

A U T O R I Z A R E

Către: **PRIMĂRIA GĂUZENI**

Noi, **SCHRÉDER ROMANIA S.R.L.**, cu sediul în Cluj - Napoca, str. Corneliu Coposu, nr. 167A, înregistrată la Registrul Comerțului cu nr. J12 / 1759 / 1998, în calitate de producători de aparate de iluminat public de tipul:

- Aparat de iluminat Schröder, tip **VOLTANA 3 24 LED**
- Aparat de iluminat Schröder, tip **VOLTANA 2 16 LED**
- Aparat de iluminat Schröder, tip **SKIDO 6 LED**

autorizăm prin prezenta pe furnizorul **COMELEC LUX S.R.L.**, să livreze produsele mai sus menționate.

Prin prezenta garantăm calitatea și performanțele produselor oferite și autorizăm pe **COMELEC LUX S.R.L.**, să asigure pentru produsele respective îndeplinirea obligațiilor care decurg din contractul de furnizare, referitoare la serviciile de instalare și punere în funcțiune, de întreținere și de asistență tehnică.

Data completării: 04.12.2018

Producător
SCHRÉDER ROMANIA S.R.L.
Director Comercial,

Ovidiu GROZA



Schröder Romania S.R.L.

RO, Cluj-Napoca, 400228 | Str. Corneliu Coposu, Nr. 167A
T + 40 364.560.670 | F + 40 364.560.671

info.romania@schreder.com | www.schreder.com

CIF RO11210601 | RC J12/1759/1998

IBAN RO77FTSB6448000037001RON, BNP PARIBAS | Capital social 133.150 RON

Certificat MI

Membru în

Membru fondator



CERTIFICAT DE GARANȚIE

Nr. 243/ 04.12.2018

Producător/ Furnizor: **SCHRÉDER ROMANIA S.R.L.**Beneficiar: **PRIMĂRIA GĂUZENI**Data livrării: pe perioada de valabilitate a: "**Reconstructia si modernizarea iluminatului stradal in s. Gauzeni**"

Termen de garanție:

- Aparat de iluminat Schröder, tip **VOLTANA 3 24 LED**: 5 ani, de la data livrării,
- Aparat de iluminat Schröder, tip **VOLTANA 2 16 LED**: 5 ani, de la data livrării,
- Aparat de iluminat Schröder, tip **SKIDO 6 LED**: 5 ani, de la data livrării

Condiții de asigurare a garanției:

- **Se asigură garanție** pentru orice defecțiune a produsului generată de vicii ascunse care nu au putut fi detectate la momentul recepției de către Beneficiar.
- **Nu se asigură garanție** pentru viciile aparente după data recepției de către Beneficiar.
- Utilizarea necorespunzătoare a produsului și orice intervenție asupra sa **duce la pierderea garanției**.
- **Nu se asigură garanție** pentru materialele consumabile (varistori, fuzibili).
- **Nu se asigură garanție** dacă acest certificat nu este însoțit de originalul sau copia facturii de achiziție.

La livrare se predau Beneficiarului instrucțiuni de instalare, de punere în funcțiune, utilizare, întreținere, manipulare, depozitare și transport.

SCHRÉDER ROMANIA S.R.L.
Director Comercial

Ovidiu GROZA

Eliberat,
Decembrie 2018, Cluj-Napoca**Schröder Romania S.R.L.**RO, Cluj-Napoca, 400228 | Str. Corneliu Coposu, Nr. 167A
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DECLARATIE DE CALITATE

Nr. 243/ 04.12.2018

Producător/Furnizor: SCHRÉDER ROMANIA S.R.L.
Beneficiar: **PRIMĂRIA GĂUZENI**

În conformitate cu prevederile legale privind calitatea produselor livrate, SCHRÉDER ROMANIA S.R.L. declară pe propria răspundere că produsele care vor fi livrate în cadrul "**Reconstructia si modernizarea iluminatului stradal in s. Gauzeni**" în concordanță cu Declarația de conformitate nr. 243/ 04.12.2018, îndeplinesc condițiile de calitate prevăzute în documentația tehnică cu care vor fi livrate produsele.

SCHRÉDER ROMANIA S.R.L.
Director Comercial,

Eliberat,
Decembrie 2018, Cluj-Napoca

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DECLARATIE DE CONFORMITATE - CE

Noi, 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 GIE, în calitate de producători de aparate de iluminat marca SCHRÉDER

Declarăm pe propria răspundere că aparatul de iluminat: **SKIDO LED**

Echipare:

6 LED-uri de Mare Putere (High Power LED) monocromatic

Caracteristici principale:

Balast: Electronic

Etanșeitate compartiment optic: IP 65

Etanșeitate compartiment aparataj: IP 65

Tensiune nominală: 230 V – 50 Hz

Clasa electrică: I

Tipul laboratorului de testare: SMT (Supervised Manufacturer's Testing)

este produs în conformitate cu următoarele standarde:

CEI EN 60598-1 – 2005/05 (CEI 34-21 VIII ed.)

CEI EN 60598-2-1 – 1997/10 (CEI 34-23 II ed.)

CEI EN 60598-2-3 – 2003/10 (CEI 34-33 II ed.)

De asemenea acesta este în conformitate și cu standardele:

CEI EN 55015 – 2008/04 (CEI 110-2 VI ed.)

CEI EN 61000-3-2 – 2007/04 (CEI 110-31 IV ed.)

CEI EN 61000-3-3/A1 – 2002/05 (CEI 110-28;V1)

CEI EN 61000-3-3 – 1997/06 (CEI 110-28 I ed.)

CEI EN 61547 – 1996/07 (CEI 34-75)

CEI EN 61547/A1 – 2001/08 (CEI 34-75;V1)

Data aplicării marcatului CE: 14

Produsul este realizat în conformitate cu directivele 2006/95/CE – Joasă Tensiune, 2002/95/CE - RoHS și 2002/96/CE – DEEE.

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Declarăm pe propria răspundere că aparatul de iluminat: **VOLTANA 2**

Echipare:

LED-uri de Mare Putere (High Power LED): 16 LED-uri

Caracteristici principale:

Balast: Electronic

Etanșeitate compartiment optic: IP 66

Etanșeitate compartiment aparataj: IP 66

Tensiune nominală: 230 V – 50 Hz

Clasa electrică: I sau II

Tipul laboratorului de testare: SMT (Supervised Manufacturer's Testing)

este produs în conformitate cu următoarele standarde:

CEI EN 60598-1 – 2005/05 (CEI 34-21 VIII ed.)

CEI EN 60598-2-1 – 1997/10 (CEI 34-23 II ed.)

CEI EN 60598-2-3 – 2003/10 (CEI 34-33 II ed.)

De asemenea acesta este în conformitate și cu standardele:

CEI EN 55015 – 2008/04 (CEI 110-2 VI ed.)

CEI EN 61000-3-2 – 2007/04 (CEI 110-31 IV ed.)

CEI EN 61000-3-3/A1 – 2002/05 (CEI 110-28;V1)

CEI EN 61000-3-3 – 1997/06 (CEI 110-28 I ed.)

CEI EN 61547 – 1996/07 (CEI 34-75)

CEI EN 61547/A1 – 2001/08 (CEI 34-75;V1)

Data aplicării marcajului CE: 17

Produsul este realizat în conformitate cu directivele 2006/95/CE – Joasă Tensiune, 2002/95/CE - RoHS și 2002/96/CE – DEEE.

SCHRÉDER ROMANIA S.R.L.

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Declarăm pe propria răspundere că aparatul de iluminat: **VOLTANA 3**

Echipare:

LED-uri de Mare Putere (High Power LED): 24 LED-uri

Caracteristici principale:

Balast: Electronic

Etanșeitate compartiment optic: IP 66

Etanșeitate compartiment aparataj: IP 66

Tensiune nominală: 230 V – 50 Hz

Clasa electrică: I sau II

Tipul laboratorului de testare: SMT (Supervised Manufacturer's Testing)

este produs în conformitate cu următoarele standarde:

CEI EN 60598-1 – 2005/05 (CEI 34-21 VIII ed.)

CEI EN 60598-2-1 – 1997/10 (CEI 34-23 II ed.)

CEI EN 60598-2-3 – 2003/10 (CEI 34-33 II ed.)

De asemenea acesta este în conformitate și cu standardele:

CEI EN 55015 – 2008/04 (CEI 110-2 VI ed.)

CEI EN 61000-3-2 – 2007/04 (CEI 110-31 IV ed.)

CEI EN 61000-3-3/A1 – 2002/05 (CEI 110-28;V1)

CEI EN 61000-3-3 – 1997/06 (CEI 110-28 I ed.)

CEI EN 61547 – 1996/07 (CEI 34-75)

CEI EN 61547/A1 – 2001/08 (CEI 34-75;V1)

Data aplicării marcatului CE: 17

Produsul este realizat în conformitate cu directivele 2006/95/CE – Joasă Tensiune, 2002/95/CE - RoHS și 2002/96/CE – DEEE.

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Declarație în atenția: **PRIMĂRIA GĂUZENI**

Din partea: **SCHRÉDER ROMANIA S.R.L.** și afiliații săi, în poziția de furnizori

DECLARAȚIA RoHS APARATE DE ILUMINAT

„Restricția folosirii anumitor substanțe periculoase în echipamentul electric și electronic” – (RoHS) Directiva Europeană 2002/95/EC

Prin prezenta, *furnizorul* garantează că toate produsele și componentele lor, și materialele care intră în componența produselor și a componentelor acestora, furnizate către **COMELEC LUX S.R.L.**, sunt conforme cerințelor Directivei RoHS.

Mai departe, *furnizorul* confirmă prin prezenta că informația transmisă prin această declarație este corectă și ia la cunoștință faptul că **COMELEC LUX S.R.L.**, va acorda încredere totală reprezentărilor pe parcursul derulării contractelor cu propriii clienți și va considera furnizorul răspunzător în cazul în care oricare dintre informațiile transmise este neadevărată sau incorectă.

*Notă: Nivelurile maxime admise conform Directivei RoHS sunt:

- ☐ 0.1% din greutate în materiale omogene pentru conductori;
- ☐ 0.1% din greutate în materiale omogene pentru crom hexavalent;
- ☐ 0.1% din greutate în materiale omogene pentru mercur;
- ☐ 0.1% din greutate în materiale omogene pentru difenil polibromurat;
- ☐ 0.1% din greutate în materiale omogene pentru eter difenil polibromurat;
- ☐ 0.01% din greutate în materiale omogene pentru cadmiu.

SCHRÉDER ROMANIA S.R.L.
Director Comercial,

04 Decembrie 2018,
Cluj-Napoca

Ovidiu GROZA



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ETICS-CoA-002-2018



European Testing Inspection and Certification System

CERTIFICATE OF ACCEPTANCE

SGS Belgium N.V. - Division SGS CEBEC

Bld. Internationalelaan, 55/D, Brussels Belgium

has been assessed and determined to fully comply with the requirements of EN-ISO/IEC 17065, PD ECS 050 and the Rules of Procedure relevant to the European Schemes for which the responsible CB is member.

SGS Belgium N.V. – Division SGS CEBEC

is therefore entitled to operate as Certification Body within the European Schemes ENEC, ENEC+, CCA, CCA EMC, HAR and KMK for the Scope (Product Category(ies) and Standard(s)) as listed in the relevant part of the ETICS Web Site at

www.etics.org.

This certificate remains valid until 15th January 2021, at which time it will be reissued by the ETICS Secretary General upon successful completion of the normally scheduled 3-year Reassessment Programme administered by the ETICS.

Brussels, 15 January 2018

Giancarlo Zappa, Secretary General



Bijlage bij accreditatie-certificaat
Annexe au certificat d'accréditation
Annex to the accreditation certificate
Beilage zur Akkreditierungszertifikat

472-TEST

NBN EN ISO/IEC 17025:2005

Versie/Version/Fassung	5
Uitgiftedatum / Date d'émission / Issue date / Ausgabedatum:	2017-02-14
Geldigheidsdatum / Date limite de validité / Validity date / Gültigkeitsdatum:	2020-09-10

Nicole Meurée-Vanlaethem

Voorzitster van het Accreditatiebureau

La Présidente du Bureau d'Accréditation

Chair of the Accreditation Board

Vorsitzende des Akkreditierungsbüro

**De accreditatie werd uitgereikt aan/ L'accréditation est délivrée à/
The accreditation is granted to/ Die akkreditierung wurde erteilt für:**

**SGS Belgium NV
Division SGS CEBEC - Laboratory
Internationalelaan - Boulevard International, 55D
1070 BRUSSEL - BRUXELLES**

Secrétariat:

**Service public fédéral, Economie,
P.M.E., Classes moyennes et Energie**

Direction générale de la Qualité et de la Sécurité
Division Qualité et Innovation
Bd du Roi Albert II, 16 - 5^{ème} étage - B-1000 Bruxelles
Website: <http://economie.fgov.be>
Numéro d'entreprise: 0314.595.348

Accréditation BELAC Accreditation

Tél: +32 2 277 54 34
Fax: +32 2 277 54 41

Internet: <http://belac.fgov.be>
E-Mail: Belac@economie.fgov.be

Secretariaat:

**Federale Overheidsdienst, Economie,
K.M.O., Middenstand en Energie**

Algemene Directie Kwaliteit en Veiligheid
Afdeling Kwaliteit en Innovatie
Koning Albert II-laan 16 - 5^{de} verd. - B-1000 Brussel
Website: <http://economie.fgov.be>
Ondernemingsnummer: 0314.595.348



Product/Object	Parameter determined	Reference
Tests on ELECTRICAL Safety		
Electical Cables	Tests electrical safety as detailed in the standard	NBN EN 50396 Non electrical test methods for low voltage energy cables EXCLTests: Test of resistance to hot particles
Electical Cables	Tests electrical safety as detailed in the standard	NBN EN 50525-1 Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (Uo/U) - Part 1 : General requirements
Electical Cables	Tests electrical safety as detailed in the standard	NBN EN 50525-2-11 Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (Uo/U) - Part 2-11: Cables for general applications - Flexible cables with thermoplastic PVC insulation
Electical Cables	Tests electrical safety as detailed in the standard	NBN EN 50525-2-21 Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (Uo/U) - Part 2-21 : Cables for general applications - Flexible cables with crosslinked elastomeric insulation.
Electical Cables	Tests electrical safety as detailed in the standard	NBN EN 50525-2-31 Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (Uo/U) - Part 2-31 : Cables for general applications - Single core non-sheathed cables with thermoplastic PVC insulation
Electical Cables	Tests electrical safety as detailed in the standard	NBN EN 50525-2-42 Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (Uo/U) - Part 2-42 : Cables for general applications - Single core non-sheathed cables with crosslinked EVA insulation

Product/Object	Parameter determined	Reference
Electical Cables	Tests electrical safety as detailed in the standard	NBN EN 50525-2-82 Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (Uo/U) - Part 2-82 : Cables for general applications - Cables with crosslinked elastomeric insulation for decorative chains
Electical Cables	Tests electrical safety as detailed in the standard	NBN EN 50525-3-31 Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V Part 3-31 : Cables with special fire performance - Single core non-sheathed cables with halogen-free thermoplastic insulation, and low emission
Electical Cables	Tests electrical safety as detailed in the standard	IEC 60227-2 Polyvinylchloride insulated of rated volatages up to and including 450/750V - Part 2 Test methods
Electical Cables	Tests electrical safety as detailed in the standard	IEC 60227-3 Polyvinylchloride insulated of rated volatages up to and including 450/750V - Non sheathed cables for fixed wiring
Electical Cables	Tests electrical safety as detailed in the standard	IEC 60227-4 Polyvinylchloride insulated of rated volatages up to and including 450/750V - Sheathed cables for fixed wiring
Electical Cables	Tests electrical safety as detailed in the standard	IEC 60227-5 Polyvinylchloride insulated of rated volatages up to and including 450/750V - Flexible cables (cords)
Electical Cables	Tests electrical safety as detailed in the standard	IEC 60245-2 Rubber insulated cables - Rated voltages up to and including 450/750 V – Part 2:Test methods
Electical Cables	Tests electrical safety as detailed in the standard	IEC 60245-4 Rubber insulated cables - Rated voltages up to and including 450/750 V - Cords and flexible cables
Electical Cables	Tests electrical safety as detailed in the standard	IEC 60245-6 Rubber insulated cables - Rated voltages up to and including 450/750 V - Arc welding electrode cables
Electical Cables	Tests electrical safety as detailed in the standard	IEC 60245-8 Rubber insulated cables - Rated voltages up to and including 450/750 V - Cords for applications requiring high flexibility

Product/Object	Parameter determined	Reference
Electromechanical contactors for household and similar purposes	Tests electrical safety as detailed in the standard	IEC NBN EN 61095 Electromechanical contactors for household and similar purposes Only § 9.2.4; 9.2.2.2 To 9.2.2.6; 9.2.6; 9.2.7
Household and similar electrical appliances. - General requirements.	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-1 Household and similar electrical appliances. - General requirements EXCLTests: Abnormal operation; Oxygembomb; Annex F
Household and similar electrical appliances - Particular requirements for vacuum cleaners and water-suction cleaning appliances (IEC 60335-2-2:2009,IDT)	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-2 Household and similar electrical appliances - Safety - Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances (IEC 60335-2-2:2009,IDT)
Household and similar electrical appliances - Electric irons	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-3 Household and similar electrical appliances - Electric irons
Household and similar electrical appliances – Cooking ranges, hobs, ovens and similar	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-6 Household and similar electrical appliances – Cooking ranges, hobs, ovens and similar
Household and similar electrical appliances – Shavers, hair clippers	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-8 Household and similar electrical appliances – Shavers, hair clippers
Household and similar electrical appliances – Grills, toasters and similar appliances	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-9 Household and similar electrical appliances – Grills, toasters and similar appliances

Product/Object	Parameter determined	Reference
Household and similar electrical appliances - Particular requirements for warming plates and similar appliances.	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-12 Household and similar electrical appliances - Safety - Part 2-12: Particular requirements for warming plates and similar appliances.
Household and similar electrical appliances. Deep fat fryers, frying pans, and similar appliances	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-13 Household and similar electrical appliances. Deep fat fryers, frying pans, and similar appliances
Household and similar electrical appliances - Kitchen machines	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-14 Household and similar electrical appliances - Kitchen machines
Household and similar electrical appliances - Appliances for heating liquids	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-15 Household and similar electrical appliances - Appliances for heating liquids
Household and similar electrical appliances - Storage water heaters	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-21 Household and similar electrical appliances - Storage water heaters
Household and similar electrical appliances - Appliances for skin or hair care	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-23 Household and similar electrical appliances - Appliances for skin or hair care
Household and similar electrical appliances - Battery chargers EXCLTests: Mechanical Strenght. Vibration test	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-29 Household and similar electrical appliances - Battery chargers EXCLTests: Mechanical Strenght. Vibration test

Product/Object	Parameter determined	Reference
Household and similar electrical appliances - Room heaters	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-30 Household and similar electrical appliances - Room heaters
Household and similar electrical appliances - Range hoods EXCLTests: Resistance to heat and fire(Test acc ISO9772)	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-31 Household and similar electrical appliances - Range hoods EXCLTests: Resistance to heat and fire(Test acc ISO9772)
Household and similar electrical appliances - Massage appliances	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-32 Household and similar electrical appliances - Massage appliances
Household and similar electrical appliances - Particular requirements for instantaneous water heaters	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-35 Household and similar electrical appliances - Safety - Part 2-35: Particular requirements for instantaneous water heaters
Household and similar electrical appliances – Commercial el. Ranges ovens and hob elements	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-36 Household and similar electrical appliances – Commercial el. Ranges ovens and hob elements
Household and similar electrical appliances – Commercial electric griddles and griddle grills	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-38 Household and similar electrical appliances – Commercial electric griddles and griddle grills
Household and similar electrical appliances – Commercial electric forced convection ovens, steam cookers and steam-convection ovens	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-42 Household and similar electrical appliances – Commercial electric forced convection ovens, steam cookers and steam-convection ovens

Product/Object	Parameter determined	Reference
Household and similar electrical appliances – Clothes dryers and towel rails	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-43 Household and similar electrical appliances – Clothes dryers and towel rails
Household and similar electrical appliances – Commercial Electric grills and toasters EXCLTests: Resistance to heat and fire (Test acc ISO9772)	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-48 Household and similar electrical appliances – Commercial Electric grills and toasters EXCLTests: Resistance to heat and fire (Test acc ISO9772)
Household and similar electrical appliances – Commercial Electric bains-marie	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-50 Household and similar electrical appliances – Commercial Electric bains-marie
Household and similar electrical appliances – Whirlpool baths	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-60 Household and similar electrical appliances – Whirlpool baths
Household and similar electrical appliances - Particular requirements for commercial dispensing appliances and vending machines	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-75 Household and similar electrical appliances - Safety - Part 2-75: Particular requirements for commercial dispensing appliances and vending machines
Household and similar electrical appliances – Fans	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-80 Household and similar electrical appliances – Fans

Product/Object	Parameter determined	Reference
Household and similar electrical appliances – Commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-89 Household and similar electrical appliances – Commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor EXCLTests: Construction. Test for flammable refrigerants(IEC60079-15)
Household and similar electrical appliances.- Gas, oil and solid-fuel burning appliances having electrical connections	Tests electrical safety as detailed in the standard	IEC NBN EN 60335-2-102 Household and similar electrical appliances.- Gas, oil and solid-fuel burning appliances having electrical connections
Boxes and enclosures for electrical accessories for household and similar fixed electrical installations -	Tests electrical safety as detailed in the standard	IEC NBN EN 60670-1 Boxes and enclosures for electrical accessories for household and similar fixed electrical installations - Part 1: General requirements EXCL. § 21
Switches for household and similar fixed-electrical installations - General requirements	Tests electrical safety as detailed in the standard	IEC NBN EN 60669-1 Switches for household and similar fixed-electrical installations - Part 1: General requirements EXCLTests: Inspection and chemical tests on metals of current carrying parts. EXCL.§ 18; 19; 26
Switches for household and similar fixed electrical installations - Electronic switches	Tests electrical safety as detailed in the standard	NBN EN 60669-2-1 Switches for household and similar fixed electrical installations - Part 2-1: Particular requirements - Electronic switches EXCLTests: § 26.1.1;26.1.2;26.1.3; 26.1.4; 26.1.5; 18.102;13.103; 101;102

Product/Object	Parameter determined	Reference
Switches for household and similar fixed electrical installations - Electromagnetic remote-control switches (RCS)	Tests electrical safety as detailed in the standard	IEC NBN EN 60669-2-2 Switches for household and similar fixed electrical installations - Part 2: Particular requirements -- Section 2: Electromagnetic remote-control switches (RSC) EXCLTests: § 26 ; 101; 102; 13.103; 18.102
Switches for household and similar fixed electrical installations - Time delay switches (TDS)	Tests electrical safety as detailed in the standard	IEC NBN EN 60669-2-3 Switches for household and similar fixed electrical installations - Part 2-3: Particular requirements - Time delay switches (TDS) EXCLTests: § 26 ; 101; 102; 13.103; 18.102
Switches for household and similar fixed electrical installations - Isolating switches	Tests electrical safety as detailed in the standard	IEC NBN EN 60669-2-4 Switches for household and similar fixed electrical installations - Part 2-4: Particular requirements - Isolating switches EXCLTests: § 17; 18; 19; 26 ; 16.101; 18.101; 22.5 to 22.7
Plugs and socket-outlets for household and similar purposes -	Tests electrical safety as detailed in the standard	IEC NBN EN 60884-1 Plugs and socket-outlets for household and similar purposes - Part 1: General requirements . EXCL. § 11.5; 12.2; 14.23.1; 20; 21
Coduit systems for cable management - Part 1:General requirments	Tests electrical safety as detailed in the standard	NBN EN 61386-1 Coduit systems for cable management - Part 1:General requirments
Coduit systems for cable management - Part 21:Particular requirments - Rigid conduit systems	Tests electrical safety as detailed in the standard	NBN EN 61386-21 Coduit systems for cable management - Part 21:Particular requirments - Rigid conduit systems
Coduit systems for cable management - Part 22:Particular requirments - Pliable conduit systems	Tests electrical safety as detailed in the standard	NBN EN 61386-22 Coduit systems for cable management - Part 22:Particular requirments - Pliable conduit systems

Product/Object	Parameter determined	Reference
Luminaires – General requirements and tests	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-1 Luminaires – Part 1: General requirements and tests EXCLTests: Protective measure against UV radiation; Rough service luminaires (Vibration test)
Luminaires - Fixed general purpose luminaires	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-1 Luminaires - Part 2: Particular requirements Section 1: Fixed general purpose luminaires
Luminaires - Recessed luminaires	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-2 Luminaires - Part 2 - Particular requirements Section 2: Recessed luminaires
Luminaires - Luminaires for road and street lighting	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-3 Luminaires - Part 2 - Particular requirements Section 3: Luminaires for road and street lighting
Luminaires - Portable general purpose luminaires	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-4 Luminaires - Part 2 - Particular requirements Section 4: Portable general purpose luminaires
Luminaires - Floodlights	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-5 Luminaires - Part 2 - Particular requirements Section 5: Floodlights
Luminaires - Luminaires with built-in transformers for filament lamps	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-6 Luminaires - Part 2: Particular requirements Section 6: Luminaires with built-in transformers for filament lamps
Luminaires – Portable luminaires for garden use	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-7 Luminaires – Part 2 – Particular requirements Section 7: Portable luminaires for garden use
Luminaires - Portable luminaires for children	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-10 Luminaires - Part 2 - Particular requirements Section 10: Portable luminaires for children EXCLTests: Burning behavior for pile surface or textile surface
Luminaires - Aquarium luminaires	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-11 Luminaires - Part 2: Particular requirements Section 11: Aquarium luminaires

Product/Object	Parameter determined	Reference
Luminaires - Mains socket-outlet mounted nightlights	Tests electrical safety as detailed in the standard	NBN EN 60598-2-12 Luminaires - Part 2 - Particular requirements Section 12: Mains socket-outlet mounted nightlights
Luminaires - Ground recessed luminaires	Tests electrical safety as detailed in the standard	NBN EN 60598-2-13 Luminaires - Part 2 - Particular requirements Section 13: Ground recessed luminaires
Luminaires - Lighting chains	Tests electrical safety as detailed in the standard	IEC NBN EN 60598-2-20 Luminaires - Part 2 - Particular requirements Section 20: Lighting chains
Lamp controlgear - General and safety requirements	Tests electrical safety as detailed in the standard	61347-1 Lamp controlgear - Part 1: General and safety requirements
Lamp controlgear - Particular requirements for miscellaneous electronic circuits used with luminaires	Tests electrical safety as detailed in the standard	61347-2-11 Lamp controlgear - Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires
Lamp controlgear - Particular requirements for d.c. Or a.c. Supplied electronic controlgear for LED modules	Tests electrical safety as detailed in the standard	61347-2-13 Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules
Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements	Tests electrical safety as detailed in the standard	NBN EN UL CSA 61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
Medical electrical equipment - General requirements for basic and essential performance	Tests electrical safety as detailed in the standard	IEC NBN EN 60601-1 CAN/CSA C22.2 N°60601-1 ANSI/AAMI ES 60601-1 Medical electrical equipment - Part 1: General requirements for basic and essential performance EXCLTests: § 25; 29; 36; 44

Product/Object	Parameter determined	Reference
Medical electrical equipment - Safety requirements for medical electrical systems	Tests electrical safety as detailed in the standard	IEC NBN EN 60601-1-1 Medical electrical equipment - Part 1-1: General requirements for safety - Collateral standard: Safety requirements for medical electrical systems
Medical electrical equipment - Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment	Tests electrical safety as detailed in the standard	IEC NBN EN 60601-2-22 Medical electrical equipment - Part 2-22: Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment
Medical electrical equipment - Particular requirements for the basic safety and essential performance of electrocardiographs	Tests electrical safety as detailed in the standard	NBN EN 60601-2-25 Medical electrical equipment - Part 2-25: Particular requirements for the basic safety and essential performance of electrocardiographs
Medical Electrical Equipment Particular Requirements for the basic safety and essential performance of electroencephalographs	Tests electrical safety as detailed in the standard	IEC NBN EN 60601-2-26 Medical Electrical Equipment Part 2-26: Particular Requirements for the basic safety and essential performance of electroencephalographs
Medical electrical equipment - Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment	Tests electrical safety as detailed in the standard	IEC NBN EN 60601-2-27 Medical electrical equipment - Part 2-27: Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment

Product/Object	Parameter determined	Reference
Safety of information technology equipment	Tests electrical safety as detailed in the standard	IEC NBN EN 60950 Safety of information technology equipment EXCLTests: § 2.10.6.6; 4.3.12; 4.3.13; 4.7.3; 4.2.8; 7
Information technology equipment - Safety - Part 1: General requirements	Tests electrical safety as detailed in the standard	IEC NBN EN UL CAN/CSA C22.2 60950-1 Information technology equipment - Safety - Part 1: General requirements EXCLTests: 4.2.8; 4.3.12; 4.3.13; 4.6.2; Materials, tests see Annex A
Uninterruptible power systems (UPS) - General and safety requirements for UPS	Tests electrical safety as detailed in the standard	IEC 62040-1 Uninterruptible power systems (UPS) - Part 1: General and safety requirements for UPS
Uninterruptible power systems (UPS) - General and safety requirements for UPS used in operator access areas	Tests electrical safety as detailed in the standard	IEC NBN EN 62040-1-1 Uninterruptible power systems (UPS) - Part 1-1: General and safety requirements for UPS used in operator access areas
Uninterruptible power systems (UPS) - General and safety requirements for UPS used in restricted access locations	Tests electrical safety as detailed in the standard	IEC NBN EN 62040-1-2 Uninterruptible power systems (UPS) - Part 1-2: General and safety requirements for UPS used in restricted access locations
Low-voltage switchgear and controlgear assemblies - General rules	Tests electrical safety as detailed in the standard	IEC NBN EN 61439-1 Low-voltage switchgear and controlgear assemblies - Part 1: General rules Only Clauses § 8.2.1; 8.2.2; 8.2.3; 8.3.1; 8.3;2; 8.3.3; 8.4

Product/Object	Parameter determined	Reference
Low-voltage switchgear and controlgear assemblies Power switchgear and controlgear assemblies	Tests electrical safety as detailed in the standard	IEC NBN EN 61439-2 Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies Only Clauses § 8
Low-voltage switchgear and controlgear assemblies Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use - Distribution boards	Tests electrical safety as detailed in the standard	IEC NBN EN 61439-3 Low-voltage switchgear and controlgear assemblies - Part 3: Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use - Only § 8
Safety of power transformers, power supplies, reactors and similar products - General requirements and tests	Tests electrical safety as detailed in the standard	IEC NBN EN 61558-1 Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests
Safety of power transformers, power supply units and similar - Particular requirements for separating transformers for general use	Tests electrical safety as detailed in the standard	NBN EN 61558-2-1 Safety of power transformers, power supply units and similar - Part 2.1: Particular requirements for separating transformers for general use

Product/Object	Parameter determined	Reference
Safety of power transformers, power supply units and similar - Particular requirements and tests for control transformers and power supplies incorporating control transformers.	Tests electrical safety as detailed in the standard	NBN EN 61558-2-2 Safety of power transformers, power supply units and similar - Part 2.2: Particular requirements and tests for control transformers and power supplies incorporating control transformers.
Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers	Tests electrical safety as detailed in the standard	IEC NBN EN 61558-2-4 Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transf
Safety of power transformers, power supply units and similar - Particular requirements for shaver transformers and shaver supply units.	Tests electrical safety as detailed in the standard	NBN EN 61558-2-5 Safety of power transformers, power supply units and similar - Part 2.5: Particular requirements for shaver transformers and shaver supply units.

Product/Object	Parameter determined	Reference
Safety of power transformers, power supply units and similar - Particular requirements for safety isolating transformers for general use	Tests electrical safety as detailed in the standard	IEC NBN EN 61558-2-6 Safety of power transformers, power supply units and similar - Part 2 Particular requirements for safety isolating transformers for general use
Safety of power transformers, power supply units and similar devices - Particular requirements for auto-transformers for general use.	Tests electrical safety as detailed in the standard	NBN EN 61558-2-13 Safety of power transformers, power supply units and similar devices - Part 2-13: Particular requirements for auto-transformers for general use.
Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V - Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units	Tests electrical safety as detailed in the standard	IEC 61558-2-16 Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units
Safety of power transformers, power supply units and similar -	Tests electrical safety as detailed in the standard	NBN EN 61558-2-17 Safety of power transformers, power supply units and similar - Part 2.17:
Electical Cables	Tests electrical safety as detailed in the standard	IEC NBN EN UL CSA 60065 Audio, video and similar electronic apparatus - Safety requirements EXCLTests: Annex A: 8.18; 7; 6.1

	Product/Object	Parameter determined	Reference
	GENERIC Tests		
G60525/W	All, except power cables and cords	Resistance to harmful ingress of water (IPx1-IPx8) Degree protection against water// max. LenghtXHeightXWidth : IPX1&2 1mx1mx1m ; IPX3&4 1mx1mx1m ; IPX5&6 2mx1,5mx2m ; IPX7&8 Diam 0,5Mx1,3mlenght	IEC / EN / NBN EN 60529
G60525/O	All, except power cables and cords	Degree of protection against access to hazardous parts and against solid foreign objects (IP1x- IP6x) Degree protection // max. LenghtXDiam : IP5X&6x 1,2mx07m	IEC / EN / NBN EN 60529
G60695.1 1.5	All, except power cables and cords and Electrical equipt for medical use	Fire hazard testing; Needle Flame	IEC / EN / NBN EN 60695-11-5
G60695.1 1.4	Household, Electrical equipt for medical use, UPS, IT & office equipment, Measuring instruments, Electronic appliances	Fire hazard testing. Test flames - 50W	IEC / EN / NBN EN 60695-11-10
G60695.1 1.3	IT & office equipment	Fire hazard testing. Test flames - 500W	IEC / EN / NBN EN 60695-11-20
G60695.1 1.2	Power cables and cords	Fire hazard testing. Test flames - 1000W	IEC / EN / NBN EN 60695-2-4
G60695.2. 10	All, except power cables and cords and equipt for medical use.	Fires hazard testing. Glow wire	IEC / EN / NBN EN 60695-2-10
G60695.1 0.2	All, except power cables and cords	Fire hazard testing; Ball pressure testing	IEC / EN / NBN EN 60695-10-2
G62262	All, except power cables and cords	Impact test (Code IK01 to IK10)	IEC / EN / NBN EN 62262

226-TEST

EN ISO/IEC 17025:2005

Version/Versie/Version/Fassung	8
Date d'émission / Uitgiftedatum / Issue date / Ausgabedatum:	2017-12-18
Date limite de validité / Geldigheidsdatum / Validity date / Gültigkeitsdatum:	2021-05-27



Nicole Meurée-Vanlaethem

La Présidente du Bureau d'Accréditation
Voorzitster van het Accreditatiebureau
Chair of the Accreditation Board
Vorsitzende des Akkreditierungsbüro

**L'accréditation est délivrée à/ De accreditatie werd uitgereikt aan/
The accreditation is granted to/ Die akkreditierung wurde erteilt für:**

LABORATOIRE DE PHOTOMETRIE DE R-TECH
Rue de Mons, 3
4000 LIEGE

Code essai Test Code	Echantillons Samples	Caractéristique mesurée Gamme de mesure Measurement range	Description méthode d'essai Equipement Testing Methodology Description Equipment
PTP-01	Lampes à incandescence ou à décharge pour luminaires.	Flux lumineux exprimé en lumen (lm)	Mesure du flux lumineux en sphère d'Ulbricht selon la norme de référence EN 13032-1 § 6.1.2. Pour toutes lampes sauf les LED (Solid State Lighting)
	<i>Incandescent or high intensity discharge lamp for luminaires.</i>	<i>Luminous flux in lumen (lm)</i>	<i>Luminous flux measurement with Ulbright's sphere according to EN 13032 § 6.1.2 Standard for all light sources except LED (Solid State Lighting)</i>
PTP-01	Sources lumineuses de type LED pour luminaires.	Flux lumineux exprimé en lumen (lm)	Mesure du flux lumineux en sphère d'Ulbricht selon la norme de référence EN 13032-1 § 6.1.2, EN 13032-4, CIE S 025/E et IES LM79-08. Pour LEDs (Solid State Lighting)
	<i>Led light source for luminaires.</i>	<i>Luminous flux in lumen (lm)</i>	<i>Luminous flux measurement with Ulbright's sphere according to EN 13032-1 § 6.1.2, EN 13032-4, CIE S 025/E et IES LM79-08 Standard. For LED (Solid State Lighting)</i>
PTP-02	Luminaires pour lampes à incandescence ou à décharge	Distribution des intensités lumineuses exprimées en candela (cd)	Relevé photométrique au goniophotomètre selon la norme de référence EN 13032-1 et CIE 121-1996 Pour toutes lampes sauf les LED (Solid State Lighting)
	<i>Luminaires for incandescent, HID lamp</i>	<i>Light distribution in candela (cd)</i>	<i>Light distribution measurement with goniometer according to EN 13032-1 and CIE 121-1996 Standard for all light sources except LED (Solid State Lighting)</i>

Code essai <i>Test Code</i>	Echantillons <i>Samples</i>	Caractéristique mesurée Gamme de mesure <i>Measurement Measurement range</i>	Description méthode d'essai Equipement <i>Testing Methodology Description Equipment</i>
PTP-02	Luminaires à sources lumineuses de type LED pour luminaires. <i>Luminaires for LED light sources.</i>	Distribution des intensités lumineuses exprimées en candela (cd) <i>Light distribution in candela (cd)</i>	Relevé photométrique au goniophotomètre selon la norme de référence EN 13032-1, EN 13032-4, CIE S 025/E, CIE 121-1996 et IES LM79-08 Pour les LED (Solid State Lighting) <i>Light distribution measurement with goniometer according to EN 13032-1, EN 13032-4, CIE S 025/E, CIE 121-1996 et IES LM79-08 Standard. For LED (Solid State Lighting)</i>
PTP-09	Lampes à incandescence ou à décharge pour luminaires ou luminaires associés. <i>Incandescent or high intensity discharge lamp for luminaires or associated luminaires.</i>	Données colorimétriques : IRC, T° de couleur, coordonnées trichromatiques, données spectrales (domaine du visible) <i>Colorimetric values, CRI, CCT, tristimulus values, spectrum (visible range)</i>	Relevé colorimétrique en sphère via spectromètre selon la norme de référence EN 13032-1 et CIE 13.3, 15, 63, 121- 1996 S014 (1,2 et 3) Pour équipements lumineux sauf ceux incluant des LED (Solid State Lighting) <i>Colorimetric measurement with spectrometric sphere to EN 13032-1 and CIE 13.3, 15, 63, 121-1996 S014 (1,2 et 3) Standard for all light equipment except LED (Solid State Lighting)</i>
PTP-09	Sources lumineuses de type LED pour luminaires ou luminaires associés. <i>Led light source for luminaires or associated luminaires.</i>	Données colorimétriques : IRC, T° de couleur, coordonnées trichromatiques, données spectrales (domaine du visible) <i>Colorimetric values, CRI, CCT, tristimulus values, spectrum (visible range)</i>	Relevé colorimétrique en sphère et spectromètre selon la norme de référence EN 13032-1, EN 13032-4, CIE S 025/E et CIE 13.3, 15, 63, 121-1996 S014 (1,2 et 3) et IES LM79-08 pour équipements lumineux à LED (Solid State Lighting) <i>Colorimetric measurement with spectrometric sphere according to EN 13032-1, EN 13032-4, CIE S 025/E et CIE 13.3, 15, 63, 121-1996 S014 (1,2 et 3) and IES LM79-08 Standard. For LED light equipment (Solid State Lighting)</i>

[traducere din limba engleza]

[LOGO BELAC]

Organism de acreditare belgian

Semnatar al Acordurilor Multilaterale EA, ILAC și IAF

Anexa certificatului de acreditare

226-TEST

EN ISO/IEC 17025:2005

Versiune 8
Emis la data: 2017-12-18
Valid până la data: 2021-05-27

[semnătură indescifrabilă]

Nicole MEURÉE-VANLAETHEM

Acreditarea este acordată pentru
LABORATOIRE DE PHOTOMETRIE DE R-TECH
Rue de Mons, nr 3, 4000 Liege

Secretariat: Acreditare BELAC
Serviciul Public Federal de Economie,
P.M.E., Clasa Mijlocie și Energie
Direcția Generală de Calitate și Securitate
Divizia Calitate și Inovație
Bulevardul Roi Albert II 16

Tel.: +32 2 277 54 34
Fax: +32 2 277 54 41

1000 Bruxelles
Website: <http://economie.fgov.be>
Nr: 0314.595.348

Internet: <http://belac.fgov.be>
E-mail: Belac@economie.fgov

Cod testare	Eșantioane	Gamă de măsurare	Descriere metodă testare Echipament
PTP-01	Lampă cu incandescență sau cu descărcări pentru aparate de iluminat	Flux luminos exprimat în lumeni (lm)	Măsurare flux luminos cu sferă Ulbright, conform standardului EN 13032, 6.1.2 pentru toate sursele, în afară de LED (iluminat cu semiconductori)
PTP-01	Surse luminoase de tip LED pentru aparate de iluminat	Flux luminos exprimat în lumeni (lm)	Măsurare flux luminos cu sferă Ulbright, conform standardului EN 13032, 6.1.2, EN 13032-4, CIE S 025/E și IES LM79-08, pentru LED (iluminat cu semiconductori)
PTP-02	Aparate de iluminat pentru lămpi cu incandescență sau cu descărcări	Distribuție luminoasă exprimată în candelă (cd)	Măsurare distribuție luminoasă cu ajutorul dispozitivului gonio, conform normei EN 13032-1, CIE 121-1996, cu excepția surselor LED (iluminat cu semiconductori)
PTP-02	Aparate de iluminat pentru surse luminoase de tip LED	Distribuție luminoasă exprimată în candelă (cd)	Măsurare distribuție luminoasă cu ajutorul dispozitivului gonio, conform normei EN 13032-1, EN 13032-4, CIE S 025/E, CIE 121-1996 și IES LM79-08, pentru LED (iluminat cu semiconductori)
PTP-09	Lampă cu incandescență sau cu descărcări pentru aparate de iluminat sau aparate de iluminat asociate	Valori colorimetrice, CRI, CCT, valori tristimulus, spectru (gamă vizibilă)	Măsurare colorimetrie cu sferă spectrometrică, conform standardelor EN-13032-1 și CIE 13.3, 15, 63, 121-1996 S014 (1,2 și 3) pentru toate sursele, în afară de LED (iluminat cu semiconductori)
PTP-09	Surse luminoase de tip LED pentru aparate de iluminat sau aparate de iluminat asociate	Valori colorimetrice, CRI, CCT, valori tristimulus, spectru (gamă vizibilă)	Măsurare colorimetrie cu sferă spectrometrică, conform standardelor EN-13032-1, EN 13032-4, CIE S 025/E și CIE 13.3, 15, 63, 121-1996 S014 (1,2 și 3) și IES LM79-08, pentru echipamentele LED (iluminat cu semiconductori)



Organisme belge d'Accréditation
Belgische Accreditatieinstelling
Belgische Akkreditierungsstelle
Belgian Accreditation Body

Signatory to EA, ILAC and IAF
Multilateral Agreements

Accreditation Certificate No. 226-TEST

In compliance with the provisions of the Royal Decree of 31 January 2006 setting up BELAC, the Accreditation Board hereby declares, that the test laboratory

LABORATOIRE DE PHOTOMETRIE DE R-TECH
Rue de Mons, 3
4000 LIEGE - Belgium

has the competence to perform the tests as described in the annex which is an integral part of the present certificate, in accordance with the requirements of the standard NBN EN ISO/IEC 17025:2005. The present accreditation is the subject of regular surveillance in order to confirm the compliance with the accreditation conditions.

The Chair of the Accreditation Board BELAC,

Nicole MEURÉE-VANLAETHEM

Issue date : 2016-05-19

Validity date : 2021-05-27

Original version of this certificate is in French.

[traducere din limba engleză]

[LOGO BELAC]

Organism de acreditare belgian

Semnatar al Acordurilor Multilaterale EA, ILAC și IAF

Certificat de acreditare nr. 226-TEST

În conformitate cu prevederile Decretului Regal din 31 ianuarie 2006, privind înființarea BELAC, prezenta Comisie de Acreditare declară că laboratorul de testare

LABORATOIRE DE PHOTOMETRIE DE R-TECH

Rue de Mons, nr 3, 4000 Liege – Belgia

are competența de a efectua testele, așa cum sunt descrise în anexă, care este parte integrantă a prezentei certificări, în conformitate cu cerințele standardului NBN EN ISO/IEC 17025:2005. Prezența acreditare este supusă supravegherii periodice, în scopul de a confirma conformitatea cu condițiile de acreditare.

Emis la data: 2016-05-19

Valid până la data: 2021-05-27

Versiunea originală a acestui certificat este în limba franceză.

[semnătură indescifrabilă]

Nicole MEURÉE-VANLAETHEM

SUPERVISED MANUFACTURER'S TESTING

Report nr. CEBEC-002B

SGS Belgium NV

Division SGS CEBEC

Business Riverside Park
Bld Internationalelaan, 55 Build. D
B-1070 Brussels - Belgium

Acting as national Certification Body participation in the Certification Bodies Scheme (CB Scheme) and the European Certification System (ECS) has recognized the following laboratory as

SMT laboratory nr. CEBEC-002

Operating in the framework of the IECEE CB-scheme and ECS certification system (CCA and ENEC).

Approved laboratory, name and address:

**Service Laboratoire
R-TECH S.A.
Rue de Mons, 3
BE-4000 LIEGE**

Manufacturing factories:

**European Factories
Belonging to the
Schröder Group G.I.E.**

Products covered by the contract:

<u>Category</u>	<u>Standards</u>	<u>Products</u>
LITE	IEC/EN 60598-1 IEC/EN 60598-2-1 IEC/EN 60598-2-3 IEC/EN 60598-2-5 IEC/EN 60598-2-13	Luminaires Fixed general purpose luminaires Luminaires for road and street lighting Floodlights Ground recessed luminaires

Brussels, 2013-02-01


ir. C. Lana,
Certification Manager



SGS Belgium NV

Division SGS CEBEC Bld Internationalelaan, 55 Build. D B-1070 Bruxelles/Brussel tel. +32 (0) 556 00 20 fax: +32 (0) 556 00 36 www.cebex.sgs.com
Siège Social/Maatschappelijke Zetel: SGS House Noorderlaan 87 B-2030 Antwerpen

Member of the SGS Group (Société Générale de Surveillance)

RPM/RPR Anvers/Antwerpen TVA/BTW BE 404.882.750 Dexia 550-3560000-93

SGS

Traducere din limba engleză

TESTARE SUPERVIZATĂ DE PRODUCĂTOR

Raport nr. CEBEC-002B

SGS Belgia NV

Divizia SGS CEBEC

Business Riverside Park
Bld Internationalelaan, 55 Build. D
B-1070 Brussels - Belgia

Activând ca și Organism National de Certificare participare la Sistemul de Organisme de Certificare (CB Scheme) și Sistemul de certificare European (ECS), se recunoaște următorul laborator ca

SMT laboratory nr. CEBEC-002

operând în conformitate cu prescripțiile de certificare IEC/EN CB și sistemul de certificare ECS (CCA și ENEC).

Laborator aprobat, nume și adresă:

Service Laboratoire
R-TECH S.A.
Rue de Mons, 3
B-4000 LIEGE

Fabricile producătorului:

Fabrici Europene
aparținând
Schreder Group G.I.E.

Produse menționate în contract:

Categorie	Standarde	Produse
LITE	IEC/EN 60598-1	Aparate de iluminat
	IEC/EN 60598-2-1	Aparate de iluminat de uz general
	IEC/EN 60598-2-3	Aparate de iluminat stradal
	IEC/EN 60598-2-5	Proiectoare
	IEC/EN 60598-2-13	Aparate de iluminat încastrate în sol

Brussels, 2013-02-01

SGS Belgium NV
CEBEC

ir. C. Lana,
Director de Certificare



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-3 24 Led's

Sample n°: P-E14373

Test purpose: Electrical measurements @ 1A

Remarks:

Test request n°: P-D14577

Folder n°: P-F14059

TEST CONDITIONS:

Operator: ABRY Marc

Driver: LG Innotek LLP 110 W 1A
PISE-A110A

Load: 24 led's (Vf typ.: 3,18 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:

- Efficiency: 90,0 %
- PF: 0,95
- THD: 18,5 %
- Harmonics distribution complies with the IEC/EN 61000-3-2 Standard.

Duplicate to: M. Thijs

LAB 05/08/2014

J.P. Harchies

//P-14E577

A handwritten signature in blue ink, appearing to read "Harchies", with a long horizontal stroke extending to the right.

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-3 24 led's @ 1A – Class I

Sample n°: P-E14286

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

Remarks:

Test request n°: P-D14585

Folder n°: P-F14059

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. 0.5 , 1 , 2 & 4 kV M.C. Impulse + @ 90° Impulse - @ 270° 20' between impulse Criteria B required	X	

Driver: LG Innotek PISE-A 110A – 110W 1A (Rev-03) – 1A setting

EMC Auxiliaries: none

CONCLUSIONS:

VOLTANA-3 24 led's driven @ 1A by LG Innotek 110 W (Rev 03) 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: M. Thijs
LAB 06/08/2014
J.P. Harchies

//P-14E585

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-3 – Extra Clear glass protectors

Sample n°: P-E15379

Test purpose: Fragmentation test following IEC/EN 60598-2-3 Standard

Remarks:

Test request n°: P-D15560

Folder n°: P-F14059

TEST CONDITIONS:

Operator: BOMBIL Patrick

3 samples under test
Glass thickness: 5 mm



Fragmentation test

- An adhesive sheet is scotched on the protector internal side to hold the particles after breakage.
- Impact with spring punch hammer
- Impact on the external side of protector
- Impact at 3 cm from the mid-point of the longest edge.
- Counting of the particles in the coarsest area in a 5 cm side square within 5 minutes after breakage.

Results:

Sample 1: 96 pieces
Sample 2: 118 pieces
Sample 3: 90 pieces

CONCLUSIONS:

VOLTANA-3 Extra Clear Glass protector complies with fragmentation test following IEC/EN 60598-2-3 Standard.

Duplicate to: Mr M. Thijs

LAB 21/08/2015

L. Maghe

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

//P-15CR560

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-3

Sample n°: P-E14374, P-E14382

Test purpose: Mechanical impact IK08 test following IEC/EN 62262 Standard

Remarks:

Test request n°: P-D14574

Folder n°: P-F14059

TEST CONDITIONS:

Operator: LEONARD Philippe

Smooth extra clear glass
Glass thickness: 5 mm

At pendulum hammer

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

Test on 5 samples

Test

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

Result

OK for the 5 samples for all tested points

CONCLUSIONS:

VOLTANA-3 satisfies the IK08 test following IEC/EN 62262 Standard.

Duplicate to: M. Thijs
LAB 05/08/2014
J.P. Harchies

//P-14E574

A handwritten signature in blue ink, appearing to read "Philippe", with a horizontal line drawn underneath it.

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-3 24 Led's @ 1A

Sample n°: P-E14372

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

Remarks:

Test request n°: P-D14572

Folder n°: P-F14059

TEST CONDITIONS:

Operator: LEONARD Philippe

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-3 24 led's @ 1A satisfies the IP66 test following IEC/EN 60598-1 Standard.

Duplicate to: M. Thijs
LAB 05/08/2014
J.P. Harchies

//P-14E572

A handwritten signature in blue ink, appearing to be "J.P. Harchies", written over a horizontal line.

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-3 24 Led's

Sample n°: P-E14373

Test purpose: Thermal test evaluation @ 1A

Remarks:

Test request n°: P-D14573

Folder n°: P-F14059

TEST CONDITIONS:

Operator: ABRY Marc



Load: 24 led's

Driver: LG Innotek LLP 110 W 1,0 A
PISE-A110A
Tc 80 °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.

$$T^{\circ}_j = T^{\circ}_b + R_{jb} \times P_{led}$$

CONCLUSIONS:

According to "Led's Lumen Maintenance Criterion" LM80 extrapolation 6.000 hrs, we can state VOLTANA-3 24 led's driven @ 1A by LG Innotek driver LLP 110 W PISE-A110A driver satisfies:

Tq (CEI): 35 °C for led's with L80 – 100 Khrs target

Tq (CEI): 35 °C for lenses

Tq (CEI): 35 °C for driver PISE-A110A

Ta (CEI): 55 °C

Duplicate to: M. Thijs

LAB 05/08/2014

J.P. Harchies

//P-14E573

A handwritten signature in blue ink, appearing to read 'J.P. Harchies', with a horizontal line drawn underneath.

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-3 in side entry configuration for poles Ø 42 & 60 mm

Sample n°: P-E14379

Test purpose: Vibrations test: ANSI C 136-31 Standard (3G)

Remarks:

Test request n°: P-D14584

Folder n°: P-F14059

TEST CONDITIONS:

Operator: ULg

	Testing protocol		
		ANSI C 136-31 Standard Amplitude: 3,0g	
	Test Item	Luminaire for bridge and overpass applications	
	Excitation Direction	3 directions	
	Search for frequencies	Excitation: sine sweep Frequency band: 5 - 100 Hz Sweep speed: 1 octave/min. Acceleration: 0.5g	
	Test	Excitation: sine dwel Frequency: at or near f_0 Amplitude: 3,0g at gravity center Duration: 100,000 cycles	
	N.B.	A separate sample luminaire may be used for each excitation direction	
	Search for frequencies	Excitation: sine sweep Frequency band: 5 - 100 Hz Sweep speed : 1 oct/min. Acceleration : 0.5g	

CONCLUSIONS:

VOLTANA-3 in side entry configuration for poles Ø 42 & 60 mm complies with the vibration 3G test following the requirements of ANSI C 136-31 Standard.

Duplicate to: M. Thijs

LAB 06/08/2014

J.P. Harchies

//P-14E584

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

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-3

Sample n°: P-E14375

Test purpose: Aerodynamic wind test

Remarks:

Test request n°: P-D14576

Folder n°: P-F14059

TEST CONDITIONS:

Operator: ULg – CAT Soufflerie

2 tests realized:

- 1) Aerodynamic Coefficient determination
- 2) Endurance test

1) Aerodynamic coefficient determination

	<u>Value (m²)</u>		
<u>Wind Direction</u>	<u>Cd.S (drag)</u>	<u>Cs.S (Side)</u>	<u>Cl.S (Lift)</u>
Front	0,004	-0,004	-0,002
Side	0,021	0,018	0,020

2) Endurance test: wind qualification test

Wind direction: Side

Wind resistance: 10' at 180 km/h

Result: OK

CONCLUSIONS:

VOLTANA-3 satisfies the wind speed test 180 Km/h for 10 minutes.

See Aerodynamic coefficients here above.

Duplicate to: M. Thijs
LAB 05/08/2014
J.P. Harchies

//P-14E576

DECLARATIE DE CONFORMITATE - CE

Noi, ENERGObIT SCHRÉDER LIGHTING S.R.L., cu sediul în Cluj - Napoca, str. Tăietura Turcului nr. 47/11, Jud. Cluj, România, înregistrat la Registrul Comerțului cu nr. J12/1759/1998, membră a SCHRÉDER GROUP GIE, în calitate de furnizori de aparate de iluminat marca SCHRÉDER

Declarăm pe propria răspundere că aparatul de iluminat: **SKIDO LED**

Echipare:

6 LED-uri de Mare Putere (High Power LED) monocromatic

Caracteristici principale:

Balast: Electronic

Etanșeitate compartiment optic: IP 65

Etanșeitate compartiment aparataj: IP 65

Tensiune nominală: 230 V – 50 Hz

Clasa electrică: I

Tipul laboratorului de testare: SMT (Supervised Manufacturer's Testing)

este produs în conformitate cu următoarele standarde:

CEI EN 60598-1 – 2005/05 (CEI 34-21 VIII ed.)

CEI EN 60598-2-1 – 1997/10 (CEI 34-23 II ed.)

CEI EN 60598-2-3 – 2003/10 (CEI 34-33 II ed.)

De asemenea acesta este în conformitate și cu standardele:

CEI EN 55015 – 2008/04 (CEI 110-2 VI ed.)

CEI EN 61000-3-2 – 2007/04 (CEI 110-31 IV ed.)

CEI EN 61000-3-3/A1 – 2002/05 (CEI 110-28;V1)

CEI EN 61000-3-3 – 1997/06 (CEI 110-28 I ed.)

CEI EN 61547 – 1996/07 (CEI 34-75)

CEI EN 61547/A1 – 2001/08 (CEI 34-75;V1)

Data aplicării marcatului CE: 14

Produsul este realizat în conformitate cu directivele 2006/95/CE – Joasă Tensiune, 2002/95/CE – RoHS și 2002/96/CE – DEEE.

SCHRÉDER ROMANIA S.R.L.

Director Comercial,

Ovidiu GROZA



Eliberat,

Ianuarie 2018, Cluj-Napoca

Schröder Romania S.R.L.

RO, Cluj-Napoca, 400228 | Str. Corneliu Coposu, Nr. 167A

T + 40 364.560.670 | F + 40 364.560.671

info.romania@schreder.com | www.schreder.com

CIF RO11210601 | RC J12/1759/1998

IBAN RO77FTSB644800037001RON, BNP PARIBAS | Capital social 133.150 RON

Certificat MI



Membru în



Membru fondator



DECLARATION OF CONFORMITY

No.: RSL010

On behalf of **SCHREDER TOV**, Mikylinetska str. 46B, 46005, Ternopil, Ukraine

I declare that following product: **SKIDO**

tightness level: IP65

nominal voltage=230V, 50Hz

electrical insulation class: I

are in conformity with the following requirements for CE marking in line with:

Reference n°	Title
2004/108/CE	E.M.C. Directive
2002/95/EC	RoHS Directive
2006/95/EC	Low Voltage directive
2003/108/EC	WEEE Directive
2002/96/EC	
2009/125/EC	Eco-design Directive
Reg. 305/2011 EU	Conditions for construction products

All standards and technical specifications referenced here below have been met in addition of all IEC standards for the same references.

Normative references for this declaration:

Reference n°	Title
EN 60598-1	Luminaires-General requirements and tests
EN 60598-2-3	Luminaires for road and street lighting
CISPR 15	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 61000-3-x	Limits for harmonic current emissions
EN 61000-4-x	Electromagnetic compatibility (EMC)
EN 61547	Equipment for general lighting purpose, immunity requirements
EN 62031	LED modules for general lighting-Safety specifications
EN 62471	Photobiological safety of lamps and lamp systems

The EUT described above has been tested by as with the listed standards and found in compliance with the Council EMC Directive 2004/108/EC and LVD Directive 2006/95/EC.

General Manager TOV Schreder



Petrenko

Schröder TOV

Mikulinetska str. 46B | 46005 Ternopil - UKRAINE | T +380 352 521611, 250613 | F +380 352 250613

info@schreder.com.ua | www.schreder.com

BENEFICIARY ACCOUNT: 26009292356 | SWIFT: AVALUAKTER I

Raiffeisen Bank Aval JSC, Kiev, Ukraine For: Ternopil Regional Directorate, Ukraine, Ternopil, str. Josypa Slipogo, 8

SKIDO



CARACTERISTICI

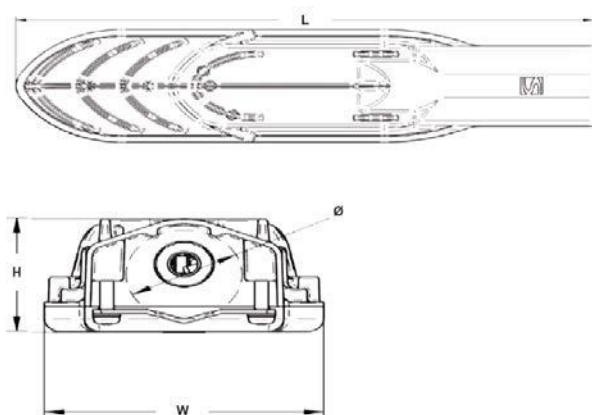
Soluție de iluminat cu LED, eficientă și economică

- Compact și versatil
- Maximizarea economiilor la energie și întreținere
- Lentile integrate, pentru distribuție luminoasă performantă
- ThermiX®, pentru performanță pe termen lung
- Funcționează la temperaturi de la -20° și până la 50°C
- Funcționează la voltaj între: 198-264V
- Ușor de instalat
- Protecție la supratensiuni de 10 kV (opțional)

TIPURI DE APLICAȚII

- căi de circulație urbane și străzi
- străzi rezidențiale
- piețe și zone pietonale
- poduri
- parcuri
- parări
- piste de biciclete
- hale industriale

SCHIȚĂ DIMENSIUNI



DIMENSIUNI ȘI CARACTERISTICI

	SKIDO1 (SKIDO)
Lungime (mm)	395
Lățime (mm)	101
Înălțime (mm)	54
Greutate (kg)**	1
Nivel de etanșeitate*	IP65
Rezistența la impact*	IK07
Clasa electrică*	Clasa I EU
Rezistența aerodinamică (CxS)	0,033 m ²

* Conform normelor IEC-EN60598 și IEC-EN62262

** Greutate medie. Greutatea maximă este +/- 10% , dar, pentru greutatea exactă, în funcție de configurație, vă rugăm să ne contactați.

REZUMAT

CONCEPT

Aparat de iluminat special proiectat pentru funcționarea cu LEDuri

Înălțime de instalare recomandată: între 3 și 6 metri

Pentru disiparea optimă a căldurii, balastul electronic și modulul LED sunt în compartimente separate și sunt alaturate într-o secțiune orizontală

CARCASĂ ȘI FINISAJE

- Carcasa este fabricată din aluminiu turnat sub presiune, vopsit în câmp electrostatic
- Difuzor din policarbonat rezistent la raze UV
- Culoare: gri 7037 din paletarul RAL

INSTALARE

- Fixare laterală cu clemă din oțel inoxidabil, diametru 32042mm, strâns cu 4 șuruburi M8, din oțel inoxidabil
- Livrat cu cablu de ieșire (lungime 0.3m 3G1² sau 3G1.5²), pentru instalare ușoară

UNITATE OPTICĂ

- modul optic LED PCI (placă de circuite integrate), prevăzut cu lentile acrilice și care realizează distribuția luminoasă prin multiplicare
- CRI > 70
- ULOR: 0%

Deprecierea fluxului luminos al LEDurilor

- Flux rezidual pe viață @ Tq=25°C @ 50.000 ore: 700mA: 90%

ELECTRIC

- Clasa I
- Tensiunea de intrare: 230V - 50Hz
- Factorul de putere > 90%, la sarcină maximă
- Protecție la supratensiuni de 4kV minim, opțional 10kV, 10kA

STANDARDE ȘI CERTIFICĂRI

- CE
- ENEC
- LM79-80
- ROHS
- toate măsurările s-au realizat în laborator acreditat ISO17025

OPȚIUNI

- alte culori din paletarele RAL sau AKZO

CONCEPT

1. Thermix® pentru performanță pe termen lung

Managementul termic al LEDurilor este un aspect crucial pentru ca aparatul de iluminat să fie mai fiabil. Pentru maximizarea eficacității și menținerea fluxului în timp, numeroși parametri au fost optimizați:

- compartimentarea termică între LEDuri și accesorii electrice
- conductibilitatea termică directă, prin reducerea căii dintre sursa de căldură și exterior
- structură îmbunătățită a suprafeței externe, care realizează schimbul termic

DETALII FLUX LUMINOS ȘI PUTERE

Caracteristici pentru LEDuri (5500 K, CRI min. 70) în Alb Rece (CW), la Tq 25° C

Model	Acronim	Temperatura de culoare	Cod de flux	Flux luminos al aparatului (lm)	Puterea aparatului (W)	Eficiența aparatului (lm/W)	Curent (mA)	Flux al surselor LED (lm)	Număr de LEDuri
SKIDO	SKIDO1	CW	001A0	1200	16	75	700	1500	6

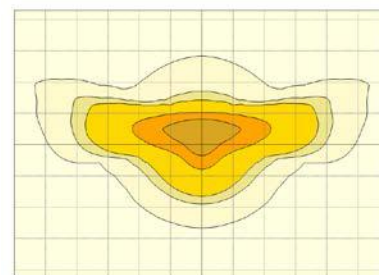
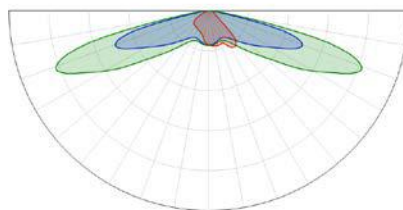
Notă: Fluxul este o medie orientativă putând să varieze în funcție de tipul distribuției luminoase și a difuzorului. Toleranța de flux pentru LEDuri este de $\pm 7\%$ și pentru puterea totală a aparatului de iluminat este de $\pm 5\%$.

Fluxul precis și matricea corespunzătoare pentru fiecare configurație sunt disponibile pe www.schreder.com

DISTRIBUȚII LUMINOASĂ

5122AS

Iluminat stradal



CUM SE CREEAZĂ UN COD DE COMANDĂ VALID?

1 Mergeți în Fișa cu Datele Comenzii și compuneți-vă soluția prin alegerea unui singur cod pentru fiecare coloană, pentru a specifica **ID-UL PRODUSULUI**, **ȚARA** (în care se face instalarea), **BLOCUL OPTIC**, **ECCHIPAREA PLĂCII DE BAZĂ**, **OPȚIUNILE DE CONTROL**, **MONTAJUL** ȘI **CULOAREA**. Puteți selecta mai multe **OPȚIUNI**.

2 Configurați-vă soluția ușor: cele mai multe dintre opțiunile propuse nu au nevoie de niciun fel de informații suplimentare și sunt explicate pe scurt sub cod (consultați notele de subsol, pentru verificarea compatibilității dintre opțiunile selectate).



3 Alegeți codurile pentru **Flux**, **Distribuție Luminoasă** și **Control** prin consultarea informațiilor mai detaliate, incluse în Fișa de Produs.

Flux CODE

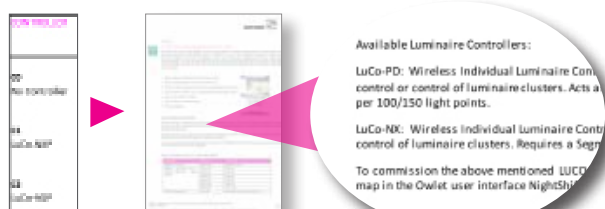
Flux temp.	Flux code	Typical luminaire output (lm)	pos. (W)
PRODUCTX NW	001A0	1000	10
PRODUCTX NW	001A1	1400	14
PRODUCTX NW	001A2	1800	19
PRODUCTX NW	002A3	2000	18
PRODUCTX NW	002A4	2700	26
PRODUCTX NW	003A5	3000	

În funcție de opțiunea dumneavoastră privind temperatura de culoare, vă rugăm să consultați tabelul aferent, pentru identificarea **codului de flux** aferent fluxului luminos al aparatului de iluminat solicitat/dorit(*). **Vă rugăm să verificați ID-ul produsului**, pentru a vă asigura că fluxul luminos de care aveți nevoie este disponibil pentru dimensiunea pe care ați ales-o.



Pentru a alege **distribuția luminoasă**, consultați codul din 4 cifre din dreptul curbelor și diagramelor (*). AS= asimetric, SY=simetric, BL= controlul luminii reziduale.

(* Fluxul luminos și matricea aferentă pentru fiecare configurație disponibilă se găsesc pe www.schreder.com



Pentru configurarea soluției optime între caracteristicile de care aveți nevoie și **opțiunile de control**, disponibile, consultați descrierea din Fișa de Produs.

CODURI DE COMANDĂ VALIDE - EXEMPLE

DOAR CU CARACTERISTICI STANDARD

PRODXX - 00 - NW008AH - 5118BL - GL01 - V02D03S3 - C000 - C201 - U4 - A1 - A6 - 0L

ID produs (6 cifre)	Universal (2 cifre)	Temperatura de culoare+ flux (7 cifre)	Tipul distribuției luminoase (6 cifre)	Tipul difuzorului (2 cifre)	Tensiune & clasă electrică + Reducerea fluxului + Protecție electrică (8 cifre)	Tipul cablului de alimentare (4 cifre)	Dispozitiv de control + fotocelulă + senzor (4 cifre)	Montaj (2 cifre)	Opțiuni (2 cifre pentru fiecare)	Culoare RAL (2 cifre)
Codul de țară ISO 3166 (2 cifre)			Distribuție luminoasă personalizată		Tensiune & clasă electrică + Reducerea fluxului + Protecție electrică (8 cifre)	Cablu de alimentare personalizat (4 cifre)	Personalizare control + fotocelulă + senzor (4 cifre)		Opțiuni personalizate (Distribuție luminoasă, reducerea fluxului, cabluri, control, fotocelulă) pentru care veți primi un cod specific (4 cifre pentru fiecare)	Culoare RAL specifică (8 cifre)

PRODXX - AT - NW008AH - CUSTOM - GL04 - V02D04S3 - CJZZ - ZZZZ - U4 - PXXX - DXXX - CXXX - SXXX - TXXX - RAL3005M

CU CERINȚELE PERSONALIZATE

ID	ȚARA	BLOC OPTIC				ACCESORII ELECTRICE				CONTROL [4]			MONTAJ	OPȚIUNI	CULOARE	
ID PRODUS	ȚARA DE INSTALARE [1]	TEMPERAT URA DE CULOARE	COD FLUX [2]	TIPUL DISTRIBU TIEI	DIFUZOR	VOLTAJ & CLASĂ ELECTRICĂ	REDUCEREA FLUXULUI LUMINOS	PROTECȚIE ELECTRICĂ	CABLU DE ALIMENTAR E	TIP CABLU	DISPOZITIVE DE CONTROL	FOTOCELULĂ	SENZOR	MONTAJ	OPȚIUNI [5]	CULOARE
SKIDO1	00 Universal Standard	CW Alb rece	001A0	5122AS	PC03 polycarbonat profilat	V02 230V CLI	D00 Fără reducerea fluxului luminos	S2 4kV + siguranță	CB Lungime cablu 0,3m	3A 3G1²	C0 Fără dispozitiv de control	0 Fără fotocelulă	0 Fără senzor	L1 Fixare laterală	N0 Fără altele	0S RAL 7001 T
	S3 10kV - fără siguranță							CC Lungime cablu 0,5m	3C 3G1.5²	P1 culoare cutie					01 RAL 7037 T	
	S4 10kV + siguranță							CI Lungime cablu 5m	ZZ CABLU PERSONALIZA	AA Etichetare specială					RALxxx M Alte culori mate din paletarul RAL	
										CXXX cabluri personalizabile					RALxxx B Alte culori stralucitoare din	
										LXXX Etichetare personalizată					RALxxx T Alte culori texturizate din	
										FXXX Finisaje - culoare, lac...					ZZ Altă vopsea	
															OXXX Altele	

Comanda dvs.																	
SKIDO1	_ _	CW	001A0	5122AS	PC03	V02	D00	S _	C _	3 _	C0	0	0	L1	NO	_ _	

Exemple: 0

Notă:

- [1] Vă rugăm să specificați țară unde se face instalarea, pentru a ne asigura că setările specifice țării sunt luate în considerare. Schröder vă va furniza codul care trebuie folosit (00 (standard universal) sau codul ISO al țării).
- [2] Vezi mai multe detalii în tabel: Lumeni și Putere. [3] Vezi mai multe detalii în tabel: Distribuții luminoase.
- [4] Accesoriiile de montaj ale Schröder sunt compatibile cu majoritatea echipamentelor de control disponibile pe piață. Vă rugăm să contactați Schröder pentru mai multe informații.
- [5] Multiple combinații de SELECȚII și VERSIUNI posibile. eg. -A2-AA-P0Z0-D0W0-C0Y0-S0M0-L0H0.
- *Vă rugăm să contactați Schröder, pentru a specifica cerințele. O cerință personalizată trebuie să fie validată de Schröder și poate influența perioada de livrare.

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: 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

A handwritten signature in blue ink, appearing to read "Maghe", with a stylized flourish at the end.

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 @ 700 mA - class I protection

Sample n°: P-E15546

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

Remarks:

Test request n°: P-D15777

Folder n°: P-F14083

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 to 4 kV M.D. & M.C. Criteria B required	X	

Driver: Mean-Well PLD-16-700D @ 700 mA

EMC Auxiliaries: Varistor

CONCLUSIONS:

SKIDO 6 led's driven @ 700 mA by MeanWell driver in class I protection 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 05/11/2015

L. Maghe

//P-15CR777

OVE Austrian Electrotechnical Association
1010 Wien, Eschenbachgasse 9, Austria
ZVR: 327279890 | DVR: 1055887 | www.ove.at

OVE Testing & Certification
1190 Wien, Kahlenberger Str. 2A, Austria
T +43 1 370 58 06 | F +43 1 370 58 06-199



ENEC Certification Body registered under ID # 11.

Validity of ENEC Licences can be checked at www.enec.com

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: **Luminaires for road and street lighting**

Trade Mark: 

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 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.bmfwf.gv.at/accreditation



<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>Europannorm(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>	--

<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

<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.

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

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

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-E13112

Test purpose: Vibration test following "Street Lighting Luminaires" testing protocol

Test request n°: P-D13192

Folder n°: P-F13045

TEST CONDITIONS:

Operator: V2i

	<u>Testing protocol</u>	
		"Street Lighting Luminaires" testing protocol
	Test Item	Post-top and Side-entry Luminaire
	Excitation Direction	3 directions
	Search for frequencies and quality factor Q	Excitation: sine sweep Frequency band: 5 - 55 Hz Sweep speed: 1 octave/min. Acceleration: 0.5g
	Test	Q < 2 (no natural frequency) Excitation: RANDOM (*) Frequency band: 5 - 55 Hz Acceleration: 0.84g _{RMS} Duration: 1h
		Q > 2 Excitation : sine dwell Frequency : f0 (Qmax) Acceleration : 0.5g Duration : 30 minutes
	Search for frequencies and quality factor Q	Excitation: sine sweep Frequency band: 5 - 55 Hz Sweep speed: 1 octave/min. Acceleration: 0.5g
	(*) The RANDOM equivalent test consist in an accelerated ageing process of one hour which presents, on a reference one-degree-of-freedom system, an equivalent fatigue damage spectrum than 20 years of mean wind and 90 hours of storms.	

CONCLUSIONS:

SKIDO 6 led's complies with the vibration test following "Street Lighting Luminaires testing protocol".

Duplicate to: Mr M. Thijs

LAB 03/12/2015

L. Maghe

//P-13CR192

SKIDO



ALTERNATIVA LED EFICIENTA PENTRU ILUMINATUL CU LAMPI FLUORESCENTE DE PUTERE MICA

APARATUL DE ILUMINAT SKIDO A FOST CONCEPT PENTRU A OFERI O SOLUTIE DE ILUMINAT EXTERIOR CU LED-URI, COMPACTA SI ECONOMICA CU SCOPUL DE A INLOCUI APARATELE ECHIPATE CU LAMPI FLUORESCENTE DE 36W

Datorita unei puteri nominale de 15W si unei performante fotometrice excelente, SKIDO este un instrument foarte eficient pentru iluminatul strazilor rezidentiale, parcurilor, zonelor pietonale precum si pentru asigurarea iluminatului de supraveghere necesar hanelor industriale sau spatiilor adiacente campusurilor de birouri.

Fiind o solutie extrem de eficienta, SKIDO reduce timpul de amortizare la mai putin de 3 ani.

Datorita designului bine conceput si materialelor de calitate, SKIDO ofera o durata de viata mult mai lunga comparativ cu solutiile de iluminat fluorescente sau compact fluorescente.



CARACTERISTICI

Inaltime de montaj	3 la 6m
Flux luminos	1300lm
Temperatura de culoare	Alb rece (5700K)
Consum	15W
Etanseitate compartiment optic	IP 65 (*)
Etanseitate compartiment aparataj	IP 65 (*)
Rezistentă la impact	IK 07 (**)
Tensiune nominală	230V - 50Hz
Clasa de izolație electrică	I (*)
Masa	1,3 kg
MATERIALE	
Carcasa	Aluminiu
Difuzor	Polycarbonat
Culoare	RAL 7037 gri

>> AVANTAJE CHEIE

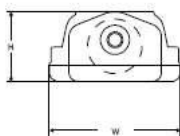
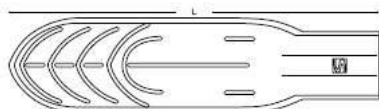
- Compact și versatil
- Economii maximizate pentru costurile cu energia și mentenanță
- Lentile integrate pentru fotometrii performante
- Plajă largă pentru temperaturile de operare de la -20° la 50° C.
- Instalare ușoară: livrabil precablat (cablu 0.3m)
- Gama largă a tensiunii de alimentare: 140-280V
- Materiale durabile și reciclabile
- Protecție la descărcări atmosferice 10kV

DIMENSIUNI

MONTAJ

Montaj lateral de la Ø 32mm la Ø 42mm
Fixare cu 4 suruburi M8

L	395mm
H	54mm
W	101mm
Ø	32 la 42mm



APLICATII PRINCIPALE



STRADA REZIDENTIALA – PARCARE MASINI –

ZONA PIETONALA – PARCURI





SKIDO



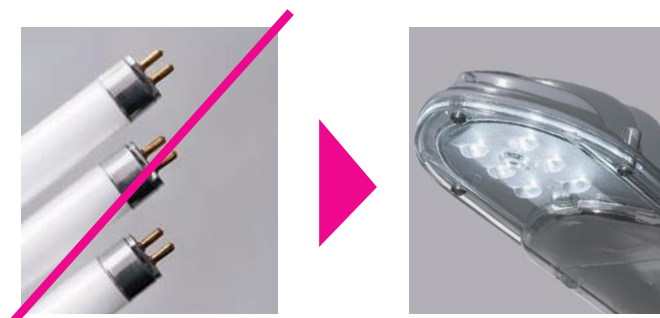
Schröder



SKIDO



EFFECTIVE LED ALTERNATIVE TO LOW-POWER FLUORESCENT LIGHTING



CHARACTERISTICS – LUMINAIRE

Optical compartment tightness level:	IP 65 ^(*)
Control gear tightness level:	IP 65 ^(*)
Impact resistance:	IK 07 ^(**)
Nominal voltage:	230V - 50Hz
Electrical class:	I ^(*)
Weight:	1.3 kg
Installation height:	3 - 6m
Materials:	Body: Aluminium Protector: Polycarbonate

Colour: RAL 7037 dusty grey

^(*) according to IEC - EN 60598

^(**) according to IEC - EN 62262

The Skido luminaire has been developed to offer a compact and economic outdoor LED solution to replace - with proven advantages - luminaires fitted with 36W fluorescent lamps.

Thanks to a low power consumption of 15W and excellent photometrical performances, the Skido is a very efficient tool for lighting residential roads, car parks, pedestrian areas and parks as well as offering surveillance lighting for industrial halls or office campuses.

As a highly cost-effective lighting solution, the Skido reduces the payback time to less than 3 years.

Due to its well-thought design and quality materials, the Skido offers a much longer life span compared to fluorescent and compact fluorescent lighting solutions.

APPLICATIONS

- Residential roads
- Exterior area and perimeter surveillance lighting
- Car parks
- Pedestrian areas
- Parks

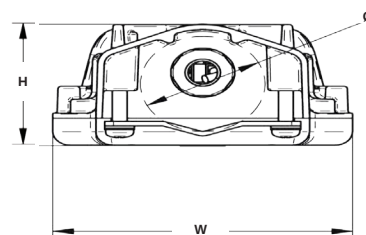
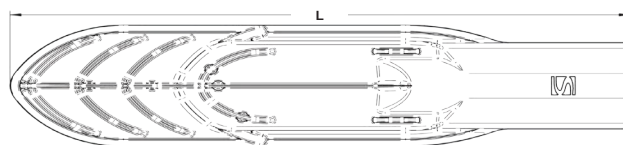
KEY ADVANTAGES

- Compact and versatile
- Maximised savings in energy and maintenance costs
- Integrated lenses for performing photometry
- Wide operating temperatures from -20° up to 50°C
- Easy installation: supplied pre-wired (0.3m cable)
- Wide operating voltage range: 198-264V
- Durable and recyclable materials
- Surge protection 10kV

DIMENSIONS - MOUNTING

Side-entry mounting Ø32mm to Ø42mm.

Fixation with 4 M8 screws.



L	395 mm
H	54 mm
W	101 mm
Ø	32 to 42 mm

SKIDO LED LIGHTING

ENERGY SAVINGS OF UP TO 75%

Thanks to its careful design, the Skido offers a dramatic reduction in energy consumption compared to luminaires fitted with traditional light sources or even less performing LED luminaires. The accuracy of the photometric distribution provided by the lenses ensures that the light is directed to where it is needed. With no light loss, the Skido enables the distance between the poles to be increased and the number of luminaires to be reduced for a performing and cost-effective installation.

With this favourable energy balance, the Skido contributes to the effective management of finances with a very short payback time and to the responsible use of energy.

RESISTS HARSH CONDITIONS

Skido is designed to resist to the harshest conditions. It can operate in a wide range of temperature, from -20°C up to 50°C. It also perfectly withstands power supply variations thanks to its wide operating voltage range of 198 up to 264V. The Skido offers a reliable lighting solution in tough environments.

LONG LASTING PERFORMANCE

Designed to resist dust and water intrusion, the Skido guarantees a stable photometric performance in the long term. With a high impact resistance, the Skido is a very robust luminaire. Composed of high-quality materials, it has been designed to ensure long lasting performances.

EASY INSTALLATION

The Skido is very easy to mount. Delivered pre-cabled, it does not need to be opened during installation.

Skido is fixed by 4 M8 screws on a bracket (32 - 42 mm diameter).



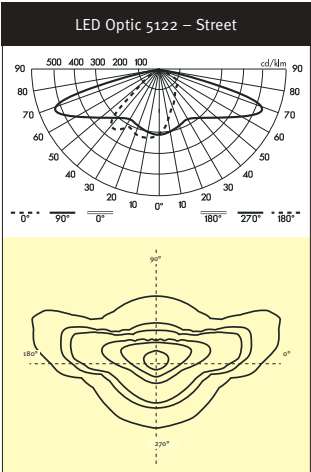
PHOTOMETRY

With a colour rendering index greater than 70 (CRI > 70), the Skido diffuses a gentle white light that provides excellent colour recognition.

Skido			Lifetime residual flux @ t _q 35°C
Number of LEDs	Cool white (5000K)	6 LEDs	@50.000h
Current: 700mA	Nominal flux (lm)*	1300	90%
	Power consumption (W)	15	

(*) The nominal flux is an indicative LED flux @ t_i 25°C based on LED manufacturer's data. The real flux output of the luminaire depends on environmental conditions (e.g. temperature and pollution) and the optical efficiency of luminaire.
 Nominal flux depends on the type of LED in use and likely to change in accordance with the continuous and rapid developments in LED technology.
 To follow the progress of the luminous efficiency of the LEDs used, please visit our website.

LIGHT DISTRIBUTION







Solutions



Well-being



Safety



Sustainability

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

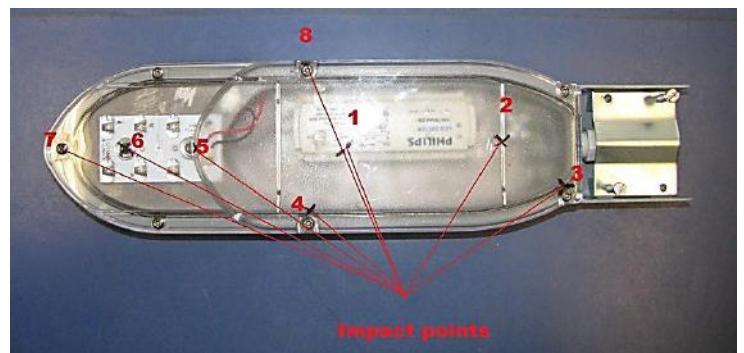
I.S. Skido with PC protector

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

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

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

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

Result

OK, nothing to indicate

OK, nothing to indicate

OK, nothing to indicate

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.

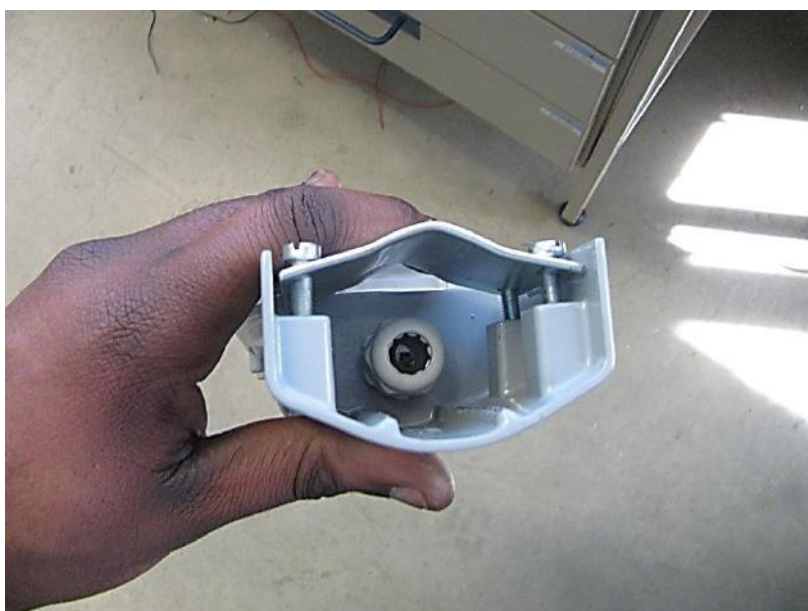
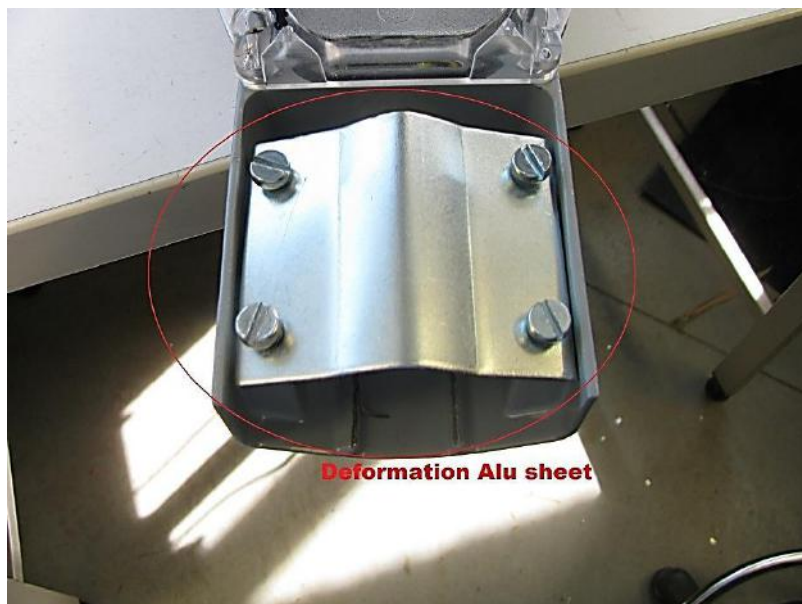
Duplicate to: MM C. Horvath, C. Marville, Y. Borlez

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:

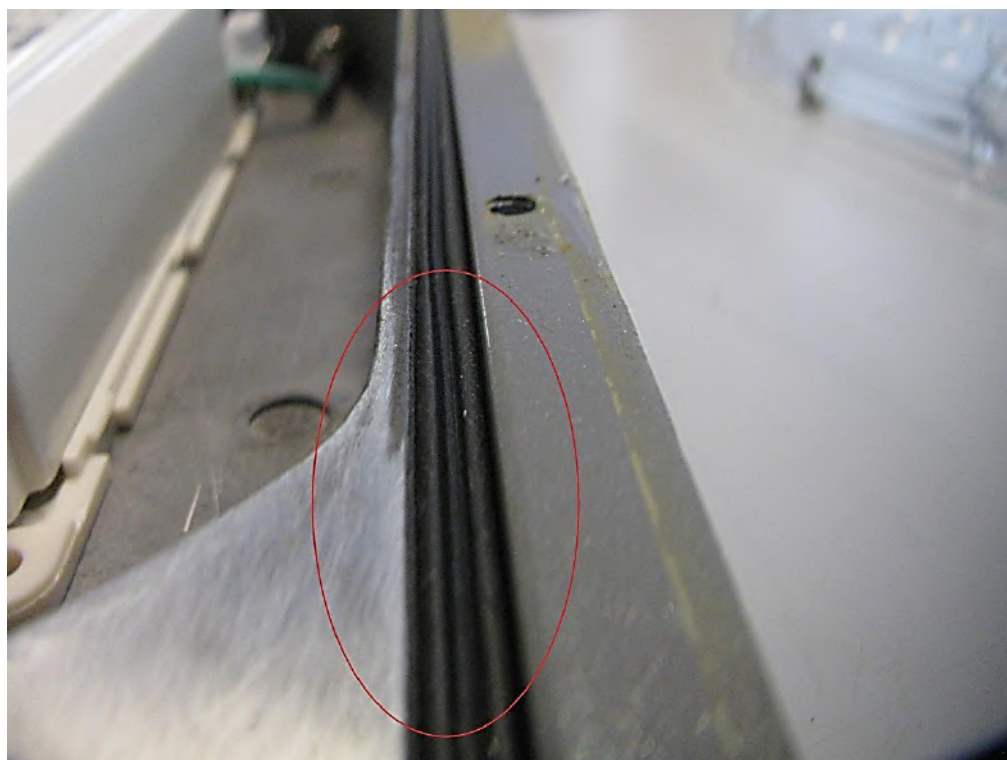
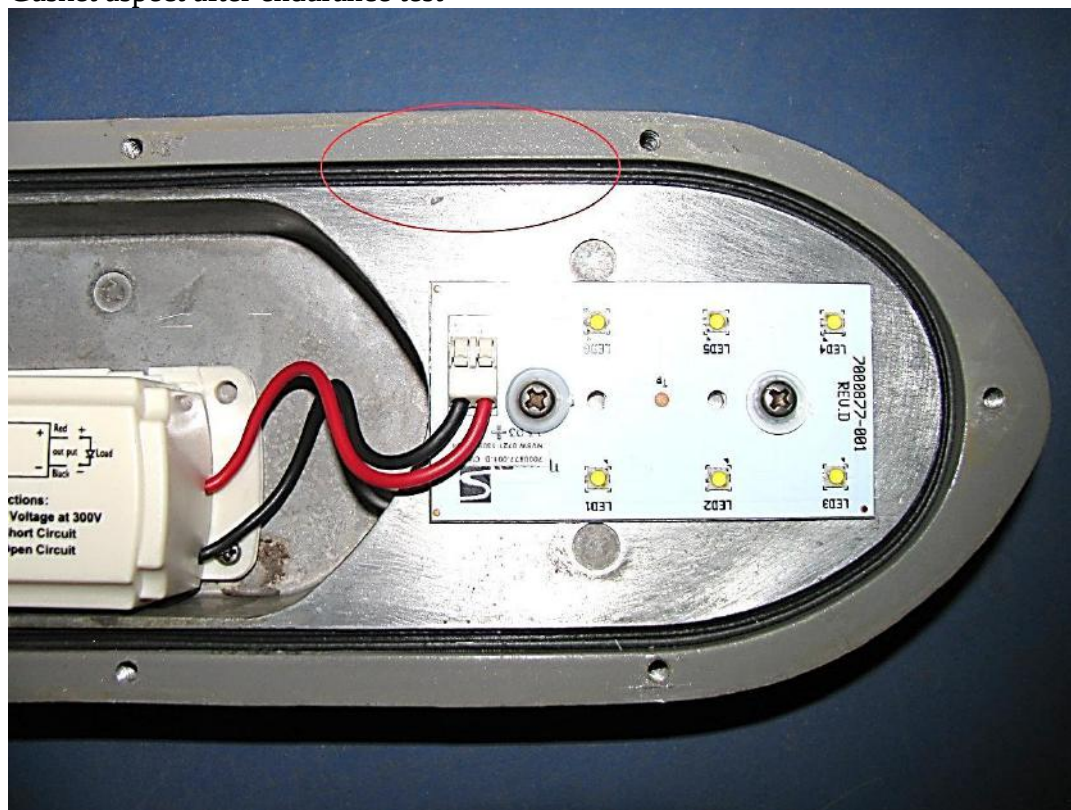
SKIDO 6 led's @ 700 mA satisfies the IP65 test following IEC/EN 60598-1 Standard

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



Client:
Primaria s. Gauzeni

Adresă proiect:
s Gauzeni, r-ul Soldanesti

Data:
03.12.2018

Reconstructia si modernizarea iluminatului stradal in s. Gauzeni

Cuprins

Reconstrucția și modernizarea iluminatului stradal în s. Gauzeni

Reconstrucția și modernizarea iluminatului stradal în s. Gauzeni

Schröder - SKIDO / 5122 / 6 LEDs 700mA CW / 369203 (1x6 LEDs 700mA CW).....	3
Schröder - VOLTANA 2 / 5102 / 16 LEDs 700mA NW / 356052 (1x16 LEDs 700mA NW).....	4
Schröder - VOLTANA 3 / 5119 / 24 LEDs 1000mA NW / 355752 (1x24 LEDs 1000mA NW).....	5
Teren 1	
Plan de poziționare al corpurilor de iluminat.....	6
Rezumat rezultate suprafețe.....	7
Suprafață de calcul 1 / Iluminare orizontală.....	8
Stradă 1 centrală: Alternativă 1	
Rezultatele planificării.....	11
Stradă 2 rezidențială: Alternativă 2	
Rezultatele planificării.....	12

Schröder SKIDO / 5122 / 6 LEDs 700mA CW / 369203 1x6 LEDs 700mA CW

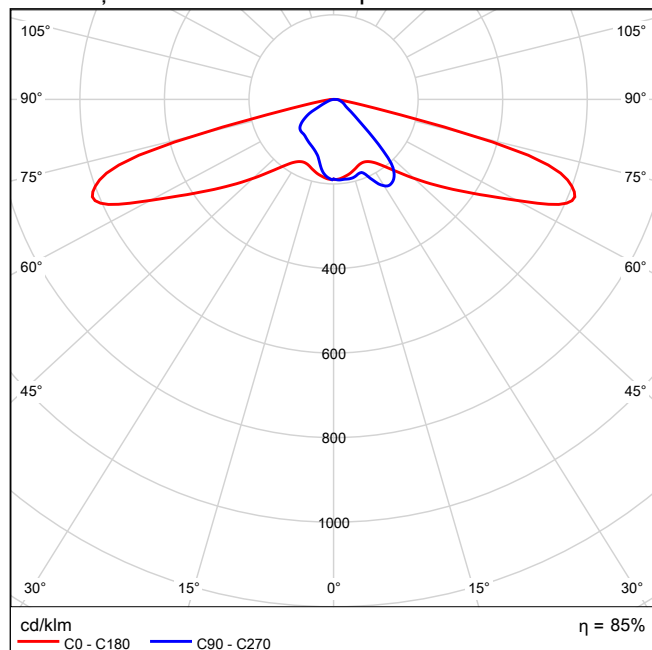


Randament luminos: 85.10%
Fluxul luminos al lămpii: 1754 lm
Flux luminos corpuri de iluminat: 1493 lm
Putere: 15.0 W

Informații colorimetrice

1x6 LEDs 700mA CW: CCT 3000 K, CRI 100
Clasificarea corpurilor de iluminat conform DIN: A30
Clasificarea corpurilor de iluminat conform BZ: BZ 7/0.75/BZ
6/2.00/BZ 5
Clasificarea corpurilor de iluminat conform UTE: 0.85G
Clasificarea corpurilor de iluminat conform CIE: 100
Cod flux CIE: 32 68 95 100 85

Distribuția luminoasă 1 / LVK polar



CONCEPT

Luminaire specifically designed for LEDs

Recommended installation height: between 3m and 6m
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 @ Tq=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

Schröder VOLTANA 2 / 5102 / 16 LEDs 700mA NW / 356052 1x16 LEDs 700mA NW

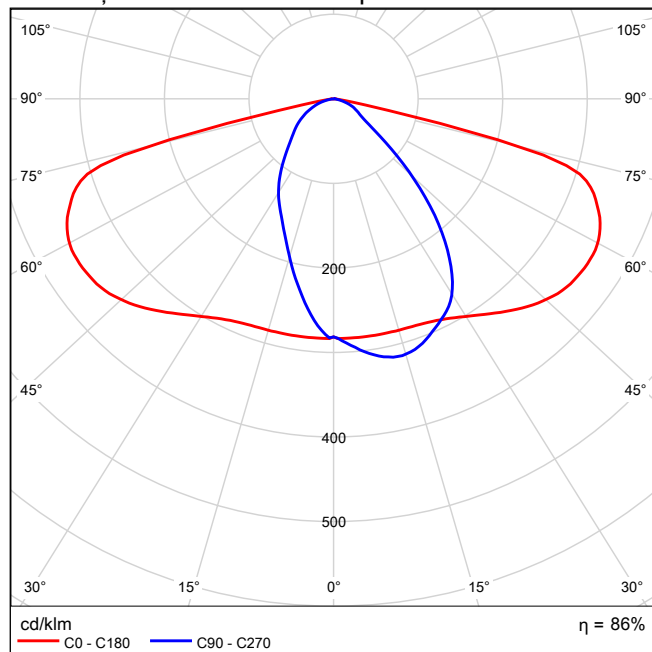


Randament luminos: 85.59%
Fluxul luminos al lămpii: 4531 lm
Flux luminos corpuri de iluminat: 3878 lm
Putere: 39.0 W

Informații colorimetrice

1x16 LEDs 700mA NW: CCT 3000 K, CRI 100
Clasificarea corpurilor de iluminat conform DIN: A40
Clasificarea corpurilor de iluminat conform BZ: BZ 6/0.75/BZ 5
Clasificarea corpurilor de iluminat conform UTE: 0.86E
Clasificarea corpurilor de iluminat conform CIE: 100
Cod flux CIE: 45 78 97 100 86

Distribuția luminoasă 1 / LVK polar



CONCEPT

Family of 6 road LED luminaires

Recommended installation height: between 4m and 12m
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
- Photocell

Schröder VOLTANA 3 / 5119 / 24 LEDs 1000mA NW / 355752 1x24 LEDs 1000mA NW

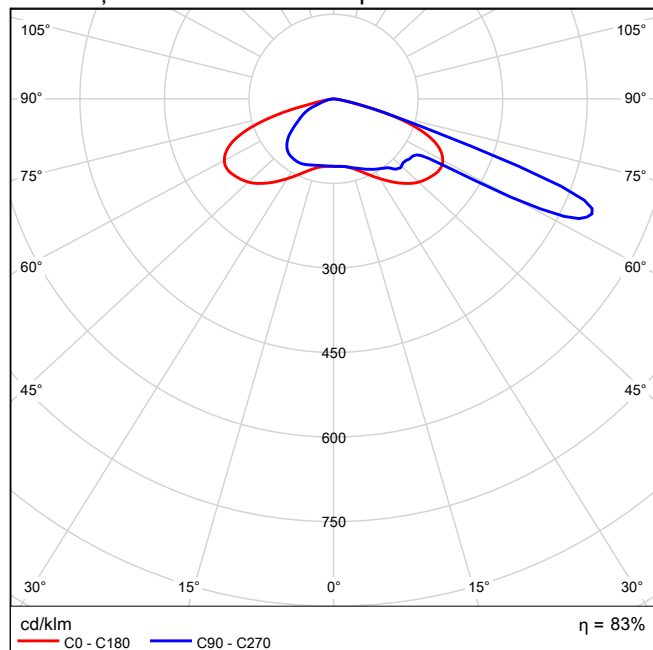


Randament luminos: 83.39%
Fluxul luminos al lămpii: 8563 lm
Flux luminos corpuri de iluminat: 7141 lm
Putere: 85.0 W

Informații colorimetrice

1x24 LEDs 1000mA NW: CCT 3000 K, CRI 100
Clasificarea corpurilor de iluminat conform DIN: A20
Clasificarea corpurilor de iluminat conform BZ: BZ 1/0.75/BZ 7/1.00/BZ 6/2.25/BZ 5
Clasificarea corpurilor de iluminat conform UTE: 0.83H
Clasificarea corpurilor de iluminat conform CIE: 100
Cod flux CIE: 27 59 95 100 83

Distribuția luminoasă 1 / LVK polar



CONCEPT

Family of 6 road LED luminaires

Recommended installation height: between 4m and 12mm
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
- Photocell

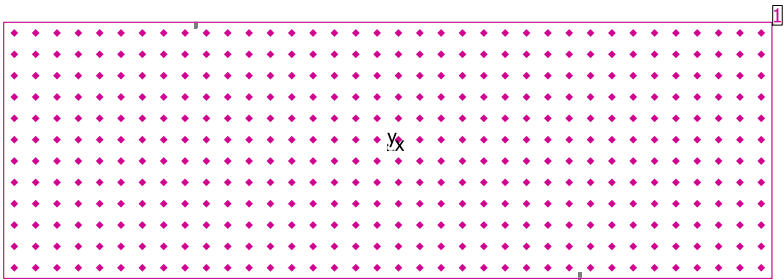
Teren 1



Schröder VOLTANA 3 / 5119 / 24 LEDs 1000mA NW / 355752

Nr.	X [m]	Y [m]	Înălțime de montare [m]	Factorul de menținere
1	15.000	-10.000	8.000	0.80
2	-15.000	10.000	8.000	0.80

Teren 1

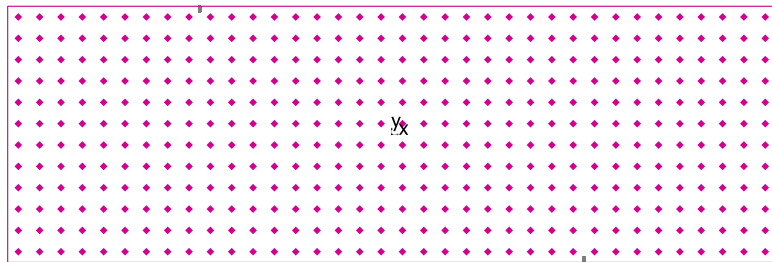


Factorul de mentinere: 0.80

Generalitati

Suprafata	Rezultat	Mediu (Nominal)	Min	Max	Min/mediu	Min/Max
1 Suprafata de calcul 1	Iluminare orizontala [lx] Inaltime: 0.200 m	5.48	1.89	13.4	0.34	0.14

Suprafață de calcul 1 / Iluminare orizontală



Factorul de menținere: 0.80

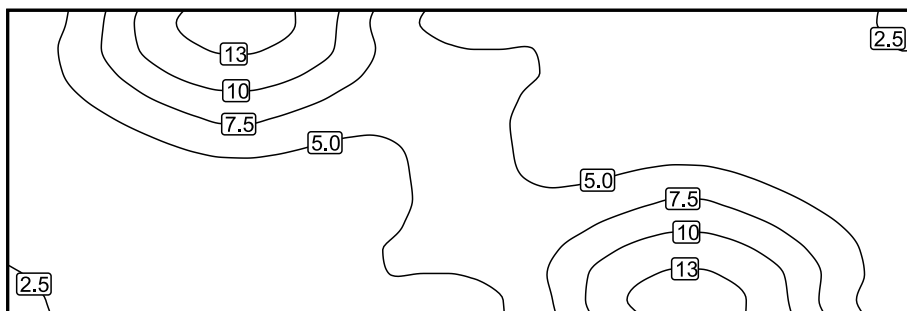
Suprafață de calcul 1: Iluminare orizontală (Raster)

Scena luminii: Scena luminii 1

Mediu: 5.48 lx, Min: 1.89 lx, Max: 13.4 lx, Min/mediu: 0.34, Min/Max: 0.14

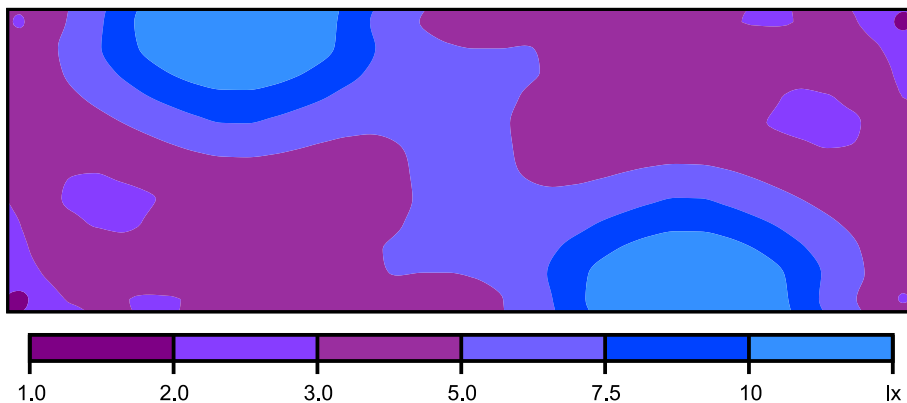
Înălțime: 0.200 m

Izolinii [lx]



Scară: 1 : 500

Culori false [lx]



Scară: 1 : 500

Raster valoric [lx]

2.9	5.3	8.9	12	13	13	11	7.3	4.9	4.1	4.2	3.6	3.3	3.2	3.1	3.0	3.1	2.5
3.4	5.6	6.6	12	13	12	11	7.6	5.6	5.0	5.0	4.3	4.0	4.1	3.9	3.5	3.6	3.1
3.5	5.3	7.8	10	11	11	9.3	7.1	5.8	5.5	5.3	4.2	4.4	4.9	4.6	3.7	3.7	3.4
3.4	4.7	6.3	8.2	9.3	9.0	7.6	6.2	5.8	5.8	4.8	3.6	3.8	4.6	4.3	3.1	2.9	3.4
3.3	4.0	5.0	6.3	7.5	7.1	6.0	5.3	5.6	5.8	4.5	3.6	3.4	3.5	3.3	2.9	2.7	3.2
3.1	3.4	3.9	4.8	5.5	5.4	4.8	4.7	5.4	5.7	4.7	4.0	4.0	4.2	4.0	3.4	3.0	3.2
3.0	3.0	3.2	3.7	4.2	4.2	3.9	4.2	5.4	5.7	4.9	4.6	5.1	5.6	5.2	4.3	3.6	3.3
3.0	2.9	2.8	3.1	3.5	3.5	3.5	3.9	5.3	5.8	5.4	5.6	6.6	7.5	7.0	5.6	4.4	3.7
3.0	3.2	2.8	3.5	4.5	4.4	3.6	4.1	5.5	5.8	5.9	6.8	6.3	9.4	8.9	7.3	5.4	4.0
2.8	3.7	3.5	4.1	4.8	4.8	4.2	4.8	5.5	5.6	6.3	8.2	10	11	11	9.0	6.5	4.3
2.4	3.6	3.6	3.7	4.1	4.1	4.0	4.8	5.0	5.1	6.4	9.1	12	13	12	10	7.2	4.4
1.9	3.1	3.0	3.0	3.2	3.2	3.4	4.0	4.1	4.3	5.9	9.2	12	13	13	11	6.9	4.0

Scară: 1 : 500

Tabel de valori [lx]

m	-29.167	-27.500	-25.833	-24.167	-22.500	-20.833	-19.167	-17.500	-15.833	-14.167	-12.500	-10.833	-9.167	-7.500	-5.833	-4.167
9.167	2.95	3.96	5.26	6.91	8.92	10.9	12.3	13.0	13.4	13.4	13.0	12.4	11.0	9.16	7.30	5.85
7.500	3.36	4.42	5.64	7.15	8.82	10.5	11.7	12.4	12.7	12.7	12.4	11.9	10.7	9.14	7.63	6.42
5.833	3.47	4.34	5.32	6.47	7.78	9.02	10.1	10.9	11.4	11.4	11.0	10.3	9.26	8.19	7.13	6.31
4.167	3.42	4.03	4.66	5.40	6.29	7.33	8.17	8.90	9.33	9.37	8.99	8.35	7.62	6.79	6.22	5.89
2.500	3.26	3.68	3.95	4.38	4.96	5.63	6.34	6.98	7.50	7.54	7.11	6.57	6.01	5.57	5.32	5.36
0.833	3.10	3.29	3.41	3.59	3.88	4.31	4.79	5.22	5.52	5.56	5.36	5.05	4.76	4.60	4.67	4.94
-0.833	3.02	3.24	3.03	3.00	3.19	3.43	3.74	4.00	4.19	4.24	4.15	4.03	3.91	3.96	4.17	4.67
-2.500	3.04	3.16	2.88	2.69	2.78	2.94	3.11	3.35	3.47	3.53	3.53	3.44	3.47	3.58	3.87	4.52
-4.167	3.00	3.36	3.23	2.92	2.82	3.07	3.51	4.25	4.49	4.55	4.44	3.84	3.61	3.63	4.10	4.85
-5.833	2.83	3.43	3.73	3.70	3.46	3.69	4.05	4.61	4.84	4.89	4.79	4.37	4.19	4.22	4.80	5.26
-7.500	2.45	3.09	3.65	3.81	3.58	3.54	3.69	3.90	4.07	4.13	4.08	4.00	4.02	4.29	4.81	5.03
-9.167	1.89	2.49	3.07	3.13	3.03	2.95	2.98	3.06	3.18	3.23	3.22	3.26	3.38	3.65	3.99	4.25

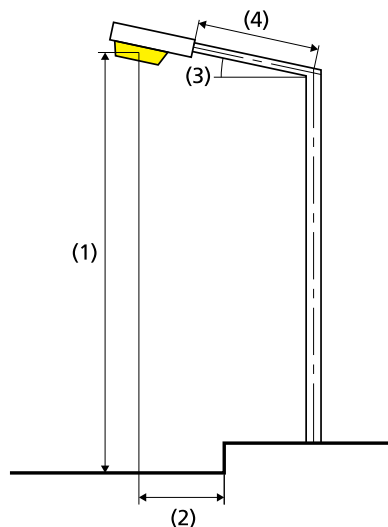
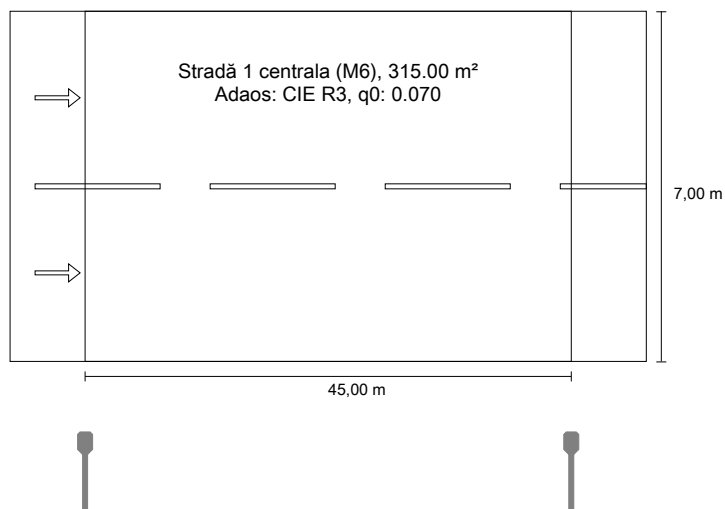
m	-2.500	-0.833	0.833	2.500	4.167	5.833	7.500	9.167	10.833	12.500	14.167	15.833	17.500	19.167	20.833	22.500	24.167	25.833
9.167	4.87	4.30	4.06	4.10	4.25	3.99	3.65	3.38	3.26	3.22	3.23	3.18	3.06	2.98	2.95	3.03	3.13	3.07
7.500	5.61	5.12	4.96	4.96	5.03	4.81	4.29	4.02	4.00	4.08	4.13	4.07	3.90	3.69	3.54	3.58	3.81	3.65
5.833	5.81	5.58	5.52	5.48	5.26	4.80	4.22	4.19	4.37	4.79	4.89	4.84	4.61	4.05	3.69	3.46	3.70	3.73
4.167	5.76	5.76	5.75	5.50	4.85	4.10	3.63	3.61	3.84	4.44	4.55	4.49	4.25	3.51	3.07	2.82	2.92	3.23
2.500	5.62	5.77	5.75	5.32	4.52	3.87	3.58	3.47	3.44	3.53	3.53	3.47	3.35	3.11	2.94	2.78	2.69	2.88
0.833	5.35	5.69	5.68	5.37	4.67	4.17	3.96	3.91	4.03	4.15	4.24	4.19	4.00	3.74	3.43	3.19	3.00	3.03
-0.833	5.37	5.68	5.69	5.35	4.94	4.67	4.60	4.76	5.05	5.36	5.56	5.52	5.22	4.79	4.31	3.88	3.59	3.41
-2.500	5.32	5.75	5.77	5.62	5.36	5.32	5.57	6.01	6.57	7.11	7.54	7.50	6.98	6.34	5.63	4.96	4.38	3.95
-4.167	5.50	5.75	5.76	5.76	5.89	6.22	6.79	7.62	8.35	8.99	9.37	9.33	8.90	8.17	7.33	6.29	5.40	4.66
-5.833	5.48	5.52	5.58	5.81	6.31	7.13	8.19	9.26	10.3	11.0	11.4	11.4	10.9	10.1	9.02	7.78	6.47	5.32
-7.500	4.96	4.96	5.12	5.61	6.42	7.63	9.14	10.7	11.9	12.4	12.7	12.7	12.4	11.7	10.5	8.82	7.15	5.64
-9.167	4.10	4.06	4.30	4.87	5.85	7.30	9.16	11.0	12.4	13.0	13.4	13.4	13.0	12.3	10.9	8.92	6.91	5.26

m	27.500	29.167
9.167	2.49	1.89
7.500	3.09	2.45
5.833	3.43	2.83
4.167	3.36	3.00
2.500	3.16	3.04
0.833	3.24	3.02
-0.833	3.29	3.10
-2.500	3.68	3.26
-4.167	4.03	3.42
-5.833	4.34	3.47

m	27.500	29.167
-7.500	4.42	3.36
-9.167	3.96	2.95

Stradă 1 centrala până la EN 13201:2015

Schröder VOLTANA 2 / 5102 / 16 LEDs 700mA NW / 356052



Rezultate pentru câmpurile de evaluare

Factorul de menținere: 0.85

Stradă 1 centrala (M6)

Lm [cd/m²] ≥ 0.30	Uo ≥ 0.35	UI ≥ 0.40	TI [%] ≤ 20	EIR ≥ 0.30
✓ 0.32	✓ 0.37	✓ 0.44	✓ 19	✓ 0.36

Rezultate pentru indicatorii de eficiență energetică

Indicatorul densității de putere (Dp) 0.024 W/lxm²

Densitatea consumului de energie

Aranjament: VOLTANA 2 / 5102 / 16 LEDs 700mA NW / 356052 (156.0 kWh/an) 0.5 kWh/m² an

Lampă: 1x16 LEDs 700mA NW
Flux luminos (corp de iluminat): 3877.90 lm
Flux luminos (lampă): 4531.00 lm
Ore de lucru
4000 h: 100.0 %, 39.0 W
W/km: 858.0

Aranjament: Pe o parte Jos
Distanță stâlp: 45.000 m
Înclinare consolă (3): 10.0°
Lungime consolă (4): 1.000 m
Înălțimea deasupra planului util (1): 7.000 m
Ieșirea în consolă a punctului de lumină (2): -1.662 m

ULR: 0.00
ULOR: 0.00

Valori maxime ale intensității luminoase

La 70°: 596 cd/klm
La 80°: 398 cd/klm
La 90°: 6.01 cd/klm

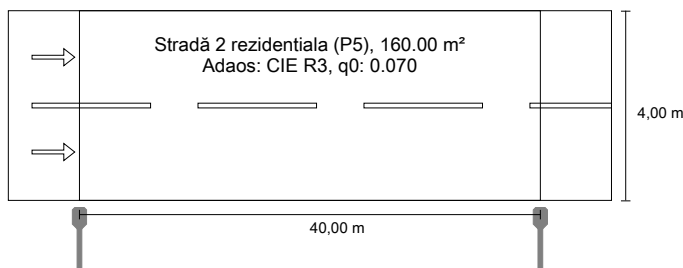
Clasă intensitate luminoasă: /

Orice direcție ce formează unghiul dat cu verticala în jos a corpurilor de iluminat instalate pentru utilizare.

Aranjamentul respectă clasa cu indici de orbire D.0

Stradă 2 rezidențială până la EN 13201:2015

Schröder SKIDO / 5122 / 6 LEDs 700mA CW / 369203



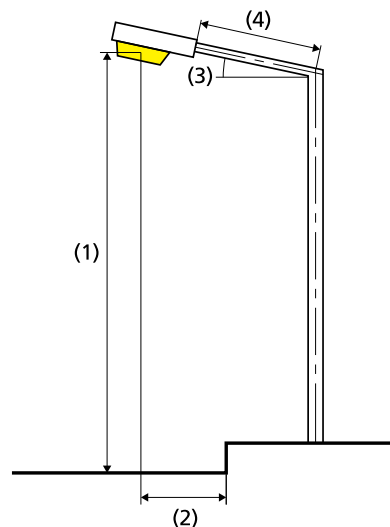
Rezultate pentru câmpurile de evaluare
Factorul de menținere: 0.85

Stradă 2 rezidențială (P5)

Em [lx] ≥ 3.00 ≤ 4.50	Emin [lx] ≥ 0.60	TI [%] ≤ 30
✓ 3.53	✓ 1.17	✓ 25

Rezultate pentru indicatorii de eficiență energetică

Indicatorul densității de putere (Dp)	0.027 W/lx·m²
Densitatea consumului de energie	
Aranjament: SKIDO / 5122 / 6 LEDs 700mA CW / 369203 (60.0 kWh/an)	0.4 kWh/m² an



Lampă:	1x6 LEDs 700mA CW
Flux luminos (corp de iluminat):	1492.64 lm
Flux luminos (lampă):	1754.00 lm
Ore de lucru	
4000 h:	100.0 %, 15.0 W
W/km:	375.0
Aranjament:	Pe o parte Jos
Distanță stâlp:	40.000 m
Înclinare consolă (3):	0.0°
Lungime consolă (4):	0.800 m
Înălțimea deasupra planului util (1):	6.000 m
Ieșirea în consolă a punctului de lumină (2):	-0.400 m

ULR:	0.00
ULOR:	0.00
Valori maxime ale intensității luminoase	
La 70°:	991 cd/klm
La 80°:	194 cd/klm
La 90°:	0.00 cd/klm
Clasă intensitate luminoasă:	G*1

Orice direcție ce formează unghiul dat cu verticala în jos a corpurilor de iluminat instalate pentru utilizare.

Aranjamentul respectă clasa cu indici de orbire D.4