



DILU TECHNOLOGY (SHENZHEN) CO., LIMITED

CE LVD REPORT

Prepared For :	DILU TECHNOLOGY (SHENZHEN) CO., LIMITED 4/F, Building F, Zhongnangang Industry City, Sili Road, Guanlan Town, Baoan District, Shenzhen, China
Product Name:	LED FLUORESCENT TUBE
Model :	DT5W550, DT5W850, DT5W1150, DT10W60A, DT10W120A, DT10W150A, DT10W60B, DT10W120B, DT10W150B
Prepared By :	Shenzhen BST Technology Co., Ltd. 3F, Weames Technology Building, No. 10 Kefa Road, Science Park, Nanshan District, Shenzhen, Guangdong, China
Test Date:	Mar. 21, 2010 – Apr. 01, 2010
Date of Report :	Apr. 01, 2010
Report No.:	BST10033932501R-2

**TEST REPORT****EN 60598-1:2008+A11:2009****Luminaires****Part 1: General requirements and tests**

Testing Laboratory Name	Shenzhen BST Technology Co.,Ltd.
Address	3F,Weames Technology Building,No. 10 Kefa Road, Science Park,Nanshan District,Shenzhen,Guangdong,China
Testing location	Shenzhen BST Technology Co.,Ltd.
Applicant's Name	DILU TECHNOLOGY (SHENZHEN) CO., LIMITED
Address	4/F, Building F, Zhongnangang Industry City, Sili Road, Guanlan Town, Baoan District, Shenzhen, China
Manufacturer	DILU TECHNOLOGY (SHENZHEN) CO., LIMITED
Address	4/F, Building F, Zhongnangang Industry City, Sili Road, Guanlan Town, Baoan District, Shenzhen, China
Test specification	
Standard	EN 60598-1:2008+A11:2009
Procedure deviation	N/A
Non-standard test method	N/A
Test item description	LED FLUORESCENT TUBE
Trademark	N/A
Model and/or type reference	DT5W550, DT5W850, DT5W1150, DT10W60A, DT10W120A, DT10W150A, DT10W60B, DT10W120B, DT10W150B
Rating(s)	230V, 50Hz, 22W
Test case verdicts	
Test case does not apply to the test object	N/A
Test item does meet the requirement	P(ass)
Test item does not meet the requirement	F(ail)



General remarks

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Clause numbers between brackets refer to clauses in IEC 60 598-1 (EN 60 598-1)

Throughout this report a comma is used as the decimal separator.

Copy of marking plate:

Product: LED FLUORESCENT TUBE
Rated: 230V, 50Hz, 22W
Model: DT5W550



DILU TECHNOLOGY (SHENZHEN) CO., LIMITED



Name and address of the testing laboratory: Shenzhen BST Technology Co.,Ltd.
3F,Weames Technology Building,No. 10 Kefa Road,
Science Park,Nanshan District,Shenzhen,
Guangdong,China

Test by : _____
Signature Date

Technician
Title

Review by : _____
Signature Date

Project Engineer
Title

Approved by : _____
Signature Date

Christina/ Manager
Name and Title



EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
0	SCOPE		P
0.1	More sections applicable.....:	Yes [] No []	—
2	CLASSIFICATION		P
2.2	Type of protection.....:	Class II	—
2.3	Degree of protection.....:	IP20	—
2.4	Portable or handheld luminaire	No	—
	FIXED LUMINAIRE suitable for normally flammable surfaces	Yes	—
	FIXED LUMINAIRE suitable for non-combustible materials only	No	—
2.5	Luminaire for normal use	Yes	—
	Luminaire for rough service	No	—
3	MARKING		P
3.2	Mandatory markings		P
	Position of the marking	On the enclosure	P
	Format of symbols/text		P
3.3	Additional information		P
	Language of instructions	English	P
3.3.1	Combination luminaires		N
3.3.2	Nominal frequency in Hz	50Hz	P
3.3.3	Operating temperature		N
3.3.4	Symbol or warning notice		N
3.3.5	Wiring diagram		N
3.3.6	Special conditions		N
3.3.7	Metal halid lamp luminaire – warning		N
3.3.8	Limitation for semi-luminaires		N
3.3.9	Power factor and supply current		N
3.3.10	Suitability for use indoors		P
3.3.11	Luminaires with remote control		N
3.3.12	Clip-mounted luminaire – warning		N
3.3.13	Specifications of protective shields		N



EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
3.3.14	Symbol for nature of supply	~	P
3.3.15	Rated current of socket outlet		N
3.3.16	Rough service luminaire		N
3.3.17	Mounting instruction for type Y, type Z and some type X attachments		N
3.3.18	Non-ordinary luminaires with PVC cable		N
3.3.101	Terminal block supplied with luminaire		N
3.4	Test with water	15s with water	P
	Test with hexane	15s with hexane	P
	Legible after test	The marking is legible	P
	Label attached	The marking not be easily removable and shows no curling	P

4	CONSTRUCTION		P
4.2	Components replaceable without difficulty		P
4.3	Wireways smooth and free from sharp edges		P
4.4	Lampholders		N
4.4.1	Integral lampholder		N
4.4.2	Wiring connection		N
4.4.3	Lampholder for end-to-end mounting		N
4.4.4	Positioning		N
4.4.5	Peak pulse voltage		N
4.4.6	Centre contact		N
4.4.7	Rough service luminaires	Ordinary luminaires	N
4.4.8	Lamp connectors	No lamp connector provided	N
4.5	Starter holders		--
	Starter holder in luminaires other than class II		N
	Starter holder class II construction		N
4.6	Terminal blocks		--
	Tails		N
	Unsecured blocks		N
4.7	Terminals and supply connections		--
4.7.1	Contact to metal parts		N
4.7.2	Test 8 mm live conductor		N
	Test 8 mm earth conductor		N



EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
4.7.3	Terminals for supply conductors		N
4.7.4	Terminals other than supply connection		N
4.7.5	Heat-resistant wiring/sleeves		P
4.7.6	Multi-pole plug		N
4.8	Switches:		--
	- adequate rating		N
	- adequate fixing		N
	- polarized supply		N
4.9	Insulating lining and sleeves		--
4.9.1	Retention		P
	Method of fixing		P
4.9.2	Insulated linings and sleeves		P
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C)		P
4.10	Insulation of Class II luminaires		P
4.10.1	No contact, mounting surface - accessible metal parts - wiring of basic insulation		P
	Safe installation FIXED LUMINAIRES		P
	Capacitors		N
	Interference suppression capacitors according to IEC 60384-14	No such capacitor	N
4.10.2	Assembly gaps:		--
	- not coincidental		N
	- no straight access with test probe		N
4.10.3	Retention of insulation:		--
	- fixed	Cannot remove easily	P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		N
4.11	Electrical connections		--
4.11.1	Contact pressure	Not transmitted through insulating material	P
4.11.2	Screws:		--
	- self-tapping screws		N
	- thread-cutting screws		N
	- at least two self-tapping screws		N



EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
4.11.3	Screw locking:		N
	- spring washer		N
	- rivets		N
4.11.4	Material of current-carrying parts	At least 50% copper	P
4.11.5	No contact to wood	No wood material in the luminaires	N
4.11.6	Electro-mechanical contact systems	No such systems	N
4.12	Mechanical connections and glands		--
4.12.1	Screws not made of soft metal		N
	Screws of insulating material		N
	Torque test: torque (Nm); part.....:		N
4.12.2	Screws with diameter < 3 mm screwed into metal		N
4.12.4	Locked connections:		--
	- fixed arms; torque (Nm)		N
	- lampholder; torque (Nm)		N
	- push-button switches; torque 0,8 Nm		N
4.12.5	Screwed glands; force (N).....:		N
4.13	Mechanical strength		--
4.13.1	Impact tests:		--
	- fragile parts; energy (Nm)	0.2 Nm	P
	- other parts; energy (Nm).....:	Metal, 0.35Nm	P
	1) live parts	Not access	P
	2) linings		N
	3) protection	Continue to afford the degree of protection against ingress of dust, solid objects and moisture	P
	4) covers	No break	P
4.13.3	Straight test finger		P
4.13.4	Rough service luminaires		--
	a) fixed		N
	b) hand-held		N
	c) delivered with a stand		N
	d) for temporary installations and suitable for mounting on a stand		N
4.13.6	Tumbling barrel		N



EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
4.14	Suspensions and adjusting devices		--
4.14.1	Mechanical load:		--
	A) four times the weight		N
	B) torque 2,5 Nm		N
	C) bracket arm; bending moment (Nm)		N
	D) load track-mounted luminaires		N
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N
	Metal rod. Diameter (mm)		N
4.14.2	Load to flexible cables		--
	Mass (kg).....		N
	Stress in conductors (N/mm ²)		N
	Semi-luminaires – mass (kg)		N
	Semi-luminaires – bending moment (Nm)		N
4.14.3	Adjusting devices:		--
	- flexing test; number of cycles.....		N
	- strands broken		N
	- electric strength test afterwards		N
4.14.4	Telescopic tubes: cords not fixed to tube; no strain on conductors	No telescopic tubes	N
4.14.5	Guide pulleys	No guide pulleys	N
4.14.6	Strain on socket-outlets	No socket-outlet	N
4.15	Flammable materials:		--
	- glow-wire test 650 °C		P
	- spacing ≥ 30 mm		N
	- screen withstanding test of 13.3.1		N
	- screen dimensions		N
	- no fiercely burning material		N
	- thermal protection		N
	- electronic circuits exempted		N
4.15.2	Luminaires made of thermoplastic material with lamp control gear		--
	a) construction		N
	b) temperature sensing control		N
	c) surface temperature		N
4.16	Luminaires marked with F-symbol		--



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Cl.	Requirement – Test	Result	Verdict
	No lamp control gear		N
4.16.1	Lamp control gear spacing:		--
	- spacing 35 mm		N
	- spacing 10 mm		N
4.16.2	Thermal protection:		--
	- in lamp control gear		N
	- external		N
	- fixed position		N
	- temperature marked lamp control gear		N
4.17	Drain holes	Not protection against water	N
	Clearance at least 5 mm		N
4.18	Resistance to corrosion:		P
4.18.1	- rust-resistance		P
4.18.2	- season cracking in copper		P
4.18.3	- corrosion of aluminium		P
4.19	Igniters compatible with ballast		N
4.20	Rough service vibration..... :		N
4.21	Protective shield:		--
4.21.1	Shield fitted		N
4.21.2	Particles from a shattering lamp not impair safety		N
4.21.3	No direct path		N
4.21.4	Impact test on shield		N
	Glow-wire test on lamp compartment		N
4.22	Attachments to lamps	No attachments	N
4.23	Semi-luminaires comply class II		N
4.24	UV radiation		N
4.25	No sharp point or edges	No sharp points or edges	P
4.26	Short-circuit protection:		N
4.26.1	Uninsulated accessible SELV parts		N
4.26.2	Short-circuit test		N
4.26.3	Test chain according to IEC 61032		N
5	EXTERNAL AND INTERNAL WIRING		P
5.2	Supply connection and external wiring		--
5.2.1	Means of connection :		P



5.2.2	Type of cable		N
	Nominal cross-sectional area (mm ²)		N
5.2.3	Type of attachment, X, Y or Z		N
EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
5.2.5	Type Z not connected to screws		N
5.2.6	Cable entries:		--
	- suitable for introduction		N
	- adequate degree of protection		N
5.2.7	Cable entries through rigid material have rounded edges		N
5.2.8	Insulating bushings:		--
	- suitably fixed		N
	- material in bushings		N
	- tubes or guards made of insulating material		N
5.2.9	Locking of screwed bushings		N
5.2.10	Cord anchorage:		--
	- covering protected from abrasion		N
	- clear how to be effective		N
	- no mechanical or thermal stress		N
	- no tying of cables into knots etc.		N
	- insulating material or lining		N
5.2.10.1	Cord anchorage for type X attachment:		--
	a) at least one part fixed		N
	b) types of cable		N
	c) no damaging of the cable		N
	d) whole cable can be mounted		N
	e) no touching of clamping screws		N
	f) metal screw not directly on cable		N
	g) replacement without special tool		N
	Glands not used as anchorage		N
	Labyrinth type anchorages		N
5.2.10.2	Adequate cord anchorage for type Y and type Z attachment		N
5.2.10.3	Tests:		--
	- impossible to push cable; unsafe		N
	- pull test: 25 times; pull (N).....:		N



	- torque test: torque (Nm)		N
	- displacement \leq 2 mm		N
	- no movement of conductors		N
	- no damage of cable or cord		N
EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
5.2.11	External wiring passing into luminaire		N
5.2.12	Looping-in terminals		N
5.2.13	Wire ends not tinned		N
	Wire ends tinned: no cold flow		N
5.2.14	Mains plug same protection		N
	Class III luminaire plug		N
5.2.15	Colour code low voltage		N
5.2.16	Appliance inlets (IEC 60320)		N
	Appliance couplers of class II type		N
5.3	Internal wiring		P
5.3.1	Internal wiring of suitable size and type		P
	Through wiring		--
	- not delivered/ mounting instruction		N
	- factory assembled		N
	- socket outlet loaded (A)		N
	- temperatures		N
	Green-yellow for earth only		N
5.3.1.1	Internal wiring connected directly to fixed wiring		--
	Cross-sectional area (mm ²).....		N
	Insulation thickness		N
	Extra insulation added where necessary		N
5.3.1.2	Internal wiring connected to fixed wiring via internal current-limiting device		--
	Adequate cross-sectional area and insulation thickness		N
5.3.1.3	Double or reinforced insulation for class II		P
5.3.1.4	Conductors without insulation		N
5.3.1.5	SELV current-carrying parts		N
5.3.1.6	Insulation thickness other than PVC or rubber		N
5.3.2	Sharp edges etc.		P
	No moving parts of switches etc.		N



	Joints, raising/lowering devices		N
	Telescopic tubes etc.		N
	No twisting over 360°		P
5.3.3	Openings		N
	Bushings not removable		N
EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
	Bushings in sharp openings		N
	Cables with protective sheath		N
5.3.4	Joints and junctions effectively insulated		N
5.3.5	Strain on internal wiring		N
5.3.6	Wire carriers		N
5.3.7	Wire ends not tinned		N
	Wire ends tinned: no cold flow		N

7	PROVISION FOR EARTHING		N
7.2.1 + 7.2.3	Accessible metal parts		N
	Metal parts in contact with supporting surface		N
	Resistance < 0,5 Ω		N
	Two self-tapping screws used		N
	Thread-forming screws		N
	Connector earthing first		N
7.2.2 + 7.2.3	Earth continuity in joints etc.		N
7.2.4	Locking of clamping means		N
	Compliance with 4.7.3		N
7.2.5	Earth terminal integral part of connector socket		N
7.2.6	Earth terminal adjacent to mains terminals		N
7.2.7	Electrolytic corrosion of the earth terminal		N
7.2.8	Material of earth terminal		N
	Contact surface bare metal		N
7.2.10	Class II luminaire for looping-in		N
7.2.11	Earthing core coloured green-yellow		N
	Length of earth conductor		N

8	PROTECTION AGAINST ELECTRIC SHOCK		P
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8.2.1	Live parts not accessible	No access of live part in normal use	P
	Protection in any position		P
	Double-ended tungsten filament lamp		N
	Insulation lacquer not reliable	No insulation lacquer and similar materials as protection against electric shock	P

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Cl.	Requirement – Test	Result	Verdict
	Double-ended high pressure discharge lamp		N
8.2.2	Portable luminaire adjusted in most unfavourable position		N
8.2.3	Class II luminaire:		--
	- basic insulated metal parts not accessible during starter or lamp replacement		N
	- basic insulation not accessible other than during starter or lamp replacement		N
	- glass protective shields not used as supplementary insulation		N
	Class I luminaire with BC lampholder		N
8.2.4	Portable luminaire:		--
	- protection independent of supporting surface		N
	- terminal block completely covered		N
8.2.6	Covers reliably secured		N
8.2.7	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N
	Portable plug connected luminaire with capacitor		N
	Other plug connected luminaire with capacitor		N
	Discharge device on or within capacitor		N
	Discharge device mounted separately		N

9	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
9.2	Tests for ingress of dust, solid objects and moisture:		--
	- classification according to IP.....:	IP20	—
	- mounting position during test.....:		—
	- fixing screws tightened; torque (Nm)		—
	- tests according to clauses.....:		—
	- electric strength test afterwards		N
	a) no deposit in dust-proof luminaire		N
	b) no talcum in dust-tight luminaire		N



	c) no trace of water on current-carrying parts or where it could become a hazard		N
	d) i) For luminaires without drain holes – no water entry		N
	d) ii) For luminaires with drain holes – no hazardous water entry		N
	e) no water in watertight luminaire		N
	f) no contact with live parts (IP 2X)		N
EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
	f) no entry into enclosure (IP 3X and IP 4X)		N
9.3	Humidity test 48 h	R.H.:93% T:25	P

10	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
10.2.1	Insulation resistance test		--
	Insulation resistance (MΩ):		--
	SELV:		N
	- between current-carrying parts of different polarity		N
	- between current-carrying parts and mounting surface		N
	- between current-carrying parts and metal parts of the luminaire		N
	Other than SELV:		--
	- between live parts of different polarity	> 100MΩ	P
	- between live parts and mounting surface	> 100MΩ	P
	- between live parts and enclosure	> 100MΩ	P
	- between live parts of different polarity through action of a switch		N
10.2.2	Electric strength test		--
	Dummy lamp		N
	Luminaires with ignitors after 24 h test		N
	Luminaires with manual ignitors		N
	Test voltage (V):		--
	SELV:		N
	- between current-carrying parts of different polarity		N



	- between current-carrying parts and mounting surface.....:		N
	- between current-carrying parts and metal parts of the luminaire.....:		N
	Other than SELV:		--
	- between live parts of different polarity	1460V, no broken	P
	- between live parts and mounting surface	2920V, no broken	P
	- between live parts and enclosure	2920V, no broken	P
	- between live parts of different polarity through action of a switch.....:		N
EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
10.3.1	Leakage current (mA).....:	0.009mA < 0.7mA	P

11	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V).....:	230V	—
	Voltage form		—
	PTI	< 600	—
	Rated pulse voltage (Kv)	--	—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm).....:	Cr>2.5 mm ; Cl >1.5 mm	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....:	Cr>5 mm ; Cl >3 mm	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm).....:		N
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm).....:		N
	(5) Current-carrying parts of switches and metal parts, after removal of insulation: cr (mm); cl (mm).....:		N
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....:		N

12	ENDURANCE TEST AND THERMAL TEST		P
12.3	Endurance test:		P
	- mounting-position.....:	Normal position	—
	- test temperature (°C)	35°C	—
	- total duration (h)	168h	—
	- supply voltage: Un factor; calculated voltage (V).....:	253V	—



	- lamp used.....: --		—
12.3.2	After endurance test:		--
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N
	- marking legible	Marking still legible and shows no curling	P
	- no cracks, deformation etc.		P
12.4	Thermal test (normal operation)	(see Annex 2)	P
12.5	Thermal test (abnormal operation)	(see Annex 2)	P
EN 60598-1			
Cl.	Requirement – Test	Result	Verdict
12.6	Thermal test (failed lamp control gear condition):		--
12.6.1	- case of abnormal conditions		—
	- electronic lamp control gear		N
	- measured winding temperature (°C) at 1,1 Un .:		—
	- measured mounting surface temperature (°C) at 1,1 Un		N
	- calculated mounting surface temperature (°C) .:		N
	- track-mounted luminaires		N
12.6.2	Temperature sensing control		--
	- case of abnormal conditions		—
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured mounting surface temperature (°C) :		N
	- track-mounted luminaires		N
12.7	Thermal test (failed lamp control gear in plastic luminaries):		N
	- case of abnormal conditions		—
12.7.1	- measured winding temperature (°C) at 1,1 Un .:		—
	- measured temperature of fixing point/ exposed part (°C) at 1,1 Un		N
	- calculated temperature of fixing point/ exposed part (°C)		N
12.7.2	Temperature sensing control		--
	- thermal link		N
	- manual reset cut-out		N



	- auto reset cut-out		N
	- measured temperature of fixing point/ exposed part (°C)		N

13	RESISTANCE TO HEAT, FIRE AND TRACKING		N
13.2.1	Ball-pressure test:		--
	- part tested; temperature (°C)	PCB	P
	- part tested; temperature (°C)	Bobbin	P
13.3.1	Needle flame test (10 s):		--
	- part tested	PCB	P
	- part tested	Bobbin	P

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Cl.	Requirement – Test	Result	Verdict
13.3.2	Glow wire test (650°C):		--
	- part tested	PCB	P
	- part tested	Bobbin	P
13.4.1	Tracking test: part tested.....		N

14	SCREW TERMINALS		N
	Separately approved; component list		N
	Part of the luminaire		N

15	SCREWLESS TERMINALS		N
	Separately approved; component list		N
	Part of the luminaire		N

	COMMON MODIFICATIONS		N
3.3.101 + 5.2.1	For luminaires connected by tails, information about terminal block		N
5.2.2	Cables equal to HD 21 S2 or HD 22 S2		N
5.2.15	Colour code low voltage		N

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS		N
2.2	Class 0 not accepted		N
3.3	DK: power supply cord with label		N
	IT: warning label on Class 0 luminaire		N
4.5.1	DK: socket-outlets		N
4.5.1	FR: socket-outlets		N



5.2.1	DK, FI, SE, GB: type of plug		N
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ZC	ANNEX ZC, NATIONAL DEVIATIONS		N
13.3	DK: Needle flame test or glow-wire test 750°C for luminaries in access routes		N
13.3	GB: Requirements according to United Kingdom Building Regulation		N
13.3.2	FR: Glow-wire test 850°C alt. 750°C for luminaries in premises open to public and workers		N

ANNEX 1: components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Internal wire	Various	Various	V-0, 105	--	UL
PCB	Various	Various	V-0, 130	--	UL

ANNEX 2: temperature measurements, thermal tests of Section 12					P	
Type reference	DT5W550				—	
Lamp used.....	--				—	
Lamp control gear used	--				—	
Mounting position of luminaire	Normal position				—	
Supply wattage (W)	--				—	
Supply current (A)	--				—	
Calculated power factor	--				—	
Table: measured temperatures corrected for ta = 25 °C:						
- abnormal operating mode	--				—	
- test 1: rated voltage.....	--				—	
- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....	243.8V				—	
- 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.....	--				—	
temperature (°C) of part	clause 12.4 – normal				clause 12.5 – abnormal	
	test 1	test 2	test 3	limits	test 4	limit



Internal wire		45.5		105		
Winding of T1		63.2		120		
Core of T1		60.7		120		
PCB under T1		69.8		130		
Enclosure outside		40.9		90		
Ambient		23.3				

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

	ANNEX 4: SCREWLESS TERMINALS (PART OF THE LUMINAIRE)		N
15	SCREWLESS TERMINALS		--
15.2	Type of terminal.....:		—
	Rated current (A).....:		—
15.3.1	Material		N



15.3.2	Clamping		N
15.3.3	Stop		N
15.3.4	Unprepared conductors		N
15.3.5	Pressure on insulating material		N
15.3.6	Clear connection method		N
15.3.7	Clamping independently		N
15.3.8	Fixed in position		N
15.3.10	Conductor size		N
	Type of conductor		N
15.5.1	Terminals internal wiring		N
15.5.1.1	Pull test spring-type terminals (4 N, 4 samples)		N
15.5.1.2	Pull test pin or tab terminals (4 N, 4 samples)		N
	Insertion force not exceeding 50 N		N
15.5.2	Permanent connections: pull-off test (20 N)		N
15.6)	Electrical tests		N
	Voltage drop (mV) after 1 h (4 samples).....:		N
	Voltage drop of two inseparable joints		N
	Number of cycles.....:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples)		N
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples)		N
15.7	Terminals external wiring		N
	Terminal size and rating		N
15.8.1	Pull test spring-type terminals (4 samples); pull (N)		N
	Pull test pin or tab terminals (4 samples); pull (N)		N
15.9	Contact resistance test		N
	Voltage drop (mV) after 1 h		N



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)										



ANNEX A:

Photo-documentation



Photo 1 General Appearance of the EUT



Photo 2 General Appearance of the EUT



Photo 3 Inside of the EUT



Photo 4 Inside of the EUT