

LICENCE

No. 20254 replaces No.20142

Issued to:

Applicant:

R-Tech

Rue de Mons, 3

4000 LIEGE

Belgium

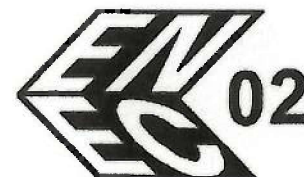
Licensee:

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

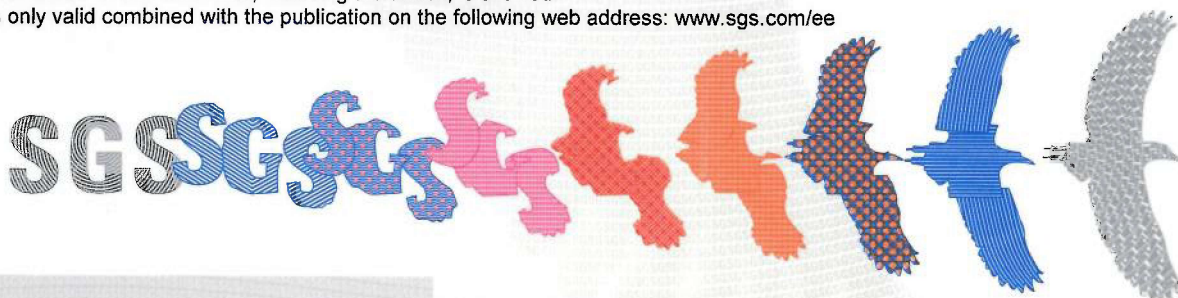
The ENEC/CEBEC certification mark may be applied to the product as specified in this licence for the duration of the ENEC/CEBEC certification agreement and under the conditions of the ENEC/CEBEC certification agreement.

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.sqs.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.

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 + A11 2009)
- EN 60598-2-1 (1979)
- EN 60598-2-3 (2016 + A1 2011)
- EN 60598-2-5 (2015)
- EN 61547 (2009)
- EN 61347 (2015)
- EN 55015 (2013)
- EN 61000-3-2 (2014) & 3-3 (2013)
- EN 62471 (2008)
- EN 62493 (2010)
- EN 62262 (2002)
- IEC 62696 (2011)
- IEC 62722-1 (2016)
- IEC 62722-2-1 (2016)
- 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,
Iunie 2020, Cluj-Napoca

Lumen maintenance report

LED information

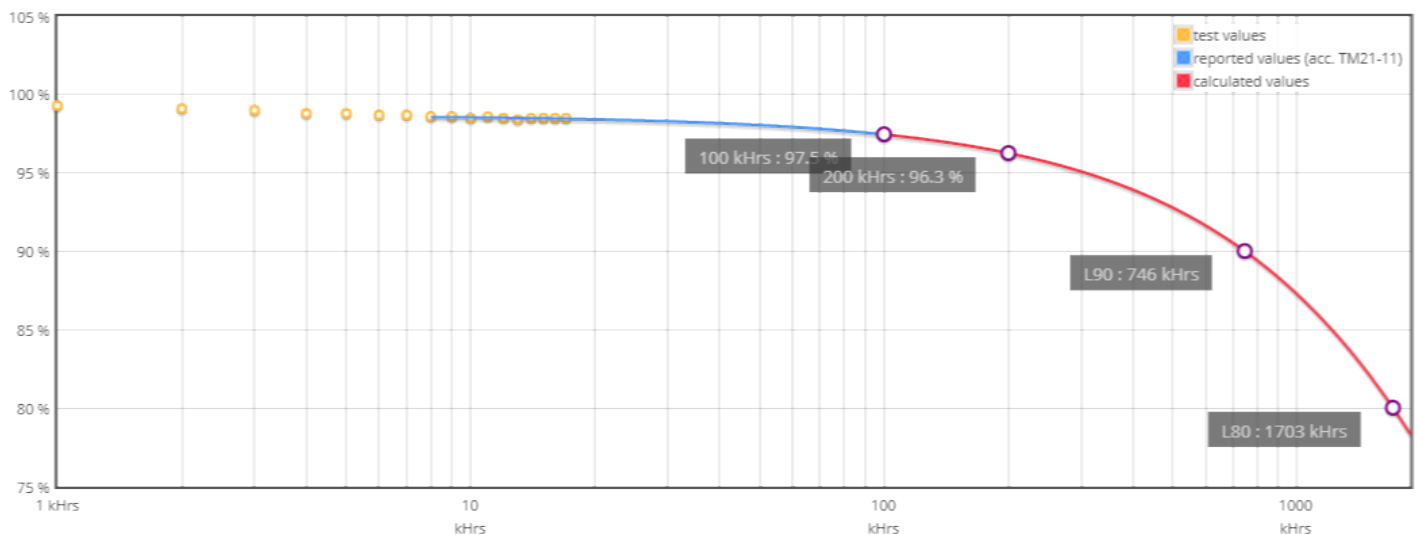
LED type	LH351C
LED current	700 mA
Ts	55°C
Description	SLED-19-030-R02

Projection data

Test duration	17000 hrs	α	1.230E-007
Time used for projection	8000 to 17000hrs	β	0.987

L (%)	Time (kHrs)
80.0	1705
90.0	748
96.3	200
97.5	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.

Lumen maintenance report

LED information

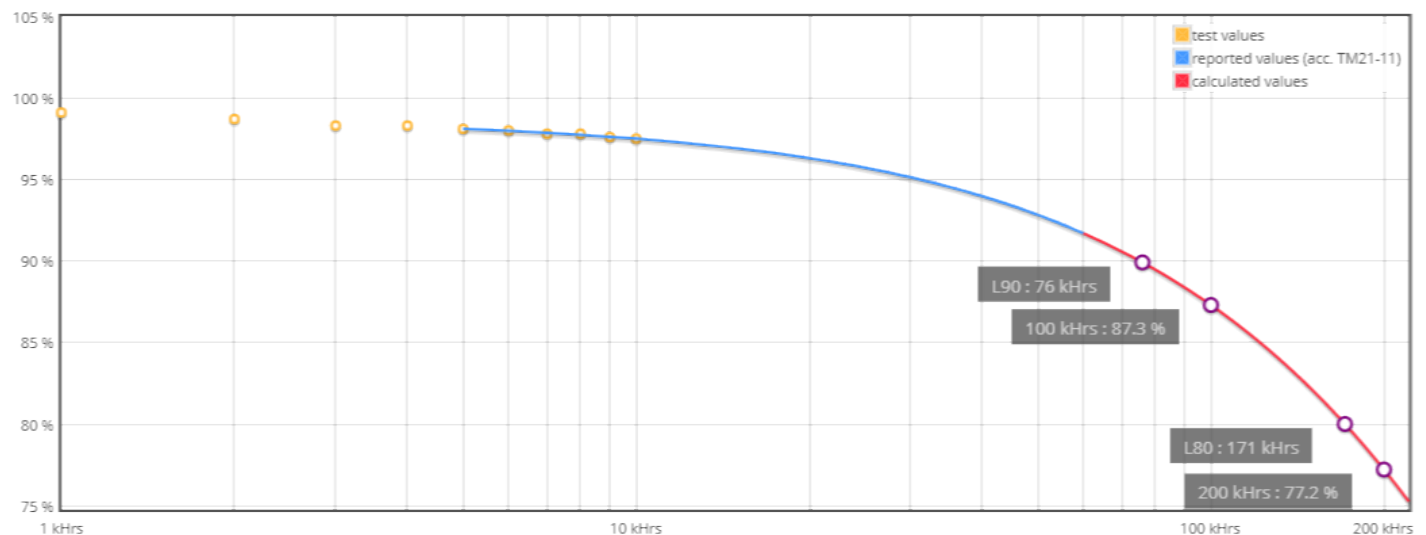
LED type	LH351C
LED current	1250 mA
Ts	55°C
Description	SLED-19-032 2019-05-31

Projection data

Test duration	10000 hrs	α	1.227E-006
Time used for projection	5000 to 10000hrs	β	0.987

L (%)	Time (kHrs)
77.2	200
80.0	171
87.3	100
90.0	75

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.

**ELECTRIC PRODUCTS CERTIFICATION INDEPENDENT BODY - OICPE***ORGANISM INDEPENDENT PENTRU CERTIFICAREA PRODUSELOR ELECTRICE*

SOCIETATE CU RĂSPUNDERE LIMITATĂ

SPLAIUL UNIRII Nr. 313, CORP M-1, D3-14, 030138, BUCUREȘTI, ROMÂNIA,

J40/3946/2009; Tel. : +40 21 589 33 05 Tel/Fax : +40 21 346 49 35; <http://www.oicpe.ro>**LICPE****LABORATORUL DE ÎNCERCĂRI PENTRU CERTIFICAREA
PRODUSELOR ELECTRICE***Testing Laboratory for Electrical Products Certification***RAPORT DE ÎNCERCĂRI****TEST REPORT****Nr. 92 / 08.03.2019****Pag. 1 / 6**

Exemplar nr. 1 din 2

ÎNCERCAREA SOLICITATĂ
Required TestVerificarea gradului de protecție asigurat prin
carcase împotriva impacturilor mecanice din
exterior – IK10 conform SR EN 62262:2004,
cap. 5, cap. 6 și cap. 7**PRODUSUL**
Equipment**CORP DE ILUMINAT CU LED-uri**
tip VOLTANA 0-8LED**PRODUCĂTOR**
Manufacturer**TUNGSRAM-Schröder Zrt., Ungaria****CLIENT** (nume, adresă, cerere)
Customer (name, address, order)**SCHRÖDER ROMANIA S.R.L**
Cluj-Napoca / 400228, Str. Corneliu Coposu,
Nr. 167A
Cerere nr. 61/26.02.2019**MANAGER LABORATOR**
Laboratory Manager

Ing. Nicolae LICSandru

DIRECTOR TEHNIC OICPE
OICPE Technical Director

Ing. Dragoș ROSMETENIUC

Rezultatele încercărilor se referă numai la produsele încercate.
Acest document poate fi reproduș numai în întregime.Test results refers only to tested products.
This document may be reproduced only in its entirety.

**DATELE TEHNICE ALE PRODUSULUI:****CORP DE ILUMINAT CU LED-uri tip VOLTANA 0-8LED**

- Tensiune nominală	: 230 V~
- Frecvența nominală	: 50 Hz
- Putere consumată	: 30 W
- Sursa alimentare	: model
- Factor de putere	: > 0,97
- Sursă de lumină	: 1 modul LED cu 8 LED-uri : 2 module a câte 4 lentile tip 5136 – PMMA (producător Schröder)
- Grad de protecție	: IP 66
- Rezistența la impact	: IK10
- Temperatura ambiantă maximă nominală (t _a)	: + 55 °C
- Clasa de protecție	: I
- Dispensar carcasă	: sticlă securizată tratată termic cu grosimea de 5mm
- Carcasă de protecție	: aluminiu turnat sub presiune
- Masă	: 2,6 kg
- Dimensiuni de gabarit	: [416 x 156 x 91] mm
- Înălțimea de montare	: 4 - 6 m
- Utilizare	: iluminatul șoselelor, străzilor, aleilor și pentru alte locuri de interes public

Lot / Serie / An fabricație : / 2019
Felul produsului : serie curentă
Data primirii produsului : 26.02.2019
Perioada încercărilor : 26.02.2018 – 08.03.2019
Modul de prelevare: : conform procedurii PG-11, OICPE
Număr de produse încercate : 1 bucată

Responsabil de încercări

Ing. Cornel PREDUȚ

OPINII ȘI INTERPRETĂRI:

Rezultatele încercării pentru verificarea rezistenței la impact mecanic exterior IK10, din prezentul Raport de Încercări, atestă conformitatea produsului „CORP DE ILUMINAT CU LED-uri tip VOLTANA 0-8LED ” cu cerințele cap. 5; 6 și 7 din SR EN 62262:2004.

		ELECTRIC PRODUCTS CERTIFICATION INDEPENDENT BODY – OICPE			
		Laboratorul de Încercări pentru Certificarea Produselor Electrice		LICPE	
				Raport de Încercări nr. 92 / 2019	
Articol din DN		Cerință conform SR EN 62262:2004		Rezultate	
		Pot fi specificate montaje și suporturi alternative în standardul particular de produs, adecvate produsului.			
6.4		Numărul de impacturi (lovituri) trebuie să fie de cinci pe fiecare față expusă, dacă nu este specificat altfel în standardul particular de produs. Loviturile trebuie distribuite normal pe fețele carcasei (sau carcaselor) de încercat. În niciun caz nu trebuie aplicate mai mult de trei lovituri în jurul aceluiași punct al carcasei. Standardul particular de produs trebuie să specifice punctele pentru aplicarea loviturilor.		A fost pregătit corpul de iluminat VOLTANA 0-8LED pentru încercarea la impact mecanic. Numărul de impacturi aplicate - 1 impact în zona centrală a dispersorului conform SR EN 60598-2-3:2004 + A1:2012 + AC:2015 art. 3.6.5.2.1 (Vezi Fig. 1 și Fig. 2 din Anexă).	
6.5		Evaluarea încercării Standardul particular de produs trebuie să specifice criteriile pe care se bazează acceptarea sau respingerea carcasei, și în particular: - deteriorările admise; - criteriul de verificare privind menținerea securității și siguranței echipamentului.		Dispersorul carcasei din sticlă securizată tratată termic a rezistat la impactul central aplicat - IK 10 (Vezi Fig. 3 - Anexă)	
7		APARATE DE ÎNCERCARE Încercările trebuie realizate prin utilizarea unia din aparatele de încercare descrise în CEI 60068-2-75. Standardele particulare de produs trebuie să specifice tipurile de aparate de încercare care sunt adecvate.		Produsul a fost încercat conform testului Ehc: Ciocan vertical, descris în SR EN 60068-2-75:2015 Pentru IK 10: - Dispozitivul corespunde cu figura A.3 din SR EN 60068-2-75:2015 - Greutate ciocan: 5 kg - Înălțime: 400 mm. - Energie de impact: 20 J	

Mod de îndeplinire a cerinței:

- P** - Cerința este îndeplinită
NP - Cerința nu este îndeplinită
NA - Cerința nu este aplicabilă acestui tip de produs

INCERTITUDINI DE MĂSURARE

Denumire încercare (Punct RI)	Mărimea măsurată/ calculată	Aparat de măsură /tip/serie sau inventar	Certificat de etalonare/emitent	Incertitudinea extinsă [U]	Factor de extindere [k]
Impact mecanic (cod IK) 5, 6 și 7	Masă	Aparat de cântărit cu funcționare neautomată/R1/ CAS Tip EP-10 Seria 96070397	CE460/2017/ IPROEB Bistrița (LE 018)	2,9 g	2
	Dimensiuni	Ruletă de măsurare S3489 A34W	01.01-911/2017/ INM (CIPM MRA)	0,22 mm	2
	Temperatură/ umiditate	Higrometru electronic cu traductor electrochimic seria 41843	2224/ 2017 METROMAT Brașov (LE 008)	0,5 °C/ 2,6 % rH	2

Incertitudinea atribuită este incertitudinea extinsă obținută prin multiplicarea incertitudinii standard cu factorul de extindere $k = 2$, și a fost estimată în conformitate cu SR Ghid ISO/CEI 98-3:2010. Valoarea măsurandului se află în intervalul de valori desemnat cu o probabilitate de 95,45 %.

	ELECTRIC PRODUCTS CERTIFICATION INDEPENDENT BODY – OICPE		 LICPE
	Laboratorul de Încercări pentru Certificarea Produselor Electrice		
Raport de Încercări nr. 92 / 2019			Pag. 5 / 6
Articol din DN	Cerință conform SR EN 62262:2004	Rezultate	Mod de îndeplinire a cerinței

ANEXĂ

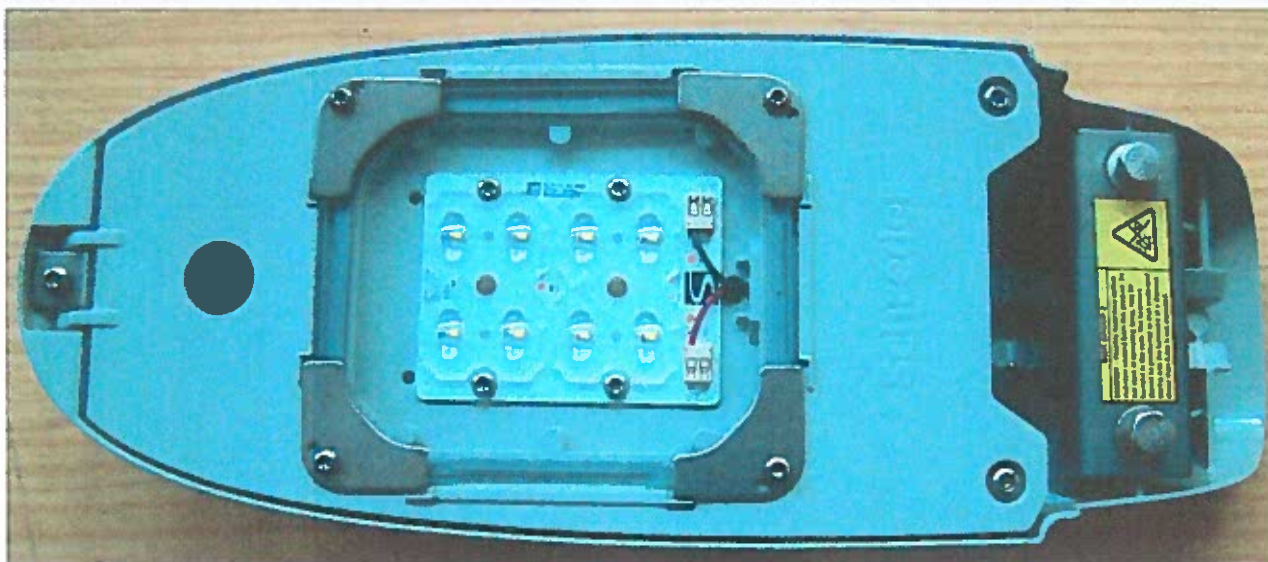


Fig. 1 – Corpul de iluminat VOLTANA 0-8LED înainte de verificarea la impact (IK 10)



Fig. 2 – Corpul de iluminat VOLTANA 0-8LED pregătit pentru verificarea la impact (IK 10)

	ELECTRIC PRODUCTS CERTIFICATION INDEPENDENT BODY – OICPE		 LICPE
	Laboratorul de Încercări pentru Certificarea Produselor Electrice		
Raport de Încercări nr. 92 / 2019			Pag. 6 / 6
Articol din DN	Cerință conform SR EN 62262:2004	Rezultate	Mod de îndeplinire a cerinței

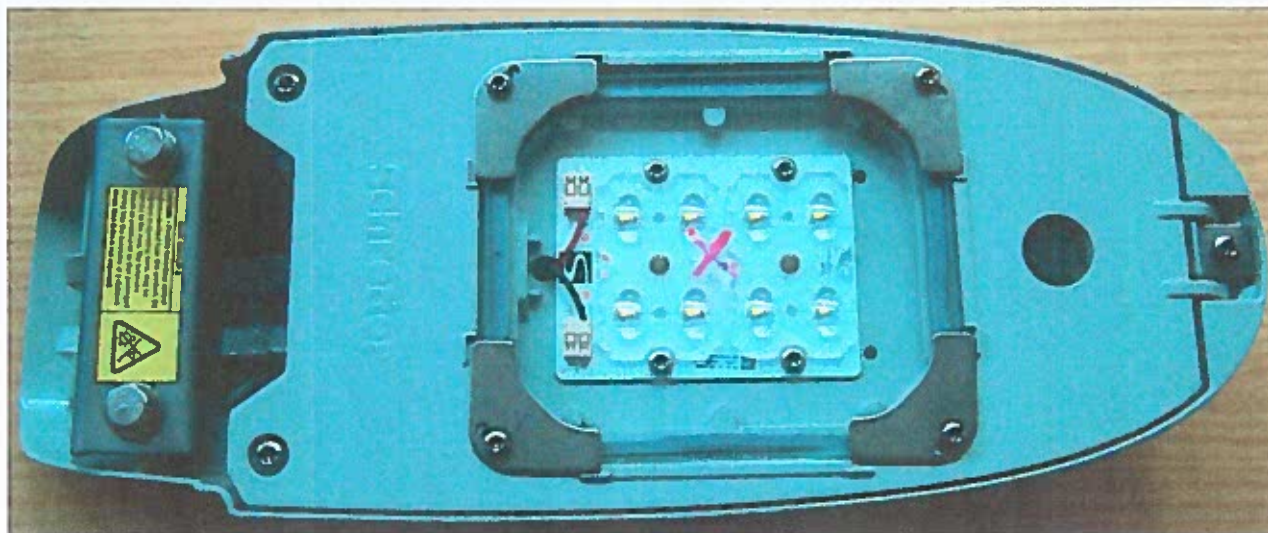


Fig. 3 – Corpul de iluminat VOLTANA 0 - 8LED după verificarea la impact (IK 10) - punctul de impact a fost marcat cu marker de culoare roșie

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
<u>IP6X</u> : -Luminaire switched ON until stable T° -Talcum in suspension (blowing ON) -After 1', luminaire OFF -Talcum for 3 hours	OK
<u>IPX6</u> : - 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

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

LED Flux measurement

FORM-L-41 ED1 REV 2

Date : **16-01-19**

Operator : **FCE**

Filename : **2019_52.xml**



226 - TEST

NBN EN ISO/IEC 17025 : 2005

LEDs

Trademark : **Samsung**

Entry number : **39R004-2**

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 : **6**

Lenses

Trademark : **None**

Type : **None**

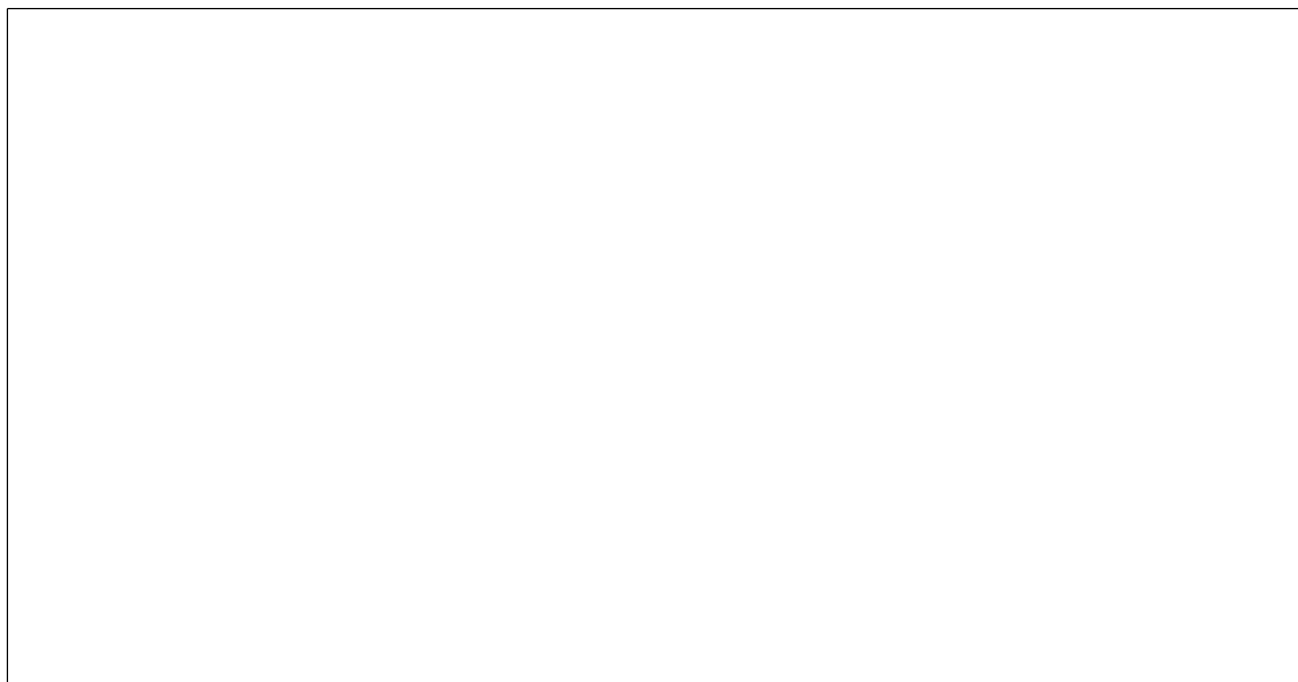
Power & Print

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

Print description : **00-71-626 A - Voltana 0**

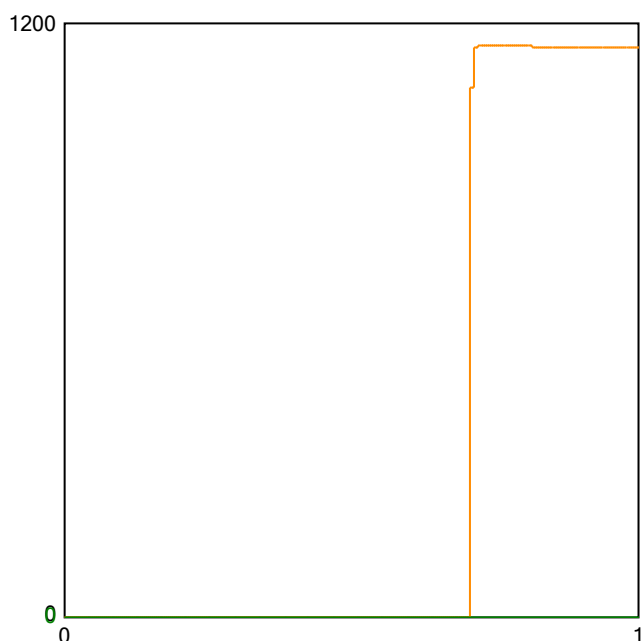
Active ☐

Picture



Sphere photometric measurement

Maximum flux : **1157** lumens



Operating condition

Position in sphere :



Ambient sphere T ° : **24,6**

Electrical measurement

● Secondary electrical measurement

Voltage : **16,93** V

Current : **0,350** A

Power : **5,92** Watt

→ LEDs light efficiency at 25° :

195,4 lm/W

192,9 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 0 - 6 Samsung LH351C - pcb N°2

Comment :

FORM-L-41 ED1 REV 2



226 - TEST

Approved by :

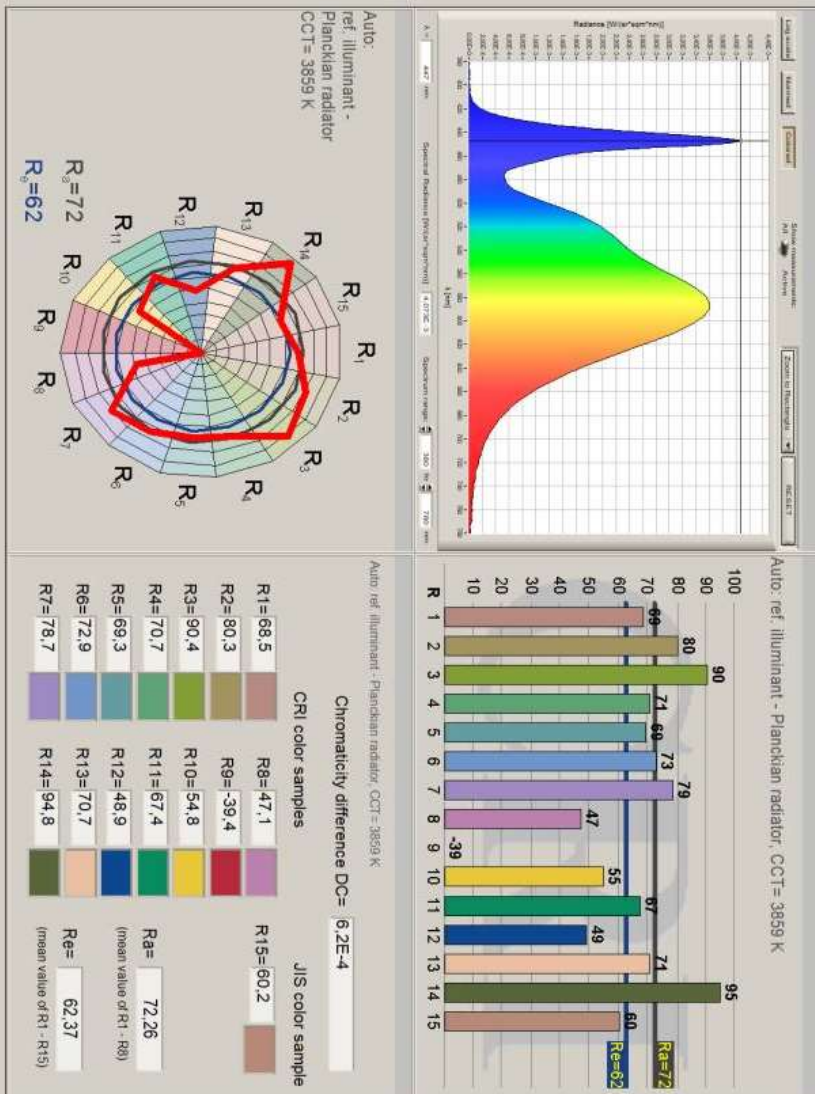
LED 2019/52 2/3



226 - TEST

NBN EN ISO/IEC 17025 : 2005

Colorimetry



Target

Calibration File: #1 no accessory
Measurement Mode: Radiance
Average: 1
Measurement: #1
☐ Cont. ☐ Hold Integration Time
☒ Quick mode

Weighing Function: None

Luminance	L_v	1.898E+2 $\frac{cd}{m^2}$
Radiance (360-760nm)	L_e	5.383E-1 $\frac{W}{sr \cdot m^2}$
Corr. Color Temp	CCT	3859 K
Chromaticity x	x	0.3864
Chromaticity y	y	0.3793
Chromaticity u'	u'	0.2280
Chromaticity v'	v'	0.5036

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.

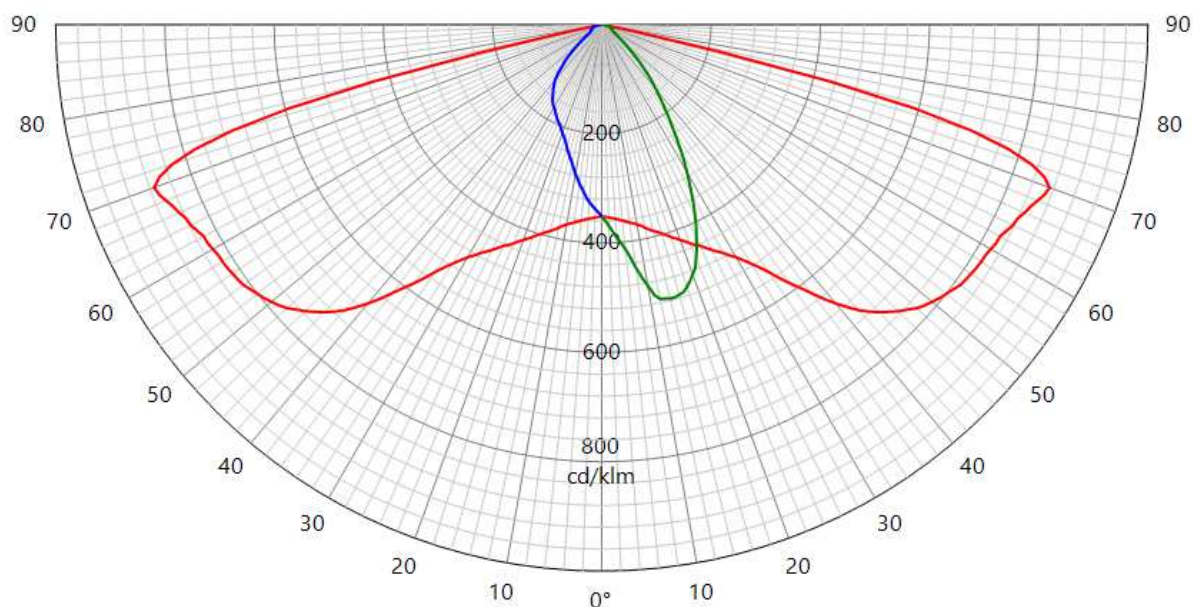
LED

Origin TUNGSRAM-Schröder Zrt. Hungary	Production TUNGSRAM-Schröder Zrt. Hungary	Luminaire VOLTANA 0	Inclination 0°	Request # FD39022
Type LED	BIN 40-70M-4-TB-RB	Trademark Samsung	Reference LH351C	# LEDs 6
Master -	Source Reflector DKI Led assembly Road lighting Injected 0.0°			Reflector 5205
Protector Refractor Lens Protector integrated lenses Lens DKI 5205 PC				
Laboratory observation VOLTANA 0 with 6 Samsung LH 351C Used flux for efficiency matrix calculation = 1157lm - CCT = 3859K - CRI = 72,26 (see sphere test report 2019/52 on appendix).				
Purpose DOC	Sample date 08-01-2019		Sample # 39R004	
Observation DOC Voltana 0 with lenses 5205 Flux coefficient multiplicator (only for efficiency matrix): From 350 to 500 mA : 1,379 From 350 to 700 mA : 1,846 From 350 to 1000mA: 2,450				
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	42571
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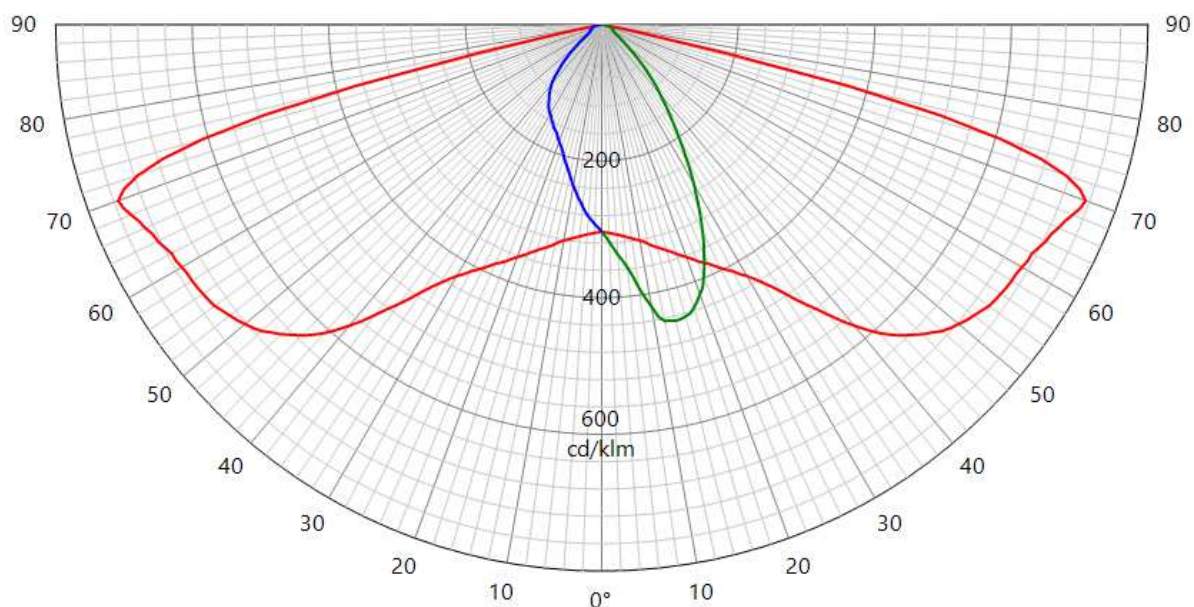
LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39022				
Source	Type LED	BIN 40-70M-4-TB-RB		Trademark Samsung		Reference LH351C		# LEDs 6	Reflector 5205			
Reflector	DKI Led assembly Road lighting Injected 0.0°								No	5205		
Matrices	425711 Φ 0-90° = 1036lm - 90-180° = 0lm										Absolute measurement	
Protector Refractor Lens		Protector integrated lenses Lens 6 x DKI 5205 PC										
Observation		Matrix in total flux @350 mA										
		Light losses due to thermal stabilisation : 1%										
		Electrical measurement on LED (#1) : Voltage = 16.83 V Current = 0.350 A Power = 5.88 W Electrical measurement on driver (#1) : Voltage = 230.00 V Current = 0.037 A Power = 7.98 W PF = 0.936 Total luminaire power = 7.98 W : Lm/Watt = 129.80 lm/W										
Driver #1 : Philips Xitanium FP 22W 0.3-1.0A SNLDAE 230V S175 sXt S175 sxt PCB 00-71-626 A												
Plane	I Peak	Peak position	Index	I zero	Laboratory ambient t°		Measurement date					
5 - 175	872	70	S									
90	517	14	D									
270	351	0	G									

**42571**

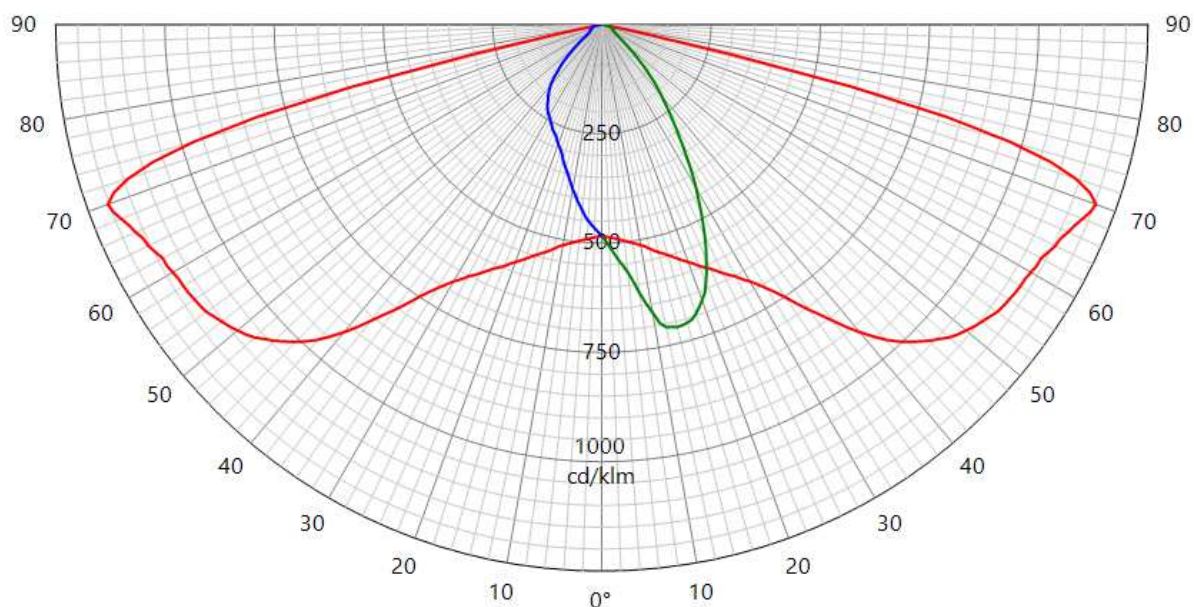
LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39022		
Source	Type LED	BIN 40-70M-4-TB-RB		Trademark Samsung		Reference LH351C		# LEDs 6	Reflector 5205	
Reflector	DKI Led assembly Road lighting Injected 0.0°								No	5205
Matrices	425712	η 0-90° = 89.5% - 90-180° = 0.0%							Relative measurement	
Protector Refractor Lens		Protector integrated lenses Lens 6 x DKI 5205 PC								
Observation		Matrix in efficiency @350 mA								
		Light losses due to thermal stabilisation : 1%								
		Electrical measurement on LED (#1) : Voltage = 16.83 V Current = 0.350 A Power = 5.88 W Electrical measurement on driver (#1) : Voltage = 230.00 V Current = 0.037 A Power = 7.98 W PF = 0.936 Total luminaire power = 7.98 W								
		Driver #1 : Philips Xitanium FP 22W 0.3-1.0A SNLDAE 230V S175 sXt S175 sxt PCB 00-71-626 A								
Plane	I Peak	Peak position	Index	I zero	Laboratory ambient t° 24.9°		Measurement date 07-02-2019			
5 - 175	754	70	S							
90	447	14	D							
270	303	0	G							

**42571**

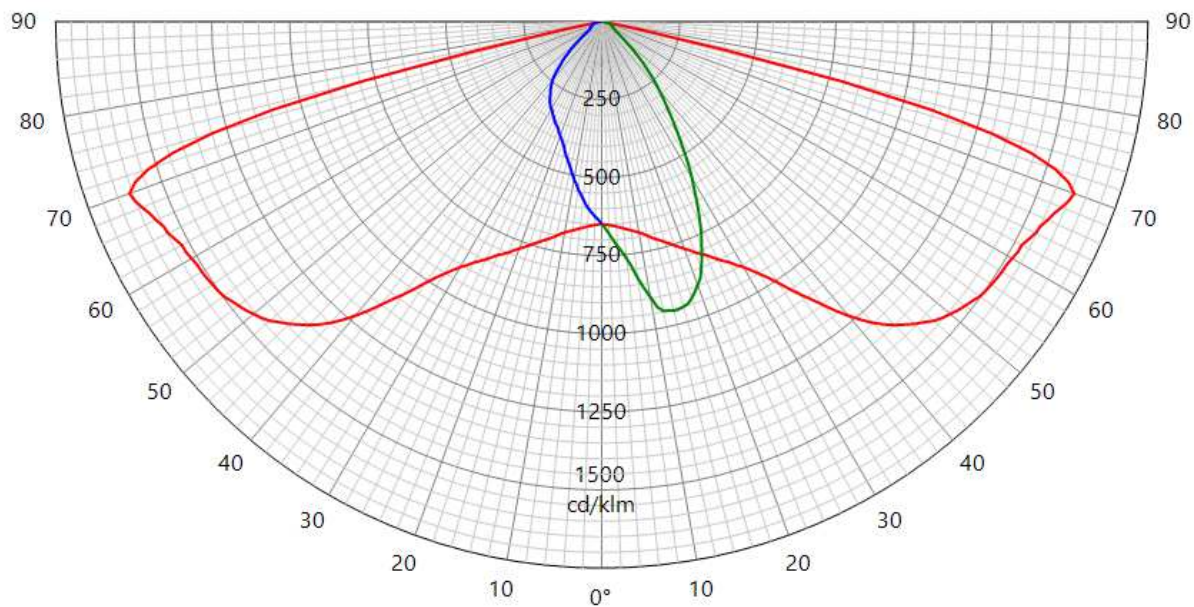
LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39022		
Source	Type LED	BIN 40-70M-4-TB-RB		Trademark Samsung		Reference LH351C		# LEDs 6	Reflector 5205	
Reflector	DKI Led assembly Road lighting Injected 0.0°								No	5205
Matrices	425713	Φ 0-90° = 1428lm - 90-180° = 0lm							Absolute measurement	
Protector Refractor Lens		Protector integrated lenses Lens 6 x DKI 5205 PC								
Observation		Matrix in total flux @500 mA								
		Light losses due to thermal stabilisation : 1.7%								
		Electrical measurement on LED (#1): Voltage = 17.15 V Current = 0.500 A Power = 8.58 W								
		Electrical measurement on driver (#1): Voltage = 230.00 V Current = 0.050 A Power = 10.97 W PF = 0.962								
		Total luminaire power = 10.97 W : Lm/Watt = 130.21 lm/W								
Driver #1 : Philips Xitanium FP 22W 0.3-1.0A SNLDAE 230V S175 sXt S175 sxt PCB 00-71-626 A										
Plane	I Peak	Peak position	Index	I zero	Laboratory ambient t°		Measurement date			
5 - 175	1203	70	S							
90	713	14	D							
270	484	0	G							

**42571**

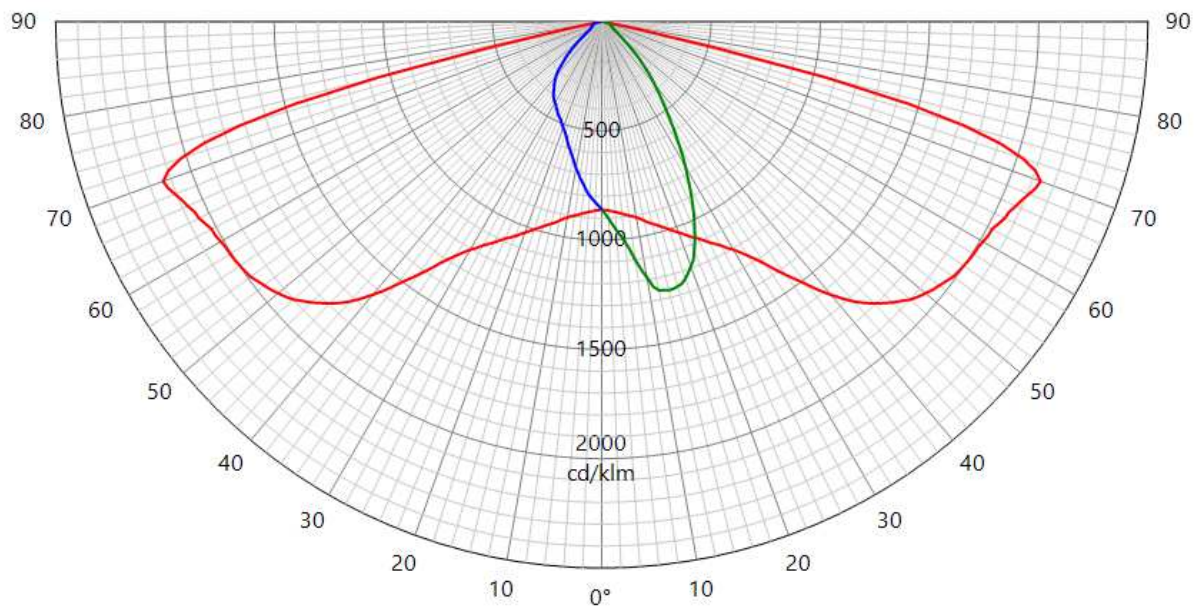
LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°	Request # FD39022
Source	Type LED	BIN 40-70M-4-TB-RB		Trademark Samsung	Reference LH351C	# LEDs 6	Reflector 5205
Reflector	DKI Led assembly Road lighting Injected 0.0°					No	5205
Matrices	425714 Φ 0-90° = 1912lm - 90-180° = 0lm					Absolute measurement	
Protector Refractor Lens	Protector integrated lenses Lens 6 x DKI 5205 PC						
Observation	Matrix in total flux @700 mA						
	Light losses due to thermal stabilisation : 2,6 %						
	Electrical measurement on LED (#1) :		Voltage = 17.51 V		Current = 0.700 A	Power = 12.27 W	
	Electrical measurement on driver (#1) :		Voltage = 230.00 V		Current = 0.067 A	Power = 15.15 W	PF = 0.977
Total luminaire power = 15.15 W : Lm/Watt = 126.21 lm/W							
Driver #1 : Philips Xitanium FP 22W 0.3-1.0A SNLDAE 230V S175 sXt S175 sxt PCB 00-71-626 A							
Plane	I Peak	Peak position	Index	I zero 648	Laboratory ambient t° 24.9°	Measurement date 11-02-2019	
5 - 175	1610	70	S				
90	954	14	D				
270	648	0	G				

**42571**

LUMINOUS INTENSITY DIAGRAM

Origin TUNGSRAM-Schröder Zrt. Hungary		Production TUNGSRAM-Schröder Zrt. Hungary		Luminaire VOLTANA 0		Inclination 0°		Request # FD39022		
Source	Type LED	BIN 40-70M-4-TB-RB		Trademark Samsung		Reference LH351C		# LEDs 6	Reflector 5205	
Reflector	DKI Led assembly Road lighting Injected 0.0°								No	5205
Matrices	425715	Φ 0-90° = 2538lm - 90-180° = 0lm							Absolute measurement	
Protector Refractor Lens		Protector integrated lenses Lens 6 x DKI 5205 PC								
Observation		Matrix in total flux @1000 mA								
		Light losses due to thermal stabilisation : 3,7 %								
		Electrical measurement on LED (#1) :			Voltage = 17.96 V		Current = 1.000 A		Power = 17.96 W	
		Electrical measurement on driver (#1) :			Voltage = 230.00 V		Current = 0.096 A		Power = 21.80 W PF = 0.987	
		Total luminaire power = 21.80 W : Lm/Watt = 116.41 lm/W								
		Driver #1 : Philips Xitanium FP 22W 0.3-1.0A SNLDAE 230V S175 sXt S175 sxt PCB 00-71-626 A								
Plane	I Peak	Peak position	Index	I zero 860	Laboratory ambient t° 24.9°		Measurement date 11-02-2019			
5 - 175	2137	70	S							
90	1267	14	D							
270	860	0	G							

**42571**

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



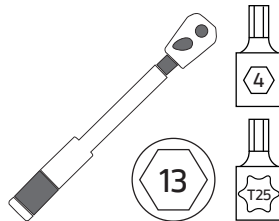
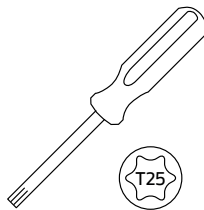
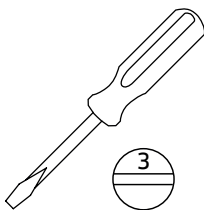
4-8m

350-1250mA
8-38W

220-240V
50/60Hz

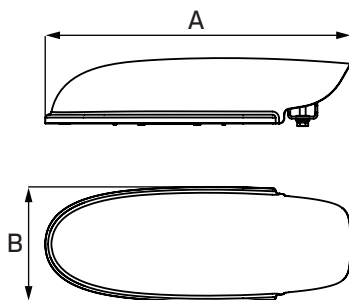
IP
66

IK
08



8mm
30mm
3 x 2.5mm²
3 x 1.5mm²

8mm
30mm
5 x 1.5mm²



Voltana0

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

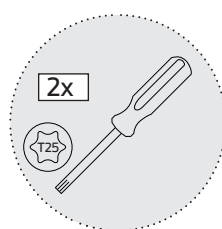


8mm
30mm
2 x 2.5mm²
2 x 1.5mm²

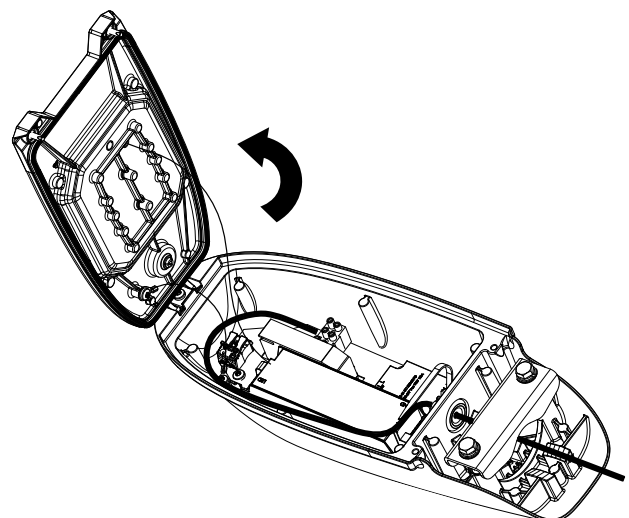
8mm
30mm
4 x 2.5mm²
4 x 1.5mm²



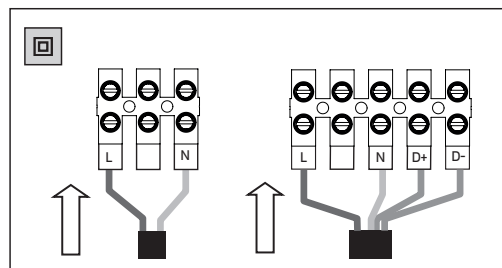
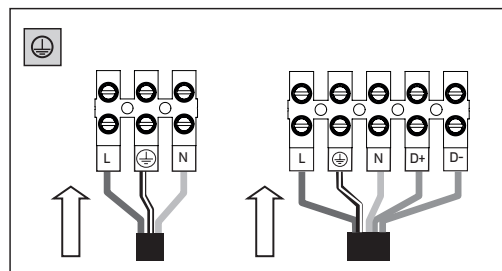
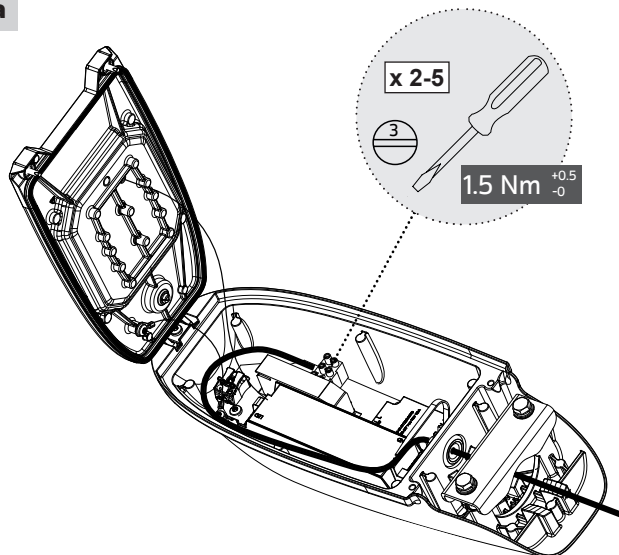
2



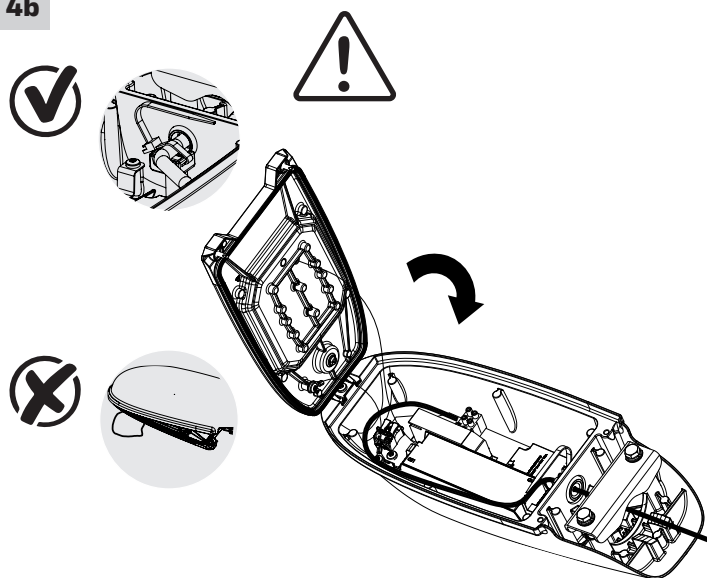
3



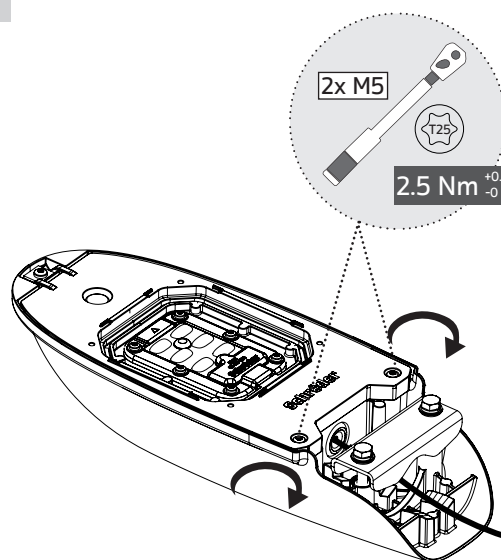
4a



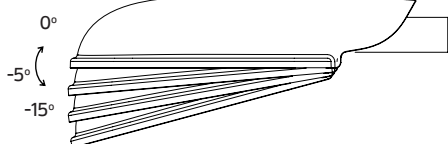
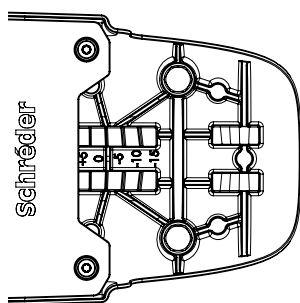
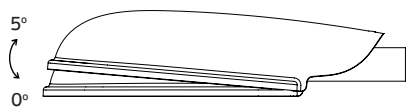
4b



4c

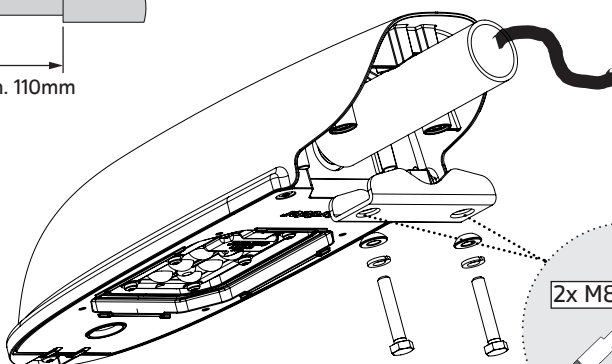
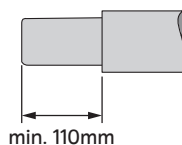


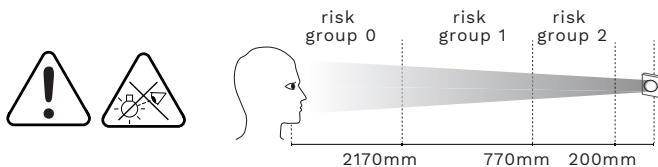
5



2x M8 x 70
2x M8 x 45

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





ENG	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. 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. 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 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.	ITA	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 similare. Staccare sempre il filo della corrente prima di iniziare operazioni di installazione, manutenzione o riparazione. 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. 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 palo Collegamento Y: in caso di danneggiamento, il cavo deve essere sostituito esclusivamente dal costruttore, dal distributore o da un tecnico esperto per evitare rischi.	NLD	VEILIGHEIDSIINSTRUCTIES De lichtbron in deze armatuur dient uitsluitend door de fabrikant, diens onderhoudsvertegenwoordiger of een persoon met vergelijkbare kwalificaties te worden vervangen. Schakel altijd de stroom uit voordat u aan installatie, onderhoud of reparaties begint. 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. 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 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.	DAN	SIKKERHEDSIINSTRUKTIONER Lyskilden i dette armatur må kun udskiftes af producenten, af en vedligeholdelsesvirksomhed udpeget af producenten eller af en tilsvarende kvalificeret virksomhed. Sluk altid for strømmen inden påbegyndelse af installation, vedligeholdelse eller reparation. Risikogrube 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, undgås. 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. Type Y montering: Hvis det eksterne kabel eller ledning på dette armatur er beskadiget, må det kun udskiftes af producenten eller af en servicepartner til producenten eller tilsvarende kvalificeret person, for at undgå skader.
	SICHERHEITSHINWEISE Die Lichtquelle in dieser Leuchte darf nur vom Hersteller bzw. von dessen Kundendienst oder einer ähnlich qualifizierten Person ausgetauscht werden. Schalten Sie die Stromversorgung vor Installations-, Wartungs- und Reparaturarbeiten stets ab. Risikogrube 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. Bei Verwendung eines PVC-isolierten Netzkabels MUSS 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 Y-Verbindung: Falls die Leitung beschädigt ist, darf diese nur vom Hersteller, dem Händler oder einem Experten ersetzt werden, um Risiken zu vermeiden.		ISTRUKCJA BEZPIECZEŃSTWA Źródło światła zamontowane w tej oprawie może być wymieniane wyłącznie przez producenta, pracownika serwisu lub inną wykwalifikowaną osobę. Przed rozpoczęciem instalacji, konserwacji lub naprawy należy bezwzględnie odłączyć zasilanie elektryczne. 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 długotrwałą obserwacja była możliwa z odległości nie mniejszej niż 0.77m. 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. Połączenie Y: ze względów bezpieczeństwa uszkodzony przewód powinien zostać wymieniony wyłącznie przez producenta, dystrybutora lub wykwalifikowanego elektryka.		инструкция безопасности замену источника света для этого светильника должен выполнять только пром. водитель, сервисный агент, производитель или специалист с аналогичной квалификацией. Перед проведением установки, сервисного обслуживания или ремонта всегда отключайте питание устройств. ГРУППА РИСКА 2 - ВНИМАНИЕ! Возможно опасное оптическое излучение от этого изделия. Не смотрите на источник света. Может быть вредно для глаз. Светильник должен быть расположен таким образом, чтобы было невозможно смотреть на него с расстояния менее 0.77м. 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. Подключение Y: в случае повреждения кабеля его замена производится только производителем, дистрибутором или экспертом.		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. Opriți întotdeauna alimentarea electrică înainte de lucrările de instalare, întreținere sau reparații. GRUP DE RISC 2 - ATENȚIE! Este posibil ca acest produs să emită radiații optice periculoase. Nu priviți direct înspre lampa 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 înspre lampă, la o distanță mai mică de 0.77m. 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 stălpului Conexiune Y: În caz de deteriorare a firului, acesta trebuie înlocuit numai de către producător, distribuitor sau un expert, pentru evitarea riscurilor.
DEU	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. Mettez toujours l'appareil hors tension avant toute opération d'installation, d'entretien ou de réparation. RISQUE GROUPE 2 - ATTENTION ! Ce produit émet potentiellement des rayons dangereux pour la vue. Regarder 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. 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 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.	POL	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. Apague siempre el interruptor de alimentación antes de realizar tareas de instalación, mantenimiento o reparación. 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. 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 Conexión en Y: si el cable se daña, solo debe reemplazarlo el fabricante, un distribuidor o un experto para evitar riesgos.	RUS	INSTRUCȚIUNI DE SECURITATE La sursă de lumină din acest corp de iluminat trebuie înlocuită numai de către producător, distribuitor sau un expert, pentru evitarea riscurilor. Stângă alături de strâmul înainte de instalare, întreținere sau reparație. Risikogrube 2 - VARNING! Eventuellt farligt optisk strålning från denna produkt. Stira ej på driftlampan. 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. Vid PVC-isolerad kabel måste installören se till att hela kabeln är skyddad mot klimatförhållanden, särskilt UV-strålar och regn, genom att se till att kabeln monteras inuti armaturen och stölp 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	RON	INSTRUCȚIUNI DE SECURITATE La sursă de lumină din acest corp de iluminat trebuie înlocuită numai de către producător, distribuitor sau un expert, pentru evitarea riscurilor. Stângă alături de strâmul înainte de instalare, întreținere sau reparație. Risikogrube 2 - VARNING! Eventuellt farligt optisk strålning från denna produkt. Stira ej på driftlampan. 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. Vid PVC-isolerad kabel måste installören se till att hela kabeln är skyddad mot klimatförhållanden, särskilt UV-strålar och regn, genom att se till att kabeln monteras inuti armaturen och stölp 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
FRA	BIZTONSÁGI ÚTMUTATÓ A lámpatestben található fényforrást kizárólag a gyártó, szervizképviseelője vagy hivatalos szakszervíz szakembere cserélheti ki. A szerelés, karbantartás és javítás előtt minden esetben végezzen áramtalanítást. KOCKÁZATI CSOPORT 2 - VIGYÁZATI! A berendezés veszélyes optikai sugárzást bocsát ki! Ne nézzén bele a bekapcsolt lámpatestbe! Szemet károsító hatás léphet fel. A lámpatestet úgy ajánlott pozícionálni, hogy rálátás esetén a lámpatest ne legyen 0.77m-nél közelebb! PVC szigetelésű tápkábel esetén a telepítőnek biztosítania KELL, hogy a TELJES kábel védett legyen az éghajlati viszonyoktól, különösen az UV sugárzástól és az esőtől, ügyelve arra, hogy a kábel a lámpatest és az oszlop belsejében legyen. Y-csatlakozó: A sérült vezetéket kizárólag a gyártó, forgalmazó vagy szakember cserélheti ki a kockázatok elkerülése végett.	SPA	安全守則 该灯具内的光源仅可由施莱德员工、指定代理商或具备类似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。灯具应当选择合理位置安装，尽可能避免长时间在0.77米以内凝视。 如果选择PVC主电缆，必须确保整个电缆被很好的保护以抵御恶劣气候状况，尤其是免受紫外线和雨水，而且要确保电缆被灯具和灯杆完全覆盖。 Y类附件：如果灯具外部电缆被破坏，电缆必须被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。	POR	інструкція безпеки Джерело світла, що міститься у цьому світільнику, повинен замінити лише виробник, його сервісний агент або кваліфікована особа. Завжди вимикайте живлення перед встановленням, доглядом або ремонтом. ГРУПА РИЗИКУ 2 - УВАГА! Можливість небезпечного оптичного випромінювання від цього продукту. Уникайте прямого погляду на ввімнене джерело світла. Може бути шкідливо для очей. Світильник має бути розташований так, щоб уникнути його тривалого споглядання з відстані ближче, ніж 0.77м. 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 світильника та опори Y-з'єднання: у разі пошкодження дроту його має замінити лише виробник, дистрибутор чи експерт, щоб запобігти ризикам.	SWE	SÄKERHETSINSTRUKTIONER Ljuskällan som monteras i denna armatur får endast ersättas av en Schröder-anställd eller annan kvalificerad person. Stäng alltid av strömmen före installation, underhåll eller reparation. Risikgrupp 2 - VARNING! Eventuellt farligt optisk strålning från denna produkt. Stira ej på driftlampan. 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. Vid PVC-isolerad kabel måste installören se till att hela kabeln är skyddad mot klimatförhållanden, särskilt UV-strålar och regn, genom att se till att kabeln monteras inuti armaturen och stölp 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
HUN	UPUTSTVA Izvor svetla u ovom rasvetnom telu može da zameni samo proizvođač, njegov servisni agent ili na sličan način kvalifikovana osoba. Uvek isključite napajanje pre instalacije, održavanja ili popravke. GRUPA RIZIKA 2 - PAŽNJA! Proizvod može emitovati štetno optičko zračenje. Izbegavati vizuelni kontakt sa svetlosnim izvorom dok je u radu. Moguće oštećenje vida. Svetliku treba pozicionirati tako da se ne očekuje duži vizuelni kontakt sa izvorom na razdaljine manje od 0.77m. U slučaju napojnog kabla sa PVC izolacijom, izvođač MORA obezbediti zaštitu CELOG kabla od klimatskih uslova, posebno UV zračenja i kiše, tako što će osigurati da se kabal nalazi unutar svetiljke i stuba. Y-vezu: U slučaju oštećenja žice zamenu mora da obavi isključivo proizvođač, distributer ili stručnjak kako bi se izbegao rizik.	CHI	安全守則 该灯具内的光源仅可由施莱德员工、指定代理商或具备类似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。灯具应当选择合理位置安装，尽可能避免长时间在0.77米以内凝视。 如果选择PVC主电缆，必须确保整个电缆被很好的保护以抵御恶劣气候状况，尤其是免受紫外线和雨水，而且要确保电缆被灯具和灯杆完全覆盖。 Y类附件：如果灯具外部电缆被破坏，电缆必须被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。	UKR	інструкція безпеки Джерело світла, що міститься у цьому світільнику, повинен замінити лише виробник, його сервісний агент або кваліфікована особа. Завжди вимикайте живлення перед встановленням, доглядом або ремонтом. ГРУПА РИЗИКУ 2 - УВАГА! Можливість небезпечного оптичного випромінювання від цього продукту. Уникайте прямого погляду на ввімнене джерело світла. Може бути шкідливо для очей. Світильник має бути розташований так, щоб уникнути його тривалого споглядання з відстані ближче, ніж 0.77м. 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 світильника та опори Y-з'єднання: у разі пошкодження дроту його має замінити лише виробник, дистрибутор чи експерт, щоб запобігти ризикам.	SRP	UPUTSTVA Izvor svetla u ovom rasvetnom telu može da zameni samo proizvođač, njegov servisni agent ili na sličan način kvalifikovana osoba. Uvek isključite napajanje pre instalacije, održavanja ili popravke. GRUPA RIZIKA 2 - PAŽNJA! Proizvod može emitovati štetno optičko zračenje. Izbegavati vizuelni kontakt sa svetlosnim izvorom dok je u radu. Moguće oštećenje vida. Svetliku treba pozicionirati tako da se ne očekuje duži vizuelni kontakt sa izvorom na razdaljine manje od 0.77m. U slučaju napojnog kabla sa PVC izolacijom, izvođač MORA obezbediti zaštitu CELOG kabla od klimatskih uslova, posebno UV zračenja i kiše, tako što će osigurati da se kabal nalazi unutar svetiljke i stuba. Y-vezu: U slučaju oštećenja žice zamenu mora da obavi isključivo proizvođač, distributer ili stručnjak kako bi se izbegao rizik.

AR	تعليمات السلامة: بحالة الحاجة لتغير مصدر الضوء، يتم ذلك من خلال الشركة المصنعة او الوكيل الممثل لعمل ذلك او شخص موهل لذلك. دأماً الفصل الدائرة الكهربائية قبل تركيب او صيانة الجهاز. تحذير: هذا المنتج مصنف ضمن مجموعة الخطأ 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 متوقعة. يجب على الشخص الذي يوصل الجهاز بالدائرة الكهربائية التأكد من ان محمي من التأثيرات المناخية و خاصة الاشعاع فوق البنفسجية و الخطر من خلال التأكد ان الكابل محمي بدخلل العود و الجهاز في حالة الحاجة لتغير الملائك الداخلي، يتم ذلك من خلال الشركة المصنعة او الوكيل الممثل لعمل ذلك او شخص موهل لذلك. دأماً الفصل الدائرة الكهربائية قبل تركيب او صيانة الجهاز.	

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 Frédérick

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 be "L. 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 6 led's class II PHILIPS driver 22 W

Sample n°: P-E17148

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

Remarks:

Test request n°: P-D17186

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 6 led's class II PHILIPS driver 22 W

Driver: Philips FP 22W 0.3-1A

EMC Auxiliaries: Varistors

CONCLUSIONS:



VOLTANA 0 6 led's driven by PHILIPS FP 22 W driver in class II 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: MM Ph. Verbeeck
LAB 24/04/2017
G. Cheuvart

//P-17CR186

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", with a large, sweeping flourish underneath.

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

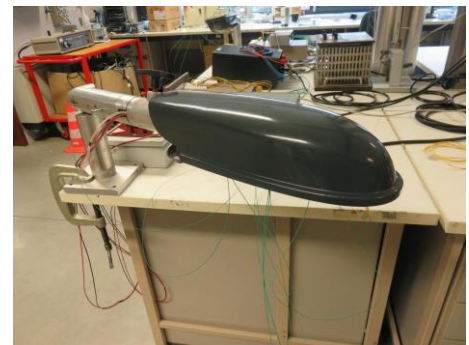
Driver : Optotronic OT50/120-277/1A2 2DIM LT2 P / 00-14-565
Driver info : Tc (max: 80°C)
Driver current (mA) : 1250
SPD : Vossloh Lighting Solutions SPC3 230/10 K

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. $T^{\circ}j = T^{\circ}b + R_{jb} \times P_{led}$

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

//CR180791

1/1



VOLTANA 0

5205

Optic	5205
Protector	Integrated lenses
Source	6 Samsung LH351C
Matrix	425712



Characteristics

416	156	91	2.6	IP 66	IK 09	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 (%)	89.5	G Class (EN 13201-2)	G3	I 70-80-90-95 (cd)	754 - 9 - X - X
DLOR (%)	89.5	G* (EN 13201 2015)	G*3	CIE flux code N 1→5 (%)	52.2 - 82.9 - 98.7 - 100.0 - 89.5
ULOR (%)	0.0	Imax (cd)	754	Gradient 90°	18cd
ULR (%)	0.0	Aperture 0-180°	27 - 27	Gradient 270°	8cd
Incl ULR 4%	-45/45°	Aperture 90-270°	7 - X		

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°						
6	NW 740	350	8	1140	1021	128	860	B1 U0 G0	230
6	NW 740	500	11	1572	1407	128	1185	B1 U0 G0	230
6	NW 740	700	15	2104	1884	126	1587	B1 U0 G0	230
6	NW 740	1000	22	2793	2500	114	2106	B1 U0 G1	230
6	NW 740	1050	23	2896	2592	113	2183	B1 U0 G1	230
6	WW 730	350	8	1080	967	121	814	B1 U0 G0	230
6	WW 730	500	11	1489	1333	121	1123	B1 U0 G0	230
6	WW 730	700	15	1994	1785	119	1503	B1 U0 G0	230
6	WW 730	1000	22	2646	2369	108	1995	B1 U0 G1	230
6	WW 730	1050	23	2743	2456	107	2068	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

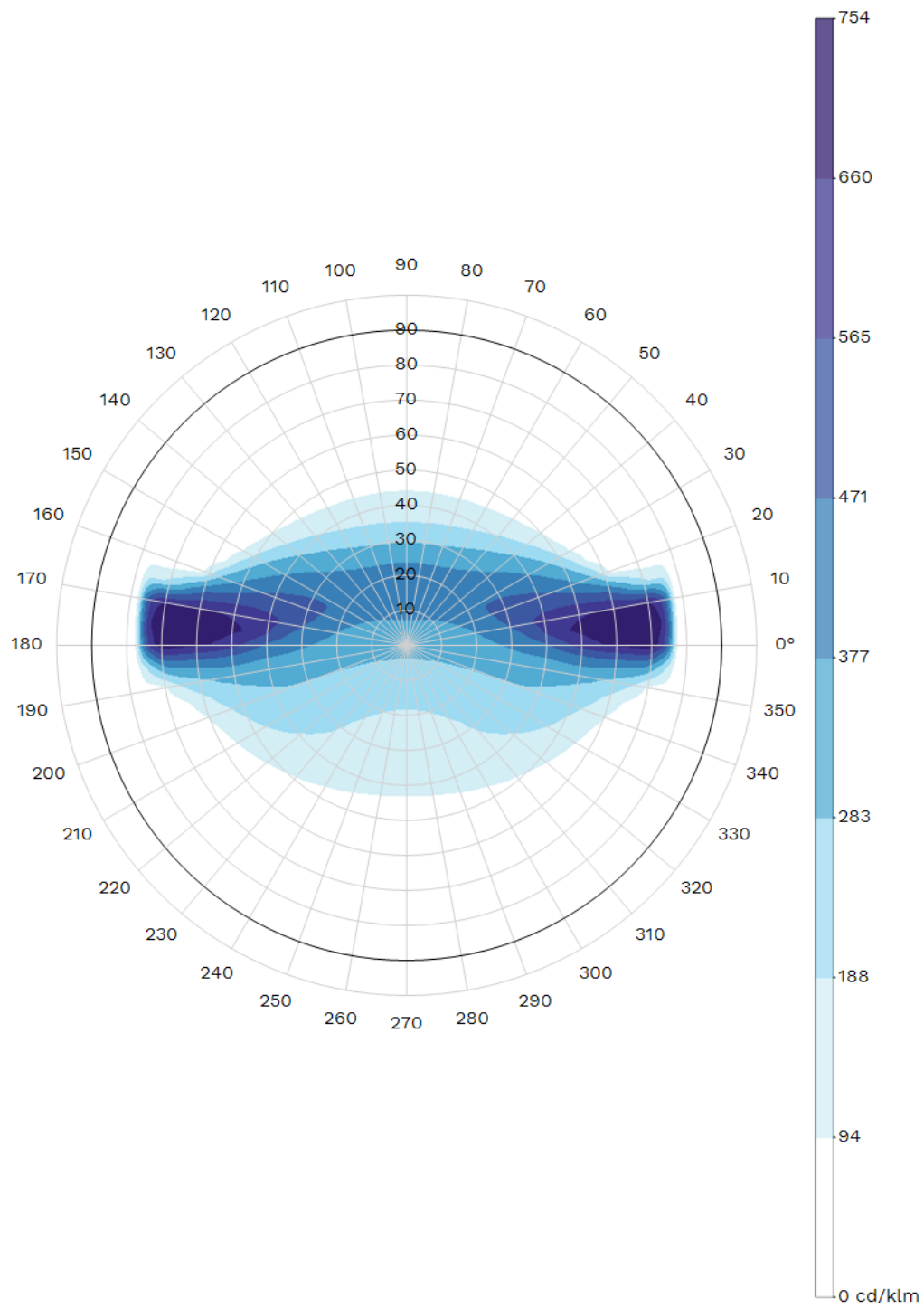
- CE
- ENEC
- LM79-80
- ROHS
- Certified for 3G vibration
- All measurements in ISO17025 accredited laboratory

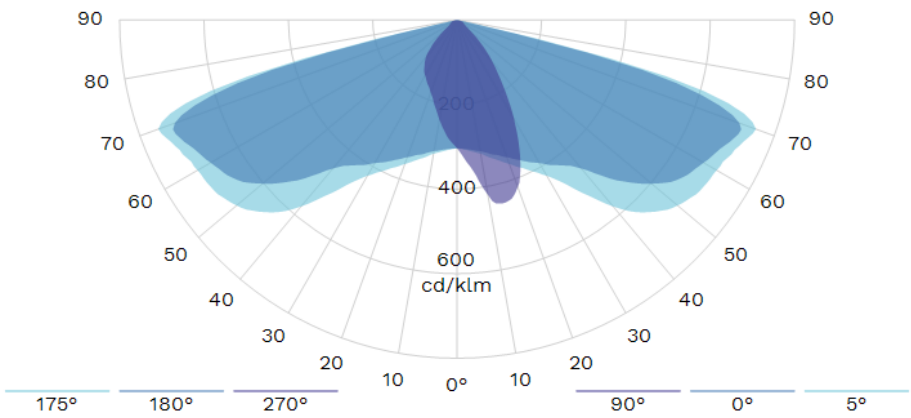
OPTIONS

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

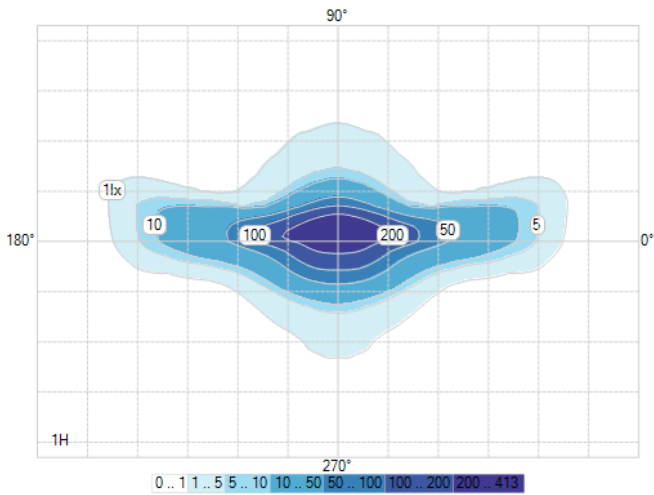
VOLTANA 0 - 5205 - 6 Samsung LH351C - Integrated lenses - 425712

- Photocell

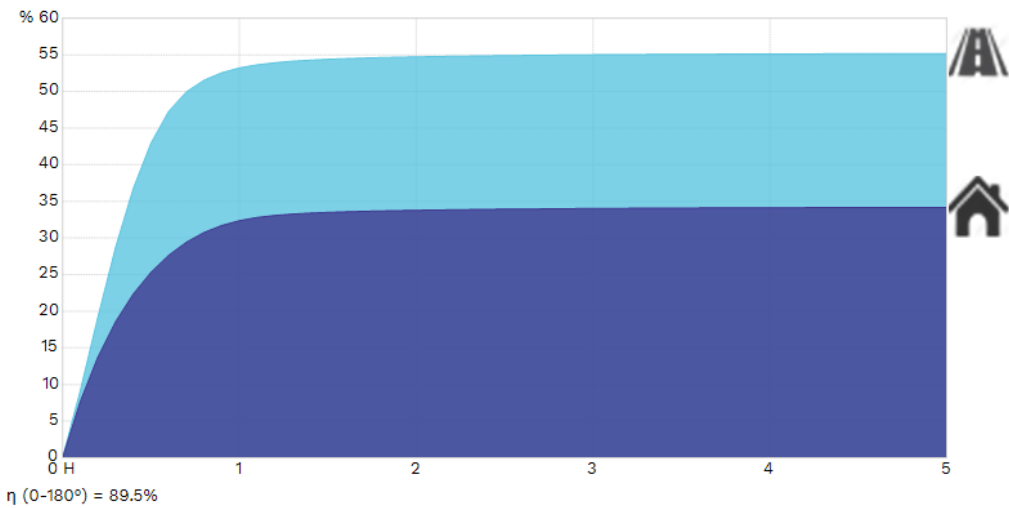




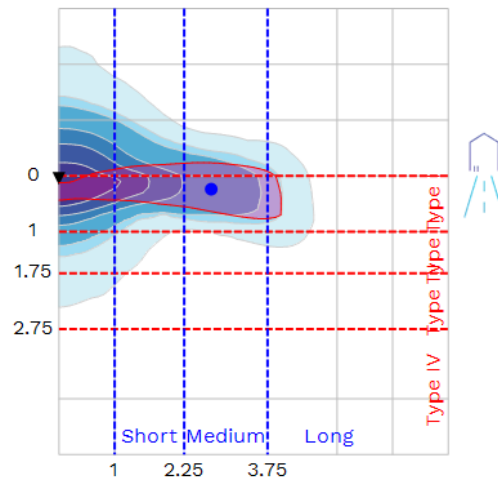
Isolux



K-Curve

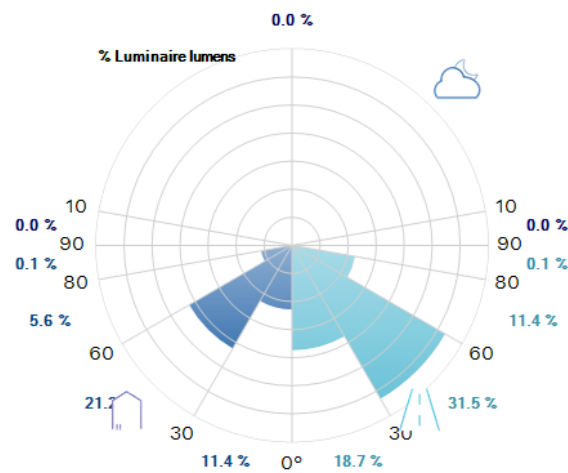


IES Roadway Classification / Nema Classification

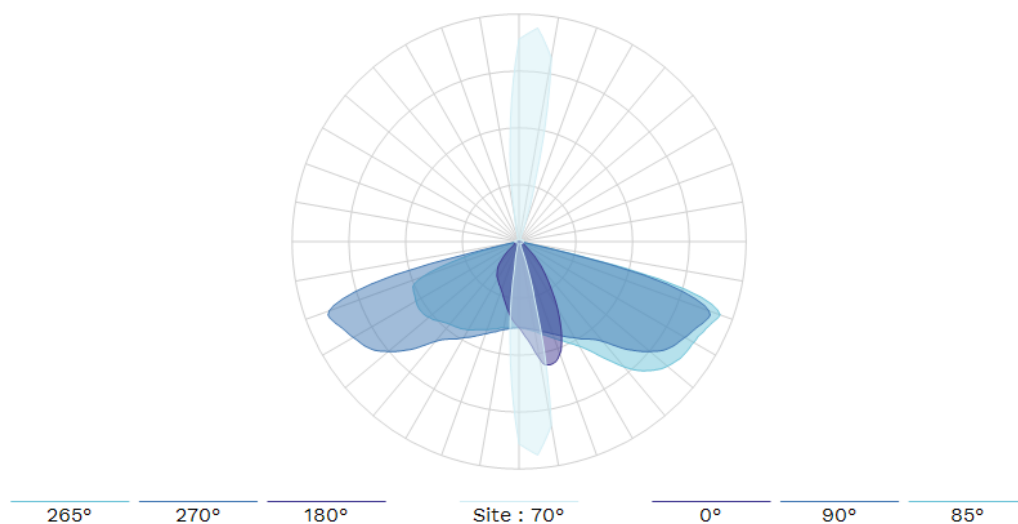


I - Medium

Luminaire classification system (LCS)



Intensity diagram in max Cone and in CPlane



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