



Test Report issued under the responsibility of:
Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch

TEST REPORT
IEC 60598-2-6
Luminaires
Part 2: Particular requirements:
Section Six – Luminaires with built-in transformers or convertors for
filament lamps

Report Reference No.: 130105060GZU-002

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CB Testing Laboratory: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Address: Block E, No.7-2 Guang Dong Software Science Park, Caipin Road,
Guangzhou Science City, GETDD, Guangzhou, China

Applicant's name: Eaglerise Electric & Electronic (China) Co., Ltd.

Address: Guicheng Sci-Tech Industrial Park, Jianping Road, Nanhai District,
Foshan City, Guangdong Province, P. R. China

Test specification:

Standard: IEC 60598-2-6:1994+A1:1996 used in conjunction with
IEC 60598-1:2008

EN 60598-2-6:1994+A1:1997 used in conjunction with
EN 60598-1:2008+A11: 2009

Test procedure: Additional requirements of independent LED driver for LED

Non-standard test method: N/A

Test Report Form No.: IEC60598_2_6A

Test Report Form(s) Originator: Intertek Semko AB


Master TRF: 2008-12

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Test item description :	a.c. supplied electronic controlgear for LED modules (LED driver)
Trade Mark	
Manufacturer..... :	Same as applicant
Model/Type reference..... :	ELP036C****LSD1
	Remark: The 1 st to 4 th “*” indicate the output current of LED driver; can be replaced by “0500” to “1000” and increasing in multiplies of 100. “0500” means 500 mA; “1000” means 1000 mA.
Ratings..... :	Input: 220-240 VAC; 50/60 Hz; 0,21 A; Class II; IP 20; SELV; ta 50 °C; tc 80 °C; Independent type; 110 °C thermal protection; Inherently short-circuit proof; Output: Constant current type; MM mark; Suitable for direct mounting on normally flammable surfaces; Other parameters refer to appendix for model list.

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB Testing Laboratory:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Testing location/ address	Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
<input type="checkbox"/> Associated CB Laboratory:	
Testing location/ address	
Tested by (name + signature).....	Julia Hu <i>Julia Hu</i>
Approved by (+ signature)	Shelley Ying <i>Shelley Ying</i>
<input type="checkbox"/> Testing procedure: TMP	
Tested by (name + signature).....	—
Approved by (+ signature)	—
Testing location/ address	
<input type="checkbox"/> Testing procedure: WMT	
Tested by (name + signature).....	—
Witnessed by (+ signature)	—
Approved by (+ signature)	—
Testing location/ address	
<input type="checkbox"/> Testing procedure: SMT	
Tested by (name + signature).....	—
Approved by (+ signature)	—
Supervised by (+ signature).....	—
Testing location/ address	
<input type="checkbox"/> Testing procedure: RMT	
Tested by (name + signature).....	—
Approved by (+ signature)	—
Supervised by (+ signature).....	—
Testing location/ address	

Summary of testing:

The tested samples fulfilled the requirements of specified standards.

All models had the same mechanical structure, output load, PCB layout; the only deference is the parameters for the components used in secondary circuit. Model ELP036C1000LSD1 was selected to do the full tests as its maximum secondary output current. Models ELP036C0700LSD1; ELP036C0500LSD1 were also selected to do abnormal conditions test and construction check.

Tests performed (name of test and test clause):

- 6.5 Marking
- 6.6 Construction
- 6.7 Creepage distances and clearance
- 6.9 Terminals
- 6.10 External and internal wiring
- 6.11 Protection against electric shock
- 6.12 Endurance tests and thermal tests
- 6.13 Resistance to dust and moisture
- 6.14 Insulation resistance and electric strength
- 6.15 Resistance to heat, fire and tracking

Testing location:

Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China

Summary of compliance with National Differences:

Not checked.

Copy of marking plate

Please refer to report: 130105060GZU-001



Test item particulars:	
Classification of installation and use.....:	Independent; Class II; for use with LED
Supply Connection.....:	Terminal blocks
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.....:	26 Dec. 2012
Date (s) of performance of tests.....:	26 Dec. 2012 to 21 Mar. 2013
General remarks:	
<p>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 is used as the decimal separator. Clause numbers between brackets refer to clauses in IEC 60598-1 When determining for test conclusion, measurement uncertainty of tests has been considered. This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program. The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid. The clause which indicated with * is the subcontract test item.</p> <p>This report shall be used with 130105060GZU-001. This report is totally 29 pages; Page 1-27 is test report, page 28 is model list, and page 29 is product photos. Manufacturer site: Eaglerise Electric & Electronic (China) Co., Ltd. Address: Guicheng Sci-Tech Industrial Park, Jianping Road, Nanhai District, Foshan City, Guangdong Province, P. R. China.</p>	
General product information:	
The products covered by this report are Class II; independent; SELV; LED drivers.	

IEC 60598-2-6

Clause	Requirement + Test	Result - Remark	Verdict
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6.2 (0)	GENERAL TEST REQUIREMENTS		—
6.2 (0.1)	Information for luminaire design considered	Standard EN 62471 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
64.2 (0.3)	More sections applicable.....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

6.4 (2)	CLASSIFICATION		—
6.4 (2.2)	Type of protection (Class 0 excluded)	Class II	—
6.4 (2.3)	Degree of protection (Requirement: Ordinary)	IP20	—
6.4 (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"/>	—
6.4 (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"/>	—

6.5 (3)	MARKING		P
6.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
6.5 (3.3)	Additional information		P
	Language of instructions		P
6.5 (3.3.1)	Combination luminaires		N/A
6.5 (3.3.2)	Nominal frequency in Hz	50/60	P
6.5 (3.3.3)	Operating temperature		P
6.5 (3.3.4)	Symbol or warning notice		N/A
6.5 (3.3.5)	Wiring diagram		N/A
6.5 (3.3.6)	Special conditions		N/A
6.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
6.5 (3.3.8)	Limitation for semi-luminaires		N/A
6.5 (3.3.9)	Power factor and supply current		P
6.5 (3.3.10)	Suitability for use indoors		N/A
6.5 (3.3.11)	Luminaires with remote control		N/A
6.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
6.5 (3.3.13)	Specifications of protective shields		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.5 (3.3.14)	Symbol for nature of supply		N/A
6.5 (3.3.15)	Rated current of socket outlet		N/A
6.5 (3.3.16)	Rough service luminaire		N/A
6.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
6.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
6.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
6.5 (3.3.20)	Provided with information if not intended to be mounted within arms reach		N/A
6.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
6.5.1 (-)	Rated voltage		P
6.5.2 (-)	Output voltage visible during lamp replacement		P
6.5.3 (-)	Warning notice		N/A
6.5.4 (-)	Marking on transformer or convertor		P
6.5.5 (-)	Fuse-link rating		N/A

6.6 (4)	CONSTRUCTION		P
6.6 (4.2)	Components replaceable without difficulty	Input and output wire	P
6.6 (4.3)	Wireways smooth and free from sharp edges		P
6.6 (4.4)	Lampholders		N/A
6.6 (4.4.1)	Integral lampholder		N/A
6.6 (4.4.2)	Wiring connection		N/A
6.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
6.6 (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

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict
6.6 (4.4.5)	Peak pulse voltage		N/A
6.6 (4.4.6)	Centre contact		N/A
6.4.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
6.6 (4.4.8)	Lamp connectors		N/A
6.6 (4.4.9)	Caps and bases correctly used		N/A
6.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
6.6 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
6.6 (4.7)	Terminals and supply connections		P
6.6 (4.7.1)	Contact to metal parts		P
6.6 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		N/A
6.6 (4.7.3)	Terminals for supply conductors		P
6.6 (4.7.3.1)	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- 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
6.6 (4.7.4)	Terminals other than supply connection		P
6.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
6.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
6.6 (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

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Clause	Requirement + Test	Result - Remark	Verdict
6.6 (4.9)	Insulating lining and sleeves		P
6.6 (4.9.1)	Retainment		P
	Method of fixing.....:	Insulation tape; fixed by structure	P
6.6 (4.9.2)	Insulated linings and sleeves		P
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C).....:		N/A
6.6 (4.10)	Insulation of Class II luminaires		P
6.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
6.6 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
6.6 (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
6.6 (4.11)	Electrical connections		P
6.6 (4.11.1)	Contact pressure		P
6.6 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
6.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
6.6 (4.11.4)	Material of current-carrying parts		P
6.6 (4.11.5)	No contact to wood or mounting surface		P
6.6 (4.11.6)	Electro-mechanical contact systems		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.6 (4.12)	Mechanical connections and glands		P
6.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part	Fixed enclosure screw: 0,5 Nm;	P
	Torque test: torque (Nm); part		N/A
	Torque test: torque (Nm); part		N/A
6.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
6.6 (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
6.6 (4.12.5)	Screwed glands; force (Nm)		N/A
6.6 (4.13)	Mechanical strength		P
6.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)		N/A
	- other parts; energy (Nm).....	Enclosure: 0,5 Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
6.6 (4.13.3)	Straight test finger		P
6.6 (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
6.6 (4.13.6)	Tumbling barrel		N/A
6.6 (4.14)	Suspensions and adjusting devices		N/A
6.6 (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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
6.6 (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
6.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
6.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
6.6 (4.14.5)	Guide pulleys		N/A
6.6 (4.14.6)	Strain on socket-outlets		N/A
6.6 (4.15)	Flammable materials:		P
	- glow-wire test 650 °C	Enclosure	P
	- 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
6.6 (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
6.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	P
6.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- spacing 10 mm		N/A
6.6 (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
6.6 (4.16.3)	Design to satisfy the test of 12.6	(see 12.6)	N/A
6.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
6.6 (4.18)	Resistance to corrosion:		P
6.6 (4.18.1)	- rust-resistance		N/A
6.6 (4.18.2)	- season cracking in copper		P
6.6 (4.18.3)	- corrosion of aluminium		N/A
6.6 (4.19)	Igniters compatible with ballast		N/A
6.6 (4.20)	Rough service vibration		N/A
6.6 (4.21)	Protective shield:		N/A
6.6 (4.21.1)	Shield fitted		N/A
	Shield of glass if tungsten halogen lamps		N/A
6.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
6.6 (4.21.3)	No direct path		N/A
6.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment		N/A
6.6 (4.22)	Attachments to lamps		N/A
6.6 (4.23)	Semi-luminaires comply Class II		N/A
6.6 (4.24)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N/A
6.6 (4.25)	No sharp point or edges		P
6.6 (4.26)	Short-circuit protection:		N/A
6.6 (4.26.1)	Uninsulated accessible SELV parts		N/A
6.6 (4.26.2)	Short-circuit test		N/A
6.6 (4.26.3)	Test chain according to Figure 29		N/A
6.6.1-3 (-)	Electrical safety output circuit		P

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Clause	Requirement + Test	Result - Remark		Verdict
6.7 (11)	CREEPAGE DISTANCES AND CLEARANCES			P
	Working voltage (V).....:	Primary: 220-240 VAC; Secondary: < 150 VDC		—
	Voltage form	Sinusoidal <input checked="" 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 type="checkbox"/>		—
	Rated pulse voltage (kV).....:	—		—
	Measured circuit.....:	Primary	Secondary	—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm).....:	Approval terminal block Current-carrying parts of different polarity in PCB: Cr.: 3,2 mm (limit: 2,5 mm); Cl.: 3,2 mm (limit: 1,5 mm)	Approval terminal block	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....:	Live parts in PCB and accessible parts: Cr.: 7,3 mm (limit: 5,0 mm); Cl.: 7,3 mm (limit: 3,0 mm)	Live parts in PCB and accessible parts: Cr.: 7,3 mm (limit: 3,2,mm); Cl.:7,3 mm (limit: 1,6 mm)	P
	(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).....:	Input wire clamped by cord anchorage to metal screw: Cr.: 6,0 mm (limit: 2,5 mm); Cl.: 6,0 mm (limit: 1,5 mm)	Output wire clamped by cord anchorage to metal screw: Cr.: 6,0 mm (limit: 1,6 mm); Cl.: 6,0 mm (limit: 0,8 mm)	P

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Clause	Requirement + Test	Result - Remark		Verdict
	(5) Not used	---	---	N/A
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....:	Live parts in PCB and supporting surface: Cr.: 7,3 mm (limit: 5,0 mm); Cl.: 7,3 mm (limit: 3,0 mm);	Live parts in PCB and supporting surface: Cr.: 7,3 mm (limit: 3,2 mm); Cl.: 7,3 mm (limit: 1,6 mm);	P
	Between transformer windings: cr (mm); cl (mm) .:			N/A

6.8 (7)	PROVISION FOR EARTHING		N/A
6.8 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Earth makes contact first		N/A
6.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N/A
6.8 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
6.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
6.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
6.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
6.8 (7.2.8)	Material of earth terminal		N/A
	Contact surface bare metal		N/A
6.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
6.8 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A
6.8.1 (-)	Metal shell of lampholders		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.8.2 (-)	Earthing of secondary circuit		N/A
6.8.3 (-)	Current path during operation		N/A
6.9 (14)	SCREW TERMINALS		P
	Separately approved; component list	Approval terminal block (see Annex 1)	P
	Part of the luminaire	(see Annex 3)	N/A
6.9 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 4)	N/A
6.10 (5)	EXTERNAL AND INTERNAL WIRING		P
6.10 (5.2)	Supply connection and external wiring		P
6.10 (5.2.1)	Means of connection	Terminal blocks	P
6.10 (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
6.10 (5.2.3)	Type of attachment, X, Y or Z		N/A
6.10 (5.2.5)	Type Z not connected to screws		N/A
6.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
6.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
6.10 (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
6.10 (5.2.9)	Locking of screwed bushings		N/A
6.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
6.10 (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
6.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
6.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)	Input: H03VVH2-F; 2 X 0,5~0,75 mm ² ; 60 N; Output: H03VVH2-F; 2 X 0,75~1,5 mm ² ; 60 N	P
	- torque test: torque (Nm).....	Input: H03VVH2-F; 2 X 0,5~0,75 mm ² ; 0,15 Nm; Output: H03VVH2-F; 2 X 0,75~1,5 mm ² ; 0,25 Nm	P
	- displacement ≤ 2 mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
6.10 (5.2.11)	External wiring passing into luminaire		N/A
6.10 (5.2.12)	Looping-in terminals		N/A
6.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
6.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
6.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Appliance couplers of class II type		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
6.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
6.10 (5.3)	Internal wiring		P
6.10 (5.3.1)	Internal wiring of suitable size and type	20 AWG	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		N/A
6.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm ²)		N/A
	Insulation thickness		N/A
	Extra insulation added where necessary		N/A
6.10 (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
6.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
6.10 (5.3.1.4)	Conductors without insulation		N/A
6.10 (5.3.1.5)	SELV current-carrying parts		N/A
6.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
6.10 (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
6.10 (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
6.10 (5.3.4)	Joints and junctions effectively insulated		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.10 (5.3.5)	Strain on internal wiring		N/A
6.10 (5.3.6)	Wire carriers		N/A
6.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P

6.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
6.11 (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 and adjustable luminaires		P
	Basic insulated parts not accessible with Ø 50 mm probe from outside, within arms reach, on wall-mounted luminaires		N/A
	Lampholder 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
6.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
6.11 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		N/A
6.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
6.11 (8.2.3.c)	Class III luminaires with exposed SELV parts:		N/A
	Ordinary luminaire:		N/A
	- touch current		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- no-load voltage		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage		N/A
6.11 (8.2.4)	Portable luminaire:		P
	- protection independent of supporting surface		P
	- terminal block completely covered		P
6.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
6.11 (8.2.6)	Covers reliably secured		P
6.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$	Max. 0,0443 μF	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

6.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
6.12 (12.3)	Endurance test:		P
6.12a (-)	- test voltage 1,1 Un (V)	264 V	—
6.12 (12.3)	- mounting-position.....	As normal use	—
	- test temperature (°C)	60 °C	—
	- total duration (h).....	240 h	—
	- supply voltage: Un factor; calculated voltage (V):	240 V x 1,1 = 264 V	—
	- lamp used	Simulated resistor and simulated diode	—
6.12 (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
6.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
6.12b (-)	- test voltage 1,06 Un (V)	1,06 x 240 V = 254,4 V	—
6.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P
6.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.12 (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
6.12 (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
6.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
6.12 (12.7.1)	Luminaire without temperature sensing control		N/A
6.12 (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:		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 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

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Clause	Requirement + Test	Result - Remark	Verdict
	- part tested; temperature (°C)		N/A
6.12 (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:		N/A
	- part tested; temperature (°C)		N/A
	- part tested; temperature (°C)		N/A
6.12 (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
6.12 (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:		N/A
	- part tested; temperature (°C)		N/A
	- part tested; temperature (°C)		N/A

6.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE	P
6.13 (9.2)	Tests for ingress of dust, solid objects and moisture:	P
	- classification according to IP	IP20
	- mounting position during test.....	As normal use
	- fixing screws tightened; torque (Nm)	0,33 Nm
	- tests according to clauses	Cl. 9.2.0
	- electric strength test afterwards	P

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	f) no contact with live parts (IP 2X)		P
	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
	h) no damage of protective shield or glass envelope		N/A
6.13 (9.3)	Humidity test 48 h	25 °C; 93% Rh	P

6.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
6.14 (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)		—
	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
	Other than SELV:		P
	- between live parts of different polarity	> 100 MΩ	P
	- 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
6.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):		N/A
	SELV:		P
	- between current-carrying parts of different polarity		N/A
	- between current-carrying parts and mounting surface	500 V	P
	- between current-carrying parts and metal parts of the luminaire.....	500 V	P
	Other than SELV:		P
	- between live parts of different polarity	1480 V	P
	- between live parts and mounting surface	2960 V	P
	- between live parts and metal parts	2960 V	P
	- between live parts of different polarity through action of a switch.....		N/A
6.14 (10.3)	Touch current (mA)	0,0061 mA peak (Limit: 0,7 mA peak)	P

6.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
6.15 (13.2.1)	Ball-pressure test:		P
	- part tested; temperature (°C)	Refer to report 130105060GZU-001	P
	- part tested; temperature (°C)		N/A
6.15 (13.3.1)	Needle flame test (10 s):		P
	- part tested	Refer to report 130105060GZU-001	P
	- part tested		N/A
6.15 (13.3.2)	Glow-wire test (650°C):		P
	- part tested	Refer to report 130105060GZU-001	P
	- part tested		N/A
6.15 (13.4.1)	Tracking test: part tested.....		N/A

	ANNEX 1: components (Refer to report 130105060GZU-001)	P
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Clause	Requirement + Test	Result - Remark	Verdict
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	ANNEX 2: temperature measurements, thermal tests of Section 12		P
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	Type reference.....	ELP036C1000LSD1	—
	Lamp used	Simulated resistor and simulated diode	—
	Lamp control gear used.....	ELP036C1000LSD1	—
	Mounting position of luminaire.....	Fixed as normal use in oven	—
	Supply wattage (W)	38,2 W	—
	Supply current (A).....	0,149 A	—
	Calculated power factor.....	0,981	—
	Table: measured temperatures corrected for $t_a = 50\text{ }^\circ\text{C}$:		P
	- abnormal operating mode	Short circuited output	—
	- test 1: rated voltage	1) $1,0 \times 240 = 240\text{ V}$	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	2) $1,06 \times 240 = 254,4\text{ V}$	—
	- 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.....	3) $1,1 \times 240=264\text{ V}$	—
	Through wiring or looping-in wiring loaded by a current of A during the test	—	—

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Clause	Requirement + Test	Result - Remark	Verdict

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4 [^]	limit
PVC insulation of wiring (input)	—	57	—	75	—	—
PVC insulation of wiring (output)	—	58	—	75	—	—
Terminal block (output)	—	67	—	T110	—	—
External enclosure (side, near T1 and D9)	67	67	—	T80	—	—
External enclosure (near C19)	60	60	—	T80	—	—
tc point	67	67	—	T80	—	—
Supports near T1	—	67	—	90	—	130
X2 capacitor (CX1)	—	72	—	T100	—	110
Varistor (RV2)	—	93	—	Ref.	—	—
Electrolyte capacitor (C10)	—	87	—	T105	—	115
Thermal link (SW)	—	99	—	T120	—	—
Internal wire	—	86	—	T125	—	—
Y1 capacitor (CY1)	—	84	—	T125	—	135
PCB under transformer (T1)	—	85	—	T130	—	—
Electrolyte capacitor (C19)	—	80	—	T105	—	115
Primary winding of transformer (T1)	—	95	—	120	—	175
Secondary winding of transformer (T1)	—	95	—	120	—	175
Bobbin of transformer (T1)	—	87	—	Ref.	—	—
Inner surface of enclosure (side, near T1)	—	77	—	Ref.	—	—

[^] Remark: As the tested LED driver was protected when LED driver's output terminal was short circuit, and the measured consumed power is less than 0,1 W, after a long and sufficient testing time, the temperature of all the required position for test sample which was mentioned in this clause will be decreased to ambient temperature and would be steady in ambient temperature.

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Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 3: screw terminals (part of the luminaire)		N/A
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(14)	SCREW TERMINALS		N/A
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	ANNEX 4: screwless terminals (part of the luminaire)		N/A
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(15)	SCREWLESS TERMINALS		N/A
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	CENELEC COMMON MODIFICATIONS (EN)		N/A
6.5 (3)	MARKING		N/A
6.5 (3.3.101)	Adequate warning on the package		N/A
6.10 (5)	EXTERNAL AND INTERNAL WIRING		N/A
6.10 (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
6.10 (5.2.2)	Cables equal to HD21 S2 or HD22 S2		N/A

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		Not checked
(3.3)	DK: power supply cord with label		Not checked
	IT: warning label on Class 0 luminaire		Not checked
(4.5.1)	DK: socket-outlets		Not checked
(5.2.1)	CY, DK, FI, SE, GB: type of plug		Not checked

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		Not checked
(4 & 5)	FR: Shuttered socket-outlets 10/16A		Not checked
(13.3)	GB: Requirements according to United Kingdom Building Regulation		Not checked



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Clause	Requirement + Test	Result - Remark	Verdict
(13.3.2)	FR: Glow-wire test 850°C alt. 750°C for luminaires in premises open to public or 960°C for luminaires in emergency exits		Not checked

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Appendix I: model list

No.	Model number	Input			Output		
		Voltage (VAC)	Current (A)	Frequency (Hz)	Constant current (mA)	Normal working voltage (VDC)	No load working voltage (VDC)
1	ELP036C1000LSD1	220-240	0,21	50/60	1000	20-35	45
2	ELP036C0900LSD1	220-240	0,21	50/60	900	22-40	50
3	ELP036C800LSD1	220-240	0,21	50/60	800	25-45	55
4	ELP036C0700LSD1	220-240	0,21	50/60	700	28-50	60
5	ELP036C0600LSD1	220-240	0,21	50/60	600	34-60	70
6	ELP036C0500LSD1	220-240	0,21	50/60	500	40-70	76