

VOLTANA

ILUMINAT CU LEDURI,
POTRIVIT ORICUI



EFICIENTIZAREA COSTURILOR

PERFORMANȚĂ RIDICATĂ

BENEFICII REMARCABILE

NU NECESITĂ ÎNTREȚINERE

Schröder



VOLTANA



CEA MAI NOUĂ, RENTABILĂ ȘI PERFORMANTĂ GAMĂ DE APARATE DE ILUMINAT, CARE ÎȘI ACOPERĂ INVESTIȚIA ÎN TIMP

POSSIBILITATEA DE A RECUPERA INVESTIȚIA RAPID, PENTRU ILUMINAREA ORICĂRUI TIP DE PEISAJ URBAN SAU RURAL, A STAT LA BAZA DEZVOLTĂRII GAMEI VOLTANA. DEVIZA NOASTRĂ ESTE: „ILUMINATUL CU LED ESTE PENTRU ORICINE”.

CALITATE FĂRĂ COMPROMISURI

Bazate pe modulul LED LensoFlex®2, aparatele de iluminat Voltana furnizează soluții de iluminat durabile, care scad semnificativ consumul de energie și îmbunătățesc nivelul de iluminat.

INVESTIȚII MINIME

Disponibil în 5 dimensiuni, cu flux luminos cuprins între 900 de lumeni și 23.900 lumeni, având numeroase distribuții luminoase de înaltă eficiență și diverse opțiuni pentru control, gama Voltana întâmpină toate nevoile de iluminat urban și rutier, cu investiții minime.

RECUPERARE RAPIDĂ, ECONOMII DE DURATĂ

Cu o durată de viață de 100.000 de ore, Voltana permite evitarea a 4, până la 6 schimbări ale lămpilor, comparativ cu sursele de iluminat convenționale. În perioada în care, pentru aparatele cu lămpi, ar fi necesară înlocuirea aparatului de iluminat, Voltana câștigă deja bătălia pentru scăderea costurilor totale, față de soluțiile HID. În primul rând, Voltana recuperează investiția, apoi continuă să ofere beneficii substanțiale, pentru o lungă perioadă de timp.



VOLTANA 0

VOLTANA 1

VOLTANA 2

VOLTANA 3

VOLTANA 4

VOLTANA 5

ZONE PIETONALE

Străzi, alei și piste
\de biciclete



20/50W

STRADAL

Străzi rezidențiale

Spații comune, zone
comerciale din mediul
urban



70W



100W

CĂI DE CIRCULAȚIE

Căi de circulație
din mediul rural

Căi de circulație
din mediul urban



150W



250W

substituit HID



VOLTANA 0



VOLTANA 1



VOLTANA 2



VOLTANA 3



VOLTANA 4



VOLTANA 5

ALTE MEDII ÎN CARE **VOLTANA** OFERĂ BENEFICII-CHEIE PENTRU CLIENT



FACILITĂȚI DE TRANSPORT



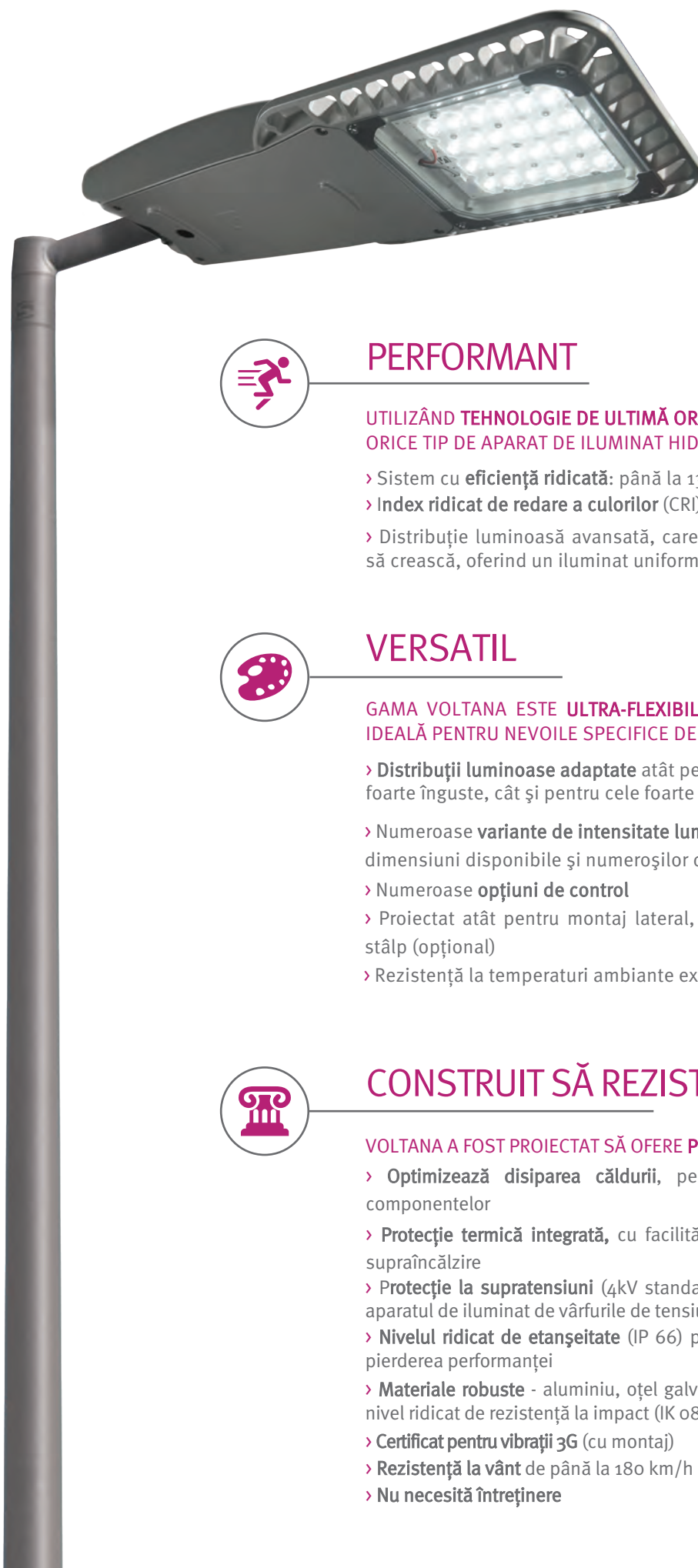
ZONE INDUSTRIALE



ZONE COMERCIALE



FACILITĂȚI SPORTIVE



PERFORMANT

UTILIZÂND **TEHNOLOGIE DE ULTIMĂ ORĂ**, VOLTANA SURCLASEAZĂ ORICE TIP DE APARAT DE ILUMINAT HID:

- › Sistem cu **eficiență ridicată**: până la 130 lm/ W
- › **Index ridicat de redare a culorilor (CRI) > 70**
- › Distribuție luminoasă avansată, care permite ca spațiul dintre stâlpi să crească, oferind un iluminat uniform



VERSATIL

GAMA VOLTANA ESTE **ULTRA-FLEXIBILĂ**, ASTFEL CĂ OFERĂ SOLUȚIA IDEALĂ PENTRU NEVOILE SPECIFICE DE ILUMINAT:

- › **Distribuții luminoase adaptate** atât pentru zonele și căile de circulație foarte înguste, cât și pentru cele foarte largi
- › Numeroase **variante de intensitate luminoasă**, mulțumită celor 6 dimensiuni disponibile și numeroșilor curenți conductori
- › Numeroase **opțiuni de control**
- › Proiectat atât pentru montaj lateral, cât și pentru fixarea în vârf de stâlp (opțional)
- › Rezistență la temperaturi ambiante extreme, de până la 55°C



CONSTRUIT SĂ REZISTE

VOLTANA A FOST PROIECTAT SĂ OFERE **PERFORMANȚĂ PE TERMEN LUNG**

- › **Optimizează disiparea căldurii**, pentru a crește durata de viață a componentelor
- › **Protecție termică integrată**, cu facilități de reducere a fluxului, în caz de supraîncălzire
- › **Protecție la supratensiuni** (4kV standard, 10 kV opțional) pentru a proteja aparatul de iluminat de vârfurile de tensiune
- › **Nivelul ridicat de etanșeitate** (IP 66) previne distrugerea componentelor & pierderea performanței
- › **Materiale robuste** - aluminiu, oțel galvanizat și sticlă securizată, pentru un nivel ridicat de rezistență la impact (IK 08)
- › **Certificat pentru vibrații 3G** (cu montaj)
- › **Rezistență la vânt** de până la 180 km/h
- › **Nu necesită întreținere**



CONFORM

GAMA VOLTANA A FOST **CERTIFICATĂ** DE CELE MAI PRETENȚIOASE ORGANISME EUROPENE ȘI AMERICANE:

- > ENEC
- > ETL / UL
- > date despre iluminatul cu LEDuri



DEZVOLTARE DURABILĂ

DE LA ÎNCEPUT, APARATUL VOLTANA A FOST DEZVOLTAT PENTRU A **PROTEJA MEDIUL**

- > **Materiale reciclabile** (aluminiu, oțel și sticlă)
- > **Profil destinat protejării mediului** (PEP) pentru scăderea ampretei ecologice
- > **Emisii de CO₂ reduse** (economie și întreținere)
- > Fără poluare luminoasă (**ULOR 0%**), mulțumită distribuției luminoase precise



SOCIAL

VOLTANA ADUCE NUMEROASE **BENEFICII COLECTIVE**

- > Vizibilitate îmbunătățită, cu lumină albă, care oferă **contrast ridicat**
- > **Siguranță ridicată**, pentru pietoni și pentru conducătorii auto
- > Opțional, iluminat la cerere, pentru a oferi lumină atunci când și acolo unde este cu adevărat necesară
- > **Mai puține interferențe în trafic**, datorită faptului că nu este necesară întreținerea și datorită posibilității de monitorizare
- > Contribuie la **administrarea eficientă a finanțelor** și la consumul responsabil de energie



PRECIS

CU 6 DIMENSIUNI DISPONIBILE, VOLTANA RĂSPUNDE EXACT **NEVOILOR SPECIFICE**

- > **Investiție optimizată**, cu minimum de resurse
- > **Adaptare precisă** la nevoile reale
- > **Design uniform** pentru întregul proiect
- > **Ușor de utilizat** pentru instalator (opțional, poate fi furnizat pre-cablat)



INTELIGENT

CU NUMEROASE **OPȚIUNI DE CONTROL**, VOLTANA OFERĂ OPORTUNITĂȚI PENTRU CREAREA DE SCENARII DE ILUMINAT NELIMITATE ȘI PENTRU **ÎMBUNĂTĂȚIREA MANAGEMENTULUI OPERAȚIONAL**

- > Disponibil cu profil **DALI 1-10 V** sau **profil de reducere personalizat**
- > **Flux Luminos Constant (CLO)**, pentru compensarea automată a deprecierei fluxului
- > Poate funcționa într-o **rețea independentă** limitată sau în **rețeaua unui oraș**, prin comunicație fără fir. Scenariile pot fi îmbunătățite prin **senzori externi**.*
- > Disponibil cu **fotocelulă** sau **priză NEMA P7**, pentru a opera în noua platformă Owlet IoT

* indisponibil pentru Voltana 0

CARACTERISTICI - CHEIE

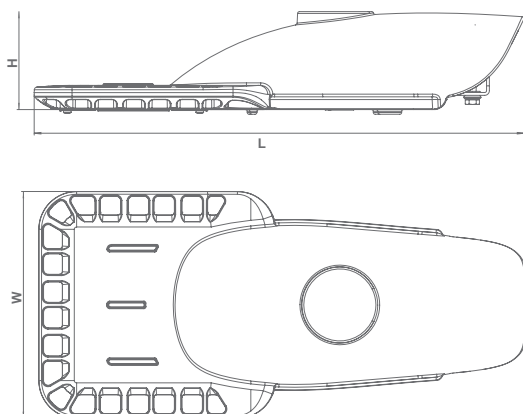
	Voltana 0	Voltana 1	Voltana 2	Voltana 3	Voltana 4	Voltana 5
Flux luminos standard (gamă) ^(*)	700 - 2,500lm	800 - 3,000lm	1,800 - 6,100lm	2,700 - 9,200lm	3,700 - 12,700lm	7,500 - 25,200lm
Consum de energie (W) ^(*)	8 - 30W	10 - 31W	20 - 56W	28 - 82W	36 - 110W	70 - 215W
Flux rezidual pe durata de viață @ t _q 25°C	Curent până la 700mA: up to 95% Curent de la 701mA până la 1A: până la 90%					@100,000h
Temperatură de culoare	alb cald sau neutru					
Etanș. compartiment optic						IP 66 ^(**)
Etanș. placă echip. control						IP 66 ^(**)
Rezistență la impact (sticlă)						IK 08 ^(***)
Putere nominală	120 - 277V - 50 - 60Hz					
Clasă electrică						EU I sau II ^(**)
Înălțimea de instalare	4 - 12m					
Materiale						
Corp	Aluminiu turnat sub presiune					
Difuzor	Sticlă (polycarbonat pentru unele variante ale Voltana 0)					
Culoare						RAL 7038 Orice altă culoare din paletarul RAL, la cerere

^(*) Fluxul inițial și consumul de curent al aparatului sunt valori orientative, pentru temperatură ambiantă de 25°C. Fluxul real depinde de condițiile de mediu (de exemplu, temperatură) și poate varia, în anumite configurații. Valorile comunicate sunt supuse modificărilor, conform evoluției tehnologice. Pentru a verifica dacă acest document cuprinde ultimele informații disponibile, vă rugăm să vizitați www.schreder.com

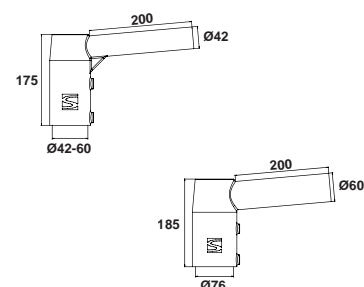
^(**) conform standardului IEC - EN 60598 (doar Voltana 0 este disponibil cu Clasa I) - ^(***) conform standardului IEC - EN 62262

DIMENSIUNI | GREUTATE

	Voltana 0	Voltana 1	Voltana 2	Voltana 3	Voltana 4	Voltana 5
L	416mm	501mm	518mm	641mm	555mm	705mm
W	156mm	181mm	240mm	240mm	380mm	480mm
H	91mm	87mm	108mm	111mm	112mm	109mm
 KG	2.6kg	4kg	5kg	6kg	8kg	12kg

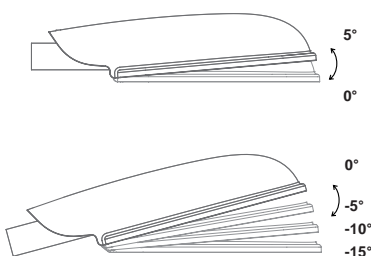


ADAPTOR VÂRF DE STÂLP

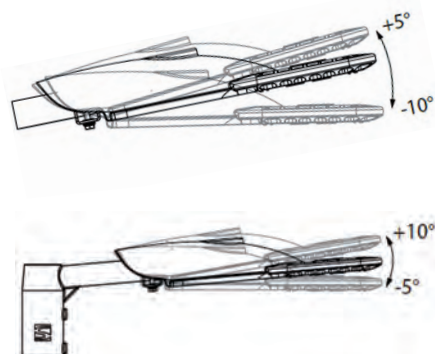


REGLAJE UNGHI ÎNCLINARE

VOLTANA 0

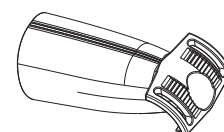


VOLTANA 1 - 5



MONTAJ UNIVERSAL

(OPȚIONAL PENTRU VOLTANA 0-1-2-3-4)



Ø 32 - 48mm

Ø 42 - 60mm

Ø 76mm

ÎNLOCUIȚI-VĂ ACTUALUL SISTEM DE ILUMINAT ȘI FACEȚI ECONOMII IMEDIAT, CU VOLTANA!

Prin simpla înlocuire a aparatelor de iluminat cu lămpi pe bază de sodiu cu aparatele Voltana, economiile de energie devin impresionante. În varianta plug-and-play, opțiunile de control - care nu sunt disponibile sau sunt foarte limitate în cazul aparatelor HPS - nu sunt incluse. În funcție de diferite scenarii, aceste opțiuni pot crește semnificativ economiile de energie, oferind, în același timp, siguranță și confort pentru toți utilizatorii și îmbunătățind managementul operațional al întregului sistem.

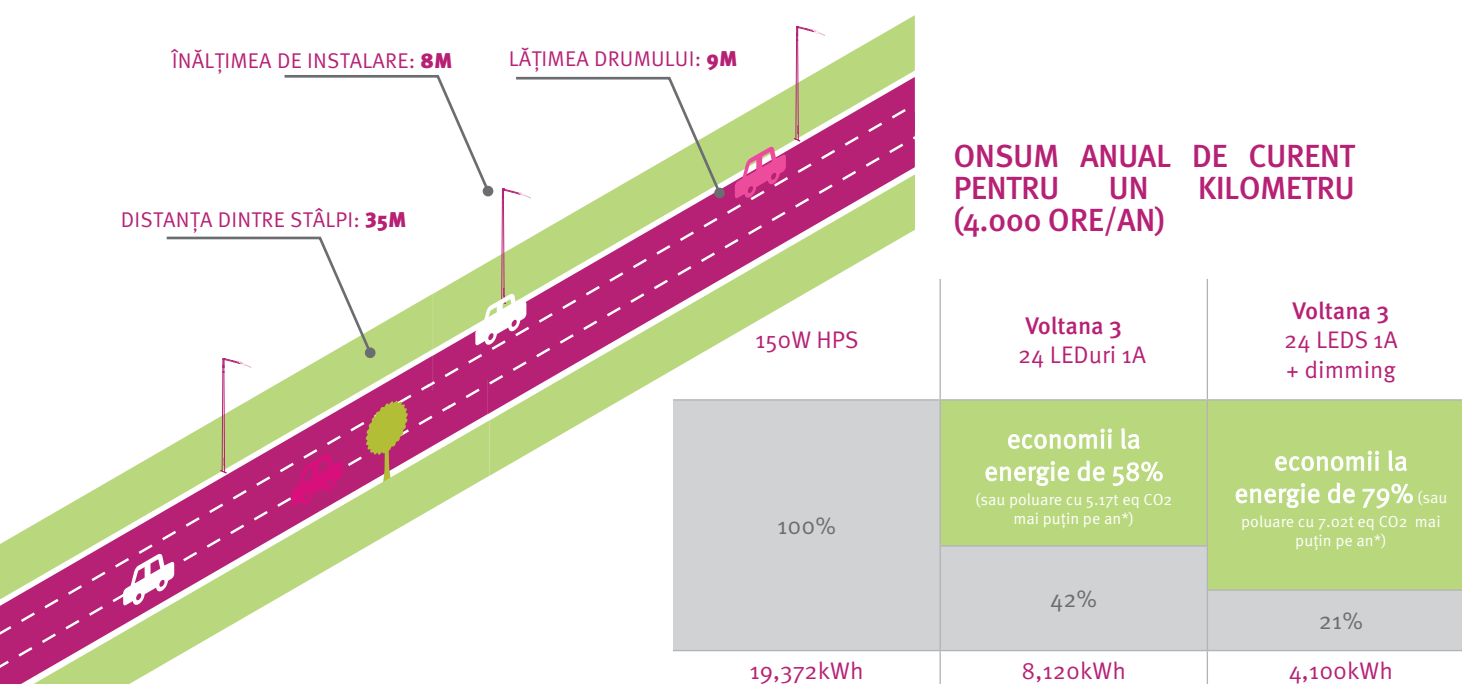
zone pietonale P5-P2		zone pietonale P1		căi de circulație clasificate M6-M5		căi de circulație clasificate M4		căi de circulație clasificate M3		căi de circulație clasificate M2	
aparat HPS 70W	Voltana 1	aparat HPS 100W	Voltana 2	aparat HPS 100W	Voltana 2	aparat HPS 150W	Voltana 3	aparat HPS 150W	Voltana 4	aparat HPS 250W	Voltana 5
	economii de 67%		economii de 56%		economii de 56%		economii de 58%		economii de 45%		economii de 35%
78W ^(*)		110W ^(*)		110W ^(*)		167W ^(*)		167W ^(*)		280W ^(*)	
	26W ^(*)		48W ^(*)		48W ^(*)		70W ^(*)		92W ^(*)		180W ^(*)

(*) Consum de energie total al sistemului

STUDIU DE CAZ

FLEXIBILITATEA DE CARE AVEȚI NEVOIE, PENTRU SCĂDEREA CHELTUIELILOR DE 5 ORI

Cu o investiție minimă (24 de LEDuri, versiunea 1A), Voltana 3 oferă o soluție extrem de competitivă - comparativ cu aparatele de iluminat de 150W, cu lămpi pe bază de sodiu- pentru a ilumina o cale de circulație clasificată M3 (conform standardului CIE 115), cu o recuperare a investiției în mai puțin de 4 ani și economii de energie de până la 79%.



* conform cu echivalentul european de 0.46kg eq Co₂/kWh



SIGURANȚĂ



STARE DE BINE



DEZVOLTARE DURABILĂ



ECONOMII



SOLUȚII



Drepturi de autor © Schréder S.A., 2017 - Editor Executiv: Stéphane Halleux - R+Tech, S.A. - Rue de Mons 3 - B-4000, Liège (Belgia) - informațiile, descrierile și ilustrațiile prezente au caracter pur orientativ. Mulțumită dezvoltării continue, am putea fi nevoiți să modificăm caracteristicile produselor noastre, fără notificare. Cum acestea pot prezenta caracteristici diferite, în funcție de cerințele fiecărei țări, vă invităm să ne consultați.



DECLARAȚIE DE CONFORMITATE



SCHRÉDER ROMANIA S.R.L., cu sediul în Cluj - Napoca, str. Corneliu Coposu, nr. 167A, Jud. Cluj, România, înregistrată la Registrul Comerțului cu nr. J12/1759/1998, membră a SCHRÉDER GROUP, în calitate de furnizori de aparate de iluminat marca SCHRÉDER

Declarăm pe propria răspundere că aparatul de iluminat: **VOLTANA 0**

Versiune: max. 8 LED-uri
Clasă electrică: I sau II
Balast: electronic
Tensiune nominală: 230V / 50Hz
Caracteristici: Max. 1000mA
Etanșeitate compartiment optic: IP 66
Etanșeitate compartiment aparataj: IP 66

Cu condiția ca acesta să fie instalat, întreținut și utilizat în conformitate cu standardele de instalare și instrucțiunile producătorului. Este în conformitate cu următoarele directive sau standarde:

- EN 60598-1 (2015)
- EN 60598-2-1 (1979)
- EN 60598-2-3 (2003 + A1 2011)
- EN 61547 (2009)
- EN 61347 (2015)
- EN 55015 (2013)
- EN 61000-3-2 (2014) & 3-3 (2013)
- EN 62471 (2008)
- EN 62493 (2010)
- Directiva 2014/30/EU
- Directiva 2014/35/EU
- Directiva 2009/125/EC
- Directiva 2012/19/EU
- Directiva 2003/108/EC
- Directiva RoHS 2011/65/EU (RoHS 2)
- R.D. 1890/2008, 14 Noiembrie
- R.D. 154/1.995, 3 Februarie
- R.D. 842/2002, 2 August

SCHRÉDER ROMANIA S.R.L.
Director General,

Alexandru SIRCA

Eliberat,
Martie 2019, Cluj-Napoca

Lumen maintenance report

LED information

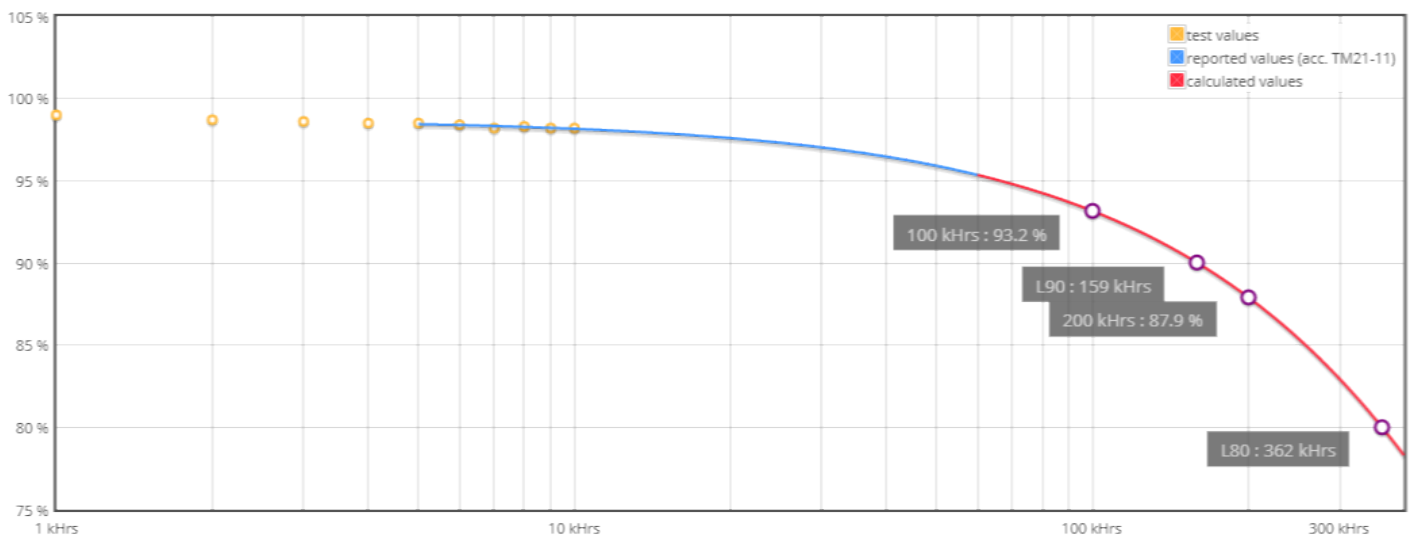
LED type LH351C
LED current 1000 mA
Ts 55°C
Description SLED-19-031

Projection data

Test duration 10000 hrs **α** 5.811E-007
Time used for projection 5000 to 10000hrs **β** 0.987

L (%)	Time (kHrs)
80.0	362
87.9	200
90.0	159
93.2	100

Projection graphic



LxB50 results according to LM-80 and TM-21-11 procedures and norms.

LxBy results derived from LxB50 according to IEC 62717 Annex C.

LED Flux measurement

FORM-L-41 ED1 REV 2

Date : **16-01-19**

Operator : **FCE**



Filename : **2019_58.xml**

226 - TEST

NBN EN ISO/IEC 17025 : 2005

LEDs

Trademark : **Samsung**

Entry number : **39R005-2**

Type : **LH351C**

Power (Catalogue) : **0,00** W

BIN Description : **40-70M-4-TB-RB**

Flux : **0** lm/LED

Part number : **Unknown**

Color or CCT (Theoretical) : **NW**

Number of LEDs : **8**

Lenses

Trademark : **None**

Type : **None**

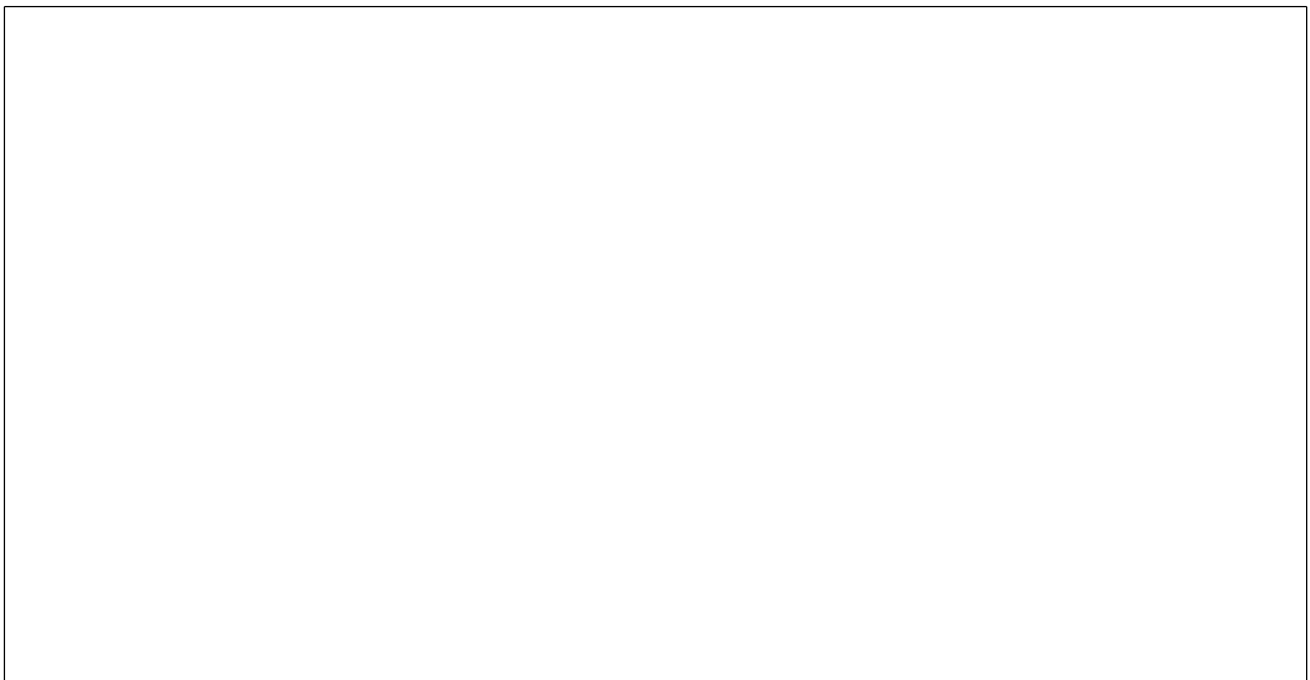
Power & Print

Type : **DELTA SM400-AR-4**

Print description : **00-71-636 A - Voltana 1**

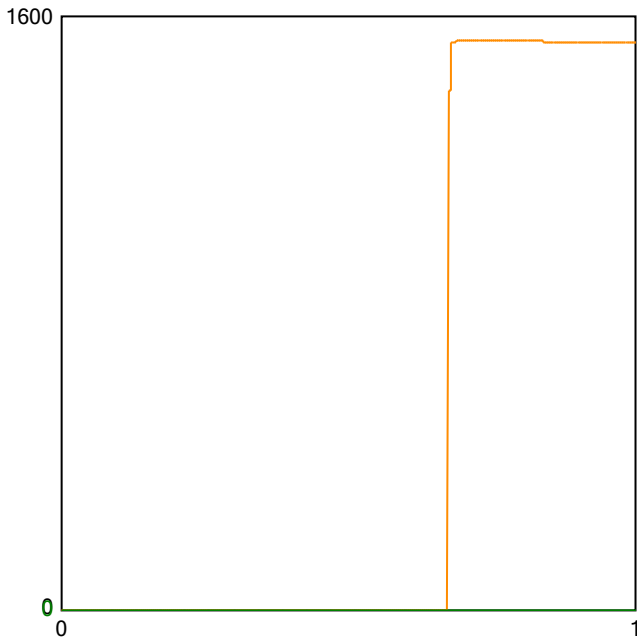
Active

Picture



Sphere photometric measurement

Maximum flux : **1538** lumens



Operating condition

Position in sphere :



Ambient sphere T ° : **24,3**

Electrical measurement

● Secondary electrical measurement

Voltage : **22,37** V

Current : **0,350** A

Power : **7,82** Watt

→ LEDs light efficiency at 25° :

196,6 lm/W

192,2 lm/Led

● Primary electrical measurement

Voltage : **N/A** V

Current : **N/A** A

Power : **N/A** Watt

Cos φ : **N/A**

→ Driver losses : **N/A** %

→ LEDS & Driver light efficiency :

N/A lm/W

Description :

Flux @25°/350mA - pcb Voltana 1 - 8 Samsung LH351C - pcb N°2

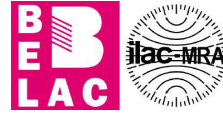
Comment :

FORM-L-41 ED1 REV 2



226 - TEST

Approved by :



226 - TEST

NBN EN ISO/IEC 17025 : 2005

Colorimetry

File Preset Options Extra Calibration Info

Preset: CRI

Auto: ref: illuminant - Planckian radiator, CCT= 3841 K

Auto: ref: illuminant - Planckian radiator, CCT= 3841 K

Chromaticity difference DC= 6.0E-4

CRI color samples		JIS color sample	
R1=68.3	R8=46.9	R15=59.9	
R2=80.1	R9=39.9		
R3=90.3	R10=54.3		
R4=70.6	R11=67.4		
R5=69.1	R12=48.8		
R6=72.7	R13=70.4		
R7=78.6	R14=94.7		
		R6=62.15	(mean value of R1 - R15)

Auto: ref: illuminant - Planckian radiator, CCT= 3841 K

Transfer data to table auto

Weighting Function: None

Calibration File: #1 no accessory

Measurement Mode: Radiance

Average: 1

Cont: 10

Hold Integration Time: 5

Quick mode:

Luminance L_v 2.515E+2 $\frac{cd}{m^2}$

Radiance L_e 7.129E-1 $\frac{W}{m^2 \cdot sr}$

Corr. Color Temp CCT 3841 K

Chromaticity x 0.3873 y 0.3799

Chromaticity u' 0.2284 v' 0.5040

Target

Measurement

LED 2019/58 3/3

RTECH-PHOTOMETRY LABORATORY



Testreport : Measurement of luminous intensity distribution related to the standard
NBN-EN 13032-1; NBN-EN 13032-4; CIE 121-1996; CIE S 025/E; IES LM-79-08 and procedures PT-P-01
and PT-P-02

rue de Mons, 3 B-4000 LIEGE - Tel : 04/224.71.40 - Fax : 04/224.25.90

Measurement for Schröder group.

LED

Origin TUNGSRAM-Schröder Zrt. Hungary	Production TUNGSRAM-Schröder Zrt. Hungary	Luminaire VOLTANA 0	Inclination 0°	Request # FD39019
Source				
Type LED	BIN 40-70M-4-TB-RB	Trademark Samsung	Reference LH351C	# LEDs 8
Reflector 5136	Master -			Reflector No 5136
Schreder Led assembly Narrow Assembled 0.0°				
Protector Refractor Lens				
Protector Glass Extra Clear Flat Smooth	Lens Gaggione 5136 PMMA			
Laboratory observation				
VOLTANA 0 with 8 SAMSUNG LH351C Used flux for efficiency matrix calculation = 1538 lm - CCT = 3841 K - CRI = 72,07 (see sphere test report 2019/58 on appendix).				
Purpose DOC	Sample date 08-01-2019		Sample # 39R005	
Observation				
DOC VOLTANA 0 with lenses 5136				
Flux coefficient multiplicator (only for efficiency matrix): From 350 to 500 mA : 1,379 From 350 to 700 mA : 1,849 From 350 to 1000 mA : 2,474				
Fixture powered with driver Philips Xi FP 22W 0,3-1,0A SNLDAE 230V S175 sXt DALI for matrix @350/500/700mA Fixture powered with driver Philips Xi FP 40W 0,3-1,0A SNLDAE 230V S175 sXt DALI for matrix @1000mA				
Notes				
The publication of this report in another form than the original one is not allowed without agreement of the laboratory. This report concerns type tests on one or a series of specimens.				

Asked by RCA	Measured by CLD	Approved by RLABO	Appendix 1	  226-TEST NBN EN ISO/IEC 17025 : 2005	42550
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LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39019	
Source	Type LED	BIN 40-70M-4-TB-RB	Trademark Samsung	Reference LH351C	# LEDs 8	Reflector 5136			
Reflector	Schreder Led assembly Narrow Assembled 0.0°				No	5136			
Matrices	425501		Φ 0-90° = 1331lm - 90-180° = 0lm			Absolute measurement			
Protector Refractor Lens	Protector Glass Extra Clear Flat Smooth - VOLTANA 1 Lens 8 x Gaggione 5136 PMMA								
Observation	<p>Matrix in total flux @350 mA</p> <p>Light losses due to thermal stabilization: 1 %</p> <p>Electrical measurement on LED (#1): Voltage = 22.32 V Current = 0.350 A Power = 7.81 W</p> <p>Electrical measurement on driver (#1): Voltage = 230.00 V Current = 0.046 A Power = 10.19 W PF = 0.957</p> <p>Total luminaire power = 10.19 W : Lm/Watt = 130.60 lm/W</p> <p>Driver #1 : See observations for driver details - PCB 00-71-636 A</p>								
Plane	I Peak	Peak position	Index	I zero	Laboratory ambient t°	Measurement date		↕	
5 - 175	852	69	S	499	25.4°	06-02-2019			
90	595	15	D						
270	499	0	G						
									42550

LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39019	
Source	Type LED	BIN 40-70M-4-TB-RB	Trademark Samsung	Reference LH351C	# LEDs 8	Reflector 5136			
Reflector	Schreder Led assembly Narrow Assembled 0.0°				No	5136			
Matrices	425502		η 0-90° = 86.5% - 90-180° = 0.0%			Relative measurement			
Protector Refractor Lens	Protector Glass Extra Clear Flat Smooth - VOLTANA 1 Lens 8 x Gaggione 5136 PMMA								
Observation	<p>Matrix in efficiency @350 mA</p> <p>Light losses due to thermal stabilization: 1 %</p> <p>Electrical measurement on LED (#1) : Voltage = 22.32 V Current = 0.350 A Power = 7.81 W</p> <p>Electrical measurement on driver (#1) : Voltage = 230.00 V Current = 0.046 A Power = 10.19 W PF = 0.957</p> <p>Total luminaire power = 10.19 W</p> <p>Driver #1 : See observations for driver details - PCB 00-71-636 A</p>								
Plane	I Peak	Peak position	Index	I zero	Laboratory ambient t°	Measurement date		↕	
5 - 175	554	69	S	324	25.4°	06-02-2019			
90	387	15	D						
270	324	0	G						
									42550

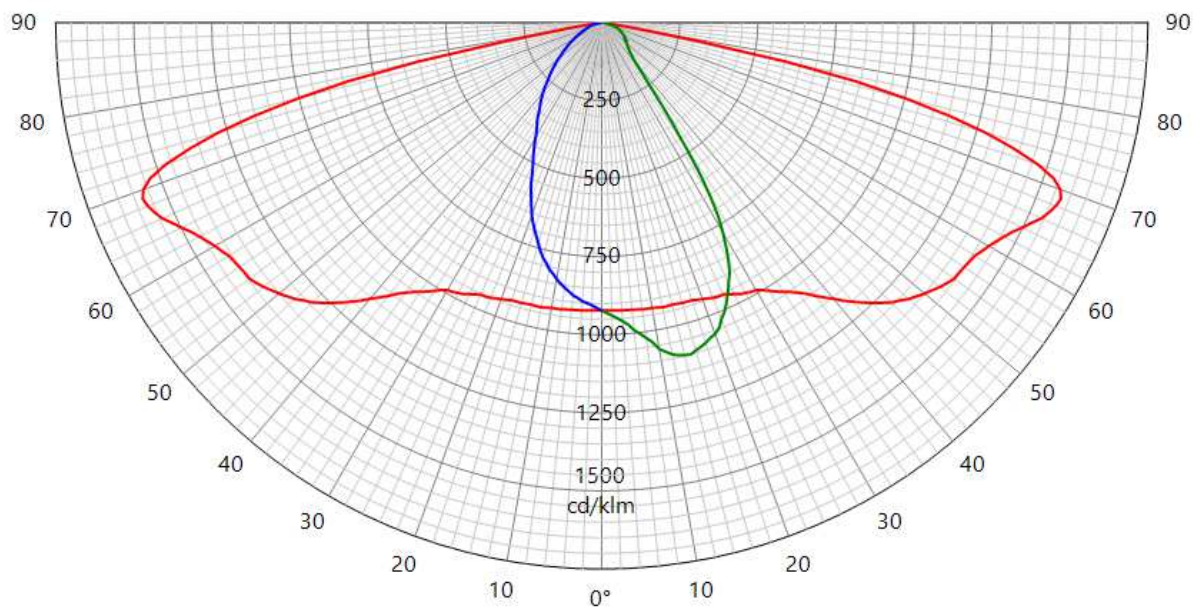
LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39019	
Source	Type LED	BIN 40-70M-4-TB-RB	Trademark Samsung	Reference LH351C	# LEDs 8	Reflector 5136			
Reflector	Schreder Led assembly Narrow Assembled 0.0°				No	5136			
Matrices	425503		Φ 0-90° = 1835lm - 90-180° = 0lm			Absolute measurement			
Protector Refractor Lens	Protector Glass Extra Clear Flat Smooth - VOLTANA 1 Lens 8 x Gaggione 5136 PMMA								
Observation	<p>Matrix in total flux @500 mA</p> <p>Light losses due to thermal stabilization: 1,5 %</p> <p>Electrical measurement on LED (#1) : Voltage = 22.76 V Current = 0.500 A Power = 11.38 W</p> <p>Electrical measurement on driver (#1) : Voltage = 230.00 V Current = 0.063 A Power = 14.16 W PF = 0.974</p> <p>Total luminaire power = 14.16 W : Lm/Watt = 129.60 lm/W</p> <p>Driver #1 : See observations for driver details - PCB 00-71-636 A</p>								
Plane	I Peak	Peak position	Index	I zero	Laboratory ambient t°	Measurement date		↕	
5 - 175	1175	69	S	688	25.4°	06-02-2019			
90	820	15	D						
270	688	0	G						
									42550

LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39019	
Source	Type LED	BIN 40-70M-4-TB-RB	Trademark Samsung	Reference LH351C	# LEDs 8	Reflector 5136			
Reflector	Schreder Led assembly Narrow Assembled 0.0°				No		5136		
Matrices	425504		Φ 0-90° = 2461lm - 90-180° = 0lm			Absolute measurement			
Protector Refractor Lens	Protector Glass Extra Clear Flat Smooth - VOLTANA 1 Lens 8 x Gaggione 5136 PMMA								
Observation	<p>Matrix in total flux @700 mA</p> <p>Light losses due to thermal stabilization: 2 %</p> <p>Electrical measurement on LED (#1) : Voltage = 23.26 V Current = 0.700 A Power = 16.29 W</p> <p>Electrical measurement on driver (#1) : Voltage = 230.00 V Current = 0.087 A Power = 19.79 W PF = 0.985</p> <p>Total luminaire power = 19.79 W : Lm/Watt = 124.34 lm/W</p> <p>Driver #1 : See observations for driver details - PCB 00-71-636 A</p>								

Plane	I Peak	Peak position	Index	I zero	Laboratory ambient t°	Measurement date	↕
5 - 175	1576	69	S	922	25.4°	06-02-2019	
90	1100	15	D				
270	922	0	G				

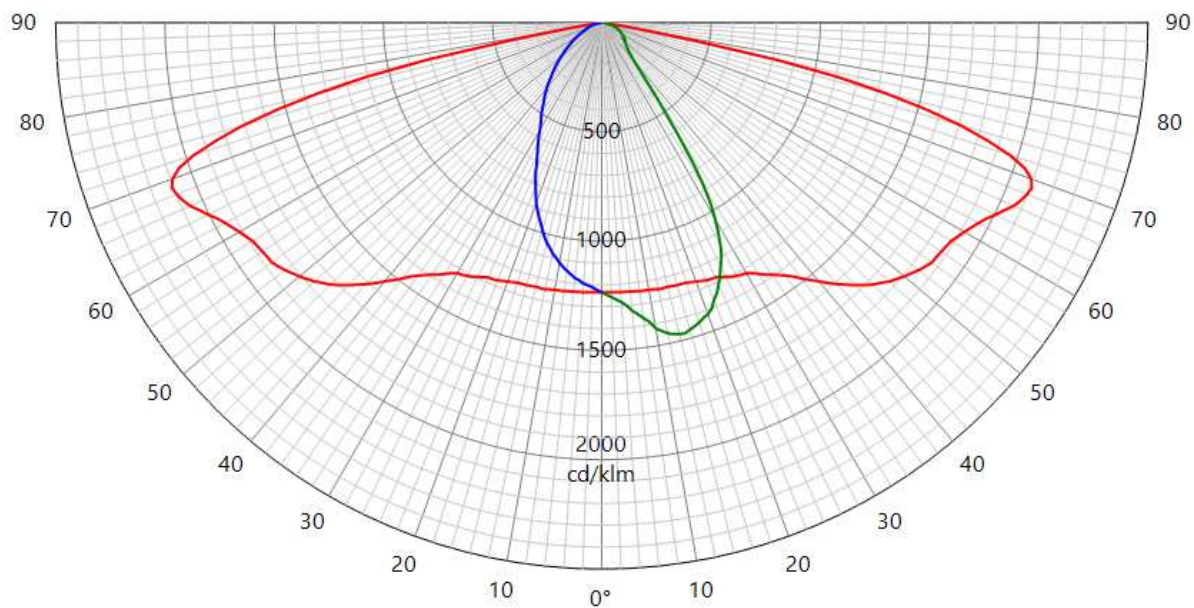


42550

LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39019	
Source	Type LED	BIN 40-70M-4-TB-RB	Trademark Samsung	Reference LH351C	# LEDs 8	Reflector 5136			
Reflector	Schreder Led assembly Narrow Assembled 0.0°				No	5136			
Matrices	425505		Φ 0-90° = 3292lm - 90-180° = 0lm			Absolute measurement			
Protector Refractor Lens	Protector Glass Extra Clear Flat Smooth - VOLTANA 1 Lens 8 x Gaggione 5136 PMMA								
Observation	<p>Matrix in total flux @1000 mA</p> <p>Light losses due to thermal stabilization: 2,5 %</p> <p>Electrical measurement on LED (#1) : Voltage = 23.93 V Current = 1.000 A Power = 23.93 W</p> <p>Electrical measurement on driver (#1) : Voltage = 230.00 V Current = 0.128 A Power = 28.74 W PF = 0.978</p> <p>Total luminaire power = 28.74 W : Lm/Watt = 114.56 lm/W</p> <p>Driver #1 : See observations for driver details - PCB 00-71-636 A</p>								

Plane	I Peak	Peak position	Index	I zero	Laboratory ambient t°	Measurement date	↕
5 - 175	2108	69	S	1234	25.4°	06-02-2019	
90	1472	15	D				
270	1234	0	G				



42550

CONFORMITY STATEMENT

Measurement fulfil Standards:

NBN-EN 13032-1
NBN-EN 13032-4
NBN-EN 17025:2005
CIE 121-1996
LM79-08
CIE S 025

Measurement quantities measured:

Light distribution in relative or absolute photometry
Led alone cold lumen package
Led CCT and CRI
Power consumption of the fitting
Lm/watt

Electrical measurement, if not specified:

Primary values are AC with 50Hz frequency
Secondary values on SSL are DC

CCT, CRI and chromaticity coordinates: are measured in Ulbricht sphere.
If specified Main test report refer to sphere extra test report.

Light distribution are measured on gonio. If not otherwise specified, measurement is done at 50 Hz

Number of hours operated prior to measurement: if not otherwise specified, 0 hours (no aging).

Stabilization time: If not otherwise specified, a minimal stabilization time of 0.5 hour is applied; and measurement will start when it exists no more variation above 0.5% in 15 minutes

Total operating time of the product including stabilization:
45 minutes have to be added by measurement.
Minimal operating time is 75 minutes

Luminous intensity distribution: available on electronic file with
.mat format (internal Schröder format)
.ldt format (European standard)
.IES format (American standard)

Statement of uncertainties (K=2, 95% of confidence level):
Uncertainties calculated based on a typical Schröder fitting and PCBA

Intensity measurement: +/- 3%
Angle: +/- 0.5°
Flux: +/- 2.5%
Electrical DC
Power: +/- 0.25%
Voltage: +/- 0.15%
Current: +/- 0.15%
Electrical AC
Power: +/- 0.15%
Voltage: +/- 0.3%
Current: +/- 0.3%
Temperature: +/- 0.65%

ISP2000	JETI	
CCT:	+/- 5%	+/-7.5%
CRI:	+/- 2%	+/-2.75%
x/y:	+/- 2%	+/-4.6%

lm/Watt: +/-3.5%

Measuring instruments in use:

Gonio 1

Type C with Moving mirror

Manufacturer: LMT Lichtmesstechnik GmbH Berlin, Helmholtzstrasse 9 10587 Berlin, Germany

Type: GO-DS 2000

Calibration: traceable to PTB (Physikalisch-Technische Bundesanstalt D-Braunschweig) and METAS (Federal Institute of Metrology, CH-Bern)

Photometric test distance: By default 10 meter, on request 30 meter.

Gonio 2

Type C

Manufacturer: Technoteam Bildverarbeitung, Werner-von-Siemens-Strasse 5 98693 Ilmenau, Germany

Calibration: traceable to BIPM (Bureau International des Poids et Mesures F-Sèvres)

Photometric test distance: Near Field

Sphere n°1

4p geometry

Manufacturer: LMT Lichtmesstechnik GmbH, Helmholtzstrasse 9 10587 Berlin, Germany

Type: UL2000 + U1000 V-Lambda photometer

Calibration: traceable to BIPM (Bureau International des Poids et Mesures F-Sèvres)

Sphere n°2

4p geometry

Manufacturer: Instrument Systems GmbH, Neumarkter Str. 83, 81673 Muenchen, Germany

Type ISP2000 + Spectroradiometer CAS120 and CAS140

Calibration: traceable to NIST

Colorimetric portable spectroradiometer

Manufacturer: JETI Technische Instrumente GmbH, Tatzendpromenade 2 07745 Jena

Type: SPECBOS 1201

Calibration: traceable to NIST

Multimeters

Manufacturer: Agilent

Type: 34401A

Calibration: traceable to BIPM (Bureau International des Poids et Mesures F-Sèvres)

Wattmeters

Manufacturer: Yokogawa

Type: WT210 and WT310

Calibration: traceable to BIPM (Bureau International des Poids et Mesures F-Sèvres)

Thermometers

Amarell Precision

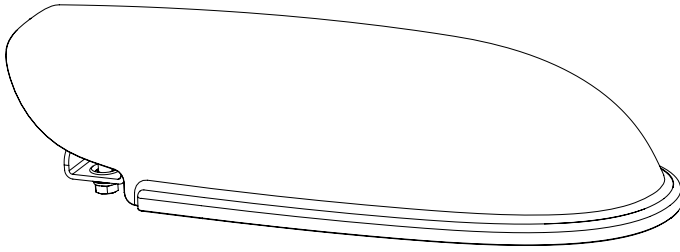
Type: Liquid in glass N63833

Calibration: traceable to LBT (Laboratoire Belge de Thermométrie)

Schröder

VOLTANA 0

Installation instructions



IEC
EN60598



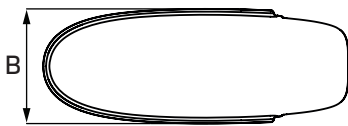
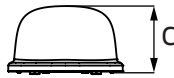
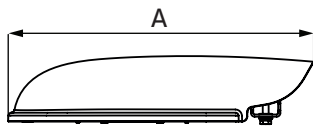
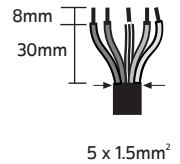
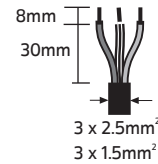
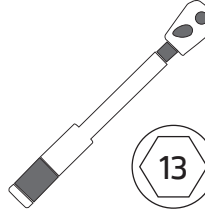
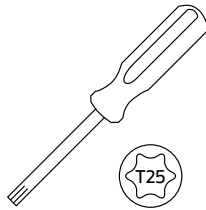
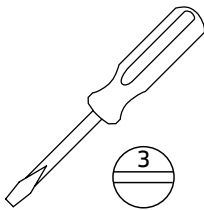
4-8m

350-1250mA
8-38W

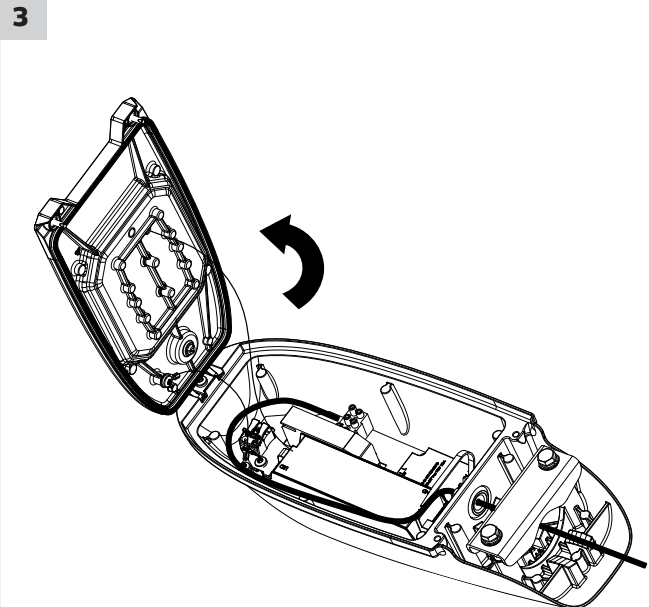
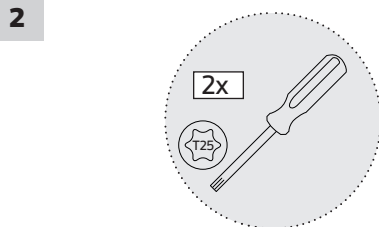
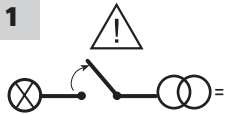
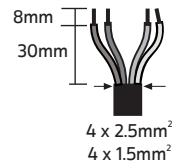
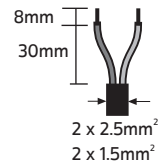
220-240V
50/60Hz

IP
66

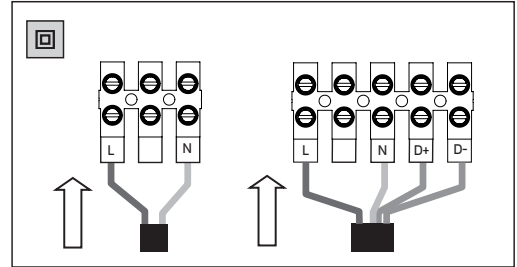
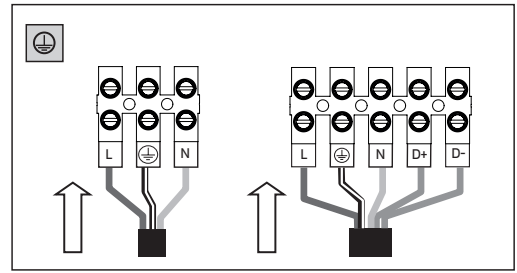
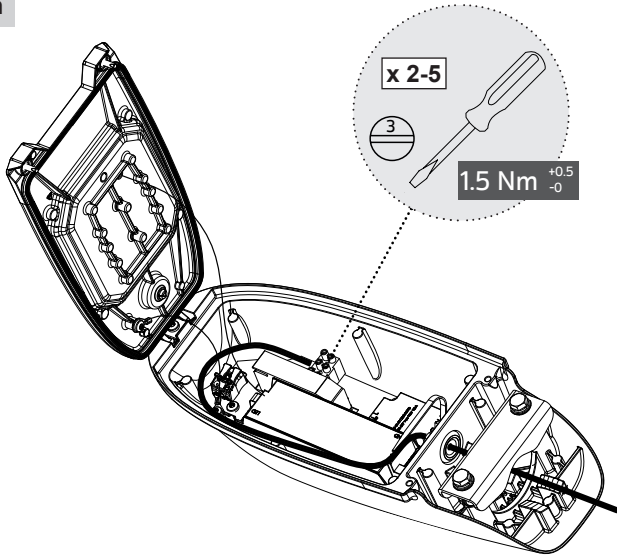
IK
08



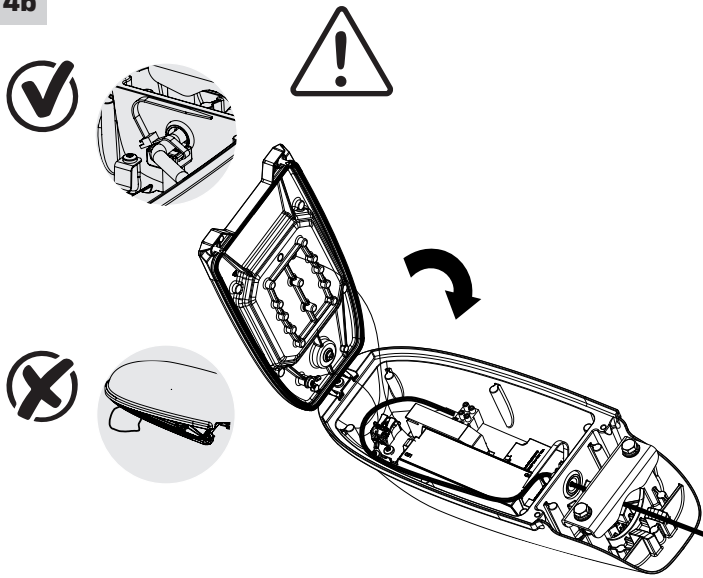
Voltana0	
A	416mm
B	156mm
C	91mm
	2.6kg
CxS	0.012m ²



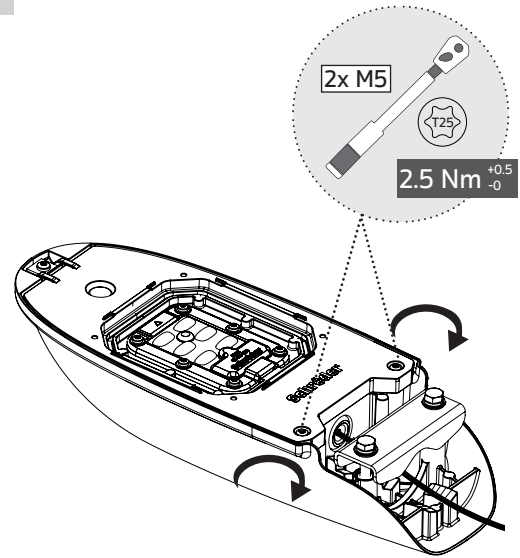
4a



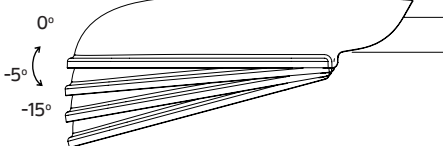
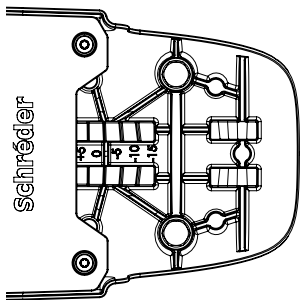
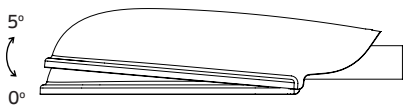
4b



4c

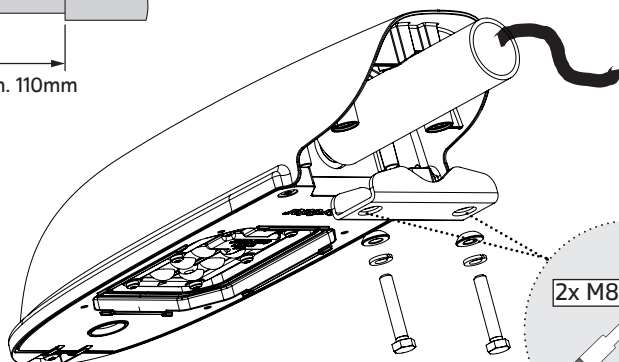
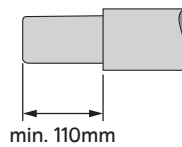


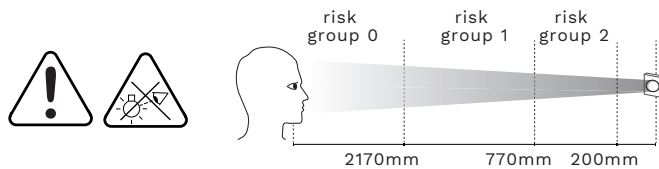
5



- 2x M8 x 70
- 2x M8 x 45

	Ø42	Ø48	Ø60
-10°	M8 x 45	M8 x 70	M8 x 70
-5°			
0°			
+5°			





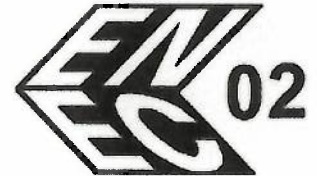
<p>SAFETY INSTRUCTIONS The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person. Always switch off the power prior to installation, maintenance or repair activities.</p> <p>RISK GROUP 2 - CAUTION! Hazardous optical radiation may be emitted from this product. Do not stare at the luminaire when operating as it may be harmful to the eyes. The luminaire should be positioned so that prolonged staring at the luminaire at a distance of less than 0.77m is not expected.</p> <p>In case of PVC insulated mains cable, the installer MUST ensure that the WHOLE cable is protected against climatic conditions, especially UV rays and rain, by making sure that the cable is contained inside the luminaire and pole</p> <p>Y-connection: In case of damage to the wire, it has to be replaced only by the manufacturer, distributor or by an expert, to avoid risks.</p>	<p>ISTRUZIONI DI SICUREZZA La sorgente di luce contenuta in questo sistema di illuminazione dovrà essere sostituita solo dal produttore, dal suo agente di servizio o da una persona con qualifica simile.</p> <p>Staccare sempre il filo della corrente prima di iniziare operazioni di installazione, manutenzione o riparazione.</p> <p>GRUPPO DI RISCHIO 2 - ATTENZIONE! Questo prodotto può emettere radiazioni ottiche potenzialmente pericolose. Non fissare la sorgente accesa. Potrebbe essere dannoso per gli occhi. L'apparecchio dovrebbe essere posizionato in modo da non permettere di fissare a lungo l'apparecchio a una distanza inferiore di 0.77m.</p> <p>In caso di cavo di alimentazione isolato in PVC, l'installatore DEVE garantire che il cavo INTERO sia protetto dalle condizioni climatiche, in particolare dai raggi UV e dalla pioggia, assicurandosi che il cavo sia contenuto all'interno del corpo illuminante e del polo</p> <p>Collegamento Y: in caso di danneggiamento, il cavo deve essere sostituito esclusivamente dal costruttore, dal distributore o da un tecnico esperto per evitare rischi.</p>	<p>VEILIGHEIDSWAARSCHUWINGEN De lichtbron in deze armatuur dient uitsluitend door de fabrikant, diens onderhoudsvrtegenwoordiger of een persoon met vergelijkbare kwalificaties te worden vervangen.</p> <p>Schakel altijd de stroom uit voordat u aan installatie, onderhoud of reparaties begint.</p> <p>RISICOGROEP 2 - LET OP! Bij dit product kan eventueel gevaarlijke optische straling voorkomen. Staar niet in de brandende lamp. Dit kan schadelijk zijn voor de ogen. Het armatuur moet worden geplaatst zodat staren in het armatuur op een afstand kleiner dan 0,77meter niet verwacht wordt.</p> <p>In het geval van PVC-geïsoleerde voedingskabels MOET de installateur ervoor zorgen dat de GEHELE kabel wordt beschermd tegen klimaatomstandigheden, met name UV-stralen en regen, door ervoor te zorgen dat de kabel zich in het armatuur en de paal bevindt</p> <p>Y-verbinding: in geval van schade aan de draad dient deze te worden vervangen door de fabrikant, de distributeur of door een expert, om risico's te vermijden.</p>	<p>SIKKERHEDSINSTRUKTIONER Lyskilden i dette armatur må kun udskiftes af producenten, af en vedligeholdelsesvirksomhed udpeget af producenten eller af en tilsvarende kvalificeret virksomhed.</p> <p>Sluk altid for strømmen inden påbegyndelse af installation, vedligeholdelse eller reparation.</p> <p>Risikogrupper 2 - ADVARSEL! Produktet kan muligvis udsende farlig optisk stråling. Kig ikke direkte ind i armaturet under drift, det kan være skadeligt for øjnene. Armaturet skal placeres således så langvarig stirren ind i armaturet, på en afstand der er tættere end 0,77m, undgåes.</p> <p>I tilfælde af PVC-isoleret ledning SKAL elektrikereren sikre, at HELE kablet er beskyttet mod klimatiske forhold, dette gælder især UV-stråler og regn. Elektrikereren skal derfor sørge for, at kablet forbliver inde i armaturet og masten.</p> <p>Type Y montering: Hvis det eksterne kabel eller ledning på dette armatur er beskadiget, må det kun udskiftes af producenten eller af en kvalificeret person til producenten eller tilsvarende kvalificeret person, for at undgå skader.</p>
<p>SICHERHEITSHINWEISE Die Lichtquelle in dieser Leuchte darf nur vom Hersteller bzw. von dessen Kundendienst oder einer ähnlich qualifizierten Person ausgetauscht werden.</p> <p>Schalten Sie die Stromversorgung vor Installations-, Wartungs- und Reparaturarbeiten stets ab.</p> <p>Risikogruppe 2 - VORSICHT! Von diesem Produkt kann möglicherweise gefährliche optische Strahlung ausgehen. Es ist darauf zu achten, dass man im eingeschalteten Zustand der Leuchte nicht innerhalb einer Distanz von 0,77m direkt in die Leuchte schaut. Dies könnte schädlich für Ihre Augen sein.</p> <p>Bei Verwendung eines PVC-isolierten Netzkabels MÜSST der Installateur sicherstellen, dass das GESAMTE Kabel vor klimatischen Bedingungen - insbesondere vor UV-Strahlen und Regen - geschützt ist, indem sichergestellt wird, dass das Kabel in der Leuchte und dem Mast verschlossen ist</p> <p>Y-Verbindung: Falls die Leitung beschädigt ist, darf diese nur vom Hersteller, dem Händler oder einem Experten ersetzt werden, um Risiken zu vermeiden.</p>	<p>INSTRUKCJA BEZPIECZEŃSTWA Źródło światła zamontowane w tej oprawie może być wymieniane wyłącznie przez producenta, pracownika serwisu lub inną wykwalifikowaną osobę.</p> <p>Przed rozpoczęciem instalacji, konserwacji lub naprawy należy bezwzględnie odłączyć zasilanie elektryczne.</p> <p>GRUPA RYZYKA 2 - OSTRZEŻENIE! Produkt może emitować niebezpieczne promieniowanie optyczne szkodliwe dla oczu. Nie należy patrzeć bezpośrednio na pracującą źródło światła. Oprawa powinna być tak zamontowana, aby jej długotrwała obserwacja była możliwa z odległości nie mniejszej niż 0,77m.</p> <p>W przypadku kabla sieciowego izolowanego PCV instalator MUSI upewnić się, że kabel CAŁY jest chroniony przed warunkami klimatycznymi, w szczególności przed promieniowaniem UV i deszczem, upewniając się, że kabel znajduje się wewnątrz oprawy i stupa.</p> <p>Połączenie Y: ze względów bezpieczeństwa uszkodzony przewód powinien zostać wymieniony wyłącznie przez producenta, dystrybutora lub wykwalifikowanego elektryka.</p>	<p>инструкция безопасности замену источника света для этого светильника должен выполнять только производитель, сервисный агент, производитель или специалист с аналогичной квалификацией.</p> <p>Перед проведением установки, сервисного обслуживания или ремонта всегда отключайте питание устройства.</p> <p>ГРУППА РИСКА 2 - ВНИМАНИЕ! Возможно опасное оптическое излучение от этого изделия. Не смотрите на источник света. Монтаж должен быть выполнен таким образом, чтобы было невозможно смотреть на него с расстояния менее 0,77м.</p> <p>В случае кабеля питания с ПВХ изоляцией, монтажник ДОЛЖЕН обеспечить защиту ВСЕГО кабеля от воздействия климатических условий, особенно от ультрафиолетовых лучей и дождя, убедившись, что кабель находится внутри светильника и опоры.</p> <p>Подключение Y: в случае повреждения кабеля его замена производится только производителем, дистрибутором или экспертом.</p>	<p>INSTRUCȚIUNI DE EXPLOATARE Sursa de lumină din acest corp de iluminat trebuie înlocuită numai de producător sau de reprezentantul său de service sau o persoană ce deține calificări similare.</p> <p>Opriți întotdeauna alimentarea electrică înainte de lucrările de instalare, întreținere sau reparații.</p> <p>GRUP DE RISC 2 - ATENȚIE! Este posibil ca acest produs să emită radiații optice periculoase. Nu priviți direct înșpre lampă aflată în stare de funcționare. Acest lucru poate fi dăunător ochilor. Aparatul de iluminat trebuie să fie poziționat astfel încât să nu fie posibil, în mod normal, privitul direct înșpre lampă, la o distanță mai mică de 0,77m.</p> <p>În cazul cablului de alimentare cu izolație din PVC, instalatorul TREBUIE să se asigure că TOT cablul este protejat împotriva condițiilor climatice, mai ales împotriva razelor UV și a ploii, asigurându-se că acest cablu este plasat în interiorul aparatului de iluminat și al stâlpuului</p> <p>Conexiune Y: În caz de deteriorare a firului, acesta trebuie înlocuit numai de către producător, distribuitor sau un expert, pentru evitarea riscurilor.</p>
<p>INSTRUCTIONS DE SECURITE La source lumineuse contenue dans ce luminaire doit être uniquement remplacée par le fabricant, son agent de maintenance ou une autre personne disposant des qualifications appropriées.</p> <p>Mettez toujours l'appareil hors tension avant toute opération d'installation, d'entretien ou de réparation.</p> <p>RISQUE GROUPE 2 - ATTENTION ! Ce produit émet potentiellement des rayons dangereux pour la vue. Regardez directement la source lumineuse et de manière continue pourrait causer des lésions aux yeux. Le luminaire doit être installé de façon à ne pas pouvoir regarder la source lumineuse directement de manière continue à moins de 0,77m.</p> <p>Dans le cas d'un câble secteur isolé en PVC, l'installateur DOIT s'assurer que le câble ENTIER est protégé contre les conditions climatiques, en particulier les rayons UV et la pluie, en s'assurant que le câble est contenu à l'intérieur du luminaire et du poteau</p> <p>Connexion Y : si le câble est endommagé, il ne peut être remplacé que par le fabricant, par le distributeur ou par un expert, afin d'éviter tout risque.</p>	<p>INSTRUCCIONES DE SEGURIDAD Solo el fabricante, un agente del servicio técnico o persona con cualificación similar puede sustituir la fuente de luz de este sistema de iluminación.</p> <p>Apague siempre el interruptor de alimentación antes de realizar tareas de instalación, mantenimiento o reparación.</p> <p>GRUPO DE RIESGO 2 - ¡PRECAUCIÓN! radiación óptica posiblemente peligrosa emitida por este producto. No mire a la lámpara en funcionamiento. Puede ser dañino para los ojos. El sistema de iluminación debe instalarse de modo que la mirada fija prolongada a la luminaria, a una distancia menor de 0.77m no se espere.</p> <p>En el caso de un cable aislado de PVC, el instalador DEBE asegurarse de que todo el cable esté protegido contra las condiciones climáticas, especialmente los rayos UV y la lluvia, asegurándose de que el cable esté dentro de la luminaria y el poste</p> <p>Conexión en Y: si el cable se daña, solo debe reemplazarlo el fabricante, un distribuidor o un experto para evitar riesgos.</p>	<p>INSTRUÇÕES DE SEGURANÇA A fonte de luz no interior deste candeeiro deve ser substituída apenas pelo fabricante, pelo seu técnico de assistência ou por uma pessoa com qualificação equivalente.</p> <p>Desligue sempre a alimentação antes de proceder a actividades de instalação, manutenção ou reparação.</p> <p>GRUPO DE RISCO 2 - ATENÇÃO! Possível risco ótico por radiação emitida a partir deste produto. Não olhar para a luz em funcionamento. Pode ser prejudicial para os olhos. A luminária deve ser posicionada de modo a que não seja expectável um olhar prolongado para a luminária em funcionamento a uma distância inferior a 0,77m.</p> <p>No caso de cabo de alimentação com isolamento em PVC, o instalador DEVE assegurar que TODO o cabo é protegido das condições climáticas, especialmente raios UV e chuva, certificando-se que o cabo está contido dentro da luminária e da coluna.</p> <p>Ligação Y: em caso de danos no fio, este tem de ser substituído apenas pelo fabricante, distribuidor ou por um técnico especializado, para evitar riscos.</p>	<p>SÄKERHETSINSTRUKTIONER Ljuskällan som monteras i denna armatur får endast ersättas av en Schröder-anställd eller annan kvalificerad person.</p> <p>Stäng alltid av strömmen före installation, underhåll eller reparation.</p> <p>Risikogrupp 2 - VARNING! Eventuellt farligt optisk strålning från denna produkt. Stirra ej på driftlampen. Kan vara skadligt för ögonen. Armaturen bör placeras så att långvarigt stirrande in i armaturen på ett avstånd som är närmare än 0,77m ej är möjligt.</p> <p>Vid PVC-isolerad kabel måste installatören se till att hela kabeln är skyddad mot klimatförhållanden, särskilt UV-strålar och regn, genom att se till att kabeln monterats inuti armaturen och stölpn</p> <p>Typ Y-anslutning: Om den externa kabeln eller ledningen på denna armatur är skadad, får den endast bytas ut av tillverkaren eller av en servicepartner till tillverkaren eller motsvarande kvalificerad person, för att undvika skador</p>
<p>BIZTONSÁGI ÚTMUTATÓ A lámpatestben található fényforrást kizárólag a gyártó, szervizképviseelő vagy hivatalos szakszerviz szakembere cserélheti ki.</p> <p>A szerelés, karbantartás és javítás előtt minden esetben végezzen áramtalánítást.</p> <p>KOCKÁZATI CSOPORT 2 - VIGYÁZATI! A berendezés veszélyes optikai sugárzást bocsáthat ki! Ne nézzék bele a bekapcsolott lámpatestbe! Szemet károsító hatás léphet fel. A lámpatestet úgy ajánlott pozícionálni, hogy rálátás esetén a lámpatest ne legyen 0,77m-nél közelebb!</p> <p>PVC szigetelésű tápkábel esetén a telepítőknek biztosítania KELL, hogy a TELJES kábel védett legyen az éghajlati viszonyoktól, különösen az UV sugárzástól és az esőtől, úgyelve arra, hogy a kábel a lámpatest és az oszlop belsejében legyen.</p> <p>Y-csatlakozó: A sérült vezetékét kizárólag a gyártó, forgalmazó vagy szakember cserélheti ki a kockázatok elkerülése végett.</p>	<p>安全守则 该灯具内的光源仅可由维修人员、指定代理商或具备资质的人员进行更换。 在安装、维护和维修灯具之前必须首先切断电源。 风险群体 2 - 注意! 有害的光学射线有可能从产品中发出。不要凝视正在工作的光源。有可能对眼睛产生危害。灯具应选择合理位置安装，尽可能避免长时间在0.77米以内凝视。 Y类附件: 如果灯具外部电缆被破坏，电缆必须由制造商或服务代理商或者有资质的人员及时更换从而避免伤害。</p> <p>Y类附件: 如果灯具外部电缆被破坏，电缆必须由制造商或服务代理商或者有资质的人员及时更换从而避免伤害。</p>	<p>інструкція безпеки Джерело світла, що міститься у цьому світильнику, повинен замінити лише виробник, його сервісний агент або кваліфікована особа.</p> <p>Завжди вимикайте живлення перед встановленням, подглядом або ремонтом.</p> <p>ГРУПА РИЗИКУ 2 - УВАГА! Можливість небезпечного оптичного випромінювання від цього продукту. Уникайте прямого погляду на вмищене джерело світла. Може бути шкідливо для очей. Світильник має бути розташований так, щоб уникнути його тривалого споглядання з відстані ближче, ніж 0,77м.</p> <p>У випадку кабелю живлення із ПВХ ізоляцією, монтажник ПОВИНЕН забезпечити захист ВСЬОГО кабелю від впливу кліматичних умов, особливо від ультрафіолетових променів та дощу, переконавшись, що кабель знаходиться всередині світельника та опоры</p> <p>Y-з'єднання: у разі пошкодження дроту його має замінити лише виробник, дистриб'ютор чи експерт, щоб запобігти ризикам.</p>	<p>UPUTSTVA Izvor svetla u ovom rasvetnom telu može da zameni samo proizvođač, njegov servisni agent ili na sličan način kvalifikovana osoba.</p> <p>Uvek isključite napajanje pre instalacije, održavanja ili popravke.</p> <p>GRUPA RIZIKA 2 - PAŽNJA! Proizvod može emitovati štetno optičko zračenje. Izbegavajte vizuelni kontakt sa svetlosnim izvorom dok je u radu. Moguće oštećenje vida. Svetiljku treba pozicionirati tako da se ne očekuje duži vizuelni kontakt sa izvorom sa razdaljinu manje od 0,77m.</p> <p>U slučaju napojnog kabla sa PVC izolacijom, izvođač MORA obezbediti zaštitu CELOG kabela od klimatskih uslova, posebno UV zračenja i kiše, tako što će osigurati da se kabal nalazi unutar svetiljke i stuba.</p> <p>Y-veza: U slučaju oštećenja žice zamenu mora da obavi isključivo proizvođač, distributor ili stručnjak kako bi se izbegao rizik.</p>
<p>تعليمات السلامة: في حالة الحاجة لتغير مصدر الضوء، يتم ذلك من خلال الشركة المصنعة او الوكيل الممّول لعمل ذلك او شخص موهل لذلك. دأماً افضل الدائرة الكهربائية قبل تركيب او صيانة الجهاز. تحذير: هذا المنتج مصنف ضمن مجموعته المخاطر 2 خطر انبعاث اشعاع ضوئي، لا تنظر مباشرة الى الجهاز و هو مضاء لان ذلك مؤذي للعين. الجهاز يجب ان يركب بشكل يضمن ان التحديق بمصدر الضوء من مسافة اقل من 0.77 م غير متوقفة. يجب على الشخص الذي يوصل الجهاز بالدائرة الكهربائية التأكد من ان مخمي من التيارات المناخية وخاصة الاشعة فوق البنفسجية و لمطر من خلال التأكد ان الكابيل محوي بدائل العود وال الجهاز في حالة الحاجة لتغير الملائك الداخلي، يتم ذلك من خلال الشركة المصنعة او الوكيل الممّول لعمل ذلك او شخص موهل لذلك. دأماً افضل الدائرة الكهربائية قبل تركيب او صيانة الجهاز.</p>			

LICENCE

No. 20254 replaces No.20142

Issued to:
 Applicant:
R-Tech
Rue de Mons, 3
4000 LIEGE
Belgium

Licensee:
Schreder S.A.
Rue de Lusambo, 67
1190 BRUXELLES
Belgium



Product : road, square, street, flood lighting
 Trade name(s) : SCHREDER
 Type(s)/model(s) : VOLTANA0 6 LED xx, VOLTANA0 8 LED xx

The product and any acceptable variation thereto is specified in the annex to this licence and the documents therein referred to.

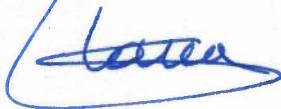
SGS CEBEC hereby declares that the above-mentioned product has been certified on the basis of:

- a type test according to the standard specified in annex
- an inspection of the production location.
- a certification agreement with the number 1173

SGS CEBEC hereby grants the right to use the CEBEC certification mark

The ENEC/CEBEC certification mark may be applied to the product as specified in this licence for the duration of the ENEC/CEBEC certification agreement and under the conditions of the ENEC/CEBEC certification agreement.

This licence is issued on: 15/03/2017



ir. C. Lana,
 Certification Manager

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 This certificate is only valid combined with the publication on the following web address: www.sgs.com/ee



SPECIFICATION OF THE CERTIFIED PRODUCT

Product data

Product	:	road, square, street, flood lighting
Trade name(s)	:	SCHREDER
Type(s)/Model(s)	:	VOLTANA0 6 LED xx, VOLTANA0 8 LED xx
description	:	Street lighting
rated voltage (Un)	:	200-240 V
rated frequency	:	50-60 Hz
class	:	class I
degree of protection	:	IP66
additional information	:	IK08
rated output current (In out)	:	max. 1050 mA

Additional information

xx = Color Temperature can be :
 NW neutral white
 CW cool white
 WW warm white

Product data - type VOLTANA0 6 LED xx

rated power	:	8-10-15-23 W
lamp(s)	:	6 LED
temperature class	:	Ta max.50°C

Product data - type VOLTANA0 8 LED xx

rated power	:	11-14-20-31 W
lamp(s)	:	8 LED
temperature class	:	Ta max. 40°C

TESTS

Test requirements

EN 60598-1:2015
 EN 60598-2-3:2003 + A1:2011

Test results

The test results are laid down in test report(s) ref. P-1560-la

Remarks

This certificate is based on test reports Nos. P1560-la

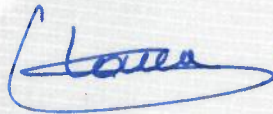
Conclusion

The examination proved that all test requirements were met.

Checked by, project leader : Christian Maes - 15/03/2017

Department Manager,
Product Certification :

Certification Manager :

 2017-03-15

FACTORY LOCATION(S)

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Ukraine

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Socelec S.A.
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Z.I.
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France

Tungfram-Schröder Világítási Berendezések Zrt
Tópart 2
2084 PILISSZENTIVAN
Hungary

Laboratory Service PHYSICAL TEST REPORT



R-Tech
Rue de Mons 3 – B-4000 Liège – Belgium
Tel.: +32 4 224 71 40 – Fax: +32 4 224 25 90
Member of Schröder Group

Subject: VOLTANA-0 / 6 led's / Moons PU025H105AQ 0-10V driver

Sample n°: P-E16371, P-E16375

Test purpose: Electrical measurements @ 1.05A

Remarks:

Test request n°: P-D16542

Folder n°: P-F16041

TEST CONDITIONS:

Operator: CLOSSET Frédéric

Load: 6 Led's
Typical Vf: 3,1 V

Driver: Moon's PU025H105AQ_0-10V Series

Power supply: Elgar ET3500 230V 50Hz

Measurement device: Fluke Norma 4000 HF power meter

CONCLUSIONS:

PF: 0.97

Efficiency: 82.1 %

THD: 9.1 %

Harmonics we are under the 25W => no measurements



Duplicate to: Mr M. Thijs
LAB 05/10/2016
L. Maghe

//P-16CR542

A handwritten signature in blue ink, appearing to read "Maghe".

Laboratory Service PHYSICAL TEST REPORT



R-Tech
Rue de Mons 3 – B-4000 Liège – Belgium
Tel.: +32 4 224 71 40 – Fax: +32 4 224 25 90
Member of Schröder Group

Subject: VOLTANA-0 8 led's class II PHILIPS driver 40 W

Sample n°: P-E17149

Test purpose: EMC tests according to EN 55015 & EN 61547 Standards

Remarks:

Test request n°: P-D17187

Folder n°: P-F16041

TEST CONDITIONS:

Operator: EMC - ULg

Test Summary

EN 55015 & EN 61547 Standards

Emission

Standard	Limit / Level	Result	
		PASS	FAIL
EN 55015 Conducted Emission	9kHz- 30 MHz	X	
EN 55015 Annex B	30 MHz – 300 MHz	X	
EN 61000-3-2	Class C a)	X	

Immunity

Standard	Limit / Level	Result	
		PASS	FAIL
EN 61000-4-2	4 kV at contact 2, 4 & 8 kV in the air Criteria B required	X	
EN 61000-4-3	3 V/m 80 MHz – 1 GHz AM 80 % 1 kHz Criteria A required	X	
EN 61000-4-4	1 kV 5 kHz Criteria B required	X	
EN 61000-4-5	0.5 & 1 kV MD Criteria C required	X	
EN 61000-4-5	Complementary levels 2, 4, 8 & 10 in MD Criteria C required	X	
EN 61000-4-6	3 V 150 kHz – 80 MHz AM 80 % 1 kHz Criteria A required	X	
EN 61000-4-11	0% U 0.5 period 70% U 10 periods Criteria B/C required	X	

VOLTANA-0 8 led's class II PHILIPS driver 40 W

Driver: Philips FP 40W 0.3-1A

EMC Auxiliaries: Varistors

CONCLUSIONS:



VOLTANA 0 8 led's driven by PHILIPS FP 40 W driver complies with the CISPR/EN 55015 and EN 61547 Standards.

Remark: Surge protection tested OK up to 10 KV for Differential mode for the equipment with eventual Fuse replacement.

Duplicate to: Mr Ph. Verbeeck
LAB 24/04/2014
G. Cheuvart

//P-17CR187

Laboratory Service PHYSICAL TEST REPORT



R-Tech
Rue de Mons 3 – B-4000 Liège – Belgium
Tel.: +32 4 224 71 40 – Fax: +32 4 224 25 90
Member of Schröder Group

Subject: VOLTANA-0 with Glass protector

Sample n°: P-E16420

Test purpose: Mechanical impact resistance test following IEC/EN 62262 Standard

Remarks:

Test request n°: P-D16604

Folder n°: P-F16041

TEST CONDITIONS:

Operator: BOMBIL Patrick

Glass thickness: 5 mm

At pendulum hammer

5 impact points distributed on protector surface

1 impact on clamp

One impact on each point

Test on 5 samples

Test

Result

IK08 : Impact energy: 5 joules
Hammer weight: 1,7 kg
Height of fall: 29,4 cm

OK for the 5 samples for all tested points

CONCLUSIONS:



VOLTANA 0 equipped with glass protector complies with IK08 test following IEC/EN 62262 Standard.

Duplicate to: Mr M. Thijs
LAB 07/11/2016
L. Maghe

//P-16CR604

A handwritten signature in blue ink, appearing to read "Maghe".

Laboratory Service PHYSICAL TEST REPORT



R-Tech
Rue de Mons 3 – B-4000 Liège – Belgium
Tel.: +32 4 224 71 40 – Fax: +32 4 224 25 90
Member of Schröder Group

Subject: VOLTANA-0 equipped with 5205 & 5206 lenses

Sample n°: P-E16393, P-E16460

Test purpose: Mechanical impact resistance test following IEC/EN 62262 Standard

Remarks:

Test request n°: P-D16655

Folder n°: P-F16041

TEST CONDITIONS:

Operator: BOMBIL Patrick

VOLTANA-0 equipped with 6 led's

At pendulum hammer

5+2 impact points distributed on lens protector surface

One impact on each point

Test on 5 samples

Test

Result

IK08 : Impact energy: 5 joules
Hammer weight: 1,7 kg
Height of fall: 29,4 cm

OK for all tested samples

CONCLUSIONS:



VOLTANA 0 equipped with 5205 & 5206 lenses complies with IK08 test following IEC/EN 62262 Standard.

Duplicate to: Mr M. Thijs
LAB 23/11/2016
L. Maghe

//P-16CR655

A handwritten signature in blue ink, appearing to read "Maghe".

Laboratory Service PHYSICAL TEST REPORT



R-Tech
Rue de Mons 3 – B-4000 Liège – Belgium
Tel.: +32 4 224 71 40 – Fax: +32 4 224 25 90
Member of Schröder Group

Subject: VOLTANA 0 – 8 led's – Flat glass protector

Sample n°: P-E16377, P-E16394

Test purpose: Tightness test IP66 following IEC/EN 60598-1 Standard

Remarks:

Test request n°: P-D16575

Folder n°: P-F16041

TEST CONDITIONS:

Operator: BOMBIL Patrick

VOLTANA-0 8 led's with flat glass protector

Pre-conditioning: endurance test

Test	Result
IP6X : -Luminaire switched ON until stable T° -Talcum in suspension (blowing ON) -After 1', luminaire OFF -Talcum for 3 hours	OK
IPX6 : - Luminaire switched ON until stable T° - Luminaire switched OFF and immediately sprayed with water jet - Hose Φ 12,5 mm - Water pressure: 1 kg/cm ² - Spraying distance: 3 m - Duration of test: 3 minutes	OK

CONCLUSIONS:



VOLTANA-0 8 led's with flat glass protector complies with IP66 test following IEC/EN 60598-1 Standard.

Duplicate to: Mr M. Thijs
LAB 21/11/2016
L. Maghe

//P-16CR575

Laboratory Service PHYSICAL TEST REPORT



R-Tech
Rue de Mons 3 – B-4000 Liège – Belgium
Tel.: +32 4 224 71 40 – Fax: +32 4 224 25 90
Member of Schröder Group

Subject: VOLTANA 0 – 6 led's NW @ 1050 mA

Sample n°: P-E16418

Test purpose: Photobiological safety tests following IEC-EN 62471 Standard

Remarks:

Test request n°: P-D17045

Folder n°: P-F16041

TEST CONDITIONS:

Operator: Laborelec

VOLTANA 0 – 6 led's NW @ 1050 mA



Test program:

Spectral radiance and irradiance measurements of the device under test in the following wavelength ranges:

- 200 to 400 nm : « Actinic UV skin & eye » irradiance
- 315 to 400 nm : « Eye UV-A » irradiance
- 300 to 700 nm : « Blue Light » radiance
- 380 to 1400 nm : « Thermal Retinal » radiance
- 780 to 1400 nm : « Thermal Retinal » radiance (weak visual stimulus)

Determination of the Risk Group classification for each hazard and recommendation about the marking of the product.

CONCLUSIONS:

RG2 @ 20 cm

RG1 @ 30 cm

Duplicate to: Mr Ph. Verbeeck

LAB 08/06/2017

G. Cheuvart

//P-17CR045

A handwritten signature in blue ink, appearing to read "Cheuvart", written over a blue scribble.

Thermal Test LED

General information

Subject : VOLTANA 0 - 8 LEDs Oram 50 W driver
Created on : 08/11/2018
Validated on : 21/11/2018
Test number : D180791
Reference norm : IEC/EN 60598-1 Standard
Sample(s) : E180590
Folder : P-F16041

Test conditions

Luminaire : VOLTANA 0
Number of LED : 8

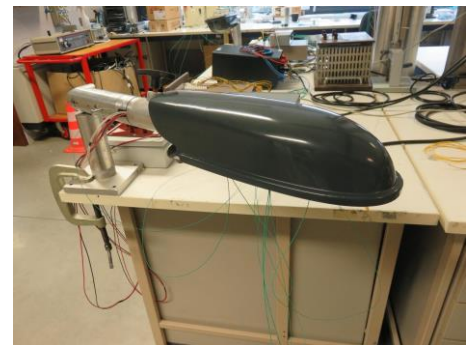
Driver : Optotronic OT50/120-277/1A2 2DIM LT2 P / 00-14-565
Driver info : Tc (max: 80°C)
Driver current (mA) : 1250
SPD : Vossloh Lighting Solutions SPC3 230/10 K

Measurements devices :
Fluke Norma 4000 - HF Powermeter - (E110) : Electrical measurements
Keithley 2701 (E097) – Ethernet Multimeter/Data Acquisition System :
Thermal & VF led measurements

Power Supply :
APT 300XAC AC power supply (E096)
Supply voltages: 230 V 50 Hz


Junction Temperature measurement method : Junction temperature measurement by base temperature measurement and electrical measurement. $T^j = T^b + R_{jb} \times P_{led}$

Operator : MESPOUILLE Loic



IMG_0885

Conclusion

 Informative

Ta: 40°C limited by lenses and driver; according IEC 60598-2-3 and IEC 60598-2-5 (outdoor use only)

Ta: 30°C limited by lenses and driver; indoor use and UL standard

Tq: 15°C limited by lenses and driver; according IEC 62722-2-1

Tq given for 100 khrs of lifetime

Validated by : Duplicate to : BOS Peter
GHYSENS Gilles LAB : 22/11/2018

//CR180791

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
VOLTANA 0

5136

Optic	5136
Protector	Flat glass
Source	8 Samsung LH351C
Matrix	425502

LENZO
FLEX™ 2


Characteristics

							
416	156	91	2.6	IP 66	IK 08	I EU	0.012
Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Tightness level*	Impact resistance*	Electrical class*	CxS (m ²)

* According to IEC-EN60598 and IEC-EN62262

Features

The ultimate, cost-effective, performing family of luminaires that pays for itself

- Cost-effective and efficient lighting solution for a fast return on investment
- High performance with safety and comfort
- 5 sizes for flexibility
- IP 66 tightness level
- ThermiX® to withstand high temperatures
- Designed to incorporate the Owlet range of control solutions

Types of application

- Square and park
- Roundabout
- Residential road
- Urban road

Information for 1000 lm matrix

Efficacy (%)	86.5	G Class (EN 13201-2)	G3	I 70-80-90-95 (cd)	550 - 98 - X - X
DLOR (%)	86.5	G* (EN 13201 2015)	G*2	CIE flux code N 1→5 (%)	50.4 - 79.8 - 97.5 - 100.0 - 86.5
ULOR (%)	0.0	Imax (cd)	554	Gradient 90°	34cd
ULR (%)	0.0	Aperture 0-180°	77 - 77	Gradient 270°	10cd
Incl ULR 4%	-45/45°	Aperture 90-270°	30 - 13		

Photometrical characteristics

LED count	Colour code	Current (mA)	Luminaire power (W)	Source flux (lm)	Luminaire output flux (lm)	Luminaire efficacy (lm/W)	Peak (cd)	BUG Rating	Voltage (V)
Ambient temp = 25°									
8	NW 740	350	10	1520	1315	132	842	B1 U0 G0	230
8	NW 740	500	14	2096	1814	130	1161	B1 U0 G1	230
8	NW 740	700	19	2810	2432	128	1557	B1 U0 G1	230
8	NW 740	1000	28	3760	3254	116	2084	B1 U0 G1	230
8	NW 740	1050	29	3861	3341	115	2139	B1 U0 G1	230
8	NW 740	1250	37	4362	3775	102	2417	B1 U0 G1	230
8	WW 730	350	10	1440	1246	125	798	B1 U0 G0	230
8	WW 730	500	14	1986	1718	123	1100	B1 U0 G1	230
8	WW 730	700	19	2663	2304	121	1475	B1 U0 G1	230
8	WW 730	1000	28	3563	3083	110	1974	B1 U0 G1	230
8	WW 730	1050	29	3658	3165	109	2027	B1 U0 G1	230
8	WW 730	1250	37	4133	3576	97	2290	B1 U0 G1	230

Tolerance on flux +- 7% - Tolerance on power +- 5%

Summary

CONCEPT

Family of 6 road LED luminaires

Recommended installation height: between 4.00 and 12.00m

For optimal heat dissipation, the driver and LED engine are in separate compartments and juxtaposed in a horizontal section

HOUSING & FINISH

- Housing in high-pressure, die-cast aluminium, polyester powder coated
- Colour: RAL 7038

INSTALLATION

- Luminaire can be fixed by side-entry with a clamp, suitable for 42-60mm diameter
- Built-in inclination steps: -10°, -5°, 0°, 5°
- Post-top adapter diameter 48-60mm or 76mm, tightened with 2 stainless steel screws
- Direct access to the driver compartment with screws for easy maintenance on-site

OPTICAL UNIT

- Protected against lens degradation by 5mm thick extra-clear hardened glass
- Flatbed PCB with acrylic lens overlay principle
- Various photometric distributions: from narrow road to motorway, medium and large area
- CRI > 70
- ULOR: 0%

LED lumen depreciation

- Lifetime residual flux @ Tq=25°C @ 100.000 hrs: 350mA & 500mA: 90%; 700mA: 80%; 1A: 70%

ELECTRICAL

- Class I or Class II
- Input voltage: 120-277V - 50-60Hz
- Power factor > 90% at full load
- Surge protection: 4kV minimum (10kV + 10kA optional)
- Thermal protection on LED PCBA (see Thermix concept)

STANDARDS & CERTIFICATIONS

- CE
- ENEC
- LM79-80
- ROHS
- Certified for 3G vibration
- All measurements in ISO17025 accredited laboratory

OPTIONS

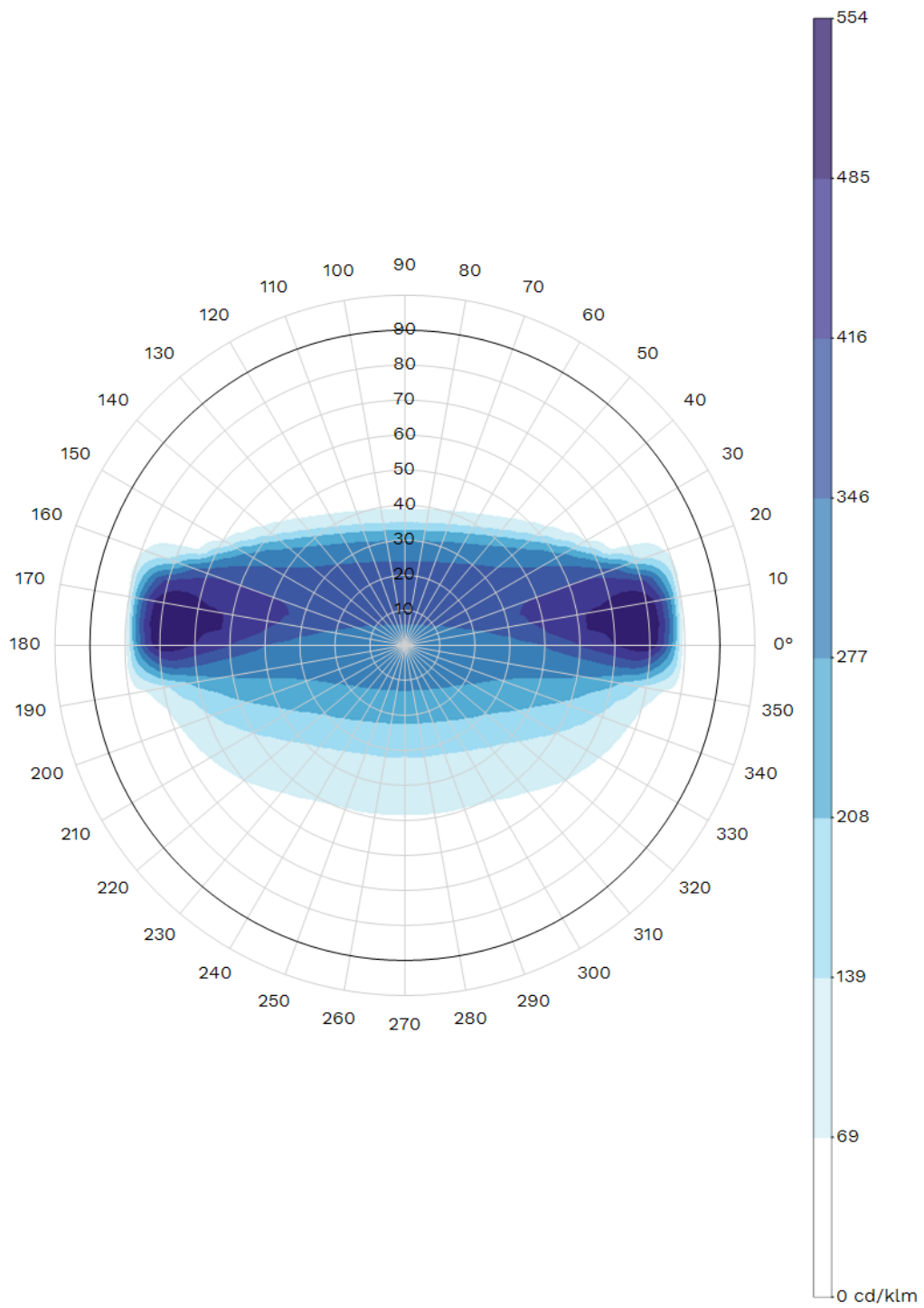
- Other RAL or AKZO colours
- Back Light control system
- OWLET remote management
- Custom dimming profile

VOLTANA 0 - 5136 - 8 Samsung LH351C - Flat glass - 425502

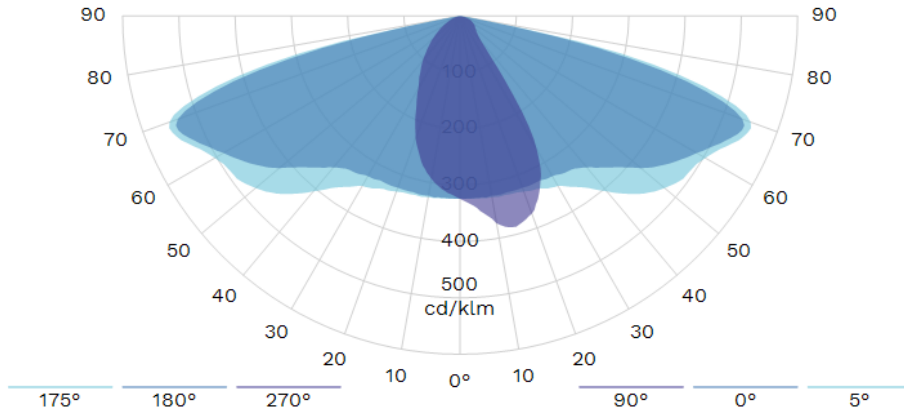
12/05/2020

Schröder

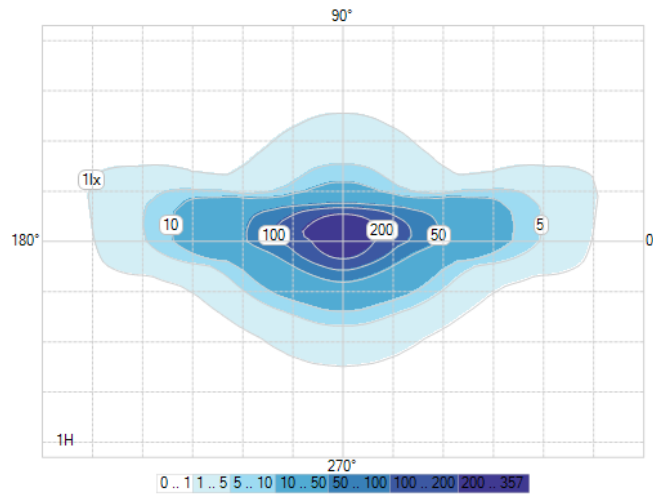
- Photocell



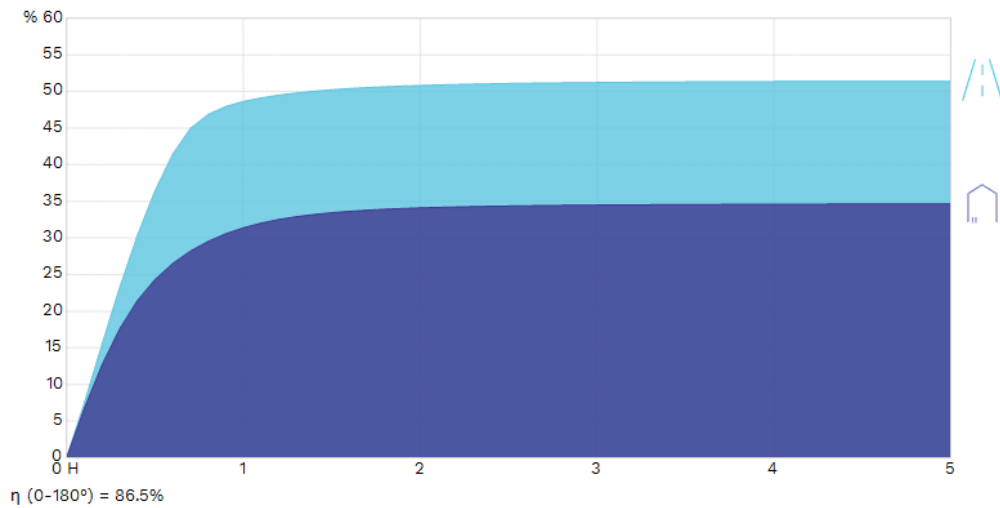
Polar/Cartesian diagram



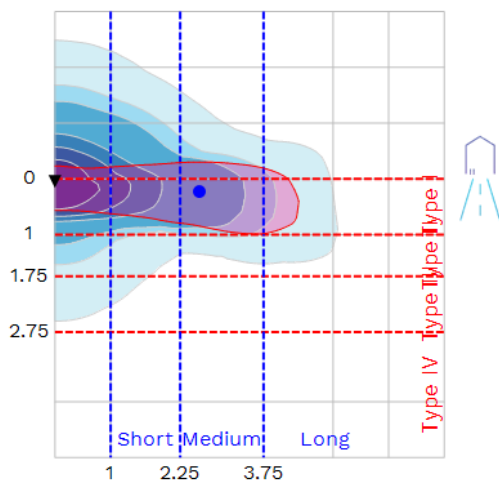
Isolux



K-Curve

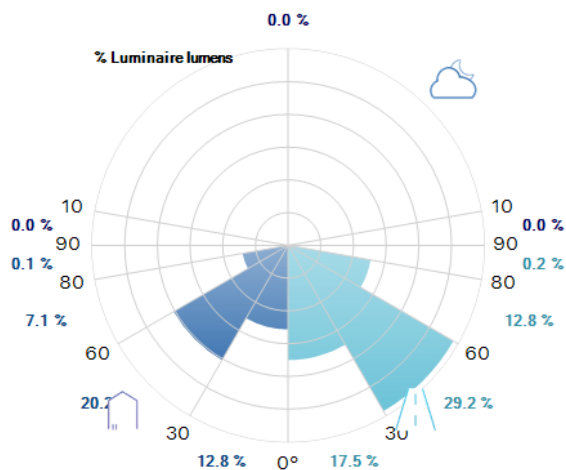


IES Roadway Classification / Nema Classification

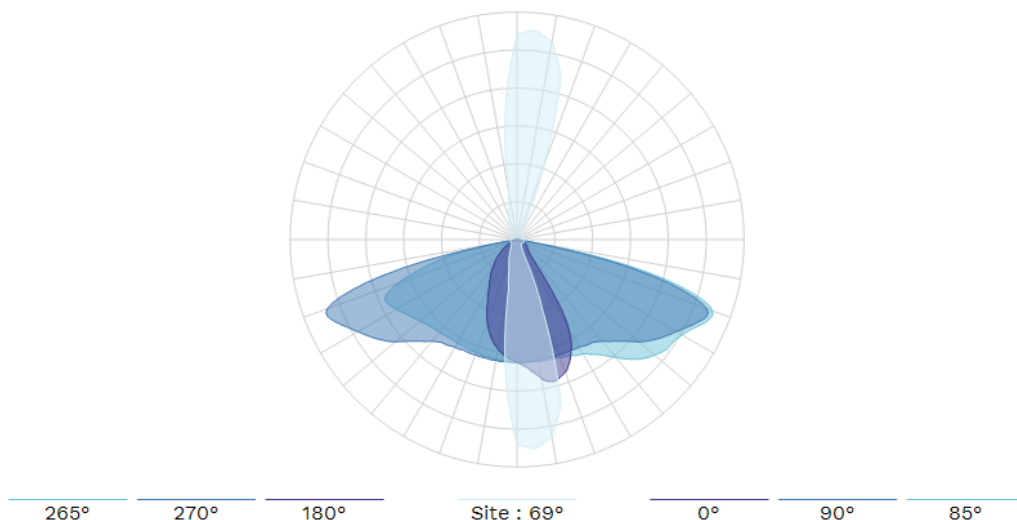


I - Medium

Luminaire classification system (LCS)



Intensity diagram in max Cone and in CPlane



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