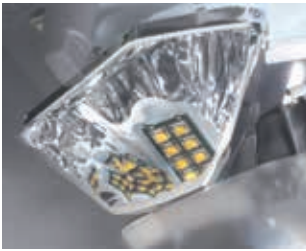
Permanently low consumption values

Quality certainly pays – high-performance LED units feature low power consumption and very good luminaire luminous efficacy of up to 101 lumens/watt.

According to the technology of the obsolete system, new systems are amortised in less than five years and provide major cost advantages over many years.

Added value thanks to a problem-free continuous operation

In addition to pure consumption values, problem-free operation is also relevant for the total efficiency of a lighting system. Compared to qualitatively poor luminaires with low efficiency values and high failure rates, the DL® 30 LED achieves double added value: luminaires contain only high quality components, extensively tested thanks to OSRAM and Siteco's many years of lighting experience. The result is a service life of up to 100,000 operating hours (L90/B10) for problem-free use over 20 to 25 years with typical utilisation.



High light output. The DL® 30 LED is equipped with high-performance and simultaneously low-consumption LED units. Thanks to 3-zone faceted reflectors, light is emitted onto the working plane almost without loss.

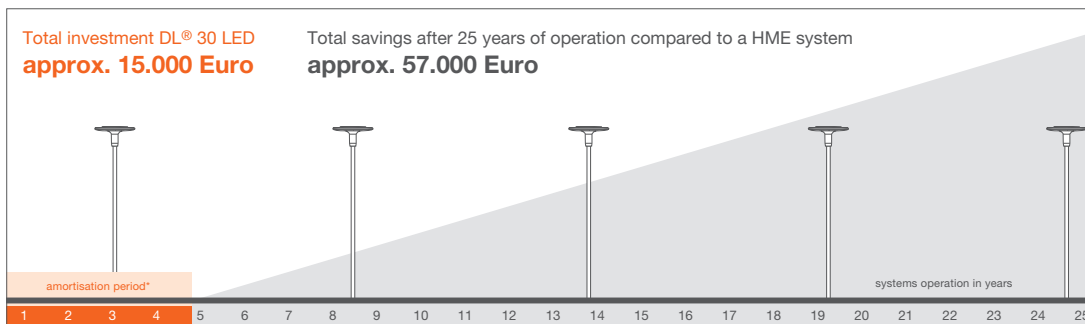


Reliable. The LED unit of the DL® 30 LED is connected directly to the upper side of the housing for optimum heat dissipation. This improves system durability and further improves efficiency.

Proven savings*

A total consideration of investment, operating and maintenance costs over the complete service life of the luminaire demonstrates that investment costs for the DL® 30 LED are amortised in less than five years compared to obsolete HME luminaires.

Rapid amortisation



*Basis for calculation: 1 km of carriageway, 28 light points, 4000 operating hours/year, 0.20 euros per kW/h; static cost comparison: old system: HME 125 W (139W), 4,000 hrs. with 100%; new system: DL® 30 LED Plus, 1600 hrs. with 100% = 30 W; 1400 hrs. reduced mode with 50% = 15 W; 1000 hrs. reduced mode with 25% = 8 W; amortisation of investment costs after approx. 4.9 years



Active for climate protection

Thanks to LED technology in the DL® 30 LED.

Shown: asymmetric extremely wide distribution, 3000 K

LED is clearly more efficient than HST/HSE**

The DL® 30 LED also represents the better alternative compared to lower-cost HST/HSE luminaires with purchase price. Customers benefit from significantly reduced long-term energy consumption and lower operating costs (no more relamping), even if HST/HSE luminaires are operated in reduced mode. A further plus with LED solutions: control options (that in the future will become ever more important) are already completely integrated in accordance with customer specifications.

Comparison of energy consumption

HST/HSE		100 %
DL®30 LED	30 %	Savings 70 %

**Comparison of energy consumption: DL® 30 LED Plus (adjacent) with HSE 70W (83W); 1600hrs. with 100% = 83W; 2400hrs. reduced mode with 50% = 49W

More comfort and new ideas

Intelligent control improves the quality of life

In cars, ABS, ESP and dynamic headlight lighting provide improved safety, and the intelligent control of heating, blinds, lighting and air-conditioning improves the living quality in new buildings.

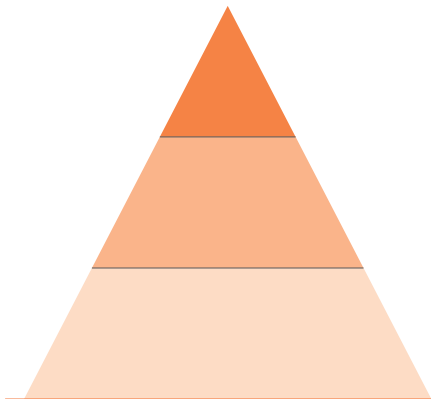
With the DL® 30 LED, intelligent control electronics ensure that precisely the right quantity of light is emitted to the specific target at the right time, which in turn improves energy efficiency and the quality of life in public spaces.

DL® 30 LED luminaires completely exploit the potential of mature LED technology. Thanks to intelligent control, luminaires can be set individually or as groups for specific lighting tasks, and dimming values and periods can be

specified, meaning operation is according to requirements and with optimised energy consumption.

Intelligent light management improves the level of comfort in public spaces and represents a positive location factor for competing municipalities – inner city areas with a gastronomic flair are transformed into oases of well-being thanks to inviting light. Sightseeing attractions highlighted with light are harmoniously emphasised because wide-area and road lighting systems are matched accordingly. Residential areas also radiate a high quality of life, as residents are aware during daytime and night that they are in surroundings worth living in.

Three functional packages are available:



Premium functional package

- Maximum flexibility and efficiency via integration into intelligent, networked light management and monitoring systems

Plus functional package

- Intelligent, self-sufficient light management system for lighting according to requirements based on individual programming
- Electronic type plate and automatic data exchange for smart performance updates

Basic functional package

- Night-time reduction at times of low traffic density to 50% rated luminous flux, at less than 50% rated power, via one control wire

Details of functional packages

	Standard		Efficiency			Communication			
	Overheat protection	Power reduction	Flexible luminous flux configuration	Time-dependent luminous flux control	Constant luminous flux control	Digital communication interface	Street Light Control	Automatic data exchange	Electronic type plate
Premium	•	•	•	•	•		•	•	•
Plus	•	•	•	•	•	•		•	•
Basic	•	•							

Smart solutions for smart cities

Internet access via a luminaire – die DL® 30 LED supports WLAN expansion in towns and cities.

WLAN in public spaces is no longer just a distant reality and also no longer a mammoth infrastructure project. This growing desire of politicians, companies and residents can become reality – with the Street Light Control (SLC) light management system, a component of the DL® 30 LED Premium functional package.

The new generation of the SLC system wirelessly connects luminaires via radio into a network based on the new, future-fit IP V6 network standard. Information is transmitted from light head to light head and forwarded with a router via internet to the central control point. An important factor is that the system has sufficient flexibility to intelligently search for another path (self-healing) if a unit fails.

This wireless network is available everywhere where luminaires are located, and has the capability to become the backbone for completely new smart city services – on the one hand for wide-area information network structures in towns and cities, and on the other for new sensor-supported services, used for example to register free parking lots or measure traffic density levels, navigating drivers to parking spots and guiding traffic flows through urban areas.

Municipal services can also be connected up to the system, for example when sensors communicate the filling states of garbage containers. Interesting technical options also become available for advertisers with the supply of real-time information to displays.



Robust technology for practioners

The DL® 30 LED features a mature luminaire concept for rapid luminaire installation and continuous, low-maintenance operation.

Highly simple mounting

No unpleasant surprises – installing the DL® 30 LED is quick, simple and almost without tools. Electrical connection is via plug connections and the mast mounting element is fixed to the mast with two screws.

Tool-free ECG replacement on the mast

A further advantage is Siteco's reliable gear tray technology, enabling problem-free electronic control gear (ECG) replacements without tools – for use of a new control system for example.



Child's play. The luminaire cover is removed with a simple rotary motion, and positioning aids indicate the correct rotation angle.

Reliably low-maintenance

Technology to be trusted. The DL® 30 LED has almost no maintenance, with no regular relamping or other technical reworking.

An extremely long system service life: electrical components are designed for a service life of up to 100,000 operating hours (L90/B10), corresponding to 20 to 25 years with typical use.

Extremely high tightness: the complete luminaire system features very high tightness (IP66). All-round sealing on the housing securely seals the inside of the luminaire from its exterior. An air-permeable membrane provides pressure equalisation and prevents condensation in the housing.

High stability: the housing of diecast aluminium and the PMMA optical enclosure ensure high durability and high toughness (IK08).

No soiling: due to its construction, the optical enclosure is subject to hardly any soiling. Any deposits on the cover or housing are washed away by rain thanks to the Siteco® grey metallic (DB 702S) weather-resistant powder coating.



Product video. The DL® 30 video. Scan in the QR code or go to www.siteco.com/dl30-video

Five steps for connection



1 Fix the connection cable

The connection cable is fed through the mast mounting element and fixed with the strain relief in the connection compartment.



2 ECG/LED connection

The connection cable of the LED unit with plug connection is inserted into the socket of the control unit.



3 Fitting the gear tray

The gear tray is placed into the suitably dimensioned mounting space.



4 Power cable connection

The wires of the power cable held with cable strain relief are inserted into the connection terminal.



5 Aligning the gear tray

A positioning aid (arrows on the upper luminaire side and gear tray) help with adjusting the gear tray in the housing.



ESD-protected construction

The construction of the DL® 30 LED prevents electrostatic discharge (ESD) that could damage the LEDs and control unit. ECGs can be replaced on-site by installers, and no ESD workstation is needed as would otherwise be mandatory. LEDs with their semiconductor technology are highly sensitive to electrostatic discharge, as shown by the following: people are able to sense discharge from 3000 V, but LEDs can be damaged from 10 V. This damage, initially not visible, can impair the performance of the system and shorten its service life.

The right luminaire for your needs

The DL® 30 LED range at a glance

Post-top luminaire for 76 mm mast spigot; 60mm with reducer
 Mounting height: 3.5 m ... 6 m

Light distribution

ST1.2a

Asymmetric wide distribution
 Luminous flux: 1310lm ... 5500lm

P1.0a

Asymmetric extremely wide distribution
 Luminous flux: 1280lm ... 3010lm

PL1.2s

Symmetric wide distribution
 Luminous flux: 2740lm ... 5360lm

Application

Ancillary roads, residential areas,
 residential streets

Narrow roads, pedestrian/cycle paths,
 parks

Urban areas, plazas, pedestrian
 zones, shopping streets

Lighting classes



S1, S2, S3
 ME5, ME6



S3, S4, S5, S6



S3, S4, S5, S6

Mast spacing

to 36m

to 38m

to 32m

Light colours

Warm white 3000 K

Neutral white 4000K

Control package, light management

Premium

Plus

Basic

Experiencing lighting solutions live

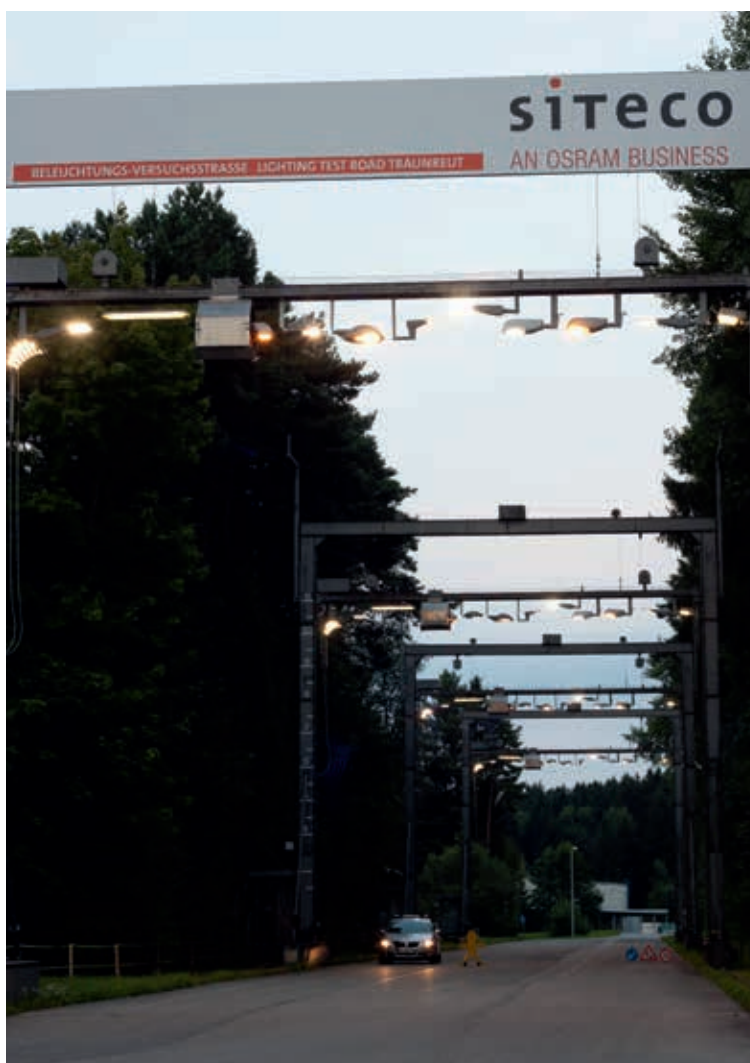
Directly compare various systems on the unique luminaire test road at the Siteco headquarters in Traunreut.

Simulating applications

Luminaire technical data is one thing, but personal experience is another. A wide variety of application situations can be simulated on the lighting test road, and various mounting heights, mast spacing distances and luminaires can be specified to achieve realistic situations. Both new and now obsolete but still popular luminaires can be switched alternatively.

Experiencing quality with the senses

The inherent quality of lighting solutions can be experienced via the following parameters: light distribution characteristics, colour rendering, glare reduction and distance vision. Various scenarios reveal the effects on traffic safety.



Specialist visitors from all over the world

Each year, several thousand visitors from around the globe take advantage of these practical demonstrations – representatives of local authorities and management as well as managers from energy companies, testing associations, the police force and the judiciary.

Interested? Then simply contact your personal sales representative.

New light distribution characteristics simplify planning

Application areas and ranges

The combination of high-performance LED modules and precise reflector technology provides completely new options for precise light control. It's here that Siteco benefits from decades of expertise with faceted reflectors.

The DL® 30 LED uses an innovative optical system with typical light distribution characteristics, and immediately understandable designations simplify work for planners. The new names contain the typical application area for a luminaire, and depth illumination and light characteristic can also be directly read out.

Light distribution with road lighting

1st position

Typical application

- ST = street
- P = path
- PL = plaza

2nd position

Depth illumination

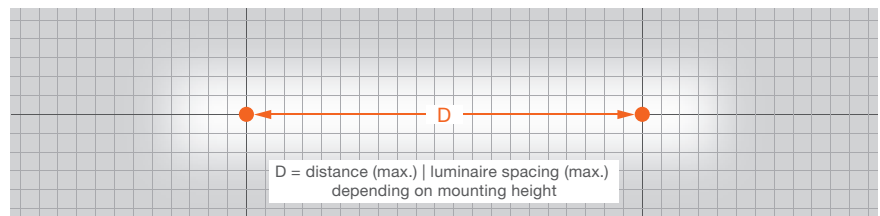
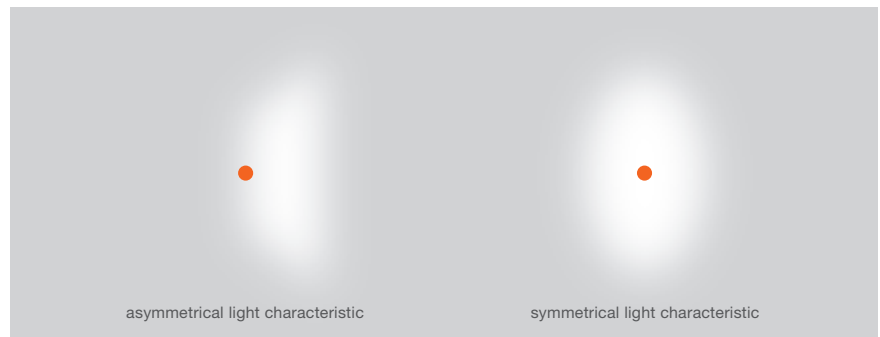
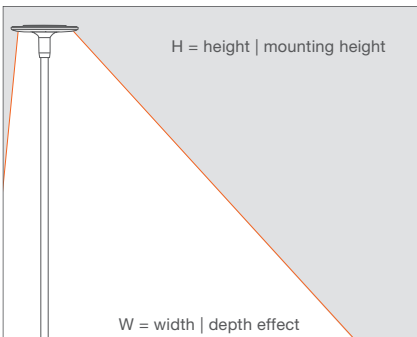
with coefficient to mounting height

- 1.0
- 1.2

3rd position

Light characteristic

- a = asymmetric
- s = symmetric



Example calculations

Example 1

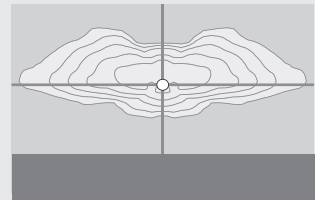
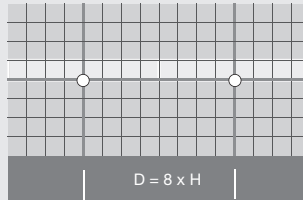
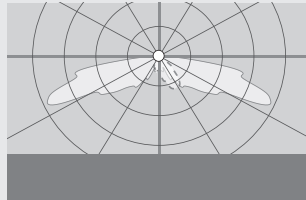
Mast luminaire DL® 30 LED
Light distribution P1.0a

$W = 1.0 \times H$
 $H = 4 \text{ m}$

$4 \text{ m} \times 1.0 = 4 \text{ m}$ depth illumination
asymmetric extremely wide distribution

$D = 8 \times H$; $8 \times 4 \text{ m} = 32 \text{ m}$
=> luminaire spacing up to 32m

P1.0a light distribution for paths, asymmetric, extremely wide distribution



Example 2

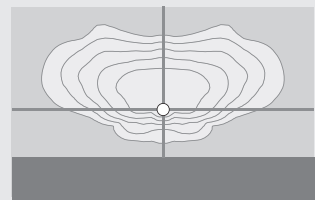
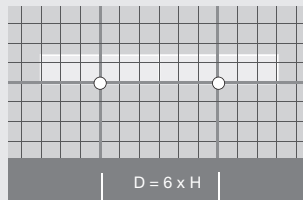
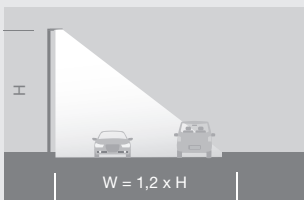
Mast luminaire DL® 30 LED
Light distribution ST1.2a

$W = 1.2 \times H$
 $H = 6 \text{ m}$

$6 \text{ m} \times 1.2 = 7.2 \text{ m}$ depth illumination
asymmetric wide distribution

$D = 6 \times H$; $6 \times 6 \text{ m} = 36 \text{ m}$
=> luminaire spacing up to 36m

ST1.2a light distribution for wide roads, asymmetric, wide distribution



Example 3

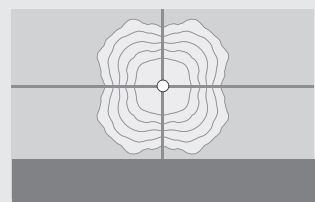
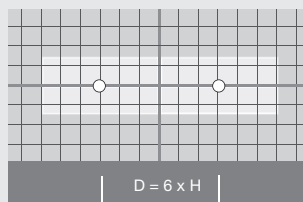
Mast luminaire DL® 30 LED
Light distribution PL1.2s

$W = (1.2 \times H) \times 2$
 $H = 5 \text{ m}$

$5 \text{ m} \times 1.2 = 6 \text{ m}$ depth illumination in 2 directions
Mounting in plaza centre; symmetric wide distribution

$D = 5 \times H$; $5 \times 6 \text{ m} = 30 \text{ m}$
=> luminaire spacing up to 30m

PL1.2s light distribution for wide places, symmetric, wide distribution



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