



CE LVD TEST REPORT

For

LED Strip

Model No.: PS-5050L-60C, PS-5050L-30C, PS-3528L-60C, PS-3528L-120C,
PS-3014L-60C, PS-3014L-120C, PS-2835L-60C, PS-2835L-30C,
PS-5730L-60C, PS-5730L-30C

Applicant : Shenzhen Juxinghui Opto-Electronics CO., LTD

4F, Block6, Hongxin Industrial Zone, Guangang Road, Guanlan
Town, Baoan District, Shenzhen City, China

Manufacturer : Shenzhen Juxinghui Opto-Electronics CO., LTD

4F, Block6, Hongxin Industrial Zone, Guangang Road, Guanlan
Town, Baoan District, Shenzhen City, China

Issued By : Global-Standard Testing Service Co., Ltd.

Room 1911-1914, Noble Plaza, Qian Jin 1st Road,
Bao An district, Shenzhen, Guangdong, China.

Tel : +86 755 33863599

Email : gstslab@gstslab.com



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Note:

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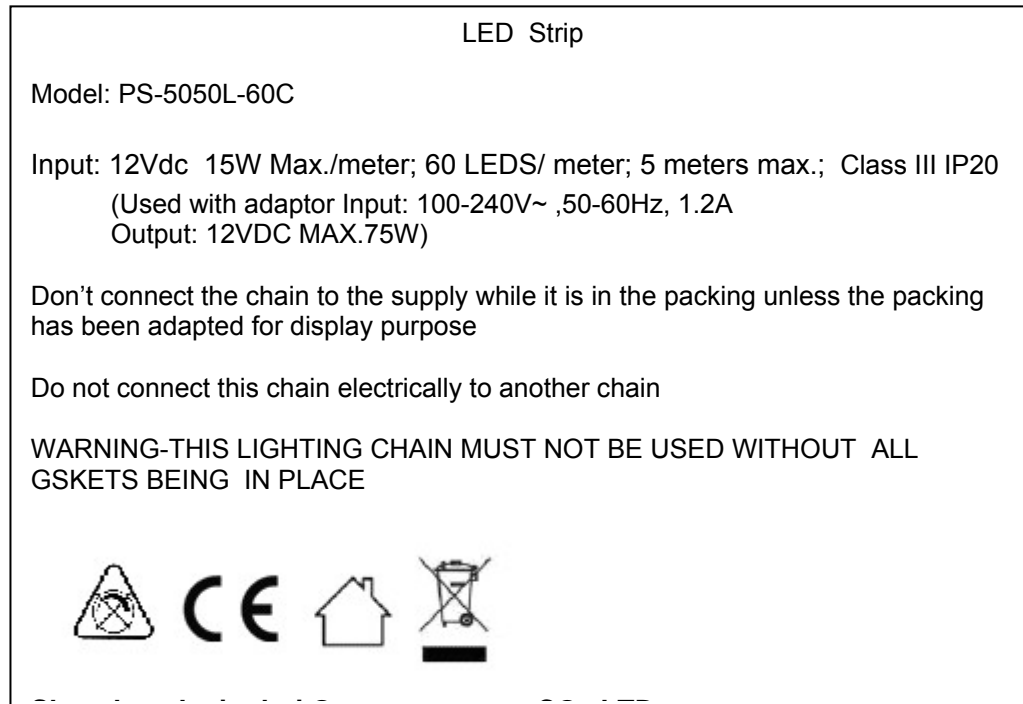
TEST REPORT	
EN 60598-1:2008+A11:2009	
Luminaires—Part 1 :General requirements and tests	
EN 60598-2-20:2010	
Luminaires—Part 2-20 : Particular requirements - Lighting chains	
Report reference No.:	M00.02.0072S
Testing laboratory	Global-Standard Testing Service Co., Ltd.
Location.....:	Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District, Shenzhen, Guangdong, China.
Applicant.....:	Shenzhen Juxinghui Opto-Electronics CO., LTD
Address:.....:	4F, Block6, Hongxin Industrial Zone, Guangang Road, Guanlan Town, Baoan District, Shenzhen City, China
Manufacturer.....:	Shenzhen Juxinghui Opto-Electronics CO., LTD
Address:.....:	4F, Block6, Hongxin Industrial Zone, Guangang Road, Guanlan Town, Baoan District, Shenzhen City, China
Standards.....:	EN 60598-1:2015 EN 60598-2-20:2015 EN 62031:2008+A1:2013+A2:2015 EN 62471:2008 EN 62493:2015
Procedure deviation.....:	N/A
Type of test equipment	LED Strip
Trade mark.....:	N/A
Model/Type designation.....:	PS-5050L-60C, PS-5050L-30C, PS-3528L-60C, PS-3528L-120C, PS-3014L-60C, PS-3014L-120C, PS-2835L-60C, PS-2835L-30C, PS-5730L-60C, PS-5730L-30C
Rating.....:	Input: 12Vdc 15W Max./meter; 60 LEDS/ meter; 5 meters max.; Class III IP20 (Used with adaptor Input: 100-240V~ ,50-60Hz, 1.2A Output: 12VDC MAX.75W)
Operating Condition	Continuous
Class of equipment	N/A
Protection against ingress of water	IP20

<p>General remarks:</p>	
<p>“(see remark #)” refers to a remark appended to the report.</p> <p>“(see appended table)” refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>Until otherwise specified, all tests are done under normal ambient condition $25^{\circ}\text{C}\pm 10^{\circ}\text{C}$, Max RH: 75% and air pressure of 860 mbar to 1060 mbar.</p>	<p>Attached with:</p> <p>Annex 1: List of critical components Annex 2: temperature measurements Annex 3: screwless terminals Annex 4: Photo Documents</p>
<p>Brief description of the test sample: The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. “(See Enclosure #)” refers to additional information appended to the report. “(See appended table)” refers to a table appended to the report. Throughout this report a comma (point) is used as the decimal separator.</p> <p>Clause numbers between brackets refer to clauses in IEC 60598-1</p> <p>The LED Strip with different power depended on LED numbers and LED power and has different installation shape.</p> <p>All tests were performed by model PS-5050L-60C to represent the other models.</p> <p>To prevent excessive heating, maximal two sections of the LED Strip may cross or run parallel. Never mount the LED Strip onto sharp objects or surfaces. Never fasten the LED Strip with sharp or engraving mediums.</p> <p>The European standard EN 62471 for LED laser product requirement has considered.</p> <p>the Safety specifications of LED modules for general lighting was evaluated with reference to EN 62031.</p> <p>The maximum ambient was 40°C.</p> <p>The adapter is approved by CE according to EN 61347-2-13 and EN 61347-1</p>	

Possible test case verdicts : test case does not apply to the test object N(/A.) test object does meet the requirement P(ass) test object does not meet the requirement F(ail)	
Name and address of the testing laboratory : Global-Standard Testing Service Co., Ltd. Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District, Shenzhen, Guangdong, China.	
Tested by : <u> Peter Chen </u> Signature	<u> March 12, 2017 </u> Date
<u> Peter Chen / Engineer </u> Name/title	
Reviewed by : <u> Sean Xiao </u> Signature	<u> March 17, 2017 </u> Date
<u> Sean Xiao / Supervisor </u> Name/title	
Approved by : <u> Tim Sun </u> Signature	<u> March 17, 2017 </u> Date
<u> Tim Sun / Manager </u> Name/title	



Copy of marking plate



Note: Due to similarity of the labels, only above label was listed.

EN 60598-2-20			
Clause	Requirement + Test	Result - Remark	Verdict
20.3 (0)	GENERAL TEST REQUIREMENTS		P
20.3 (0.1)	Information for luminaire design considered	Standard Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
20.3 (0.3)	More sections applicable	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
20.5 (2)	CLASSIFICATION		P
20.5 (2.2)	Type of protection (Class 0 excluded)	Class III	—
20.5 (2.3)	Degree of protection (Requirement: Ordinary)	IP20	—
20.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
	Luminaire not suitable for direct mounting on normally flammable surfaces	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
20.5 (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"/>	—
20.5.1	Class II or Class III	Class III	P
20.5.2	Chain for outdoor use shall be Rain-proof, splash-proof, jet-proof or watertight		N/A
20.6 (3)	MARKING		P
20.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
20.6 (3.3)	Additional information		P
	Language of instructions	English	P
20.6 (3.3.1)	Combination luminaires		N/A
20.6 (3.3.2)	Nominal frequency in Hz		N/A
20.6 (3.3.3)	Operating temperature		P
20.6 (3.3.4)	Symbol or warning notice		N/A
20.6 (3.3.5)	Wiring diagram		N/A
20.6 (3.3.6)	Special conditions		N/A
20.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
20.6 (3.3.8)	Limitation for semi-luminaires		N/A
20.6 (3.3.9)	Power factor and supply current		P
20.6 (3.3.10)	Suitability for use indoors		P
20.6 (3.3.11)	Luminaires with remote control		N/A
20.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
20.6 (3.3.13)	Specifications of protective shields		N/A
20.6 (3.3.14)	Symbol for nature of supply	dc	P
20.6 (3.3.15)	Rated current of socket outlet		N/A
20.6 (3.3.16)	Rough service luminaire		N/A
20.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Z	N/A
20.6 (3.3.18)	Non-ordinary luminaires with PVC cable		P
20.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
20.6 (3.3.20)	Provided with information if not intended to be mounted within arms reach		P

EN 60598-2-20			
Clause	Requirement+ Test	Result - Remark	Verd.

20.6 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
20.6.1 (-)	Adequate marking		P
20.6.2 (-)	Marking on the chain		P
20.6.3 (-)	Marking of fused lamps		N/A

20.7 (4)	CONSTRUCTION		P
20.7 (4.2)	Components replaceable without difficulty		N/A
20.7 (4.3)	Wireways smooth and free from sharp edges		P
20.7 (4.4)	Lampholders		N/A
20.7 (4.4.1)	Integral lampholder		N/A
20.7 (4.4.2)	Wiring connection		N/A
20.7 (4.4.3)	Lampholder for end-to-end mounting		N/A
20.7 (4.4.4)	Positioning		N/A
	- pressure test (N)		N/A
	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)		N/A
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
20.7 (4.4.5)	Peak pulse voltage		N/A
20.7 (4.4.6)	Centre contact		N/A
20.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
20.7 (4.4.8)	Lamp connectors		N/A
20.7 (4.4.9)	Caps and bases correctly used		N/A
20.7 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
20.7 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
20.7 (4.7)	Terminals and supply connections		N/A
20.7 (4.7.1)	Contact to metal parts		N/A
20.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
20.7 (4.7.3)	Terminals for supply conductors		N/A
20.7 (4.7.3.1)	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A

EN 60598-2-20			
Clause	Requirement+ Test	Result - Remark	Verd.
	- 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
20.7 (4.7.4)	Terminals other than supply connection		N/A
20.7 (4.7.5)	Heat-resistant wiring/sleeves		P
20.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N	Recognized	N/A
20.7 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with 61058-1 for electronic switches		N/A
20.7 (4.9)	Insulating lining and sleeves		P
20.7 (4.9.1)	Retainment		P
	Method of fixing.....:		P
20.7 (4.9.2)	Insulated linings and sleeves		P
	Resistant to a temperature > 20 °C to the wire temperature or		P
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C).....:		P
20.7 (4.10)	Insulation of Class II luminaires		P
20.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
20.7 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
20.7 (4.10.3)	Retainment of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		N/A
20.7 (4.11)	Electrical connections		P
20.7 (4.11.1)	Does not apply see 20.7.4 below		—
20.7 (4.11.2)	Does not apply see 20.7.4 below		—
20.7 (4.11.3)	Does not apply see 20.7.4 below		—
20.7 (4.11.4)	Material of current-carrying parts		P
20.7 (4.11.5)	No contact to wood or mounting surface		N/A
20.7 (4.11.6)	Does not apply see 20.7.4 below		—
20.7 (4.12)	Mechanical connections and glands		N/A

EN 60598-2-20			
Clause	Requirement+ Test	Result - Remark	Verd.
20.7 (4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part		N/A
	Torque test: torque (Nm); part		N/A
	Torque test: torque (Nm); part		N/A
20.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
20.7 (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
20.7 (4.12.5)	Screwed glands; force (Nm)		N/A
20.7 (4.13)	Mechanical strength		P
20.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)		N/A
	- other parts; energy (Nm)	Enclosure: 0.7Nm	P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		P
20.7 (4.13.3)	Straight test finger	30N	P
20.7 (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
20.7 (4.13.6)	Tumbling barrel		N/A
20.7 (4.14)	Suspensions and adjusting devices		N/A
20.7 (4.14.1)	Mechanical load:		N/A
	A) four times the weight		N/A
	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
20.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		N/A
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		N/A
	Bending moment (Nm) of semi-luminaire		N/A
20.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles		N/A

EN 60598-2-20			
Clause	Requirement+ Test	Result - Remark	Verd.

	- strands broken		N/A
	- electric strength test afterwards		N/A
20.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
20.7 (4.14.5)	Guide pulleys		N/A
20.7 (4.14.6)	Strain on socket-outlets		N/A
20.7 (4.15)	Flammable materials:		N/A
	- glow-wire test 650 °C		N/A
	- spacing \geq 30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		N/A
	- thermal protection		N/A
	- electronic circuits exempted		N/A
20.7 (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
20.7 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	P
20.7 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
20.7 (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
20.7 (4.16.3)	Design to satisfy the test of 12.6	(see 12.6)	P
20.7 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
20.7 (4.18)	Resistance to corrosion:		N/A
20.7 (4.18.1)	- rust-resistance		N/A
20.7 (4.18.2)	- season cracking in copper		N/A
20.7 (4.18.3)	- corrosion of aluminium		N/A
20.7 (4.19)	Ignitors compatible with ballast		N/A
20.7 (4.20)	Rough service vibration		N/A
20.7 (4.21)	Protective shield:		N/A
20.7 (4.21.1)	Shield fitted		N/A
	Shield of glass if tungsten halogen lamps		N/A
20.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
20.7 (4.21.3)	No direct path		N/A
20.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment		N/A
20.7 (4.22)	Attachments to lamps		N/A

EN 60598-2-20			
Clause	Requirement+ Test	Result - Remark	Verd.
20.7 (4.23)	Semi-luminaires comply Class II		N/A
20.7 (4.24)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N/A
20.7 (4.25)	No sharp point or edges		P
20.7 (4.26)	Short-circuit protection:		N/A
20.7 (4.26.1)	Uninsulated accessible SELV parts		N/A
20.7 (4.26.2)	Short-circuit test		N/A
20.7 (4.26.3)	Test chain according to Figure 29		N/A
20.7.1 (-)	Lampholders comply with IEC 60238 or IEC 61184 or this part 2 (See EN Modification)		N/A
20.7.3 (-)	See 20.7 (4.7) above		—
	Reliable electrical contact over the service life		N/A
20.7.4 (-)	Only 4.11.4 and 4.11.5 of 4.11 apply		—
20.7.5 (-)	Gasket weather resistant		N/A
20.7.6 (-)	Mechanical strength requirements (See EN Modification)		N/A
20.7.7 (-)	Rated voltage not exceed the requirements		P
20.7.8 (-)	Series-connected lamps with bridging-resistors comply with the requirements of protection against electrical shock and fire		N/A
20.7.9 (-)	Flasher units forming an integral part of the chain enclosed in non-flammable insulating material and securely fixed to the cable		P
20.7.11 (-)	Lampholders for replaceable push-in lamps of insulating material	Non-replaceable	N/A
20.7.12 (-)	Torque test of push-in lamps: torque 0,025 Nm (See EN Modification)		N/A
20.7.13 (-)	Pull test 3 N on push-in lamps		N/A
	Push in force for push-in lamps (N)		N/A
	Pull out force for push-in lamps (N)		N/A
	Pull test 10 N for non-replaceable lamps		N/A
	Tests repeated after ageing 2h in 120°C		N/A
	Pull test 3 N on push-in lamps		N/A
	Push in force for push-in lamps (N).		N/A
	Pull out force for push-in lamps (N)		N/A
	Pull test 10 N for non-replaceable lamps		N/A
20.7.14 (-)	Sealed chains:		P
	- pull test: force 60 N		P
	- torque test: torque 0,15 Nm		P
	- cylinder 250 mm		P
20.7.15 (-)	Impact test 0,2 Nm on:		P
	- non-removable lamps		P
	- non-standardized and parallel connected lamps		P
20.7.16 (-)	Control device comply with this standard and IEC 61347-2-11		P

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Clause	Requirement+ Test	Result - Remark	Verd.

20.8 (11)	CREEPAGE DISTANCES AND CLEARANCES		N/A
	Working voltage (V)	12V	—
	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 checked="" type="checkbox"/> Category III <input checked="" type="checkbox"/>	—
	Rated pulse voltage (kV).....		—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm).....		N/A
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....		N/A
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm).....		N/A
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm).....		N/A
	(5) Not used		—
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....		N/A

3.

20.10 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 3)	N/A

20.11	EXTERNAL AND INTERNAL WIRING		P
20.11 (5.2)	Supply connection and external wiring		P
20.11 (5.2.1)	Means of connection.....		P
20.11 (5.2.2)	See 20.11.1 below		—
20.11 (5.2.3)	Type of attachment, X, Y or Z	Type Z	P
20.11 (5.2.5)	Type Z not connected to screws		P
20.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
20.11 (5.2.7)	Cable entries through rigid material have rounded edges		P
20.11 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		P
20.11 (5.2.9)	Locking of screwed bushings		N/A
20.11 (5.2.10)	Cord anchorage:		P

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Clause	Requirement+ Test	Result - Remark	Verd.

	- 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
20.11 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
20.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Z	P
20.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)		P
	- torque test: torque (Nm).....		P
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
20.11 (5.2.11)	External wiring passing into luminaire		P
20.11 (5.2.12)	Looping-in terminals		N/A
20.11 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
20.11 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
20.11 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Appliance couplers of class II type		N/A
20.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
20.11 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		P
20.11 (5.3)	Internal wiring		N/A

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Clause	Requirement+ Test	Result - Remark	Verd.
20.11 (5.3.1)	Internal wiring of suitable size and type		N/A
	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		N/A
20.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²)		P
	Insulation thickness		P
	Extra insulation added where necessary		P
20.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
20.11 (5.3.1.3)	Double or reinforced insulation for class II		N/A
20.11 (5.3.1.4)	Conductors without insulation		N/A
20.11 (5.3.1.5)	SELV current-carrying parts		P
20.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
20.11 (5.3.2)	Sharp edges etc.		N/A
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
20.11 (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
20.11 (5.3.4)	Joints and junctions effectively insulated		N/A
20.11 (5.3.5)	Strain on internal wiring		P
20.11 (5.3.6)	Wire carriers		N/A
20.11 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
20.11.1 (-)	Type of cable		N/A
	Nominal cross-sectional area (mm ²).....:		N/A
	Cables not lighter than IEC 60227 or IEC 60245		N/A
	Conductors without insulation in sealed lighting chains in compliance with 5.3.1 of IEC 60598-1		N/A

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Clause	Requirement+ Test	Result - Remark	Verd.

20.11.2 (-)	Pull test on single-core cable		N/A
20.11.3 (-)	Plug according IEC 83		N/A
	Splash-proof plug or permanent connection if for outdoor use		N/A
	Length of the cable between the plug and first lampholder not less than 1,5 m		N/A

20.12 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
20.12 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		N/A
	Basic insulated parts not accessible with standard test finger on portable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, within arms reach, on wall-mounted luminaires		N/A
	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
20.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
20.12 (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
20.12 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
20.12 (8.2.3.c)	Class III luminaires with exposed SELV parts:		P
	Ordinary luminaire:		P
	- touch current		P
	- no-load voltage		P
	Other than ordinary luminaire:		N/A

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Clause	Requirement+ Test	Result - Remark	Verd.

	- nominal voltage		N/A
20.12 (8.2.4)	Portable luminaire:		P
	- protection independent of supporting surface		P
	- terminal block completely covered		N/A
20.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
20.12 (8.2.6)	Covers reliably secured		N/A
20.12 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A
20.12.1 (-)	Protection against electric shock shall be at least equivalent to required for chain with E10 lampholders		N/A
	Divisible plug in compliance with Figure 1		N/A
	Parts of the connector do not separate with a pull force of 10 N		N/A
	Metal parts of lampholders and cap of bayonet lamps checked with the standard test finger in IEC 60529		N/A
	Not possible to touch contact piece of plug incorporating means for disconnecting with the standard test finger in IEC 60529		N/A
20.12.2 (-)	Not electrify tinsel or other metallic decorations		N/A
20.12.3 (-)	Lampholder contacts reliably secured		N/A

20.13 (12)	ENDURANCE TEST AND THERMAL TEST		P
20.13 (12.3)	Endurance test:		P
	- mounting-position		—
	- test temperature ($^{\circ}\text{C}$)		—
	- total duration (h).....	240h	—
	- supply voltage: Un factor; calculated voltage (V):	1.1xrated voltage	—
	- lamp used	LED	—
20.13 (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
20.13 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
20.13 (12.5)	Thermal test (abnormal operation)		N/A
20.13 (12.6)	Thermal test (failed lamp control gear condition):		N/A

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Clause	Requirement+ Test	Result - Remark	Verd.
20.13 (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
20.13 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions		—
	- 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
20.13 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
20.13 (12.7.1)	Luminaire without temperature sensing control		N/A
20.13 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex V		—
	Test according to 12.7.1.1:		
	- 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 V:		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:		N/A
	- part tested; temperature (°C).....		N/A
	- part tested; temperature (°C).....		N/A
20.13 (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.....		—

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Clause	Requirement+ Test	Result - Remark	Verd.

	- calculated temperature of fixing point/exposed part (°C)		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C).....		N/A
	- part tested; temperature (°C).....		N/A
20.13 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
20.13 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link	Yes <input type="checkbox"/> No <input checked="" 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:		N/A
	- part tested; temperature (°C).....		N/A
	- part tested; temperature (°C).....		N/A
20.13.3 (-)	Lamp bridging not cause temperature which impair safety		N/A

20.14 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
20.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP	IP20	—
	- mounting position during test.....		—
	- fixing screws tightened; torque (Nm).....		—
	- tests according to clauses		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		P
	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
	g) no trace of water on part of lamp requiring protection from splashing water		N/A

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Clause	Requirement+ Test	Result - Remark	Verd.

	h) no damage of protective shield or glass envelope		N/A
20.14 (9.3)	Humidity test 48 h		P

20.15 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
20.15 (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)		—
	SELV:		P
	- between current-carrying parts of different polarity	>100 MΩ	P
	- between current-carrying parts and mounting surface	>100 MΩ	P
	- between current-carrying parts and metal parts of the luminaire		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
	Other than SELV:		N/A
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		N/A
	- between live parts and metal parts		N/A
	- 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
20.15 (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):		P
	SELV:		P
	- between current-carrying parts of different polarity	500VAC	P
	- between current-carrying parts and mounting surface	500VAC	P
	- between current-carrying parts and metal parts of the luminaire		N/A

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Clause	Requirement+ Test	Result - Remark	Verd.

	- 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:		N/A
	- between live parts of different polarity		N/A
	- between live parts and mounting surface		N/A
	- between live parts and metal parts		N/A
	- 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
20.15 (10.3)	Touch current (mA)	<0.5mA	P

20.16 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
20.16 (13.2.1)	Ball-pressure test:		P
	- part tested; temperature (°C)	PCB	N/A
	- part tested; temperature (°C)		N/A
	- part tested; temperature (°C)		N/A
	- part tested; temperature (°C)		N/A
20.16 (13.3.1)	Needle flame test (10 s):		N/A
	- part tested	PCB	N/A
	- part tested		N/A
20.16 (13.3.2)	Glow-wire test (650°C):		N/A
	- part tested		N/A
	- part tested		N/A
20.16 (13.4.1)	Tracking test:		N/A
	- part tested		N/A
	- part tested		N/A
20.16 (-)	Flexible pipes of sealed chain in compliance with clause 8 of IEC/EN 60811-3-1 (See EN Modification)	13mm rope diameter, 4h, 17%	N/A

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Clause	Requirement+ Test	Result - Remark	Verd.

Annex 1	Table: List of critical components	P
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Component	manufacturers / trademark	Type / model	Value / rating	standard	Approval/ Reference
Adapter	TEC	--	Input: 100-240V~ ,50-60Hz, 1.2A Output: 12VDC MAX.75W	EN 61347-1, EN61347-2-13	Approvde by CE
Wire	--	--	20AWG, VW-1, 300V, T80		UL
LED	Linhai Dongcheng Ridong	--	3V, 0.02A	IEC 60598 IEC 60825	Intertek (JSH007050679-001)

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Clause	Requirement+ Test	Result - Remark	Verd.

ANNEX 2: temperature measurements, thermal tests of Section 12	P
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Type reference	PS-5050L-60C	—
Lamp used.....	LED lamp	—
Lamp control gear used.....		—
Mounting position of luminaire.....	random	—
Supply wattage (W)		—
Supply current (A).....		—
Calculated power factor.....		—
Table: measured temperatures corrected for $t_a = 40\text{ }^\circ\text{C}$:		P
- abnormal operating mode		—
- test 1: rated voltage.....		—
- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	1,06 times rated voltage	—
- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....		—
- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....		—
Through wiring or looping-in wiring loaded by a current of A during the test		—

temperature ($^\circ\text{C}$) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Illuminated surface		42.6		90		
Wire		49,8		90		
PCB under LED		58.4		90		
PCB under resistor		58.5		90		

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Clause	Requirement+ Test	Result - Remark	Verd.

	ANNEX 3: screwless terminals (part of the luminaire)	N/A
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(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
(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
(15.5.2)	Permanent connections: pull-off test (20 N)	N/A
(15.6)	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



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Clause	Requirement+ Test	Result - Remark	Verd.

	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:										N/A
(15.7)	Terminals external wiring										N/A
	Terminal size and rating										N/A
(15.8.1)	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
(15.9)	Contact resistance test										N/A
	Voltage drop (mV) after 1 h										N/A
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											
	Voltage drop of two inseparable joints										N/A
	Voltage drop after 10th alt. 25th cycle										N/A
	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										N/A
	Max. allowed voltage drop (mV).....:										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											N/A
	Continued ageing: voltage drop after 10th alt. 25th cycle										N/A
	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										N/A
	Max. allowed voltage drop (mV).....:										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)											

Annex 4: Photo Documents

<p>Photo 1</p> <p>View:</p> <p><input checked="" type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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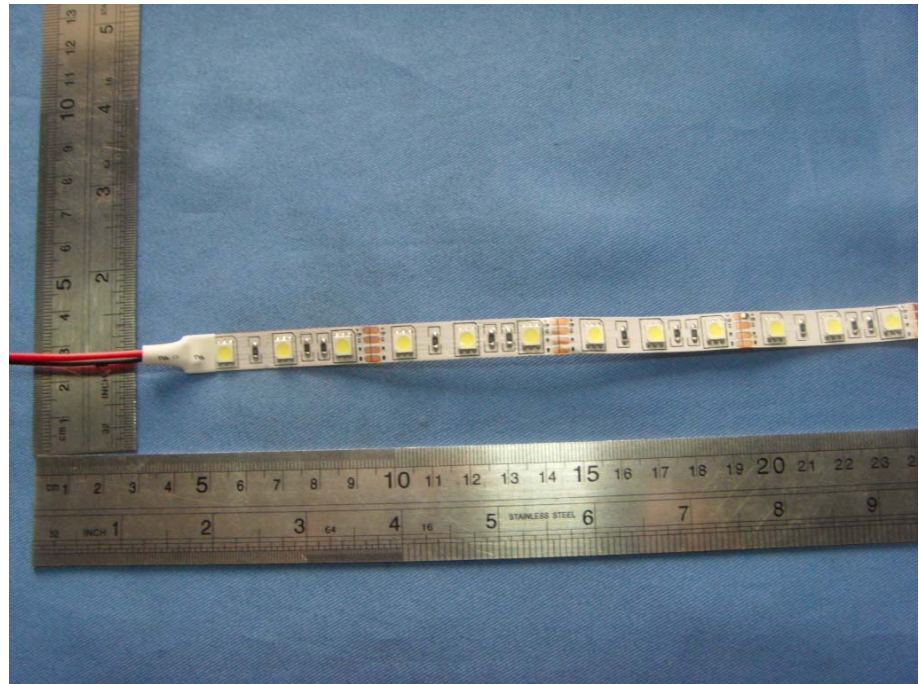
<p>Photo 2</p> <p>View:</p> <p><input checked="" type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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Photo 3

View:

- Front
- Rear
- Right side
- Left side
- Top
- Bottom
- Internal



---End---