

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: SKIDO 6 led's @ 1,05 A - class I protection

Sample n°: P-E15329

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

Remarks:

Test request n°: P-D15613

Folder n°: P-F14083

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	

Immunity

Standard	Limit / Level	Result	
		PASS	FAIL
EN 61000-4-5	0.5 to 4 kV M.D. & M.C. Criteria B required	X	

Driver: Mean-Well PLD-25-1050 @ 1050mA

EMC Auxiliaries: Varistor

CONCLUSIONS:

SKIDO 6 led's driven @ 1.05A by Mean Well PLD-25-1050 driver complies with the CISPR/EN 55015 and EN 61547 Standards.

Remark: Surge protection tested OK up to 4 KV for both Common and Differential modes
(Max ULg facilities)

Duplicate to: Mr M. Thijs

LAB 16/09/2015

L. Maghe

//P-15CR613



**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. 98 / 20.03.2019

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Exemplar nr. 1 din 2

ÎNCERCAREA SOLICITATĂ

Required Test

Verificarea 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 VOLTANA2 16L
– Cod VOLTA2-000037**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. 76/08.03.2019

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 reprodus numai în întregime.

Test results refers only to tested products.

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DATELE TEHNICE ALE PRODUSULUI:

CORP DE ILUMINAT CU LED-uri tip VOLTANA2 16L – Cod VOLTA2-000037

- Tensiune nominală	: 230 V~
- Frecvența nominală	: 50 Hz
- Putere consumată	: 56 W
- Sursa alimentare	: model
- Factor de putere	: > 0,97
- Sursă de lumină	: 1 modul LED cu 16 LED-uri : 2 module a câte 8 lentile tip 5136 – PMMA (producător Schröder)
- Grad protecție	: IP 66
- Rezistența la impact	: IK10
- Temperatura ambiantă maximă nominală (t_a)	: + 55 °C
- Clasa de protecție	: I
- Dispersor carcasă	: sticlă securizată tratată termic cu grosimea de 5mm
- Carcasă	: Aluminu turnat sub presiune
- Masă	: 4,56 kg
- Dimensiuni de gabarit	: [518 x 240 x 109] mm
- Înălțimea de montare	: 4 - 12 m
- Utilizare	: Iluminat public (zone pietonale, străzi rezidențiale, zone comune, străzi comerciale în zonele urbane)

Lot / Serie / An fabricație : / 2019
Felul produsului : serie curentă
Data primirii produsului : 28.03.2019
Perioada încercărilor : 28.03.2018
Modul de prelevare : conform procedurii PG-11, OICPE
Număr de produse încercate : 1 bucată

Responsabil de încercări

Ing. Daniel DRAGNEA

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 VOLTANA2-16L – Cod VOLTA2-000037" cu cerințele cap. 5; 6 și 7 din SR EN 62262:2004.



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		Laboratorul de Încercări pentru Certificarea Produselor Electrice		LICPE	
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Pag. 3 / 6					
Articol din DN		Cerință conform SR EN 62262:2004		Rezultate	
				Mod de îndeplinire a cerinței	
GRAD DE PROTECȚIE ÎMPOTRIVA IMPACTURILOR MECANICE					
5 PRESCRIPTII GENERALE PENTRU ÎNCERCĂRI					
5.1 Condiții atmosferice pentru încercări					
		Dacă nu este specificat altfel în standardul particular de produs, încercările trebuie efectuate în condiții atmosferice standard pentru încercările definite în CEI 60068-1:			
		- domeniul de temperaturi: de la 15 °C până la 35 °C;		Măsurat : 16,5 °C	
		- presiune atmosferică: de la 86 kPa până la 106 kPa (de la 860 mbar până la 1060 mbar)		Măsurat : 962 mbar	
5.2 Carcase supuse încercării					
		Fiecare carcasă supusă încercării trebuie să fie curată și în stare nouă, completă și cu toate părțile la locul lor, dacă nu este prevăzut altfel în standardul particular de produs.		1 bucată CORP DE ILUMINAT CU LED-uri VOLTANA2 16L – Cod VOLTA2-000037, curat și în stare nouă complet și cu toate părțile la locul lor.	
5.3 Prevederi indicate în standardul particular de produs					
		Standardul particular de produs trebuie să prevadă:		Standardul particular de produs SR EN 60598-2-3:2004 + A1:2012 + AC:2015 prevede condițiile în care trebuie să se realizeze verificarea gradului de protecție la impacturi mecanice.	
		- definiția pentru «carcasă» așa cum se aplică la tipul particular de echipament;			
		- mijlocul de încercare (de exemplu ciocanul pendular, ciocanul cu resort sau ciocanul vertical, a se vedea articolul 7);			
		- numărul de eșantioane supuse la încercări;			
		- condițiile de montaj, asamblarea și poziționarea eșantioanelor, de exemplu prin utilizarea unei suprafețe artificiale (tavan, podea sau perete) cu scopul de a simula condițiile destinate de serviciu, atât cât este posibil;			
		- condiționarea care trebuie utilizată, dacă se aplică;			
		- dacă încercarea se efectuează sub tensiune;			
		- dacă încercarea se efectuează cu părțile mobile în mișcare;			
		- numărul de impacturi și punctele lor de aplicare (a se vedea 6.4).		N = 1 (un) impact	
		În absența unor astfel de precizări în standardul particular de produs, trebuie aplicate condițiile din acest standard.		S-au aplicat condițiile din standardul SR EN 60598-2-3:2004 + A1:2012 + AC:2015 art. 3.6.5.2.1 referitor la numărul de impacturi.	
6 ÎNCERCĂRI PENTRU VERIFICAREA PROTECȚIEI ÎMPOTRIVA IMPACTURILOR MECANICE					
6.1		Încercarea specificată în acest standard este încercare de tip.		Încercare de tip IK 10	
6.2		Verificarea protecției împotriva impacturilor mecanice se efectuează prin aplicarea de lovituri carcasei de încercat. Articolul 7 descrie dispozitivele care se utilizează pentru această încercare.		A se vedea articolul 7 din prezentul RI	
6.3		În timpul încercării, carcasa trebuie montată pe un suport rigid și în conformitate cu instrucțiunile de utilizare ale fabricantului. Se consideră că un suport este suficient de rigid dacă deplasarea sa este mai mică sau cel mult egală cu 0,1 mm sub efectul unei lovituri aplicate direct și a cărei		Corp de iluminat cu LED-uri VOLTANA 2 – 16L – Cod VOLTA2-000037 montat pe suport rigid	



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	energie corespunde gradului de protecție. 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.	Corpul de iluminat VOLTANA 2-16L – Cod VOLTA2-000037 a fost pregătit 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).	P
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)	P
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	P

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 %.



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ANEXĂ

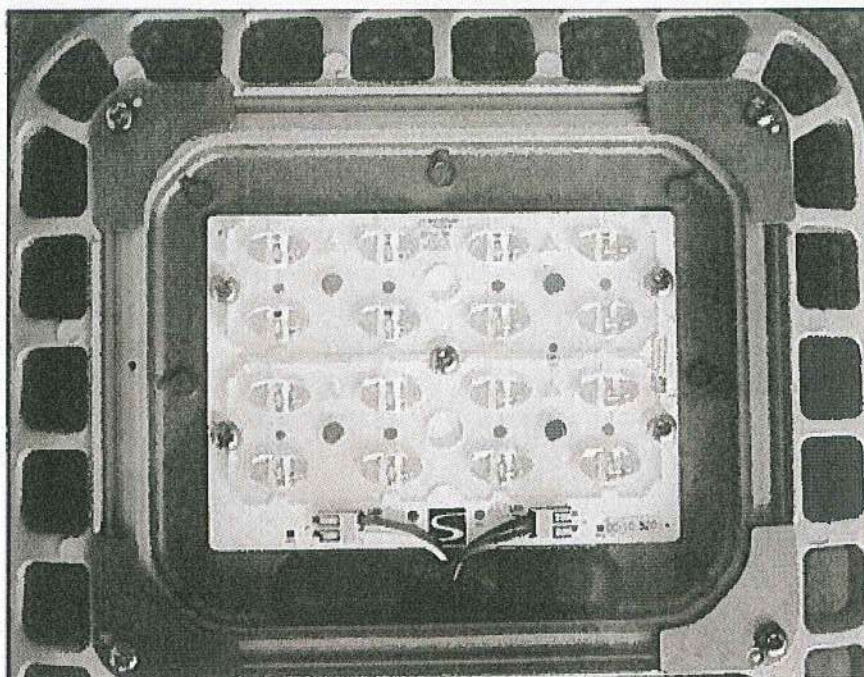


Fig. 1 – Corpul de iluminat VOLTANA2 16L – Cod VOLTA2-000037 înainte de verificarea la impact (IK 10)

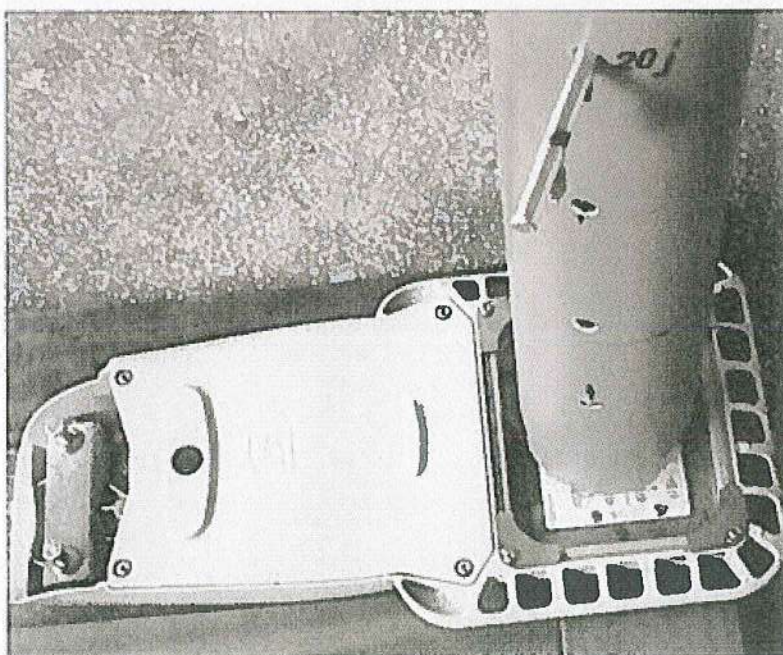


Fig. 2 – Corpul de iluminat VOLTANA2 16L – Cod VOLTA2-000037 pregătit pentru verificarea impact (IK 10)

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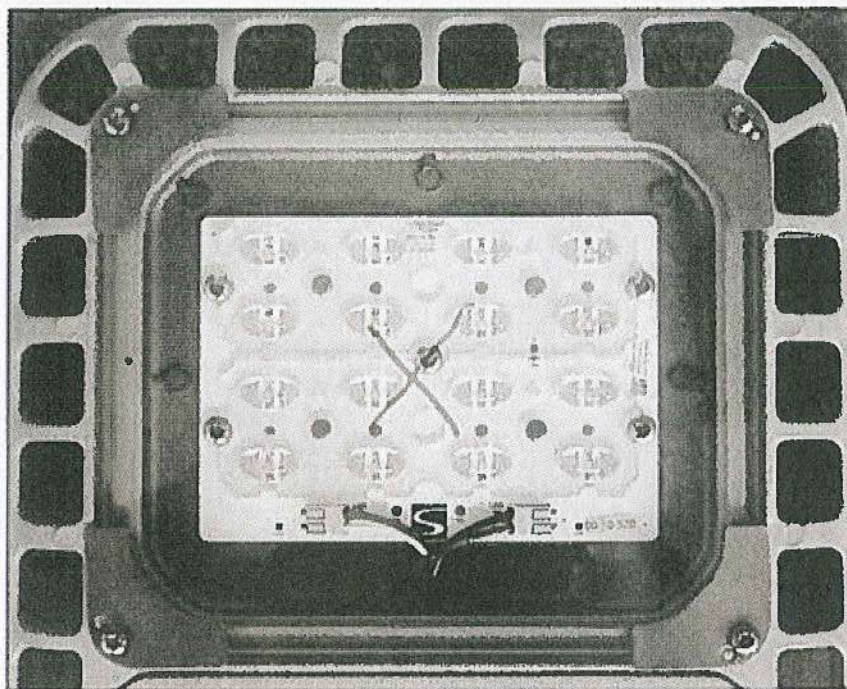


Fig. 3 – Corpul de iluminat VOLTANA2 16L – Cod VOLTA2-000037 după verificarea la impact (IK 10) – dispersorul din sticlă securizată tratată termic a rezistat la impactul mecanic

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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-2 16 led's @ 1A

Sample n°:

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

Remarks:

Test request n°: P-D14696

Folder n°: P-F14058

TEST CONDITIONS:

Operator: BOMBIL Patrick

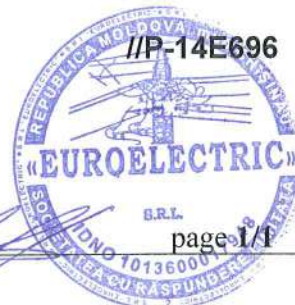
Preconditioning: endurance test

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

CONCLUSIONS:

VOLTANA-2 16 led's @ 1A satisfies the IP66 test following IEC/EN 60598-1 Standard.

Duplicate to: Mr M. Thijs
LAB 23/09/2014
J.P. Harchies



OVE Austrian Electrotechnical Association
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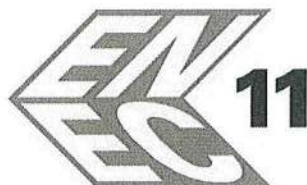
ENEC Certification Body registered under ID # 11.

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LICENCE

to use the European Mark



Licence No. **80145-007**

Date of issue: Wien, 2016 02 26

OVE the Austrian Electrotechnical Association as signatory to the **"Agreement on the use of a commonly agreed Mark of Conformity for certain electrical equipment complying with European Standards"** hereby grants the right to label the products mentioned hereunder and listed in the Annex with the Mark(s) shown above to the following company

Licenceholder: **Schröder SA**
Rue de Lusambo 67
1190 Brussels
Belgium

Product: **Luminaire for road and street lighting**

Trade Mark: **schröder** 

Series/Type: **Series SKIDO**

Basis for this given right is the conformity of the products with the requirements of the relevant Standard(s) as listed in the Annex and the fulfilment of articles 8 and 9 of the ENEC-Agreement by the manufacturer. This licence refers to the tested specimen and to all products manufactured strictly identical to the submitted one.

This licence has been issued under the presumption and conditional on the fact that the licensee holds all necessary legal rights with regard to the product presented for testing and certification.

Austrian Electrotechnical Association
Head of Testing & Certification

Digitally signed by W. Martin
Email=w.martin@ove.at
Dipl.-Ing. W. Martin

OVE

OVE Testing & Certification

Accredited by the Federal Ministry of Science, Research and Economy as Certification Body for products within the scope as given in the official decree and published under www.en.bmwf.gv.at/accreditation





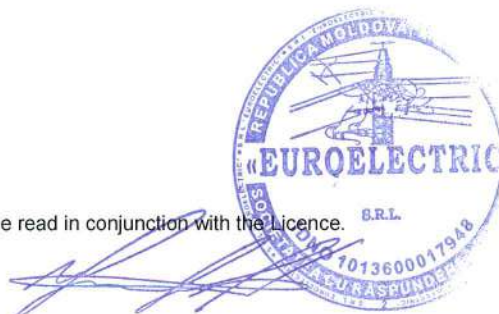
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Wien, 2016 02 26

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<i>Hersteller</i> <i>Manufacturer</i>	Tungsram-Schröder Világítási Berendezések Zrt Tópart 2. 2084 Pilisszentiván Hungary
<i>Fertigungsstätte(n)</i> <i>Factory location(s)</i>	TOV Schröder Mukylunetska 46B 46005 Ternopil Ukraine
<i>Typenbezeichnung</i> <i>Type reference</i>	Series SKIDO SKID 6L_700mA CW SKID 6L_1050mA CW
<i>Prüfbericht</i> <i>Test Report</i>	TGM-VA EE 36464 ECS
<i>Nationale Bestimmung(en)</i> <i>National Standard(s)</i>	ÖVE/ÖNORM EN 60598-1:2015-11-01 ÖVE/ÖNORM EN 60598-2-3:2012-01-01
<i>Europanorm(en)</i> <i>European Standard(s)</i>	EN 60598-1:2015 EN 60598-2-3:2003 + A1:2011
<i>Ersatz für Zertifikat</i> <i>Superseded licence</i>	--
<i>Anmerkung(en)</i> <i>Remark(s)</i>	--





Österreichischer Verband
für Elektrotechnik

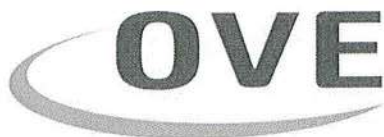
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<i>Nennspannung</i> <i>Rated voltage</i>	AC 100-240 V 50/60 Hz
<i>Anzahl und Leistung der Lampen</i> <i>Rated wattage and number of lamps</i>	1 x 17/23 W
<i>Lampentyp(en)</i> <i>Lamp identification</i>	LED Modules
<i>Schutzgrad</i> <i>Degree of protection</i>	IP 65; IK 08
<i>Netzanschluß</i> <i>Supply connection</i>	Screw terminals
<i>Befestigungsfläche</i> <i>Supporting surface</i>	Normally flammable surface
<i>Schutzklasse</i> <i>Class of protection</i>	Cl. I
<i>Beschreibung des Aufbaus</i> <i>Description of construction</i>	Luminaires for road and street lighting made of aluminium for installation on a pipe or on a mast arm, with LED module and LED driver. Protector made of polycarbonate.
<i>Zusatzinformation</i> <i>Additional information</i>	LED-Modules tested according to EN 62471:2008 and found within limits of risk group 2 (moderate risk). Distance d = 200mm: RG2 Distance d ≥ 1,27m: RG1 Distance d = 2m (500 Lux): RG0





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<i>Bauteil Component</i>	<i>Code Code</i>	<i>Hersteller Manufacturer</i>	<i>Typenbezeichnung Type Reference</i>	<i>Konformitätszeichen Mark(s) of conformity</i>
LED Converter	B	Mean Well Enterprises	PLD-25-1050	ENEC 17
	B	Mean Well Enterprises	PLD-16-700	ENEC 17
Fuse holder	B	Adels-Contact	503 SI	VDE
Fuse	A	Littelfuse	.800; 250V; T 800mA	VDE
Varistor	A	Littelfuse	V275LA40AP (P275L40)	VDE
Terminals	A	Adels-Contact	500...; 450V; 0,75-2,5mm ²	VDE
LED-Module	C	Zollner	00-16-725 (Nichia 219C CW)	TGM-VA EE 36464 SFT-2
Wiring	A	Helukabel	H05VV-F 3G1,5mm ²	VDE

A The component is replaceable with another one, also certified, with equivalent characteristics.
B The component is replaceable if authorised by the test house.
C Integrated component tested together with the appliance.
D Alternative component.

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Type list

Type	Input current at 230V 50Hz [A]	Luminaire max. power [W]	LED Current [mA]
SKIDO SKID 6L_700mA CW	0,07	15	700
SKIDO SKID 6L_1050mA CW	0,10	23	1050

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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: SKIDO 6 led's

Sample n°: P-E15365

Test purpose: Electrical measurements @ 1.05A and 700mA

Remarks:

Test request n°: P-D15545

Folder n°: P-F14083

TEST CONDITIONS:

Operator: CLOSSET Frédéric

Driver: 1.05A: Mean Well PLD-25-1050
700mA: Mean Well PLD-16-700

Load: 6 Led's CW 5700K
Typical Vf: @ 1.05 A: 3,00 V
@ 700 mA: 2,91 V

Power Supply:
Elgar Tw 3500-4
Supply voltage: 230 V 50 Hz

Measurement device:
Fluke Norma 4000 (HF Powermeter, User 10, filter OFF)

CONCLUSIONS:

@ 1.05A:
- Efficiency: 81 %
- PF: 0.96
- THD: 12.7%

@ 700 mA
- Efficiency: 83%
- PF: 0.97
- THD: 13.2%

Duplicate to: Mr M. Thijs
LAB 20/07/2015
L. Maghe

//P-15CR545



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: I.S. SKIDO (hand mounted by HUS)

Sample n°: P-E13088

From: HUS

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

Remarks:

Test request n°: P-D13182

Folder n°: P-F13034

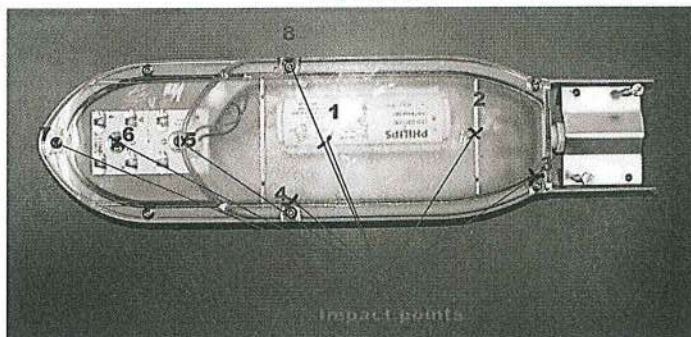
TEST CONDITIONS:

Operator: BOMBIL Patrick

I.S. Skido with PC protector
Info material not received

At pendulum hammer

5+3 impact points distributed on protector surface
One impact on each point



Test

IK05 : Impact energy: 0,7 joules
Hammer weight: 0,2 kg
Height of fall: 35 cm

Result

OK, nothing to indicate

IK06 : Impact energy: 1 joule
Hammer weight: 0,5 kg
Height of fall: 22 cm

OK, nothing to indicate

IK07 : Impact energy: 2 joule
Hammer weight: 0,5 kg
Height of fall: 40 cm

OK, nothing to indicate

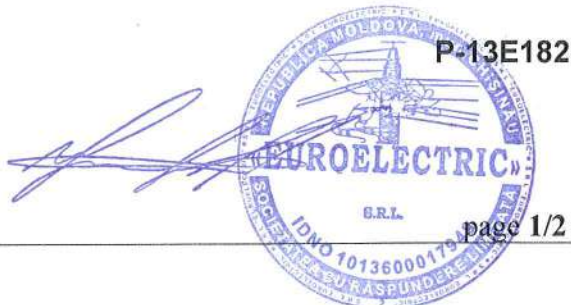
IK08 : Impact energy: 5 joules
Hammer weight: 1,7 kg
Height of fall: 29,4 cm

OK for the protector, but a deformation of the alu sheet clamp allows the release of the fitting. See pictures here after.

CONCLUSIONS:

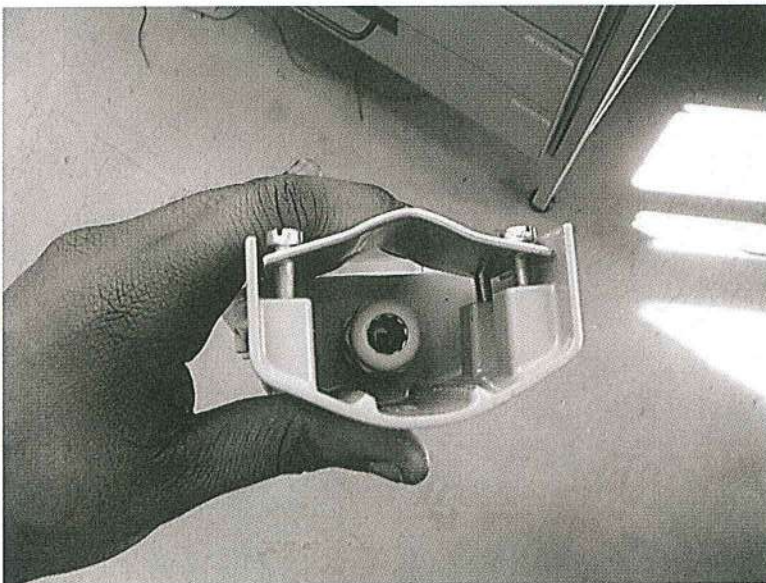
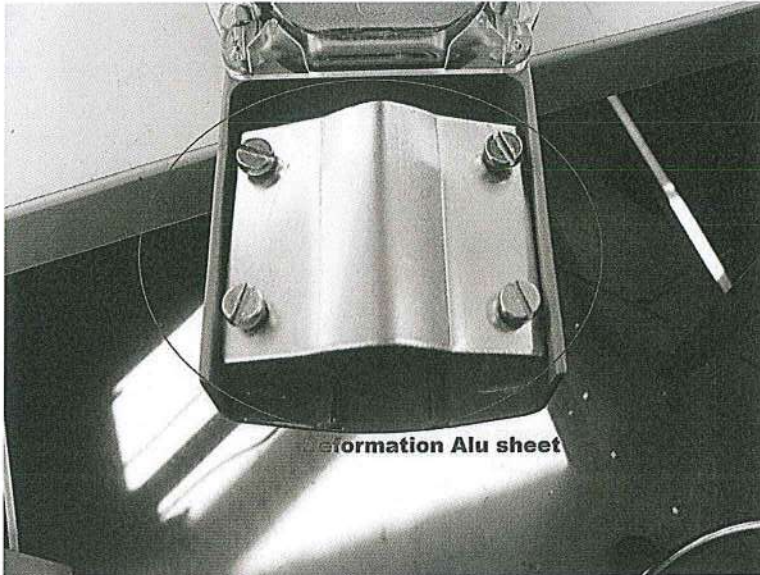
SKIDO satisfies the IK07 test in accordance with IEC/EN 62262 Standard.

Duplicate to: MM C. Horvath, C. Marville, Y. Borlez
LAB 19/04/2013
J.P. Harchies



P-13E182

I.S. SKIDO (hand made by HUS)



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: Serial 0 SKIDO 6 led's Nichia @ 700 mA

Sample n°: P-E13112

From: INK

Test purpose: Tightness test IP65 following IEC/EN 60598-1 Standard

Remarks:

Test request n°: P-D13207

Folder n°: P-F13045

TEST CONDITIONS:

Operator: BOMBIL Patrick

Test	Result
IP6X : -Luminaire switched ON until stable T° -Talcum n suspension (blowing ON) -After 1°, luminaire OFF -Talcum for 3 hours	OK
IPX5 : - Luminaire switched ON until stable T° - Luminaire switched OFF and immediately sprayed with water jet - Hose Φ 6,3 mm - Water pressure: 300 gr/cm ² - Spraying distance: 3 m - Test duration: 15 minutes	OK

Remark: Silicone gasket remains strongly marked even after a long time the protector removed.

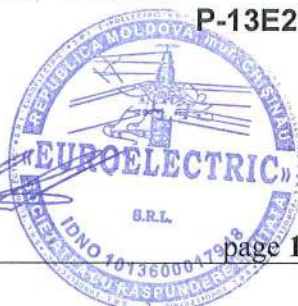
CONCLUSIONS:

SKIDO 6 led's @ 700 mA satisfies the IP65 test following IEC/EN 60598-1 Standard

Duplicate to: MM C. Faujdar, P. Shah, S. Pujari, C. Horvath, C. Marville, Y. Borlez

LAB 14/05/2013

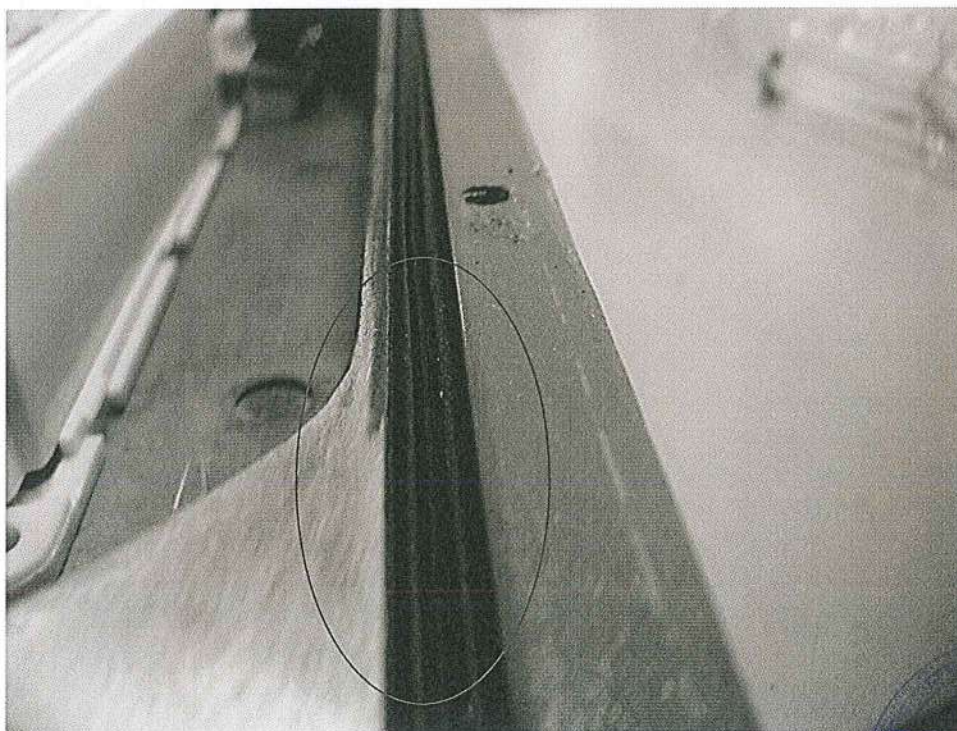
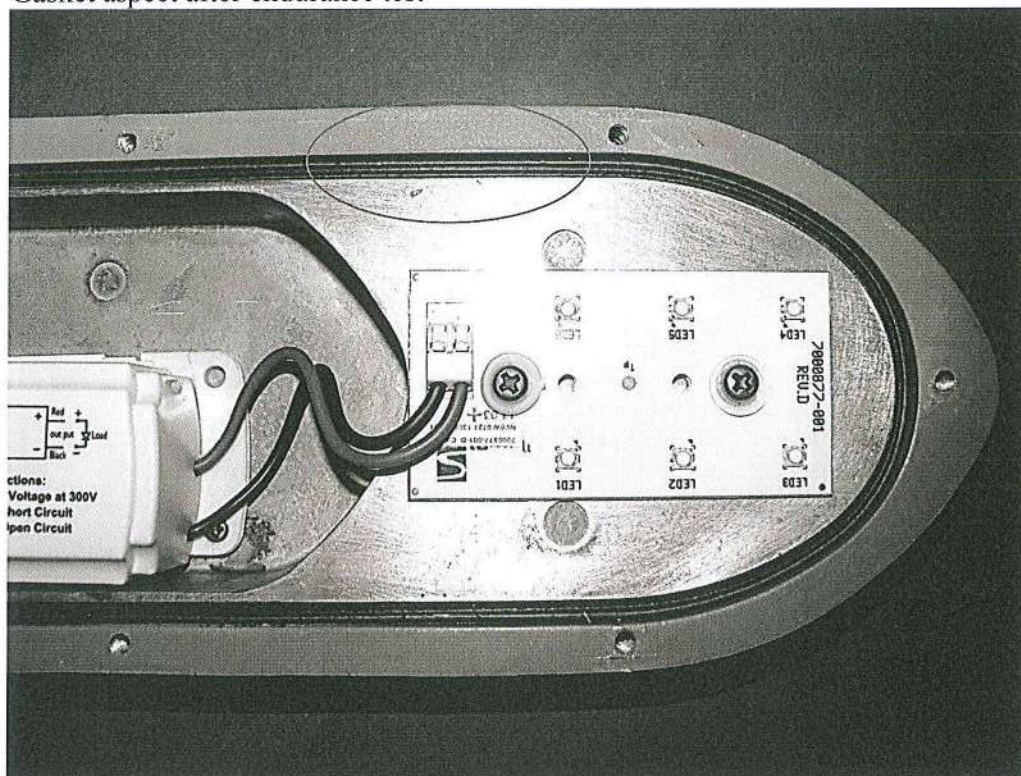
J.P. Harchies



P-13E207

Serial 0 SKIDO 6 led's Nichia @ 700 mA

Gasket aspect after endurance test



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: SKIDO 6 led's

Sample n°: P-E15365

Test purpose: Thermal test evaluation @ 1.05A and 700mA following IEC/EN 60598-1 Std

Remarks:

Test request n°: P-D15544

Folder n°: P-F14083

TEST CONDITIONS:

Operator: CLOSSET Frédéric

Load: 6 led's

Driver: Test 1A: Mean Well PLD-25-1050

Test 700mA: Mean Well PLD-16-700

Tc 70 °C

Measurement device:

Yokogawa TX10: thermal measurement

Yokogawa WT 210: primary EM

Fluke 87: secondary and led's EM

Junction Temperature measurement method

Junction temperature measurement by base temperature measurement and electrical measurement.

$$T_j = T_b + R_{jb} \times P_{led}$$

CONCLUSIONS:

@ 1.05A: Ta (IEC): 35 °C
Tq (IEC): 25 °C

@ 700 mA: Ta (CEI): 50 °C
Tq (CEI): 40 °C

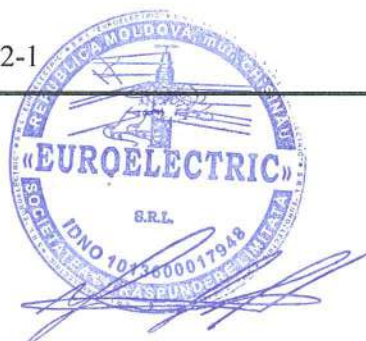
Tq given for driver full load

T° given without wind effect to comply with IEC 62722-2-1

Duplicate to: Mr M. Thijs

LAB 01/07/2015

L. Maghe



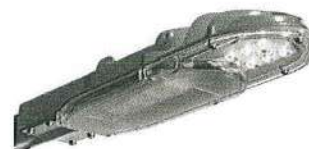
//P-15CR544

14/04/2020

SKIDO

5122

Optic	5122
Protector	Integrated lenses
Source	6 Samsung LH351C
Matrix	429352



Characteristics

							
395	101	54	1.2	IP 65	IK 08	I EU	0.033
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 efficient LED alternative to low-power fluorescent lighting

- Compact and versatile
- Maximised savings in energy and maintenance costs
- Integrated lenses for performing photometry
- ThermiX® for long lasting performance
- Wide operating temperatures from -20° up to 50°C
- Wide operating voltage range: 198-264V
- Easy to install
- Surge protection 10kV (optional)

Types of application

- Square and park
- Residential road
- Urban road

Information for 1000 lm matrix

Efficacy (%)	89.1	G Class (EN 13201-2)	Unclassified
DLOR (%)	89.0	G* (EN 13201 2015)	Unclassified
ULOR (%)	0.1	Imax (cd)	528
ULR (%)	0.1	Aperture 0-180°	51 - 51
Incl ULR 4%	-40/32°	Aperture 90-270°	X - X

I 70-80-90-95 (cd)	509 - 384 - 7 - 4
CIE flux code N 1→5 (%)	35.8 - 69.0 - 92.2 - 99.9 - 89.1
Gradient 90°	32cd
Gradient 270°	9cd



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	700	15	2100	1871	125	1110	B1 U1 G1	230
6	NW 740	1050	23	2921	2603	113	1543	B1 U1 G1	230

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



14/04/2020

Summary

CONCEPT

Luminaire specifically designed for LEDs

Recommended installation height: between 3.00 and 6.00m

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
- Protector in UV resistant polycarbonate
- Colour: RAL grey 7037

INSTALLATION

- Lateral fixation with stainless steel clamp diameter 32-42mm, tightened with 4 stainless steel screws M8
- Supplied with out-going cable (0.3m length 3G1² or 3G1.5²) for easy installation

OPTICAL UNIT

- Flatbed PCB with acrylic lens overlay principle
- CRI > 70
- ULOR: 0%

LED lumen depreciation

- Lifetime residual flux @ T_q=25°C @ 50.000 hrs: 700mA: 90%

ELECTRICAL

- Class I
- Input voltage: 230V - 50Hz
- Power factor > 90% at full load
- Surge protection: 4kV minimum, optional 10kV & 15kV

STANDARDS & CERTIFICATIONS

- CE
- ENEC
- LM79-80
- ROHS
- All measurements in ISO17025 accredited laboratory

OPTIONS

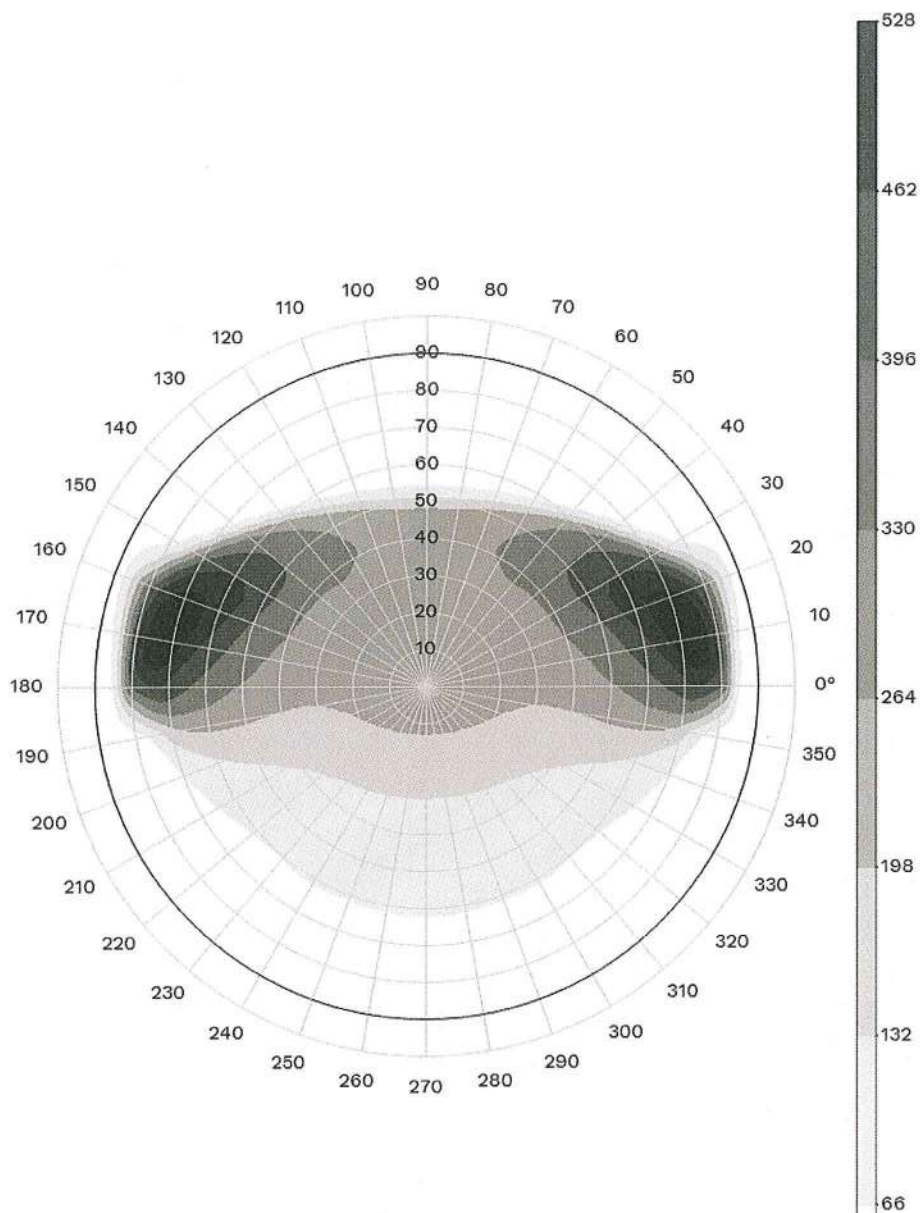
- Other RAL or AKZO colours



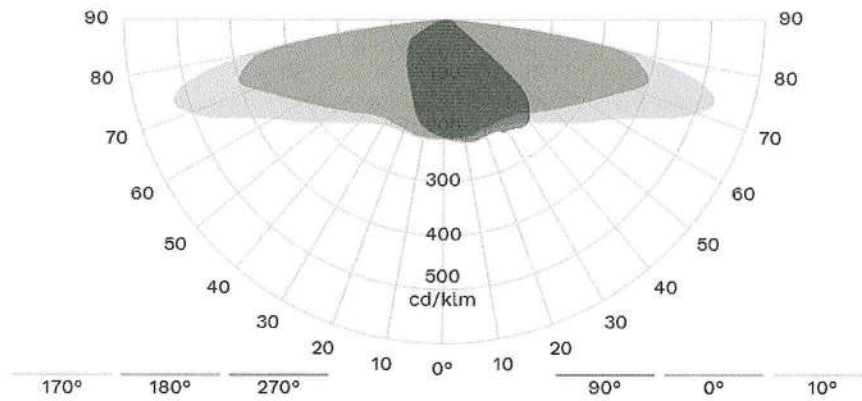
14/04/2020

Hypergon view

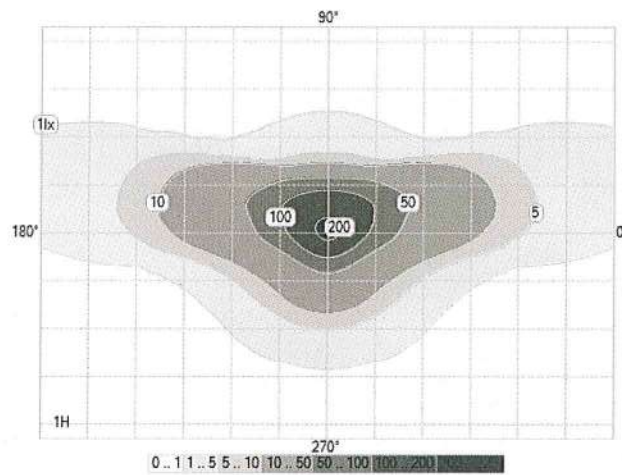
Schröder



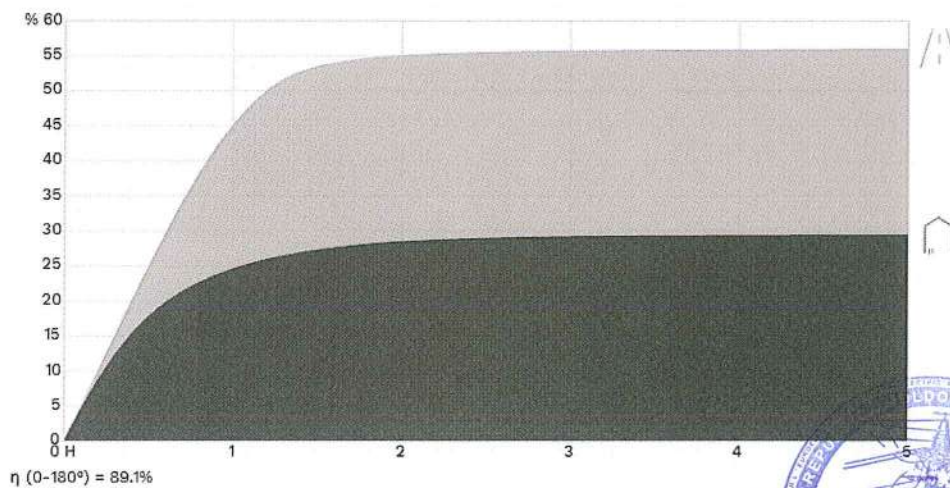
Polar/Cartesian diagram



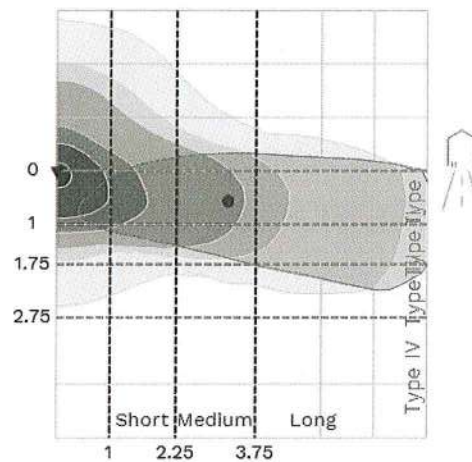
Isolux



K-Curve

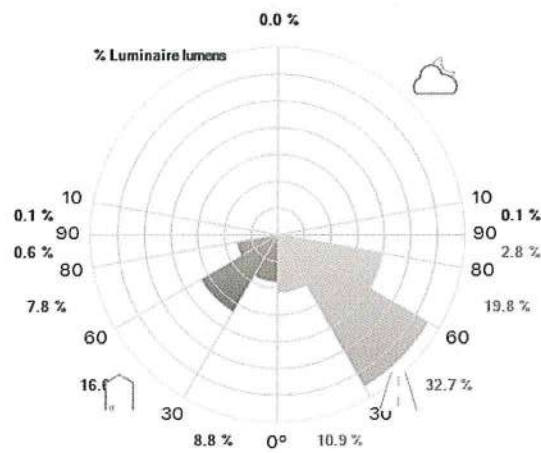


IES Roadway Classification / Nema Classification

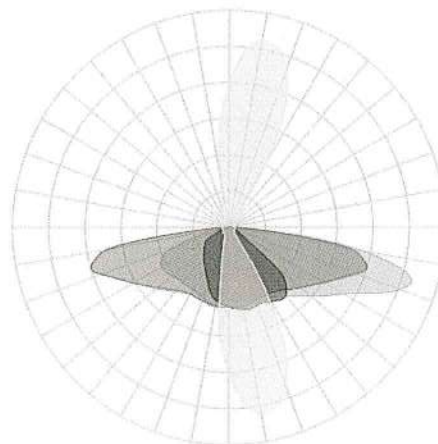


III - Medium

Luminaire classification system (LCS)



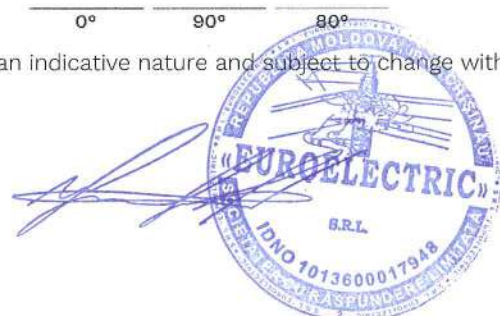
Intensity diagram in max Cone and in CPlane



260° 270° 180° Site : 73° 0° 90° 80°

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<http://www.schreder.com>



SGS

LICENCE

No. 21181 - Issue No 3

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) : VOLTANA 0, VOLTANA 1, VOLTANA 2, VOLTANA 3,
VOLTANA 4

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

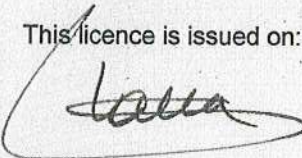
SGS CEBEC hereby declares that the above-mentioned product has been certified on the basis of:

- 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: 11/06/2019


Ir. C. Lana,
Certification Manager

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SGS

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Business Riverside Park
Bld Internationelaan 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)	:	VOLTANA 0, VOLTANA 1, VOLTANA 2, VOLTANA 3, VOLTANA 4
description	:	Street lighting
rated voltage (Un)	:	200-240 V
rated frequency	:	50-60 Hz
rated secondary current (In SEC)	:	max. 1400 mA (LED)
class	:	class I
degree of protection	:	IP66
additional information	:	IK08

Additional information

The VOLTANA range is IK08 according to EN 62262:2002 / IEC TR 62696 :2011.

Product data - type VOLTANA 1

lamp(s)	:	8 LEDs (G4L, G4TOP, XP-G3, 351C, 351D)
rated ambient temperature (ta)	:	max. 55°C
rated power	:	max. 41 W

Product data - type VOLTANA 2

lamp(s)	:	16 LEDs (G4L, G4TOP, XP-G3, 351C, 351D)
rated ambient temperature (ta)	:	max. 45°C
rated power	:	max. 58 W

Product data - type VOLTANA 3

lamp(s)	:	24 LEDs (G4L, G4TOP, XP-G3, 351C, 351D)
rated ambient temperature (ta)	:	max 50°C
rated power	:	max. 80 W

Product data - type VOLTANA 4

lamp(s) : 32 LEDs (G4L, G4TOP, XP-G3, 351C, 351D)
 rated ambient temperature (ta) : max. 55°C
 rated power : max. 110 W

Product data - type VOLTANA 0

lamp(s) : 6, 8 LEDs (G4L, G4TOP, XP-G3, 351C, 351D)
 rated ambient temperature (ta) : max. 55°C
 rated power : max. 36 W

TESTS

Test requirements

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

Test results

The test results are laid down in certification file ref. 618719/22.

Remarks

This certificate is based on test report No. P1540-44-lc.

Conclusion

The examination proved that all certification requirements were met.

Reviewed by, project leader : Christian Maes - 11/06/2019

Certification Manager :

[Signature] 2019-06-11

FACTORY LOCATION(S)

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

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

Schröder Iluminação S.A.
Rua da Fraternidade Operária, n° 3
2795-491 CARNAXIDE, OEIRAS
Portugal

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

Schröder Hungary Plc.
Tópart 2
2084 PILISSZENTIVAN
Hungary

VOLTANA 2

5247

Optic	5247
Protector	Flat glass
Source	16 Samsung LH351C
Matrix	424792



Characteristics

518	240	109	4.6	IP 66	IK 08	I EU, II EU	0.019
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

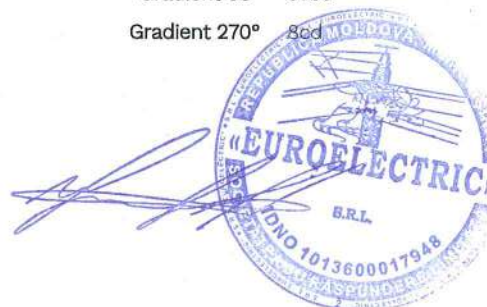
Types of application

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

Information for 1000 lm matrix

Efficacy (%)	81.0	G Class (EN 13201-2)	G2
DLOR (%)	81.0	G* (EN 13201 2015)	G*2
ULOR (%)	0.0	Imax (cd)	439
ULR (%)	0.0	Aperture 0-180°	18 - 18
Incl ULR 4%	-38/35°	Aperture 90-270°	2 - X

I 70-80-90-95 (cd)	434 - 115 - X - X
CIE flux code N 1-5 (%)	41.3 - 76.2 - 96.5 - 100.0 - 81.0
Gradient 90°	37cd
Gradient 270°	8cd



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°									
16	NW 740	350	18	3040	2464	137	1336	B1 U0 G1	230
16	NW 740	500	26	4195	3400	131	1843	B1 U0 G1	230
16	NW 740	700	37	5594	4534	123	2458	B1 U0 G1	230
16	NW 740	1000	53	7457	6044	114	3277	B2 U0 G1	230
16	NW 740	1050	58	7737	6271	108	3399	B2 U0 G1	230
16	WW 730	350	18	2880	2334	130	1265	B1 U0 G1	230
16	WW 730	500	26	3974	3221	124	1746	B1 U0 G1	230
16	WW 730	700	37	5299	4295	116	2328	B1 U0 G1	230
16	WW 730	1000	53	7065	5726	108	3104	B2 U0 G1	230
16	WW 730	1050	58	7330	5941	102	3221	B2 U0 G1	230

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



14/04/2020

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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 2 - 5247 - 16 Samsung LH351C - Flat glass, 424792



14/04/2020

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• Photocell

VOLTANA 2 - 5247 - 16 Samsung LH351C - Flat glass - 424792

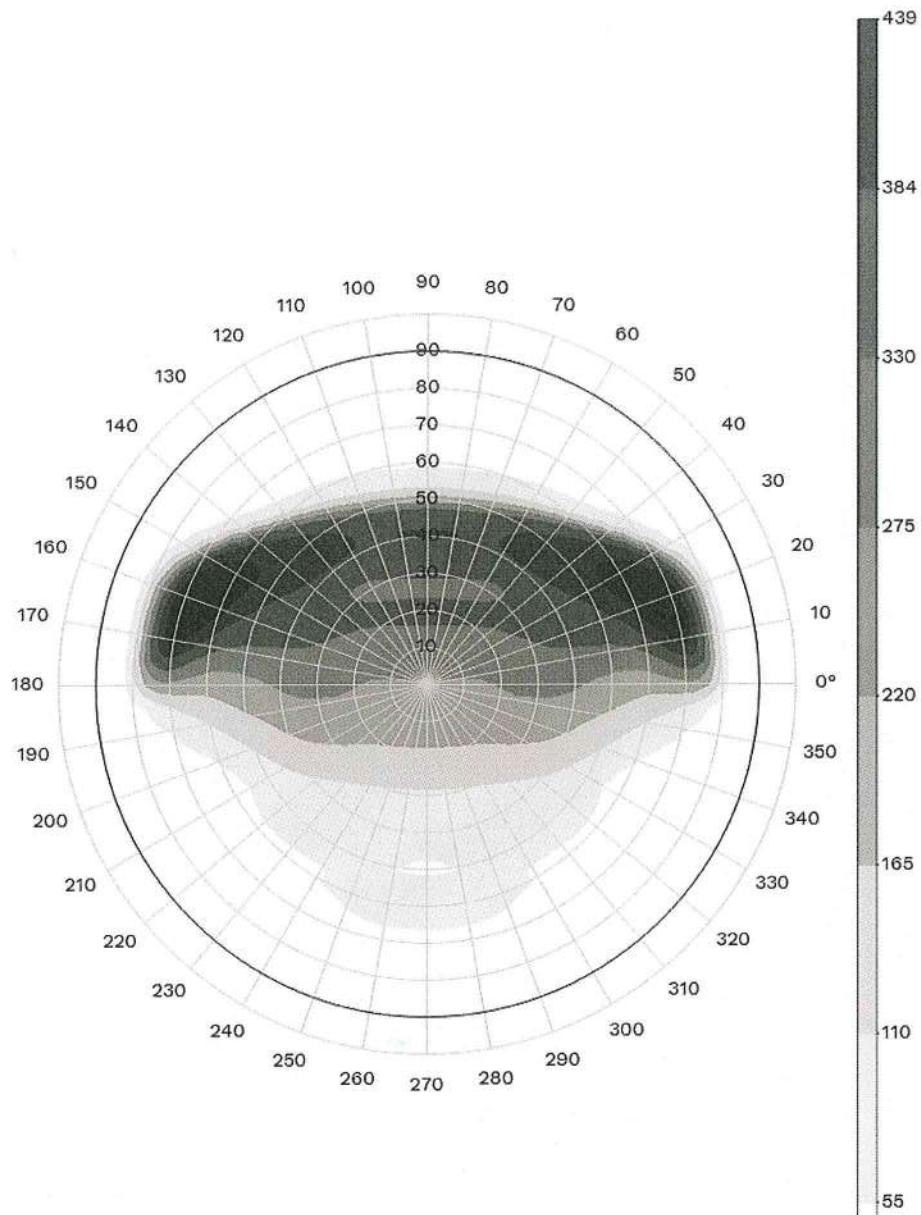


4/7

14/04/2020

Hypergon view

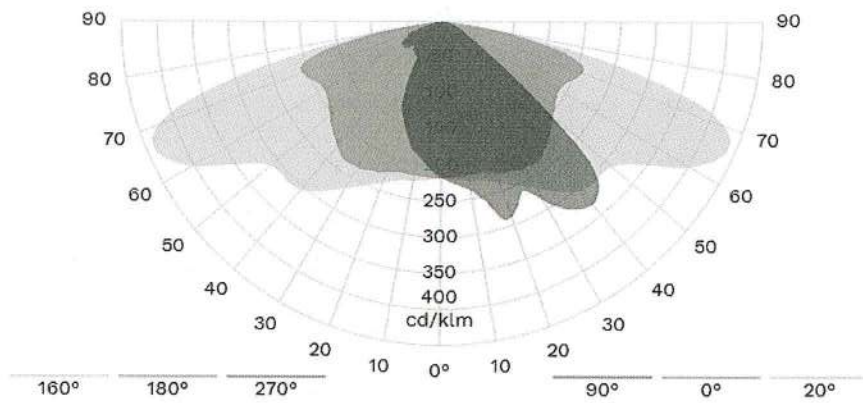
Schröder



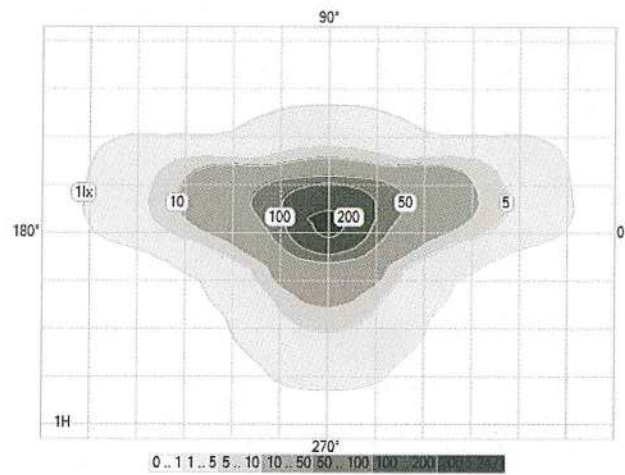
14/04/2020

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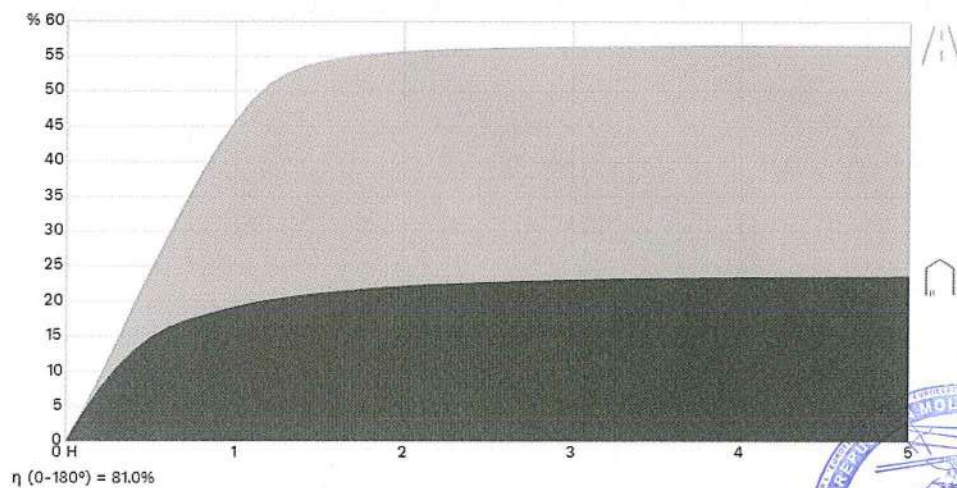
Polar/Cartesian diagram



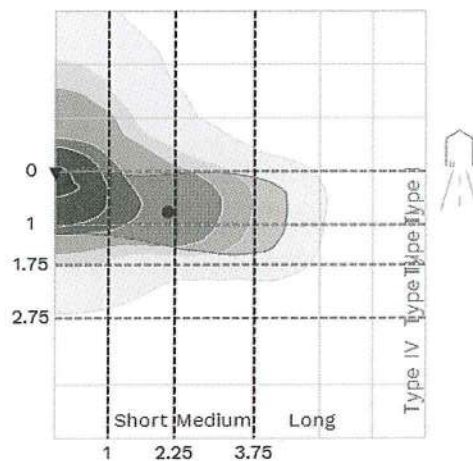
Isolux



K-Curve

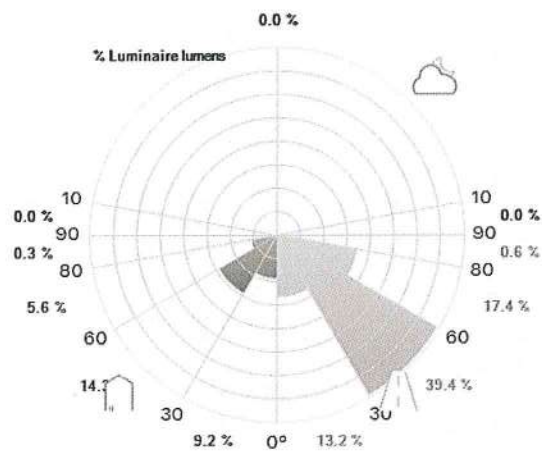


IES Roadway Classification / Nema Classification

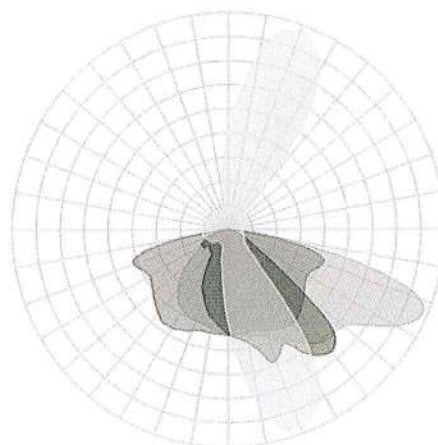


II - Short

Luminaire classification system (LCS)



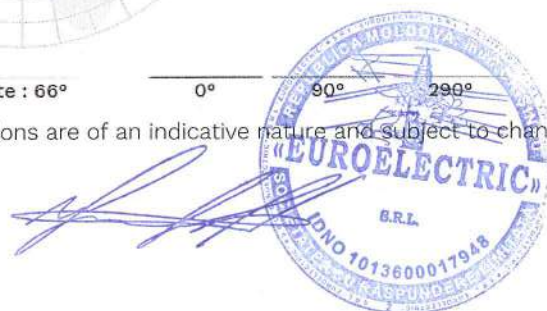
Intensity diagram in max Cone and in CPlane



110° 270° 180° Site : 66° 0° 90° 290°

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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-2 16 Led's

Sample n°: P-E14361

Test purpose: Electrical measurements @ 1A

Remarks:

Test request n°: P-D14674

Folder n°: P-F14058

TEST CONDITIONS:

Operator: CLOSSET Frédéric

Driver: LG Innotek PISE-A055A, 1A driver

Load: 16 led's (Typical Vf: 3,18 V)

Power Supply:

Elgar Tw 3500-4

Supply voltage: 230 V 50 Hz

Measurement device:

Fuke Norma 4000 (HF Powermeter, User 10, filter OFF)

CONCLUSIONS:

- Efficiency: 87,0 %
- PF: 0,97
- THD: 8,6 %
- Harmonics distribution complies with the IEC/EN 61000-3-2 Standard.

Duplicate to: Mr M. Thijs
LAB 16/09/2014
J.P. Harchies

A handwritten signature in black ink, appearing to read "J.P. Harchies".



//P-14E674

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-2 16 led's @ 1A class I

Sample n°:

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

Remarks:

Test request n°: P-D14700

Folder n°: P-F14058

TEST CONDITIONS:

Operator: ULg - EMC

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	

Immunity

Standard	Limit / Level	Result	
		PASS	FAIL
EN 61000-4-5	0.5 , 1 , 2 & 4 kV M.D. Impulse + @ 90° Impulse - @ 270° 20' between impulse Criteria B required	X	

Driver: LG Innotek PISE-A 055A – 55W 1A (Rev-04)

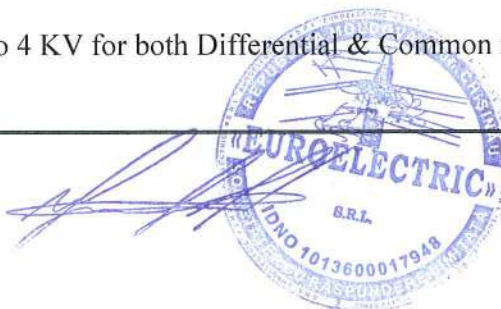
EMC Auxiliaries: Ferrite W-E 742 700 55

CONCLUSIONS:

VOLTANA-2 16 led's driven @ 1A by LG Innotek 55 W driver complies with the CISPR/EN 55015 and EN 61547 Standards.

Remark: Surge protection tested OK up to 4 KV for both Differential & Common modes (Max ULg facilities).

Duplicate to: Mr M. Thijs
LAB 23/09/2014
J.P. Harchies



//P-14E700