



TEST REPORT
IEC 60598-2-3
Luminaires
Part 2: Particular requirements
Section 3: Luminaires for road and street lighting

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Name of Testing Laboratory preparing the Report TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch

Applicant's name : Zhejiang Spring Lighting Co., Ltd

Address : No.1366 Songshi West Road, Xicheng Street, 321300, Yongkang, Zhejiang, People's Republic of China

Test specification:

Standard : IEC 60598-2-3:2002 (Third Edition) + A1:2011 used in conjunction with IEC 60598-1:2014 (Eighth Edition)

Test procedure : EU-Directive

Non-standard test method : N/A

Test Report Form No. : IEC60598_2_3J

Test Report Form(s) Originator.... : Intertek Semko AB

Master TRF..... : 2014-09

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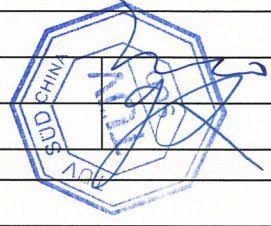
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Test item description :	LED Street Light	
Trade Mark :	N/A	
Manufacturer :	Zhejiang Spring Lighting Co., Ltd	
Model/Type reference :	See model list	
Ratings :	180-240V~; 50Hz; IP65; Class I See Model List	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch/ No.151, Heng Tong Road 200070 Shanghai P.R. China
Testing location/ address:		No. 1999, Duhui Road, Shanghai, 201108, P. R. China
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address:		N/A
Tested by (name, function, signature):		Xiaohui YANG
Approved by (name, function, signature):		Xiang GAO
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address:		N/A
Tested by (name, function, signature):		N/A
Approved by (name, function, signature):		N/A
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address:		N/A
Tested by (name + signature)		N/A
Witnessed by (name, function, signature) ..:		N/A
Approved by (name, function, signature):		N/A
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address:		N/A
Tested by (name, function, signature):		N/A
Witnessed by (name, function, signature) ..:		N/A
Approved by (name, function, signature):		N/A
Supervised by (name, function, signature) :		N/A



List of Attachments (including a total number of pages in each attachment): N/A	
Summary of testing: All applicable hazards are covered by the harmonized standard.	
Tests performed (name of test and test clause): Complete tests were performed for SBN-LED803-250W, SBN-LED803-220W, SBN-LED803-40W, SBN-LED803-20W. Additional IP test was performed for SBN-LED802-240W; SBN-LED801-200W. Construction checks are performed for all models. All of the models comply with the safety requirement. EMF requirements of EN 62493 have been evaluated and no test required.	Testing location: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch No. 1999, Duhui Road, Shanghai, 201108, P. R. China
Summary of compliance with National Differences: 1. The deviation between EN 60598-2-3:2003+A1:2011 used in conjunction with EN 60598-1:2015 and IEC 60598-2-3:2002+A1:2011 used in conjunction with IEC 60598-1:2014 is taken into account at the end of the report, please refer to appendix 1 of this report. <input checked="" type="checkbox"/> The product fulfils the requirements of EN 60598-2-3:2003+A1:2011 used in conjunction with EN 60598-1:2015.	

Copy of marking plate: See Construction Data form for electrical equipment and machinery.

Test item particulars	LED Street Light
Classification of installation and use	Normal use
Supply Connection	Terminal
.....	
Possible test case verdicts:	
- test case does not apply to the test object.....	: N/A
- test object does meet the requirement.....	: P (Pass)
- test object does not meet the requirement.....	: F (Fail)
Testing	
Date of receipt of test item	: 2017-05-31
Date (s) of performance of tests	: 2017-05-31 to 2017-06-30
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p>Remark 1: The following contents are included and as appendix of this test report: 1) IEC 60598-2-3:2002/A1:2011 used in conjunction with IEC 60598-1:2014. 2) Appendix 1 Comprising: Deviation of EN 60598-2-3:2003/A1:2011 used in conjunction with EN 60598-1:2015. 3) Appendix 2 Requirements of EN 62031:2008/A1:2013+A2:2015. 4) Appendix 3 Requirements of EN 62471: 2008. 5) Appendix 4 Requirements of IEC/TR 62778. 6) Appendix 5 Requirements of EN 62493: 2015. 7) Appendix 6 Photograph. 8) Data form for electrical equipment and machinery.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)	Zhejiang Spring Lighting Co., Ltd. No.1366 Songshi West Road, Xicheng Street, 321300, Yongkang, Zhejiang, People's Republic of China
General product information:	
All products covered in this test report are LED road light for outdoor use. All the products have similar construction, just with different LED different modules because of different wattage. The mounting rang is up to 15m.	

Model list:

Model	Rated power
SBN-LED801 series	
SBN-LED801-20W	20W
SBN-LED801-30W	30W
SBN-LED801-45W	45W
SBN-LED801-50W	50W
SBN-LED801-60W	60W
SBN-LED801-80W	80W
SBN-LED801-90W	90W
SBN-LED801-100W	100W
SBN-LED801-120W	120W
SBN-LED801-150W	150W
SBN-LED801-160W	160W
SBN-LED801-180W	180W
SBN-LED801-200W	200W
SBN-LED802 series	
SBN-LED802-30W	30W
SBN-LED802-40W	40W
SBN-LED802-50W	50W
SBN-LED802-60W	60W
SBN-LED802-80W	80W
SBN-LED802-100W	100W
SBN-LED802-120W	120W
SBN-LED802-150W	150W
SBN-LED802-180W	180W
SBN-LED802-200W	200W
SBN-LED802-240W	240W
SBN-LED803 series	
SBN-LED803-20W	20W
SBN-LED803-30W	30W
SBN-LED803-40W	40W
SBN-LED803-50W	50W
SBN-LED803-60W	60W
SBN-LED803-80W	80W
SBN-LED803-100W	100W
SBN-LED803-120W	120W
SBN-LED803-150W	150W
SBN-LED803-160W	160W
SBN-LED803-180W	180W
SBN-LED803-200W	200W
SBN-LED803-220W	220W
SBN-LED803-240W	240W
SBN-LED803-250W	250W

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
3.2 (0)	GENERAL TEST REQUIREMENTS		P
3.2 (0.1)	Information for luminaire design considered.....:	Standard Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
3.2 (0.3)	More sections applicable	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
3.4 (2)	CLASSIFICATION		P
3.4 (2.2)	Type of protection	Class I	—
3.4 (2.3)	Degree of protection	IP 65	—
3.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
3.4 (2.5)	Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
3.4 (-)	Modes of installation of road or street lighting		—
	a) on a pipe	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	b) on a mast arm	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	c) on a post top	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	d) on span or suspension wires	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	e) on a wall	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
3.5 (3)	MARKING		P
3.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
3.5 (3.3)	Additional information		P
	Language of instructions		P
3.5 (3.3.1)	Combination luminaires		N/A
3.5 (3.3.2)	Nominal frequency in Hz	50	P
3.5 (3.3.3)	Operating temperature		P
3.5 (3.3.4)	Symbol or warning notice		N/A
3.5 (3.3.5)	Wiring diagram		N/A
3.5 (3.3.6)	Special conditions		N/A
3.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
3.5 (3.3.8)	Limitation for semi-luminaires		N/A
3.5 (3.3.9)	Power factor and supply current		P

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
3.5 (3.3.10)	Suitability for use indoors		N/A
3.5 (3.3.11)	Luminaires with remote control		N/A
3.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
3.5 (3.3.13)	Specifications of protective shields		N/A
3.5 (3.3.14)	Symbol for nature of supply		P
3.5 (3.3.15)	Rated current of socket outlet		N/A
3.5 (3.3.16)	Rough service luminaire		N/A
3.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
3.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
3.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
3.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
3.5 (3.3.21)	Non-replaceable and non-user replaceable light sources information provided		P
	Cautionary symbol		N/A
3.5 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
3.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
3.5 (-)	Additional information in instruction leaflet		P
	a) Design attitude		P
	b) Weight		P
	c) Overall dimensions		P
	d) Maximum projected area if applicable		P
	e) Cross-sectional area of wires if applicable		N/A
	f) Suitability for indoors use		N/A
	g) Dimensions of the compartment		P
	h) Torque setting to be applied to bolts or screws		P
	i) Maximum mounting height		P
3.6 (4)	CONSTRUCTION		P
3.6 (4.2)	Components replaceable without difficulty		P

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
3.6 (4.3)	Wireways smooth and free from sharp edges		P
3.6 (4.4)	Lampholders		N/A
3.6 (4.4.1)	Integral lampholder		N/A
3.6 (4.4.2)	Wiring connection		N/A
3.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
3.6 (4.4.4)	Positioning		N/A
	- pressure test (N)		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N)		—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
3.6 (4.4.5)	Peak pulse voltage		N/A
3.6 (4.4.6)	Centre contact		N/A
3.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
3.6 (4.4.8)	Lamp connectors		N/A
3.6 (4.4.9)	Caps and bases correctly used		N/A
3.6 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
3.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
3.6 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
3.6 (4.7)	Terminals and supply connections		P
3.6 (4.7.1)	Contact to metal parts		P
3.6 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		P
3.6 (4.7.3)	Terminals for supply conductors		P
3.6 (4.7.3.1)	Welded method and material		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
3.6 (4.7.4)	Terminals other than supply connection		P
3.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
3.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
3.6 (4.8)	Switches		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A
3.6 (4.9)	Insulating lining and sleeves		N/A
3.6 (4.9.1)	Retainment		N/A
	Method of fixing		—
3.6 (4.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C)		N/A
3.6 (4.10)	Double or reinforced insulation		N/A
3.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
3.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
3.6 (4.10.3)	Retainment of insulation:		N/A
	- fixed		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
3.6 (4.11)	Electrical connections and current-carrying parts		P
3.6 (4.11.1)	Contact pressure		P
3.6 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
3.6 (4.11.3)	Screw locking:		P
	- spring washer		P
	- rivets		P
3.6 (4.11.4)	Material of current-carrying parts		P
3.6 (4.11.5)	No contact to wood or mounting surface		P
3.6 (4.11.6)	Electro-mechanical contact systems		P
3.6 (4.12)	Screws and connections (mechanical) and glands		P
3.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:	17 Nm; Fixing arm	P
	Torque test: torque (Nm); part.....:	1,2 Nm; Fixing enclosure	P
3.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
3.6 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm).....:		N/A
	- lampholder; torque (Nm).....:		N/A
	- push-button switches; torque 0,8 Nm.....:		N/A
3.6 (4.12.5)	Screwed glands; force (Nm).....:	2,5	P
3.6 (4.13)	Mechanical strength		P
3.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....:	PC cover; 0,5	P
	- other parts; energy (Nm).....:	Enclosure; 0,7	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
3.6 (4.13.3)	Straight test finger		P
3.6 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
3.6 (4.13.6)	Tumbling barrel		N/A
3.6 (4.14)	Suspensions, fixings and means of adjusting		P
3.6 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
3.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		—
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		—
	Bending moment (Nm) of semi-luminaire		N/A
3.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles.....		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
3.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
3.6 (4.14.5)	Guide pulleys		N/A
3.6 (4.14.6)	Strain on socket-outlets		N/A
3.6 (4.15)	Flammable materials		P
	- glow-wire test 650°C.....	See Test Table 3.15 (13.3.2)	P

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
	- spacing ≥ 30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
3.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
3.6 (4.16)	Luminaires for mounting on normally flammable surfaces		N/A
	No lamp control gear	(compliance with Section 12)	N/A
3.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
3.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
3.6 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
3.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
3.6 (4.18)	Resistance to corrosion		P
3.6 (4.18.1)	- rust-resistance		P
3.6 (4.18.2)	- season cracking in copper		N/A
3.6 (4.18.3)	- corrosion of aluminium		P
3.6 (4.19)	Igniters compatible with ballast		N/A
3.6 (4.20)	Rough service vibration		N/A
3.6 (4.21)	Protective shield		N/A
3.6 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
3.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
3.6 (4.21.3)	No direct path		N/A
3.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment	See Test Table 3.15 (13.3.2)	N/A
3.6 (4.22)	Attachments to lamps not cause overheating or damage		N/A
3.6 (4.23)	Semi-luminaires comply Class II		N/A
3.6 (4.24)	Photobiological hazards		P
3.6 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
3.6 (4.24.2)	Retinal blue light hazard	classified as RG1	P
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2....:		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
3.6 (4.25)	Mechanical hazard		P
	No sharp point or edges		P
3.6 (4.26)	Short-circuit protection		N/A
3.6 (4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
3.6 (4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
3.6 (4.27)	Terminal blocks with integrated screwless earthing contacts		N/A
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.6 (4.28)	Fixing of thermal sensing control		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material (°C).....:		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
3.6 (4.29)	Luminaires with non-replaceable light source		P
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		P
3.6 (4.30)	Luminaires with non-user replaceable light source		N/A
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	Minimum two fixing means		N/A
3.6 (4.31)	Insulation between circuits		P
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
3.6 (4.31.1)	SELV circuits		P
	Used SELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of SELV circuits from LV supply		P
	Insulating of SELV circuits from other non SELV circuits		N/A
	Insulating of SELV circuits from FELV		N/A
	Insulating of SELV circuits from other SELV circuits		N/A
	SELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter socket-outlets of other voltage systems		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
3.6 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage \leq ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
3.6 (4.31.3)	Other circuits		N/A
	Other circuits insulated from accessible parts according Table X.1		N/A
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3 of above		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A
3.6 (4.32)	Overvoltage protective devices		N/A
	Comply with IEC 61643-11		N/A
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A
3.6.1 (-)	At least IP X3 or X5 respectively. IP :	IP 65	P
	Column-integrated luminaires:		N/A
	- parts below 2,5 m. IP :		N/A
	- parts above 2,5 m. IP :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.6.2 (-)	Suspension on span wires		N/A
3.6.3 (-)	Means for attaching the luminaire or external parts to its support appropriate to the weight		N/A
3.6.3.1 (-)	Static load test		P
	- drag coefficient..... :	1,2	P
	- loaded area (m²)..... :	0,18	P
	- used load (N)..... :	357	P
	- measured deformation (cm/m) :	0	P
	- no rotation		P
3.6.4 (-)	Adjustable lampholders		N/A
3.6.5 (-)	Luminaires installed above 5 m, glass covers shall be:		P
	a) glass that fractures into small pieces (test according to 3.6.5.1), or		P
	b) glass having a high impact shock resistance (test according to 3.6.5.2), or		N/A
	c) protected by any means to retain glass fragments		N/A
	For tunnel luminaires 3.6.5.1 apply		N/A
	Method of protection declared by the manufacturer		N/A
3.6.5.1 (-)	Protection by the use of glass that fractures into small pieces		N/A
	- number of particles is more than 40..... :		N/A
3.6.5.2 (-)	Protection by the use of high impact resistant glass		N/A
3.6.5.2.1 (-)	Glass covers have high mechanical strength		N/A
	Test according IEC 62262 with test apparatus according IEC 60068-2-75 with impact energy of 5J on preconditioned sample		N/A
3.6.5.2.2 (-)	Glass covers not break into large pieces		N/A
	- test according 3.6.5.1, number of particles is more than 20..... :		N/A
3.6.6 (-)	Connection compartment of column-integrated luminaire		N/A
	- provides adequate space		N/A
	- means for attachment		N/A
	- means for attachment of metal corrosion-resistant		N/A
3.6.7 (-)	Compliance with ISO standard or other..... :		N/A
3.6.8 (-)	Doors of column-integrated luminaires:		N/A
	- corrosion-resistant		N/A
	- opening only possible for an authorized person		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- impact test 5 Nm		N/A
	- sample show no damage		N/A
3.6.9 (-)	Column-integrated luminaire:		N/A
	- dimension of the cable entry slot (mm)..... :		N/A
	- cable path from the slot to the connection compartment (mm)		N/A
	- cable path free from obstruction that might cause abrasion of the cable		N/A

3.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
3.7 (11.2)	Creepage distances and clearances	See Table 3.7 (11.2)	P
	Working voltage (V)	Output: SELV	—
	Rated pulse voltage (kV).....	N/A	—
	Voltage form	Sinusoidal <input type="checkbox"/> Non-sinusoidal <input checked="" type="checkbox"/>	—
	PTI	< 600 <input checked="" type="checkbox"/> ≥ 600 <input type="checkbox"/>	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II <input type="checkbox"/> - Category III <input type="checkbox"/>	—

3.8 (7)	PROVISION FOR EARTHING		P
3.8 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω	0,038	P
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Earth makes contact first		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		N/A
3.8 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
3.8 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
3.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
3.8 (7.2.6)	Earth terminal adjacent to mains terminals		P
3.8 (7.2.7)	Electrolytic corrosion of the earth terminal		P
3.8 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
3.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
3.8 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A
3.8.1 (-)	Attachment prevented from rotation		N/A
3.9 (14)	SCREW TERMINALS		P
	Separately approved; component list	(see Annex 1)	P
	Part of the luminaire	(see Annex 3)	N/A
3.9 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		P
	Separately approved; component list	(see Annex 1)	P
	Part of the luminaire	(see Annex 4)	N/A
3.10 (5)	EXTERNAL AND INTERNAL WIRING		P
3.10 (5.2)	Supply connection and external wiring		P
3.10 (5.2.1)	Means of connection.....	Terminal	P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV ≤ 25 V a.c./60 V d.c. or protected from outdoor environment		N/A
3.10 (5.2.2)	Type of cable.....		N/A
	Nominal cross-sectional area (mm ²).....		N/A
	Cables equal to IEC 60227 or IEC 60245		N/A
3.10 (5.2.3)	Type of attachment, X, Y or Z		N/A
3.10 (5.2.5)	Type Z not connected to screws		N/A
3.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
3.10 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
3.10 (5.2.9)	Locking of screwed bushings		N/A
3.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
3.10 (5.2.10.1)	Cord anchorage for type X attachment:		P
	a) at least one part fixed		P
	b) types of cable		P
	c) no damaging of the cable		P
	d) whole cable can be mounted		P
	e) no touching of clamping screws		P
	f) metal screw not directly on cable		P
	g) replacement without special tool		P
	Glands not used as anchorage		P
	Labyrinth type anchorages		N/A
3.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
3.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N): 60		P
	- torque test: torque (Nm).....: 0,25		P
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- function independent of electrical connection		P
3.10 (5.2.11)	External wiring passing into luminaire		N/A
3.10 (5.2.12)	Looping-in terminals		N/A
3.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
3.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
3.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
3.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
3.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
3.10 (5.3)	Internal wiring		P
3.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A)		N/A
	- temperatures	(see Annex 2)	N/A
	Green-yellow for earth only		P
3.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²)	1,0	P
	Insulation thickness		P
	Extra insulation added where necessary		N/A
3.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Adequate cross-sectional area and insulation thickness		N/A
3.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
3.10 (5.3.1.4)	Conductors without insulation		N/A
3.10 (5.3.1.5)	SELV current-carrying parts		P
3.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
3.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
3.10 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
3.10 (5.3.4)	Joints and junctions effectively insulated		N/A
3.10 (5.3.5)	Strain on internal wiring		N/A
3.10 (5.3.6)	Wire carriers		N/A
3.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
3.10.1 (-)	Cord anchorage if applicable		N/A
	- pull test: 25 times; pull (N) :		N/A
	- torque test: torque (Nm)..... :		N/A
3.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
3.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
3.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
3.11 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
3.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
3.11 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- touch current		N/A
	- no-load voltage.....		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage		N/A
3.11 (8.2.4)	Portable luminaire has protection independent of supporting surface		N/A
3.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
3.11 (8.2.6)	Covers reliably secured		P
3.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N/A
	Portable plug connected luminaire with capacitor		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A

3.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
3.12.2 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 3.13		—
3.12 (12.3)	Endurance test:		
	- mounting-position	Normal position	—
	- test temperature (°C)	35	—
	- total duration (h)	240	—
	- supply voltage: Un factor; calculated voltage (V) ...:	240: 1,1; 264	—
	- lamp used	LED module	—
3.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
3.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
3.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
3.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
3.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un		—
	- measured mounting surface temperature (°C) at 1,1 Un		N/A
	- calculated mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
3.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C).....:		N/A
	- track-mounted luminaires		N/A
3.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
3.12 (12.7.1)	Luminaire without temperature sensing control		N/A
3.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....:	See Table 3.15 (13.2.1)	N/A
3.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un		—
	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test.....:	See Table 3.15 (13.2.1)	N/A
3.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
3.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link.....: Yes <input type="checkbox"/> No <input type="checkbox"/>		—
	- manual reset cut-out.....: Yes <input type="checkbox"/> No <input type="checkbox"/>		—
	- auto reset cut-out: Yes <input type="checkbox"/> No <input type="checkbox"/>		—
	- case of abnormal conditions:		—
	- highest measured temperature of fixing point/ exposed part (°C):		—
	Ball-pressure test:.....:	See Table 3.15 (13.2.1)	N/A
3.12.1 (-)	Temperature reduction if for outdoor use only		N/A
3.12.2 (-)	(See above)		—
3.12.3 (-)	Glass covers used within the thermal limits declared by the glass manufacturer		N/A

3.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
3.13.1 (-)	If IP > IP 20 the order of tests as specified in clause 3.12		P
3.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		—
	- classification according to IP.....:	IP 65	—
	- mounting position during test.....:	as normal use	—
	- fixing screws tightened; torque (Nm).....:	2/3 torque	—
	- tests according to clauses:	9.2.2&9.2.6	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		P
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		P
	d) i) For luminaires without drain holes – no water entry		P
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		N/A
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		P
3.13 (9.3)	Humidity test 48 h		P
3.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
3.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø		—
	Insulation resistance (MΩ)	100	—
	SELV		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface	100 MΩ	P
	- between current-carrying parts and metal parts of the luminaire.....	100 MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV		P
	- between live parts of different polarity		N/A
	- between live parts and mounting surface	100 MΩ	P
	- between live parts and metal parts.....	100 MΩ	P
	- between live parts of different polarity through action of a switch.....		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
3.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V)	1480	P
	SELV		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface	500	P
	- between current-carrying parts and metal parts of the luminaire.....	500	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
	Other than SELV		P
	- between live parts of different polarity		N/A
	- between live parts and mounting surface	1480V	P
	- between live parts and metal parts.....	1480V	P
	- between live parts of different polarity through action of a switch.....		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts		N/A
	- Insulation bushings as described in Section 5		N/A
3.14 (10.3)	Touch current or protective conductor current (mA):	0,066	P

3.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
3.15 (13.2.1)	Ball-pressure test.....	See Test Table 3.15 (13.2.1)	P
3.15 (13.3.1)	Needle-flame test (10 s)	See Test Table 3.15 (13.3.1)	P
3.15 (13.3.2)	Glow-wire test (650°C).....	See Test Table 3.15 (13.3.2)	P
3.15 (13.4)	Proof tracking test (IEC 60112).....	See Test Table 3.15 (13.4)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.7 (11.2)	TABLES: Creepage distances and clearances						P
Table 11.1	Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages						
RMS working voltage (V) not exceeding	50	150	250	500	750	1000	
Creepage distances							
Required basic insulation, PTI \geq 600	0,6	0,8	1,5	3	4	5,5	
Measured							
Required basic insulation, PTI < 600	1,2	1,6	2,5	5	8	10	
L to N (LED model)			>2,5				
L/N to Enclosure (LED model)			>2,5				
Required supplementary insulation PTI \geq 600	-	0,8	1,5	3	4	5,5	
Measured							
Required supplementary insulation PTI < 600	-	1,6	2,5	5	8	10	
Measured							
Required reinforced insulation	-	3,2	5	6	8	11	
Measured							
Clearances							
Required basic insulation	0,2	0,8	1,5	3	4	5,5	
L to N (LED model)			>1,5				
L/N to Enclosure (LED model)			>1,5				
Required supplementary insulation	-	0,8	1,5	3	4	5,5	
Measured							
Required reinforced insulation	-	1,6	3	6	8	11	
Measured							
Table 11.2	Minimum distances (mm) for non-sinusoidal pulse voltages						
Rated pulse voltage (peak kV)	2,0	2,5	3,0	4,0	5,0	6,0	8,0
Required clearances	1,0	1,5	2	3	4	5,5	8
Measured							
Rated pulse voltage (peak kV)	10	12	15	20	25	30	40
Required clearances	11	14	18	25	33	40	60
Measured							
Rated pulse voltage (peak kV)	50	60	80	100	-	-	-
Required clearances	75	90	130	170	-	-	-
Measured							

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Clause	Requirement + Test	Result - Remark	Verdict

3.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm)		2	—	
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Screwless terminal	See CDF	125	1,12	
Supplementary information:				

3.15 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				P
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Screwless terminal	See CDF	10	No	0	P
Supplementary information:					

3.15 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)				P
Glow wire temperature		650°C		—	
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
PC cover	See CDF	60	No	0	P
Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....					Yes
Supplementary information:					

IEC 60598-2-3				
Clause	Requirement + Test	Result - Remark		Verdict
3.15 (13.4)	TABLE: Proof tracking test (IEC 60112)			N/A
Test voltage PTI		175 V		—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens		Verdict
Supplementary information:				

ANNEX 1 TABLE: Critical components information							P
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
See Construction Data form for electrical equipment and machinery.							
Supplementary information:							
¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. The codes above have the following meaning: 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							



IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12						P
	Type reference	SBN-LED803-250W					—
	Lamp used.....	LED module					—
	Lamp control gear used	Electronic LED driver					—
	Mounting position of luminaire.....	Normal position					—
	Supply wattage (W)	250,1					—
	Supply current (A).....	1,008					—
	Calculated power factor	0,977					—
	Table: measured temperatures corrected for $t_a = 25\text{ }^\circ\text{C}$:						
	- abnormal operating mode	N/A					—
	- test 1: rated voltage	240V~					—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	254,4V~					—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	N/A					—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....	N/A					—
	Through wiring or looping-in wiring loaded by a current of A during the test	N/A					—
Temperature measurements, ($^\circ\text{C}$)							
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Internal wire	25,0	-	57,3	-	90	-	-
LED driver tc	25,0	53,0	-	-	90	-	-
Power cord	25,0	-	37,5	-	90	-	-
Mounting surface	25,0	-	33,9	-	90	-	-
Terminal	25,0	-	40,5	-	110	-	-
Supplementary information:							

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P			
	Type reference	SBN-LED803-220W		—			
	Lamp used.....	LED module		—			
	Lamp control gear used	Electronic LED driver		—			
	Mounting position of luminaire.....	Normal position		—			
	Supply wattage (W)	213,5		—			
	Supply current (A).....	0,86		—			
	Calculated power factor	0,977		—			
	Table: measured temperatures corrected for $t_a = 25\text{ }^\circ\text{C}$:						
	- abnormal operating mode	N/A		—			
	- test 1: rated voltage	240V~		—			
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	254,4V~		—			
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	N/A		—			
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....	N/A		—			
	Through wiring or looping-in wiring loaded by a current of A during the test	N/A		—			
Temperature measurements, ($^\circ\text{C}$)							
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Internal wire	25,0	-	52,5	-	90	-	-
LED driver tc	25,0	57,2	-	-	90	-	-
Power cord	25,0	-	35,9	-	90	-	-
Mounting surface	25,0	-	34,1	-	90	-	-
Terminal	25,0	-	41,3	-	110	-	-
Supplementary information:							

IEC 60598-2-3							
Clause	Requirement + Test				Result - Remark		Verdict
ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12						P
	Type reference	SBN-LED803-40W				—	
	Lamp used.....	LED module				—	
	Lamp control gear used	Electronic LED driver				—	
	Mounting position of luminaire.....	Normal position				—	
	Supply wattage (W)	41,1				—	
	Supply current (A).....	0,177				—	
	Calculated power factor	0,914				—	
	Table: measured temperatures corrected for $t_a = 25\text{ }^\circ\text{C}$:						
	- abnormal operating mode	N/A				—	
	- test 1: rated voltage	240V~				—	
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	254,4V~				—	
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	N/A				—	
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....	N/A				—	
	Through wiring or looping-in wiring loaded by a current of A during the test	N/A				—	
Temperature measurements, ($^\circ\text{C}$)							
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Internal wire	25,0	-	45,2	-	90	-	-
LED driver tc	25,0	47.4	-	-	90	-	-
Power cord	25,0	-	35,5	-	90	-	-
Mounting surface	25,0	-	33,2	-	90	-	-
Terminal	25,0	-	39,8	-	110	-	-
Supplementary information:							

IEC 60598-2-3							
Clause	Requirement + Test				Result - Remark		Verdict
ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12						P
	Type reference	SBN-LED803-20W				—	
	Lamp used.....	LED module				—	
	Lamp control gear used	Electronic LED driver				—	
	Mounting position of luminaire.....	Normal position				—	
	Supply wattage (W)	23,5				—	
	Supply current (A).....	0,109				—	
	Calculated power factor	0,848				—	
	Table: measured temperatures corrected for $t_a = 25\text{ }^\circ\text{C}$:						
	- abnormal operating mode	N/A				—	
	- test 1: rated voltage	240V~				—	
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	254,4V~				—	
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage	N/A				—	
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....	N/A				—	
	Through wiring or looping-in wiring loaded by a current of A during the test	N/A				—	
Temperature measurements, ($^\circ\text{C}$)							
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Internal wire	25,0	-	40,6	-	90	-	-
LED driver tc	25,0	52,7	-	-	85	-	-
Power cord	25,0	-	32,6	-	90	-	-
Mounting surface	25,0	-	31,0	-	90	-	-
Screwless terminal	25,0	-	34,5	-	150	-	-
Supplementary information:							

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 3	Screw terminals (part of the luminaire)		N/A
(14)	SCREW TERMINALS		N/A
(14.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm ²).....:		—
(14.3.3)	Conductor space (mm).....:		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread)	M	N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm).....:		N/A
	Torque (Nm).....:		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N).....:		N/A
(14.4.8)	Without undue damage		N/A

ANNEX 4	Screwless terminals (part of the luminaire)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A

IEC 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples).....:		N/A
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples).....:		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples)		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples)		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
(15.6)	Terminals external wiring		N/A
	Terminal size and rating		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)		N/A
	Pull test pin or tab terminals (4 samples); pull (N)		N/A

IEC 60598-2-3											
Clause	Requirement + Test									Result - Remark	Verdict

(15.6.3.1)	TABLE: Contact resistance test										N/A
	Voltage drop (mV) after 1 h										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Voltage drop of two inseparable joints										
	Voltage drop after 10th alt. 25th cycle										
	Max. allowed voltage drop (mV)..... :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Voltage drop after 50th alt. 100th cycle										
	Max. allowed voltage drop (mV)..... :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Continued ageing: voltage drop after 10th alt. 25th cycle										
	Max. allowed voltage drop (mV)..... :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Continued ageing: voltage drop after 50th alt. 100th cycle										
	Max. allowed voltage drop (mV)..... :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
Supplementary information:											



Appendix 1 National deviation			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60598-2-3
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**

Luminaires
Part 2: Particular requirements
Section 3: Luminaires for road and street lighting

Differences according to..... : EN 60598-2-3:2003 + A1:2011 used in conjunction with
EN 60598-1:2015

Annex Form No...... : EU_GD_IEC60598_2_3J

Annex Form Originator..... : OVE

Master Annex Form..... : 2015-04

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	CENELEC COMMON MODIFICATIONS (EN)	P
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3.5 (3)	MARKING	N/A
3.5 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package	N/A

3.6 (4)	CONSTRUCTION	N/A
3.6 (4.11.6)	Electro-mechanical contact systems	N/A

3.10 (5)	EXTERNAL AND INTERNAL WIRING	P
3.10 (5.2.1)	Connecting leads	N/A
	- without a means for connection to the supply	N/A
	- terminal block specified	N/A
	- relevant information provided	N/A
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1	N/A
3.10 (5.2.2)	Cables equal to EN 50525	P
	Replace table 5.1 – Supply cord	P

3.12 (12)	ENDURANCE TESTS AND THERMAL TESTS	N/A
3.12 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring	N/A

Appendix 1 National deviation			
Clause	Requirement + Test	Result - Remark	Verdict

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(4.5.1)	DK: socket-outlets		N/A
(5.2.1)	CY, DK, FI, GB: type of plug		N/A
13 (14)	FAULT CONDITIONS		P
13.2	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		P
	During the tests, tissue paper, spread below module, does not ignite		P

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N/A
	FR: Safety requirements for high buildings (Arrêté du 30 décembre 2011 portant règlement de sécurité pour la construction des immeubles de grande hauteur et leur protection contre les risques d'incendie et de panique; Section VIII; Article GH 48, Eclairage) Glow-wire test for outer parts of luminaires:		N/A
	- 850°C for luminaires in stairways and horizontal travel paths		N/A
	- 650°C for indoor luminaires		N/A
	GB: Requirements according to United Kingdom Building Regulation		N/A

Appendix 2 Requirements of EN 62031:2008/A1:2013+A2:2015			
Clause	Requirement + Test	Result - Remark	Verdict
6	CLASSIFICATION		P
	Built-in module	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Independent module.....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Integral module	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	For Integral module; Note to 1.2.1 in IEC 60598-1 applies.		—
13 (14)	FAULT CONDITIONS		P
13.2	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		P
	During the tests, tissue paper, spread below module, does not ignite		P
14	TABLE: tests of fault conditions		P
Part	Simulated fault		Hazard
LED Module	150%overload		YES/NO
LEDs	Short-circuit. No fire, no smoke, no flammable material.		YES/NO

Appendix 3 Requirements of EN 62471: 2008			
Clause	Requirement + Test	Result - Remark	Verdict

Table 6.1 Emission limits for risk groups of continuous wave lamps									P
Risk	Action spectrum	Symbol	Units	Emission Measurement					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	E_s	$W \cdot m^{-2}$	0,001	$1,4 \times 10^{-6}$	-	-	-	-
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	$1,5 \times 10^{-4}$	-	-	-	-
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	7,9	10000	--	4000000	--
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*	N/A ($\alpha=0,045$ rad)	1,0	--	400	--
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	$7,1 \times 10^3$	$28000/\alpha$	--	$71000/\alpha$	--
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000 $0,0017 \leq \alpha \leq 0,011$	--				
				$6000/\alpha$ $0,011 \leq \alpha \leq 0,1$	26				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0	0	--	3200	--

Appendix 3 Requirements of EN 62471: 2008			
Clause	Requirement + Test	Result - Remark	Verdict

Table 6.1	Emission limits for risk groups of continuous wave lamps	P
*	Small source defined as one with $\alpha < 0,011$ radian. Averaging field of view at 10000 s is 0,1 radian.	
**	Involves evaluation of non-GLS source	
NOTE	The action functions: see Table 4.1 and Table 4.2	
	The applicable aperture diameters: see 4.2.1	
	The limitations for the angular subtenses: see 4.2.2	
	The related measurement condition 5.2.3 and the range of acceptance angles: see Table 5.5.	

Appendix 5: Requirements of EN 62493: 2015			
Clause	Requirement + Test	Result - Remark	Verdict
7	MEASUREMENT INFORMATION FLOW		P
7.1	Basic flow		P
	'Law of conservation of luminance' applied		P
	Use of only true luminance/radiance values		P
	In case of luminaire: The light source is operated in the luminaire under similar conditions as when tested as a component		P
	In case E_{thr} value for RG2 was established the peak value was derived from angular light distribution		N/A
7.2	Conditions for the radiance measurement		P
	Standard condition applied (200mm distance, 0,011rad field of view)		P
	Non-standard condition applied		P
7.3	Special cases (I): Replacement by a lamp or LED module of another type		N/A
	Light source is a white light source		N/A
	Evaluation done based on highest luminance		N/A
	Evaluation done based on CCT value		N/A
7.4	Special cases (II): Arrays and clusters of primary light sources		N/A
	LED package is evaluated as	<input type="checkbox"/> RG0 unlimited <input type="checkbox"/> RG1 unlimited	N/A
	E_{thr} of LED package applies to array		N/A
8	RISK GROUP CLASSIFICATION		P
	Risk group achieved:		P
	-.. Risk Group 0 unlimited		N/A
	-.. Risk Group 1 unlimited		P
	- E_{thr} (lx) : Distance to reach RG1 (m) :		N/A

Appendix 5: Requirements of EN 62493: 2015			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE: Spectroradiometric measurement (LUXEON 3030 2D)			P	
	Measurement performed on:	<input type="checkbox"/> LED package <input type="checkbox"/> LED module <input type="checkbox"/> Lamp <input checked="" type="checkbox"/> Luminaire		
	Model number	SBN-LED803-250W		
	Test voltage (V)	240	—	
	Test current (mA)	1008	—	
	Test frequency (Hz)	50/60	—	
	Ambient, t (°C)	25	—	
	Measurement distance	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	—	
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small: mm	—	
	Field of view	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	—	
Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	K	6026	
x/y colour coordinates			/	
Blue light hazard radiance	L _B	W/(m ² •sr ¹)	2173	
Blue light hazard irradiance	E _B	W/m ²	0,1669	
Luminance	L	cd/m ²	2,65 x 10 ⁶	
Illuminance	E	lx	36491	
Supplementary information:				

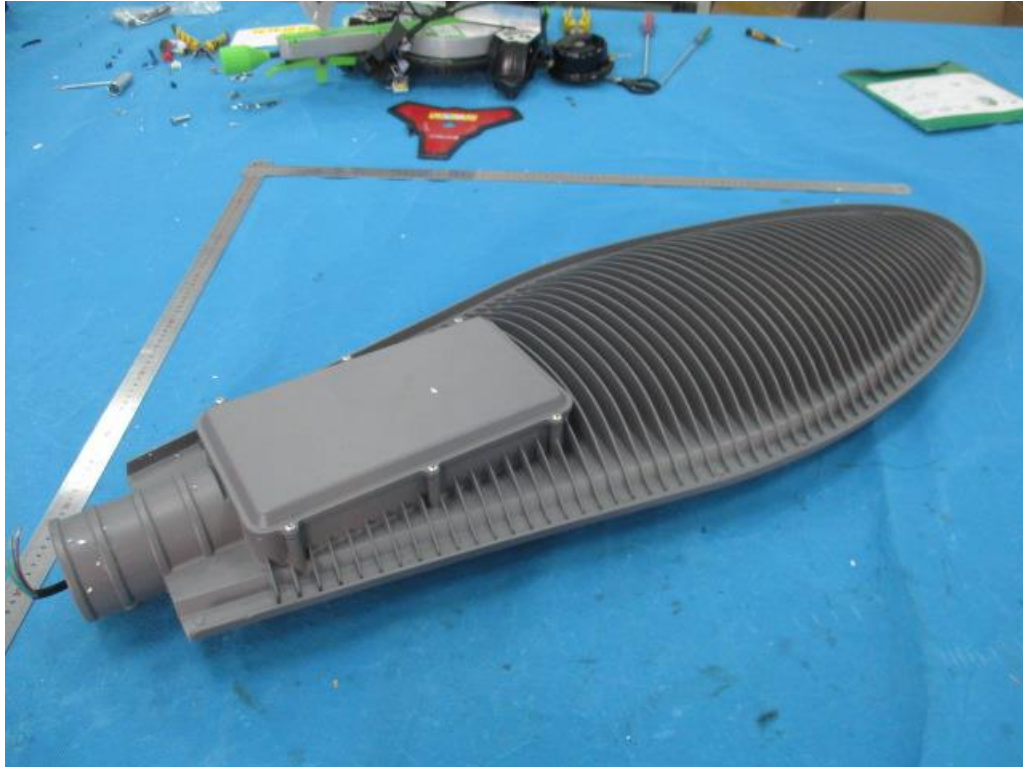
Appendix 5: Requirements of EN 62493: 2015			
Clause	Requirement + Test	Result - Remark	Verdict
4	LIMITS		P
4.1	General		P
	Comply with Van der Hoofden test limit in 4.2.3 or inherently compliant in 4.2.2 and pass assessment procedure for intentional radiators in 4.3		
4.2	Unintentional radiating part of lighting equipment		P
4.2.2	Lighting equipment deemed to comply with the Van der Hoofden test without testing		P
	1) electronic controlgear	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	2) incandescent-lamp technology	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	3) LED-light-source technology	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	4) OLED-light-source technology	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	5) high-pressure discharge lamp LED-light-source technologies	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	6) low-pressure discharge lamp technologies with exposure distance ≥ 50 cm	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	7) independent auxiliary	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Not fulfil any of 1-7 above subject to 4.2.3		—
4.2.3	Applications of limits		N/A
	Not fulfil any of 1-7 in 4.2.2 but the compliance factor F is ≤ 1		N/A
4.3	Intentional radiating part of lighting equipment		N/A
	Comply with one of methods in Clause 7 if intentional radiator		N/A

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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SBN-LED803-250W; SBN-LED803-240W; SBN-LED803-220W; SBN-LED803-200W



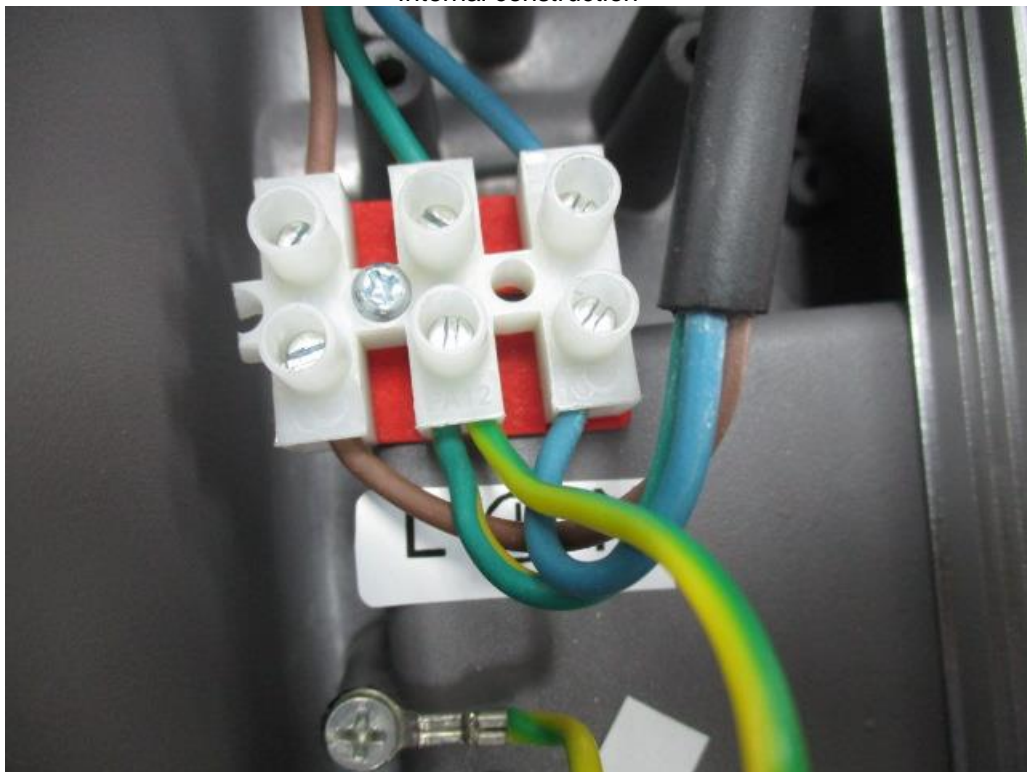
Back-side

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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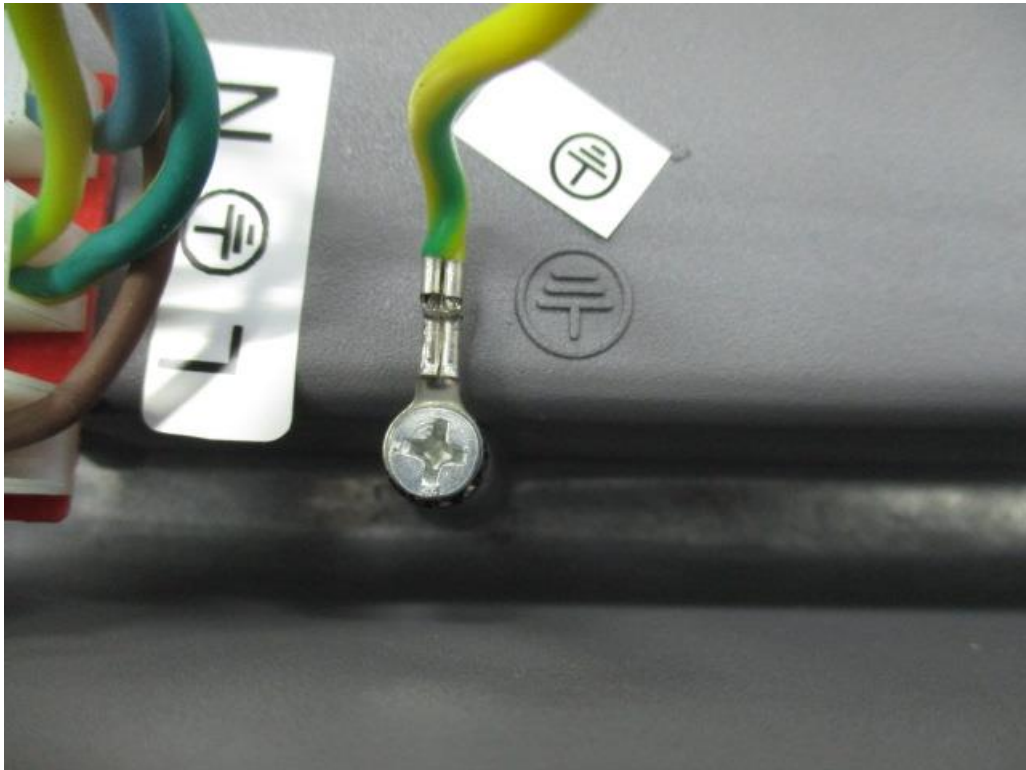
Internal construction



Terminal block

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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Earthing screw



LED driver

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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LED module



SBN-LED803-180W; SBN-LED803-160W; SBN-LED803-150W

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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SBN-LED803-120W; SBN-LED803-100W; SBN-LED803-80W



SBN-LED803-60W; SBN-LED803-50W; SBN-LED803-40W;
SBN-LED803-30W; SBN-LED803-20W

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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SBN-LED802-240W; SBN-LED802-200W



SBN-LED802-180W; SBN-LED802-150W

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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SBN-LED802-30W; SBN-LED802-40W; SBN-LED802-50W; SBN-LED802-60W
SBN-LED802-80W; SBN-LED802-100W; SBN-LED802-120W



SBN-LED801-200W; SBN-LED801-180W; SBN-LED801-160W; SBN-LED801-150W

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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SBN-LED801-100W



SBN-LED801-90W; SBN-LED801-80W

Appendix 6: Photograph

Clause	Requirement + Test	Result - Remark	Verdict
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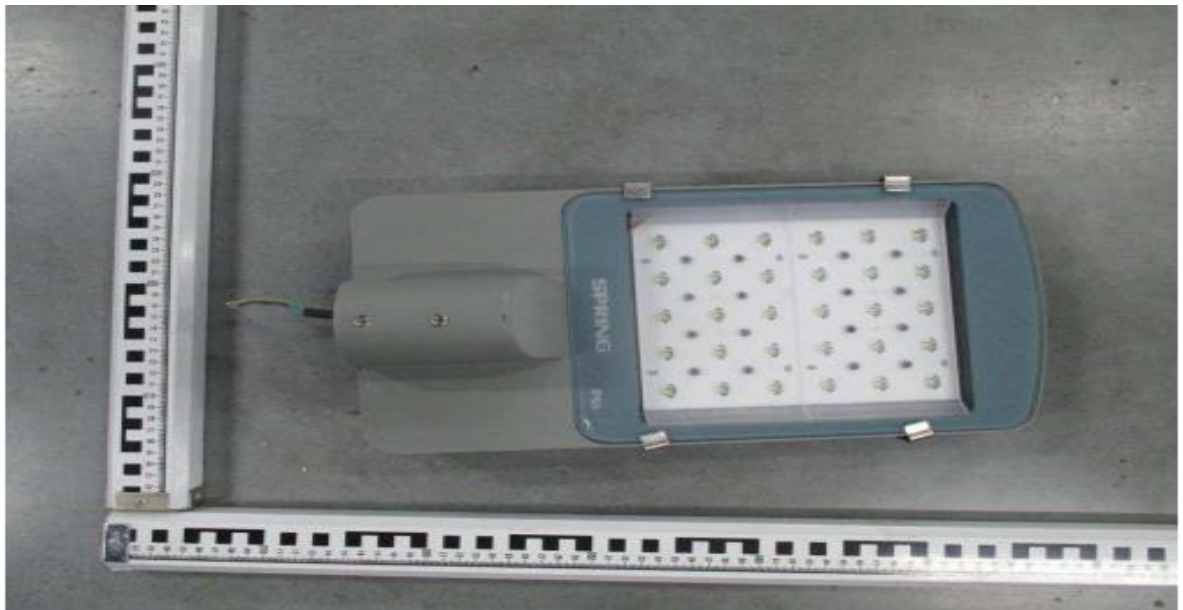


SBN-LED801-60W; SBN-LED801-50W; SBN-LED801-45W



SBN-LED801-30W

Appendix 6: Photograph			
Clause	Requirement + Test	Result - Remark	Verdict



SBN-LED801-20W