

VOLTANA

ILUMINAT CU LEDURI,
POTRIVIT ORICUI

LED



owlet

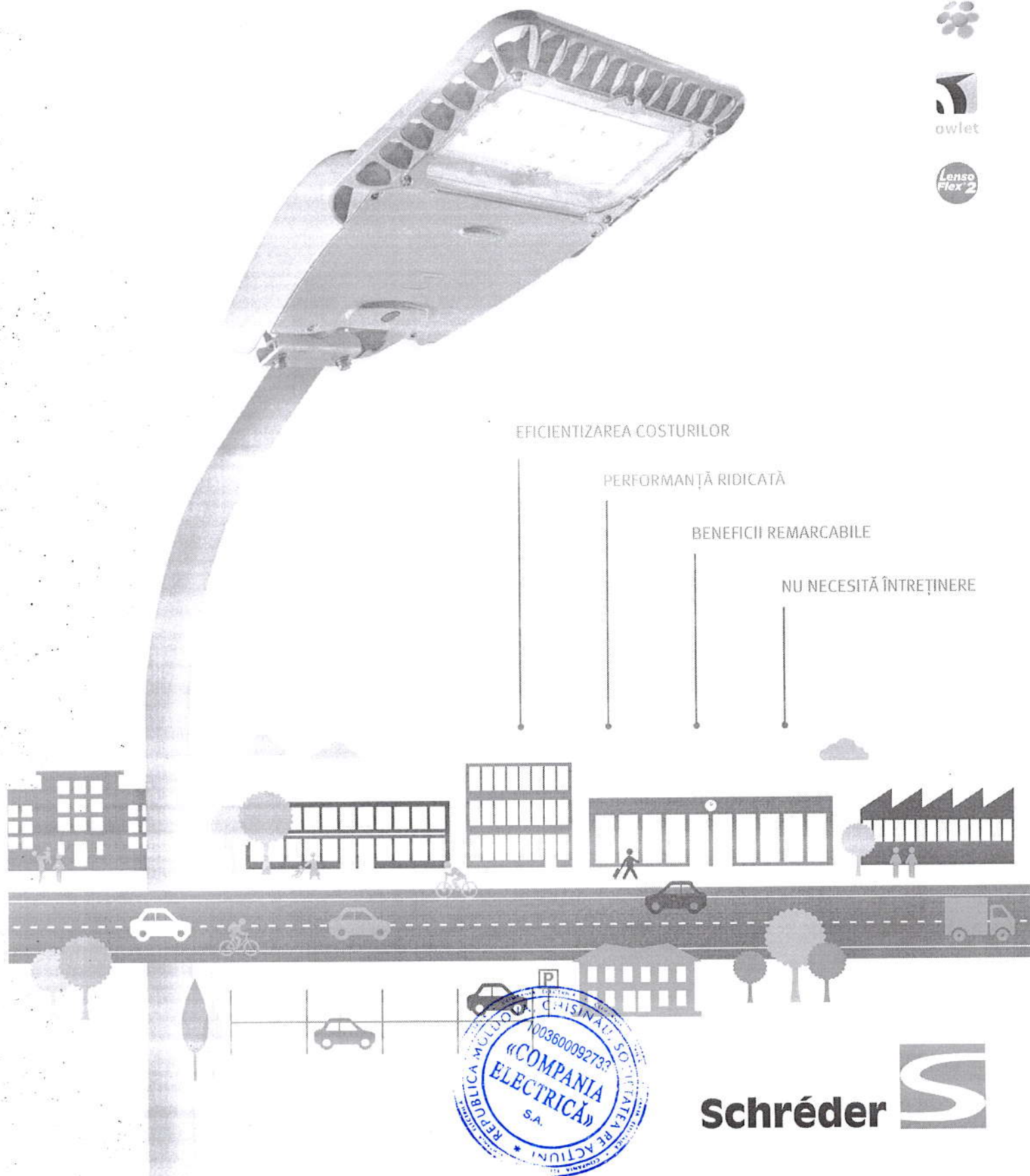


EFICIENTIZAREA COSTURILOR

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

POSIBILITATEA 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 tehnologia LED Lensolux®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

Un avantaj al sistemului de iluminat Voltana este durata de viață a acestuia, până la 6 schimbări ale lămpilor, comparativ cu sursele de iluminat tradiționale. În perioada în care, pentru aparatele cu lămpi tradiționale, este necesară înlocuirea aparatului de iluminat, Voltana câștigă deja bătălia pentru scăderea costurilor totale, față de soluțiile tradiționale. 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

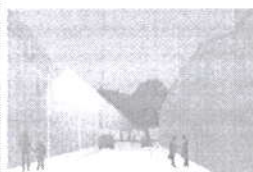
ZONE PIETONALE

Străzi, alei și piste
adechate



STRADAL

Străzi rezidențiale



Spații comune, zone
comerciale din mediul
urban



CĂI DE CIRCULAȚIE

Căi de circulație
din mediul rural



Căi de circulație
din mediul urban



substituit HID



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 **varianțe de intensitate luminoasă**, mulțumită celor 6 dimensiuni disponibile și numeroșilor curenți conductor
- › **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 **etanșitate** (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** (aluminiiu, oțel și sticlă)
- › Profil destinat protecției mediului (PEP) pentru scăderea amprentei ecologice
- › Emission de CO₂ reduse (100% din energie)
- › 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 ÎMBUNĂȚĂȚIREA MANAGEMENTULUI OPERAȚIONAL

- › Disponibil cu profil DALI 1-10 V sau profil de reducere personalizat
- › **Flux Luminos Constant (CLO)**, pentru compensarea automată a deprecierii 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 conectare la o nouă formă Owllet IoT

* indisponibil pentru Voltana 0



CARACTERISTICI - CHEIE

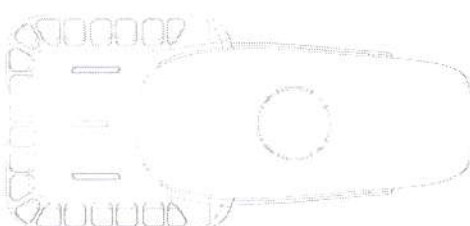
	Voltana 0	Voltana 1	Voltana 2	Voltana 3	Voltana 4	Voltana 5
Flux luminos standard (gama) lm	700 - 2,500lm	800 - 3,000lm	1,800 - 6,100lm	2,700 - 9,200lm	3,700 - 12,700lm	7,500 - 25,200lm
Consum de energie (W)	8 - 30W	10 - 33W	20 - 50W	28 - 82W	36 - 110W	70 - 215W
Temperatură de funcționare	-10°C până la 40°C					0°C până la 40°C
Temperatură de depozitare	-20°C până la 70°C					0°C până la 40°C
Etanș, compartiment optic	IP 66					IP 65
Material carcasă	Aluminiu turnat sub presiune					Aluminiu turnat sub presiune
Rezistență la impact (Joule)	IK 08					IK 08
Tensiune nominală	120 - 277V - 50 - 60Hz					120 - 277V - 50 - 60Hz
Clasă electrică	EU I sau II					EU I sau II
Înălțime - (H) mm	4 - 12m					4 - 12m
Material	Sticlă (polycarbonat pentru unele variante ale Voltana 0)					Sticlă (polycarbonat pentru unele variante ale Voltana 0)
Corp	Aluminiu turnat sub presiune					Aluminiu turnat sub presiune
Diffuzor	RAL 7038					RAL 7038
Accesorii	Opțional: altă culoare din paleta RAL, la cerere					Opțional: altă culoare din paleta RAL, la cerere

Notă: Pentru toate variantele Voltana, fluxul luminos standard este calculat pe baza unei temperaturi de funcționare de 25°C. Fluxul luminos real poate varia în funcție de condițiile de funcționare. Pentru a verifica dacă acest document cuprinde ultimele informații disponibile, vă rugăm să vizitați site-ul nostru web: www.compania-electrica.ro

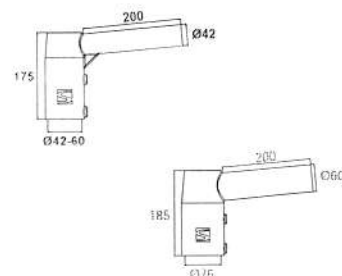
Notă: Pentru toate variantele Voltana, consumul de energie este calculat pe baza unei temperaturi de funcționare de 25°C.

DIMENSIUNI | GREUTATE

	Voltana 0	Voltana 1	Voltana 2	Voltana 3	Voltana 4	Voltana 5
L	416mm	501mm	518mm	641mm	555mm	705mm
W	95mm	181mm	240mm	240mm	380mm	480mm
H	300mm	300mm	300mm	300mm	300mm	300mm
KG	2,5kg	4kg	5kg	6kg	8kg	12kg

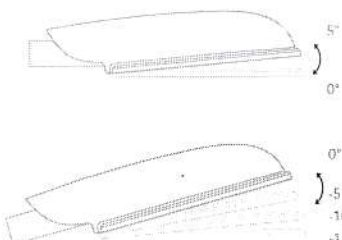


ADAPTOR VÂRF DE STÂLP

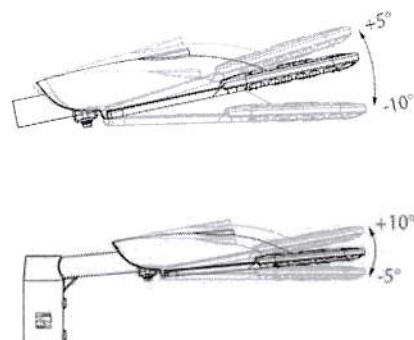


REGLAJE UNGHI ÎNCLINARE

VOLTANA 0

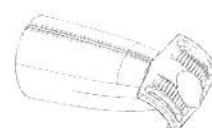


VOLTANA 1-5



MONTAJ UNIVERSAL

(OPȚIONAL PENTRU VOLTANA 0-1-2-3-4)



ÎNLOCUIȚI-VA ACTUALUL SISTEM DE ILUMINAT ȘI
 FACETI ECONOMII IMEDIAT, CU
 VOLTANA!

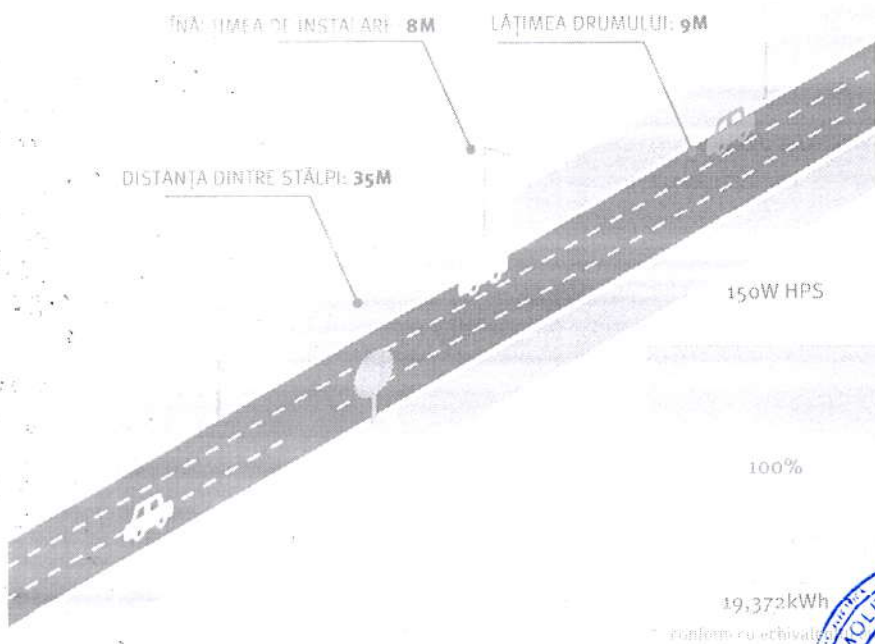
Pe lângă sursele mai puţin cunoscute de iluminat cu lămpi pe bază de sodiu cu aparatele Voltana, economiile de energie devin impresionante. În varianta plug-and-play, opţiunile de control - care nu sunt disponibile sau sunt foarte limitate în cazul aparatelor DPS - nu sunt incluse. În funcţie de diferite scenarii, aceste opţiuni pot creşte semnificativ economiile de energie, oferind, în acelaşi timp, siguranţă şi confort pentru toţi utilizatorii şi îmbunătăţind managementul operaţional 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 100W	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		economii de		economii de		economii de		economii de		economii de	
78W ⁽¹⁾		110W ⁽¹⁾		110W ⁽¹⁾		167W ⁽¹⁾		167W ⁽¹⁾		280W ⁽¹⁾	
											180W ⁽¹⁾
26W ⁽²⁾		48W ⁽²⁾		48W ⁽²⁾		70W ⁽²⁾		92W ⁽²⁾			

STUDIO DE CAZ

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

Cu o investiție minimă (24 de LEDuri, versiunea 1A), Vollana 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 (la afara M₂₀, conform standardului CIE 115), cu o recuperare a investiției în mai puțin de 4 ani și economii de energie de până la 20%.



CONSUM ANUAL DE CURENT
PENTRU UN KILOMETRU
(4.000 ORE/AN)

Voltana 3 24 LEDuri 1A	Voltana 3 24 LEDS 1A + dimming
economii la energie de 58%	economii la energie de 79%
42%	21%
4,100Wh	4,100kWh

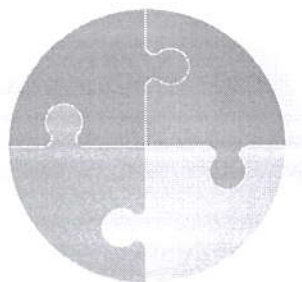




SIGURANȚĂ



STARE DE BINE



SOLUȚII



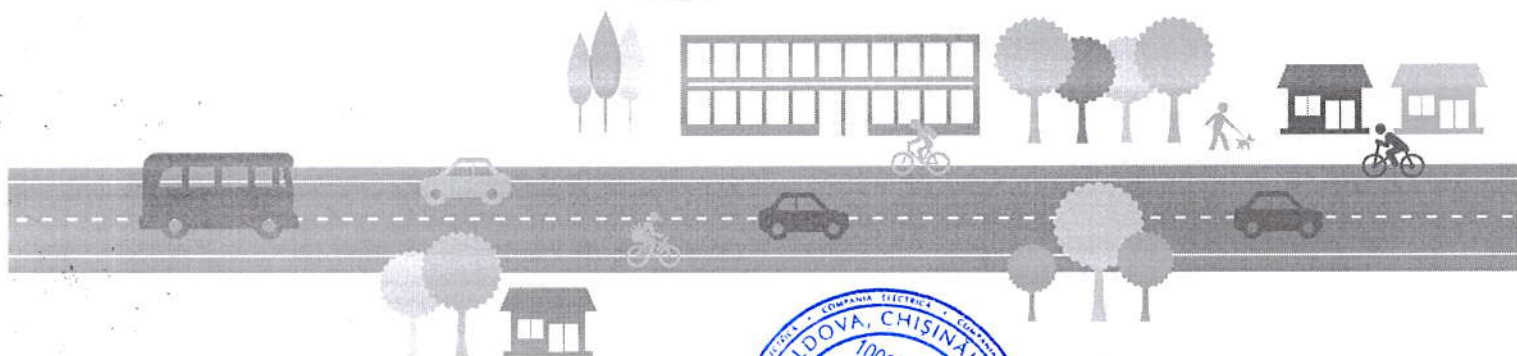
DEZVOLTARE DURABILĂ



ECONOMII



În conformanță cu standardul EN 50565-1:2002, produsul este conform cu cerințele de siguranță și performanță ale standardului EN 50565-1:2002. Acest produs este conceput și fabricat în conformitate cu cerințele standardului EN 50565-1:2002.



Schröder



www.schreder.com

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

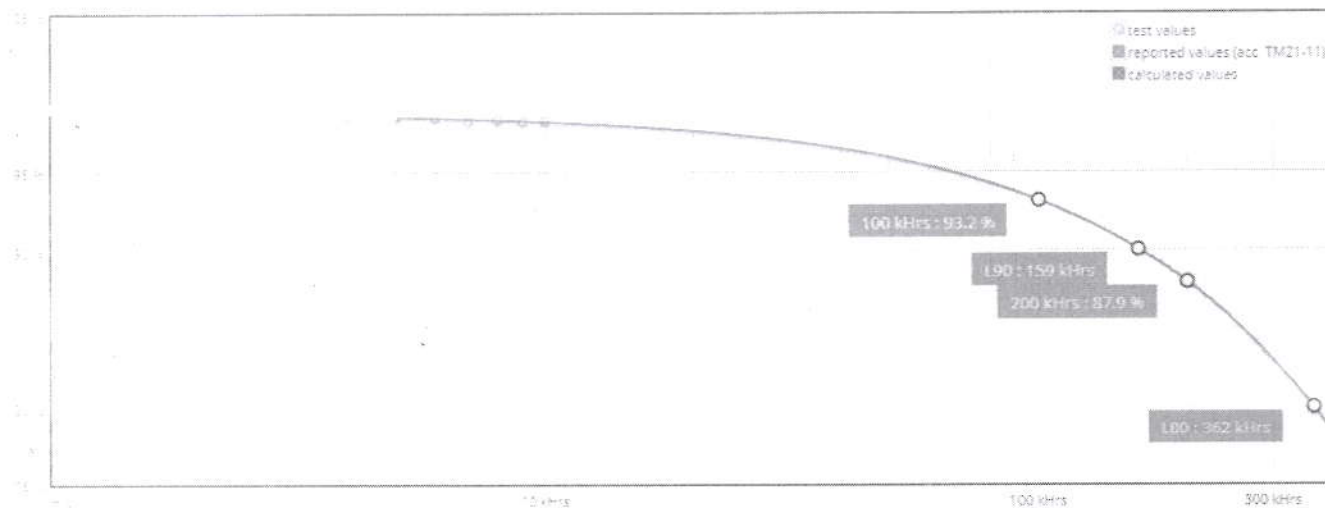
LED type LH351C
 LED current 1000 mA
 Ts 55°C
 Description SLED-19-031

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

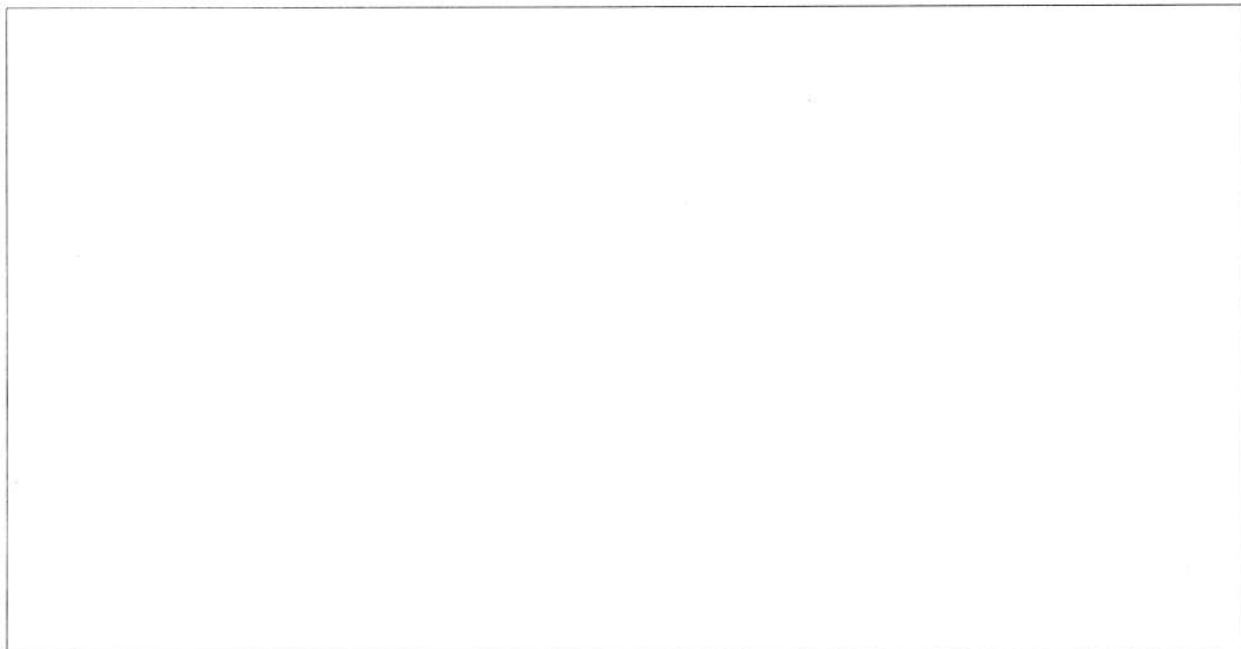
Power & Print

Type : DELTA SM400-AR-4

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

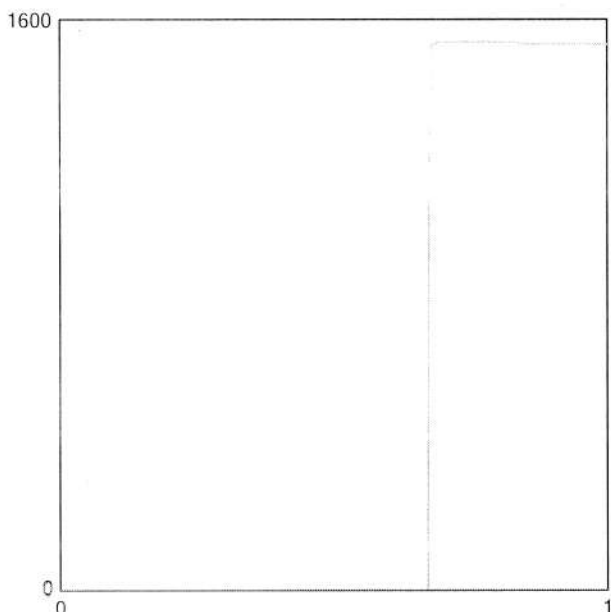
Active ☐

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 :



LED 2019/58 2/3

Colorimetry



226 - TEST

NBN EN ISO/IEC 17025 : 2005

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

R1=65.3	R8=46.9	R15=58.9
R2=80.1	R9=-39.9	
R3=90.3	R10=54.3	
R4=70.6	R11=67.4	
R5=88.1	R12=48.8	
R6=72.7	R13=70.4	
R7=78.6	R14=94.7	

JIS color sample

Ra=72.07 (mean value of R1-R8)

Re=62.15 (mean value of R1-R15)

Transfer data to table ☒ Auto

Calibration File: Weighting Function: None

Measurement Mode: Measurement:

Average: 1

Measurement: Hold integration Time Quick mode

Target:

Quit



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.

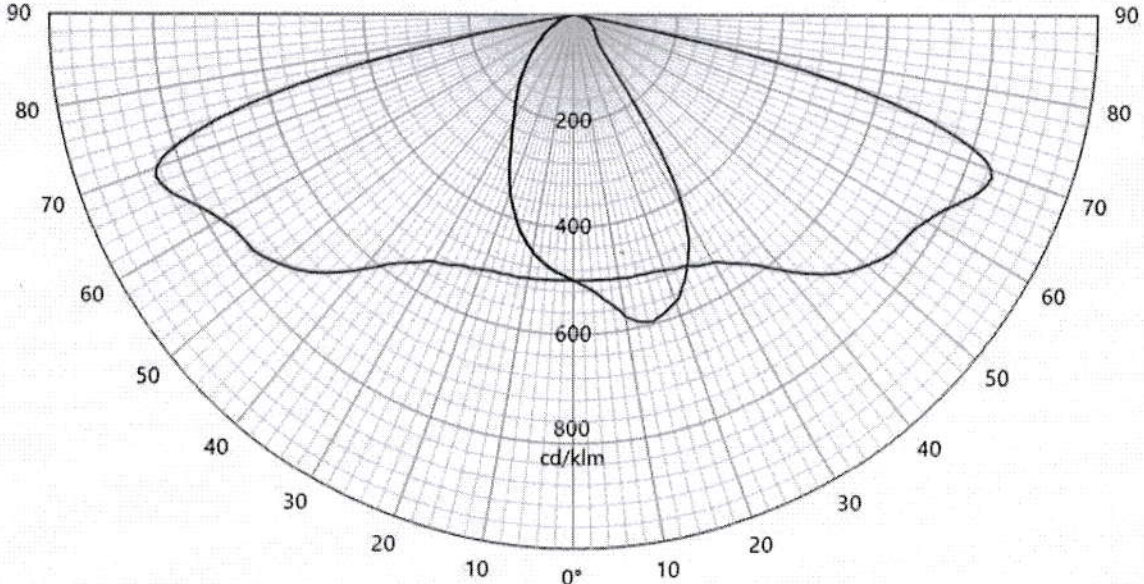
LED

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0	Inclination 0°	Request # FD39019
Type LED	BIN 40-70M-4-TB-RB	Source Trademark Samsung	Reference LH351C	# LEDs 8	Reflector 5136	
Master		Reflector Schreder Led assembly Narrow Assembled 0.0°				No 5136
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	Schröder 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	Matrix in total flux @350 mA Light losses due to thermal stabilization: 1 % Electrical measurement on LED (#1): Voltage = 22.32 V Current = 0.350 A Power = 7.81 W Electrical measurement on driver (#1): Voltage = 230.00 V Current = 0.046 A Power = 10.19 W PF = 0.957 Total luminaire power = 10.19 W : Lm/Watt = 130.60 lm/W Driver #1 : See observations for driver details - PCB 00-71-636 A								
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						



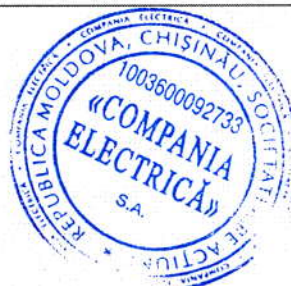
42550



LUMINOUS INTENSITY DIAGRAM

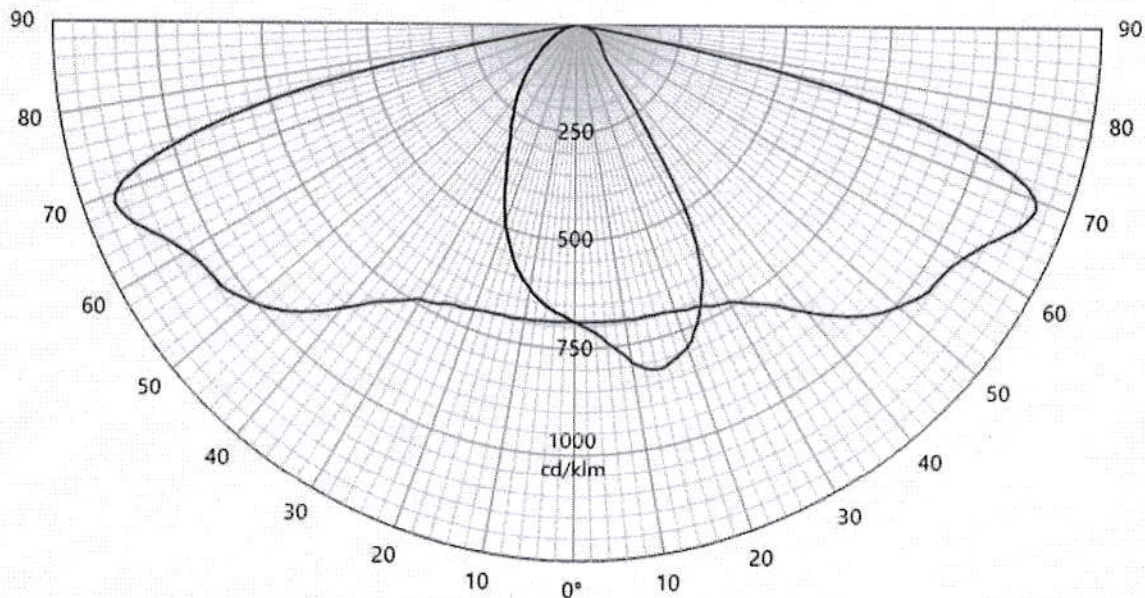
Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39019	
Source	Type LED	BIN 40-70M-4-TB-RB	Trademark Samsung	Reference LH351C	# LEDs 8	Reflector 5136			
Reflector	Schreder Led assembly Narrow Assembled 0.0°					No	5136		
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	Matrix in efficiency @350 mA Light losses due to thermal stabilization: 1 % Electrical measurement on LED (#1): Voltage = 22.32 V Current = 0.350 A Power = 7.81 W Electrical measurement on driver (#1): Voltage = 230.00 V Current = 0.046 A Power = 10.19 W PF = 0.957 Total luminaire power = 10.19 W Driver #1 : See observations for driver details - PCB 00-71-636 A								
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

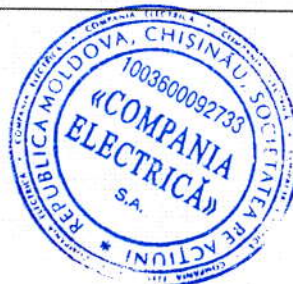


LUMINOUS INTENSITY DIAGRAM

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	Schröder 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	Matrix in total flux @500 mA Light losses due to thermal stabilization: 1,5 % Electrical measurement on LED (#1): Voltage = 22.76 V Current = 0.500 A Power = 11.38 W Electrical measurement on driver (#1): Voltage = 230.00 V Current = 0.063 A Power = 14.16 W PF = 0.974 Total luminaire power = 14.16 W : Lm/Watt = 129.60 lm/W Driver #1 : See observations for driver details - PCB 00-71-636 A								
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						

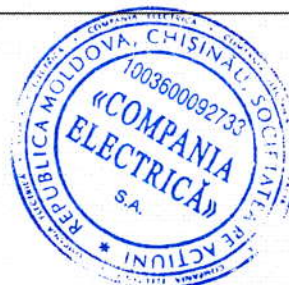


42550



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	Schröder 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	Matrix in total flux @700 mA Light losses due to thermal stabilization: 2 % Electrical measurement on LED (#1): Voltage = 23.26 V Current = 0.700 A Power = 16.29 W Electrical measurement on driver (#1): Voltage = 230.00 V Current = 0.087 A Power = 19.79 W PF = 0.985 Total luminaire power = 19.79 W : Lm/Watt = 124.34 lm/W Driver #1 : See observations for driver details - PCB 00-71-636 A								
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						



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	Schröder 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	Matrix in total flux @1000 mA Light losses due to thermal stabilization: 2.5 % Electrical measurement on LED (#1) : Voltage = 23.93 V Current = 1.000 A Power = 23.93 W Electrical measurement on driver (#1) : Voltage = 230.00 V Current = 0.128 A Power = 28.74 W PF = 0.978 Total luminaire power = 28.74 W : Lm/Watt = 114.56 lm/W Driver #1 : See observations for driver details - PCB 00-71-636 A								
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%

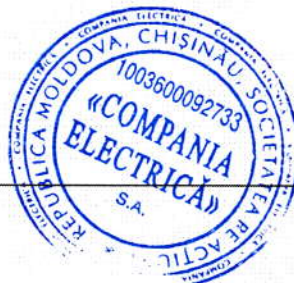
Electrical AC

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

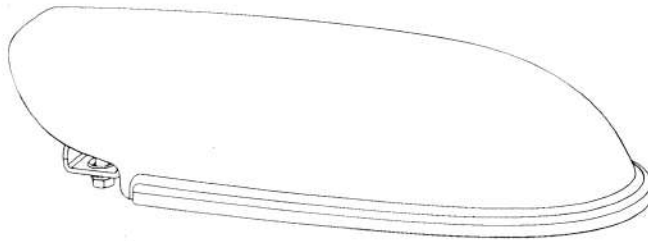
Amarell Precision

Type: Liquid in glass N63833

Calibration: traceable to LBT (Laboratoire Belge de Thermométrie)



Schröder

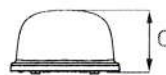
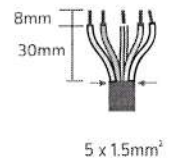
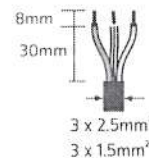
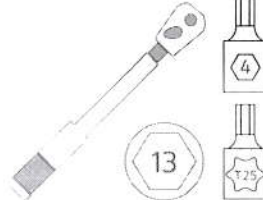


VOLTANA 0

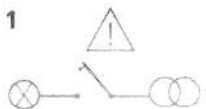
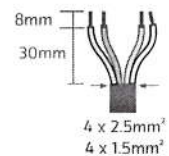
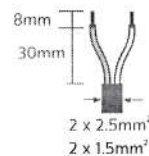
Installation instructions



		IEC EN60598				4-8m	350-1250mA 8-38W	220-240V 50/60Hz	IP 66	IK 08
--	--	-----------------------	--	--	--	------	---------------------	---------------------	-----------------	-----------------



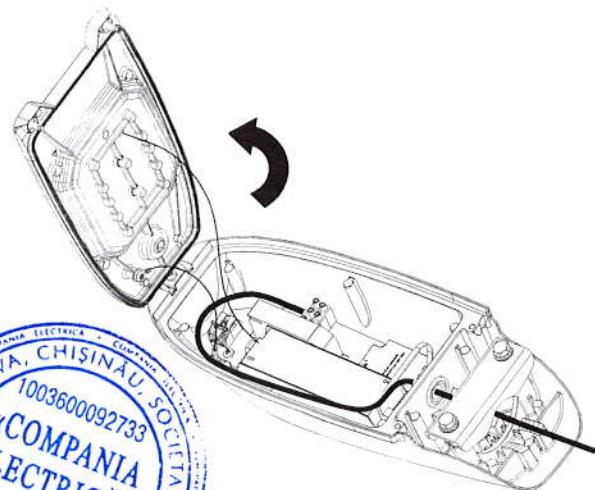
Voltana0	
A	416mm
B	156mm
C	91mm
	2.6kg
CxS	0.012m²



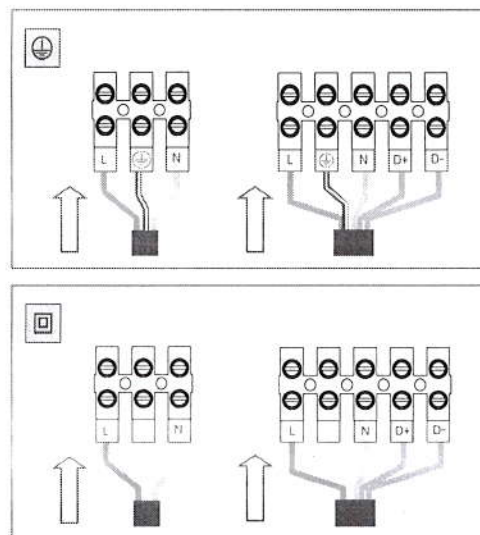
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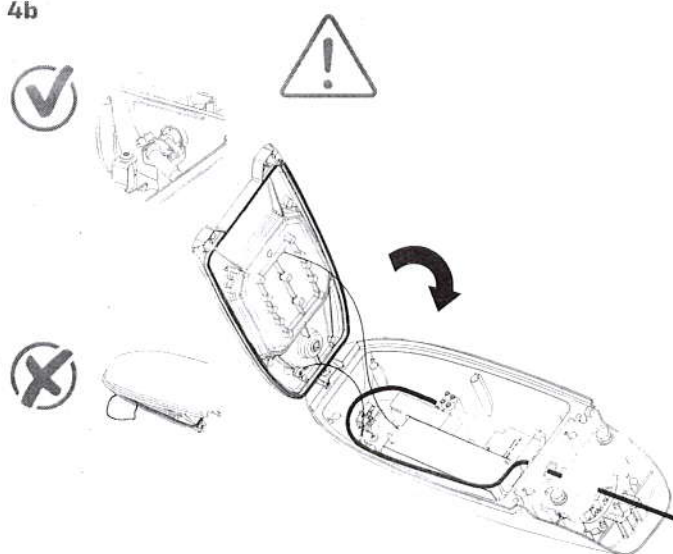
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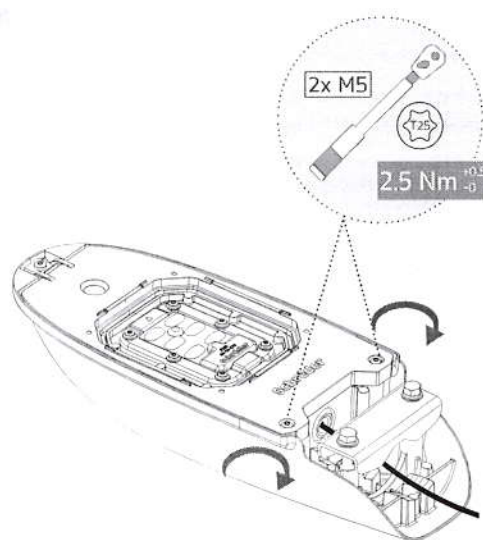
4a



4b



4c



5



2x  M8 x 70
2x  M8 x 45

-10°

-5°

0°

+5°

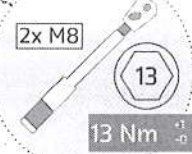
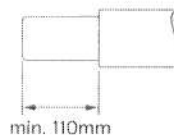
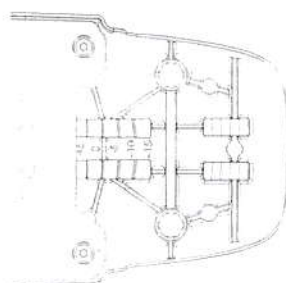
Ø42

Ø48

Ø60

M8 x 45

M8 x 70



2x M8

13 Nm



risk
group 2

200mm

Y-veza: U slučaju oštećenja žice zamenu mora da obavi isključivo proizvođač, distributer ili stručnjak kako bi se izbegao rizik.



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

© Only integral publication of this certificate, including the annex, is allowed

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



SGS Belgium NV-Division SGS CEBEC
Business Riverside Park
Bld Internationalelaan 55 Build. D
B-1070 Brussels
Tel.+32(0)2 556 00 20 Fax.+32(0)2 556 00 36

This certificate is issued by the company under its General Conditions for Certification Services accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitations of liability defined therein and in the Test Report herein mentioned which findings are reflected in this Certificate. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



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 :

Christian Maes 2017-03-15

FACTORY LOCATION(S)

Schröder do Brasil Iluminação Ltda.
Rua Iracema Lucas, 415
Distrito Industrial Vinhedo
13280-000 SAO PAULO
Brazil

Schreder TOV
Vul. Mykulynetska 46B
46000 TERNOPIL
Ukraine

Schreder (China) Lighting Industrial Co., Ltd
No.40 Xinye 2 Street, Tianjin Economic Technological Development Zone West Zone,
300462 Tianjin City, P.R.China
China

Socelec S.A.
Av. de Roanne, 66
Poligono Industrial "EL HENARES"
19180 MARCHAMALO (GUADALAJARA)
Spain

Schröder Iluminação S.A.
Rua da Fraternidade Operária, nº 3
2795-491 CARNAXIDE, OEIRAS
Portugal

Comatelec S.A.
Z.I.
18400 SAINT FLORENT S/CHER
France

Tungsram-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



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		



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



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



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-F16377, P-F16394

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/cm2 - 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:

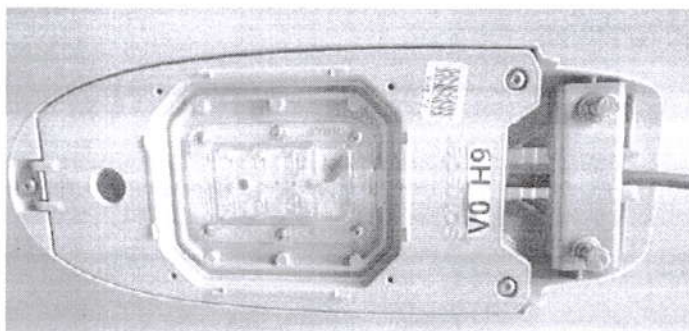
Test request n°: P-D17045

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



Laboratory Test report

FORM L-54 Edition 01 – Revision 00 – Date: 14/06/2018



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

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 :

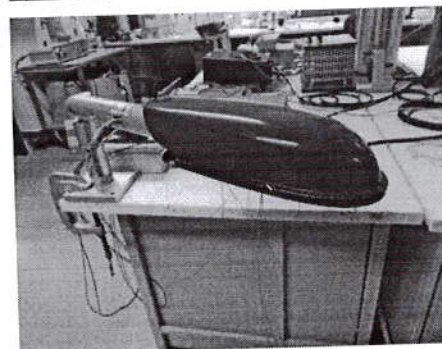
Fluke Norma 4000 - HF Powermeter - (E110) : Electrical measurements
Keithley 2701 (E097) – Ethernet Multimeter/Data Acquisition System :
Thermal & VF led measurements

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 :
GHYSENS Gilles

Duplicate to : BOS Peter
LAB : 22/11/2018

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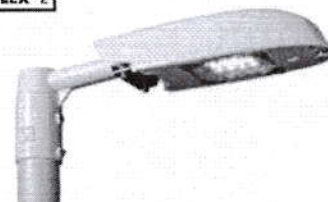


The publication of this report in another form than the original one is not allowed without agreement of the laboratory. This report concerns type tests on one or a series of specimens.

VOLTANA 0

5136

Optic	5136
Protector	Flat glass
Source	8 Samsung LH351C
Matrix	425502



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 (m²)

* 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 Owllet 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



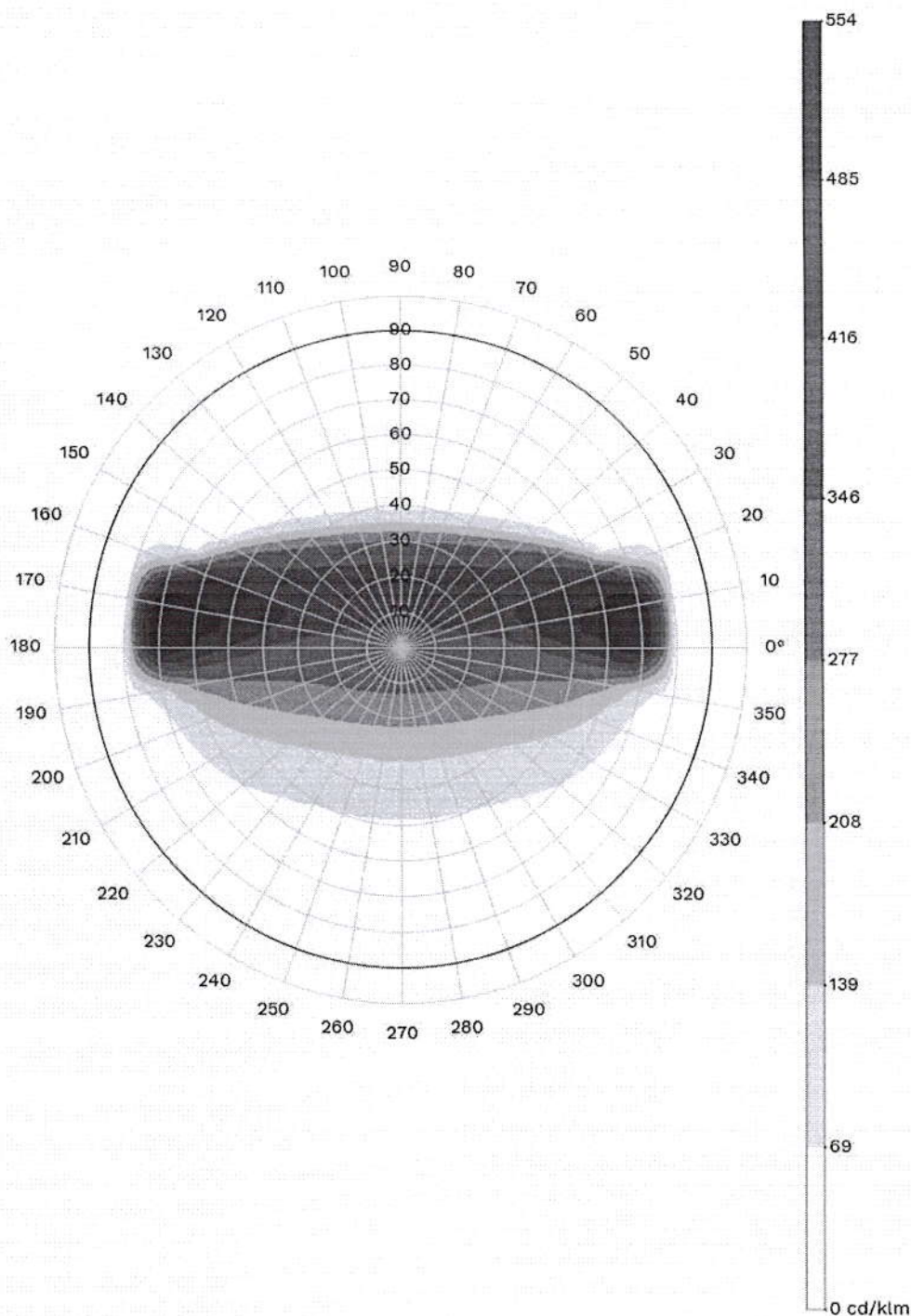
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• Photocell

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

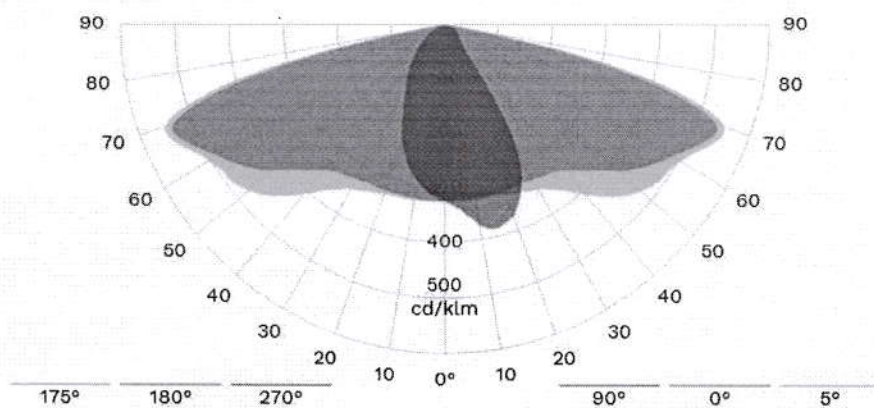




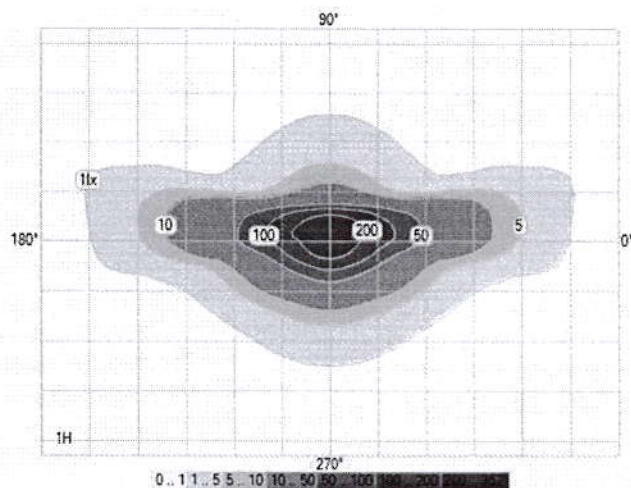
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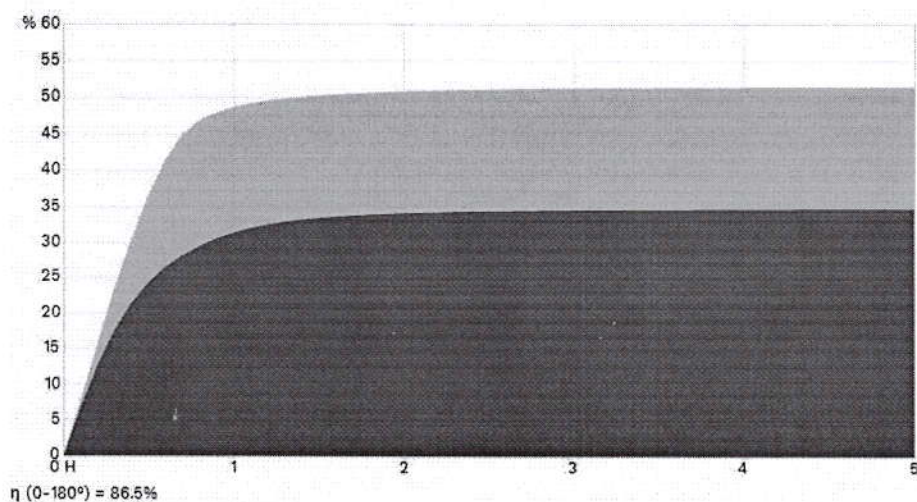
Polar/Cartesian diagram



Isolux

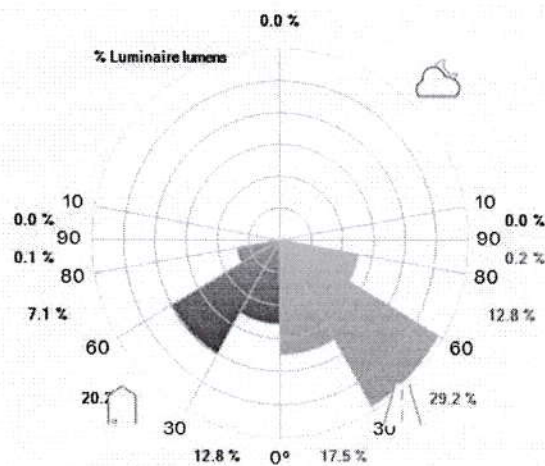


K-Curve

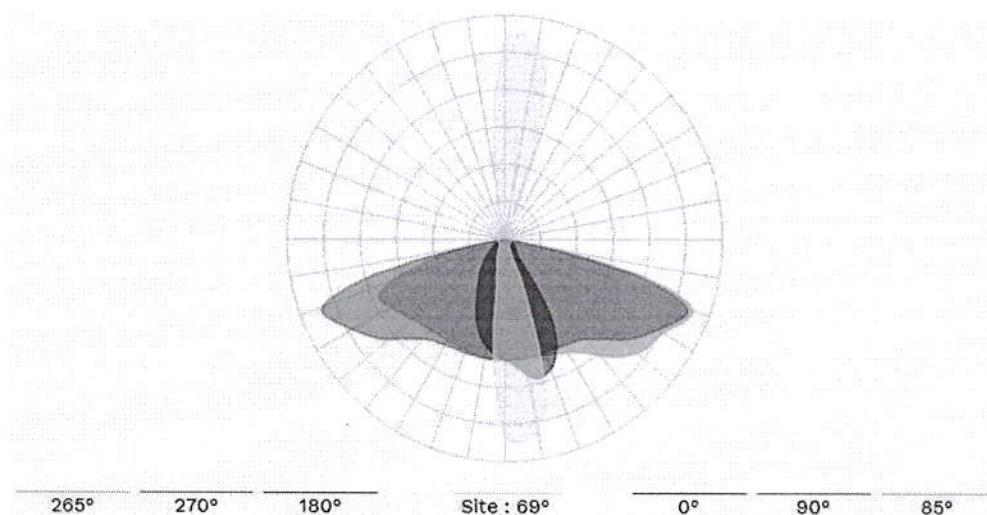




Luminaire classification system (LCS)



Intensity diagram in max Cone and in CPlane



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