Safety Test Report

Report No.: HYL-LVD-0507/14

Product	:	Amp Table lamp
Test Model	:	502121, 502120
Brand Name	:	NORMANN COPENHAGEN
Applicant	:	NORMANN COPENHAGEN
Date of Issue	:	October 18, 2014
Standards	:	EN 60598-2-4: 1997 EN 60598-1:2008+A11:2009

Report No.: HYL-LVD-0507/14

TEST REPORT

EN 60598-2-4: 1997

Part 2: Particular requirements

Section Four – Portable general purpose luminaires

Report No. ..... :	HYL-LVD-0507/14
Application No. ..... :	2014101601C
Testing Laboratory ..... :	Zhongshan Bontek Compliance Testing Laboratory Co., Ltd..
Address..... :	Tongyi Industrial Zone Dongxing east Road, Gu Zhen Town, Zhongshan City, Guang Dong Province, China.
Applicant's name ..... :	NORMANN COPENHAGEN
Address..... :	Osterbrogade 70 2100 copenhagen, Denmark
Test specification:	
Standard..... :	EN 60598-2-4: 1997 used in conjunction with EN 60598-1:2008+A11:2009
Test procedure ..... :	CE-LVD
Non-standard test method . :	N/A
Test Report Form No. ..... :	HB-E134-5AD1-140922
TRF Originator ..... :	LTS
Master TRF ..... :	--
Test item description..... :	**Portable general purpose luminaires**
Trade Mark..... :	NORMANN COPENHAGEN
Model/Type reference ..... :	502121, 502120
Ratings..... :	220-240V~,50Hz Detail see page 4

Summary of testing:

The submitted appliances fulfilled the requirements of specific standard.

EN 60598-2-4: 1997

EN 60598-1:2008+A11:2009

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Report No.: HYL-LVD-0507/14

Tested by (signature):	Enbao Wang.....
Reviewed by (signature):	Jinling He.....
Approved by (signature):	ZhaoFu Peng.....
Date of issue:	October 18, 2014

General remarks:

The test results presented in this report relate only to the object tested.

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"(see Appendix #)"refers to additional information appended to the report.

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

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

Clause numbers between brackets refer to clauses in EN 60598-1.

Main report

Page 1 to 29 for EN 60598-2-4 (EN 60598-1).

Appendix A:

Page 30 to 33 for product photo document.

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Test item particulars:

Equipment mobility ..... :	Portable
Operating condition..... :	Continuous
Class of equipment..... :	Class II
Degree of protection ..... :	IP20
Mass of equipment ..... :	1.4Kg
Supply connect ..... :	non-detachable flexible cable with plug

Possible test case verdicts:

-test case does not apply to the test object..... :	N/A (not applicable)
-test object does meet the requirement..... :	P (Pass)
-test object does not meet the requirement..... :	F (Fail)

Testing:

Date of receipt of test item..... :	October 6, 2014
Date (s) of performance of tests ..... :	October 6, 2014 to October 18, 2014

Copy of marking plate:

NORMANN COPENHAGEN
Amp Table lamp
Model: 502121
Rating input: 220-240V~ 50Hz
Rating Power: E14 1×MAX 40W
Indoor use only

Location: Attached on bottom of the lamp body

E14 1×MAX 40W 240V~ 4A

Location: Attached on the lampholder

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General product information:

1.Portable luminaires, class II, IP20, used indoor only

2.All models are same except the model name and the color,.

3.Details information of model list as follows:

Model name	Input	Power	Color
502121	220V-240V~50Hz	E14 1×MAX 40W	smoke/black
502120	220V-240V~50Hz	E14 1×MAX40W	gold/green

3. All tests were performed on model: 502121

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
4.2 (0)	**GENERAL TEST REQUIREMENTS**		**P**
4.2 (0.3.1)	Information for luminaire design considered	Standard Yes ☒ No ☐	—
4.2 (0.3.2)	More sections applicable .....:	Yes ☐ No ☒	—
4.4 (2)	**CLASSIFICATION**		**P**
4.4 (2.2)	Type of protection (Class 0 excluded).....:	Class II	—
4.4 (2.3)	Degree of protection .....:	IP 20	—
4.4 (2.4)	Luminaire designed for standing on table .....:	Yes ☒ No ☐	
	Luminaire suitable for normally flammable surfaces .....:	Yes ☒ No ☐	—
	Luminaire suitable to be covered by insulating material .....:	Yes ☐ No ☒	—
4.4 (2.5)	Luminaire for normal use .....:	Yes ☒ No ☐	—
	Luminaire for rough service .....:	Yes ☐ No ☒	—

4.5 (3)	**MARKING**		P
4.5 (3.2)	Marking shall be visible on the outside of the luminaire or behind a cover.		P
	Marking shall be visible during installation.		P
	Marking shall be visible after the installation.		P
4.5 (3.2.1)	Mark of origin	See the label	P
4.5 (3.2.2)	Rated voltage(s) in volts	See the label	P
4.5 (3.2.3)	The rated maximum ambient temperature		N/A
4.5 (3.2.4)	Symbol for class II luminaire	⧈	P
4.5 (3.2.5)	Symbol for class III luminaire		N/A
4.5 (3.2.6)	Marking with IP numbers	IP20	P
4.5 (3.2.7)	Model number or type reference	See the General product information	P
4.5 (3.2.8)	Rated wattage or the designation	See the label	P
4.5 (3.2.9)	The relevant symbol for luminaires not suitable for direct mounting on normally flammable surfaces.		N/A
4.5 (3.2.10)	Information concerning special lamps, if applicable.		N/A
4.5 (3.2.11)	Symbol for luminaires for lamps of similar shape to "cool beam" lamps		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
4.5 (3.2.12)	Terminations		N/A
4.5 (3.2.13)	Symbol for minimum distance from lighted objects		N/A
4.5 (3.2.14)	Symbol for rough service luminaires	Ordinary luminaries	N/A
4.5 (3.2.15)	Symbol for luminaires for use with bowl mirror lamps		N/A
4.5 (3.2.16)	A protective shield shall be marked with "Replace any cracked protective shield" or the symbol.		N/A
4.5 (3.2.17)	The maximum number of luminaires		N/A
4.5 (3.2.18)	A warning symbol or notice for luminaires with ignitors		N/A
4.5 (3.2.19)	Symbol for luminaires for the use with self-shield tungsten halogen lamps pr self-shielded metal halide lamps		N/A
4.5 (3.2.20)	The means of adjustment		N/A
4.5 (3.2.21)	The relevant symbol for luminaires not suitable for covering with thermally insulated material		N/A
4.5 (3.2.22)	Symbol for luminaires with internal replaceable fuses.		N/A
4.5 (3.3)	Additional information		P
	Language of instructions	English	P
4.5 (3.3.1)	Combination luminaires		N/A
4.5 (3.3.2)	Nominal frequency in Hz	50Hz	P
4.5 (3.3.3)	Operating temperature		N/A
4.5 (3.3.4)	Symbol or warning notice		N/A
4.5 (3.3.5)	Wiring diagram		N/A
4.5 (3.3.6)	Special conditions		N/A
4.5 (3.3.7)	Metal halide lamp luminaire - warming		N/A
4.5 (3.3.8)	Limitation for semi-luminaires		N/A
4.5 (3.3.9)	Power factor and the supply current		N/A
4.5 (3.3.10)	Suitability for use "indoors"		P
4.5 (3.3.11)	Luminaires with remote control gear		N/A
4.5 (3.3.12)	A warning for clip-mounted luminaire		N/A
4.5 (3.3.13)	The specifications of all protective shields		N/A
4.5 (3.3.14)	Symbol for nature of supply	~	P

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
4.5 (3.3.15)	The rated current of socket outlet	2.5A	P
4.5 (3.3.16)	The information about rough service luminaire		N/A
4.5 (3.3.17)	The mounting instructions for type Y, type Z and some type X attachments	Type Y	P
4.5 (3.3.18)	Information about non-ordinary luminaires with PVC supply cord		N/A
4.5 (3.3.19)	Instruction for the protective conductor current in		N/A
4.5 (3.3.20)	Information to advise the correct installation for wall mounted and adjustable luminaires.		N/A
4.5 (3.4)	Test of marking		P
	Test with water	Rubbing with water for 15s	P
	Test with hexane	Rubbing with petroleum spirit for 15s	P
	Legible after test	Still legible	P
	Label attached	No curling	P

4.6 (4)	**CONSTRUCTION**		**P**
4.6 (4.2)	Components replaceable without difficulty		P
4.6 (4.3)	Wireways smooth and free from sharp edges	checked by inspection	P
4.6 (4.4)	Lampholders	E14	P
4.6 (4.4.1)	Integral lampholder		P
4.6 (4.4.2)	Wiring connection		P
4.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
4.6 (4.4.4)	Positioning		P
	- pressure test (N) .....:		N/A
	- bending test (N) .....:	E14:1.0Nm	P
4.6 (4.4.5)	Peak pulse voltage		N/A
4.6 (4.4.6)	Centre contact point		N/A
4.6 (4.4.7)	Parts incorporated in rough service luminaires resistance to tracking		N/A
4.6 (4.4.8)	Lamp connectors		N/A
4.6 (4.4.9)	Caps and bases shall be correctly used		N/A
4.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder of class II construction		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
4.6 (4.6)	Terminal blocks		N/A
	Connecting leads (tails)	No such part	N/A
	Unsecured terminal blocks		N/A
4.6 (4.7)	Terminals and supply connections		N/A
4.6 (4.7.1)	Contact to metal parts		N/A
4.6 (4.7.2)	Test 8mm live conductor		N/A
	Test 8mm earth conductor		N/A
4.6 (4.7.3)	Terminals for supply conductor.		N/A
4.6 (4.7.3.1)	Welding method and material		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
4.6 (4.7.4)	Terminals other than supply connection		N/A
4.6 (4.7.5)	Heat-resisting wiring/sleeves		N/A
4.6 (4.7.6)	Multi-pole plug and socket		N/A
	- test at 30 N		N/A
4.6 (4.8)	Switches:		P
	- adequate rating and fixing		P
	- Switches in flexible cables or cords and switched lampholers shall not be used in non-ordinary luminaires.		P
	- polarized supply		N/A
	- compliance with 61058-1 for electronic switches		P
4.6 (4.9)	Insulating lining and sleeves		N/A
4.6 (4.9.1)	Retainment		N/A
4.6 (4.9.2)	Insulated linings and sleeves		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C) .....:		N/A
4.6 (4.10)	Double and reinforced insulation		P
4.6 (4.10.1)	For metal encased class II luminaires, contact between:		P

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	- mounting surfaces and parts with basic insulation only, - accessible metal parts and basic insulation shall be prevented.		
	The wiring includes internal and external wiring of the luminaire, and fixing wiring of the installation.		P
	Degree of protection against electric shock of class II shall not be impaired.		N/A
	The interference suppression capacitors shall comply with the requirements according to EN 60384-14 and the method of their connection shall be in accordance with 8.6 of EN 60065.		N/A
4.6 (4.10.2)	Assembly gaps greater than 0.3 mm:		P
	- neither be coincidental with any gap in basic insulation, nor be straight access to live parts		P
	- Openings larger than 0.3 mm in double or in reinforced insulation shall be so designed that live parts cannot be touched with the conical pin of test probe 13.		P
	The required degree of protection against electric shock shall be in accordance with the IP classification of the luminaire.		P
4.6 (4.10.3)	Retainment of insulation		N/A
	- either be fixed so that they cannot be removed without being seriously damaged;		N/A
	- or be unable to be replaced in an incorrect position		N/A
	The sleeving and lining shall be retained in position by positive means		N/A
4.6 (4.11)	Electrical connections and current-carrying parts		P
4.6 (4.11.1)	Contact pressure	checked by inspection	P
4.6 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
	- at least two self-tapping screws		N/A
4.6 (4.11.3)	Screws and rivets shall be locked against loosening		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	- Spring washers		N/A
	- rivets		N/A
4.6 (4.11.4)	Material of current-carrying parts	copper alloy	P
4.6 (4.11.5)	No direct contact with the mounting surface or wood.		N/A
4.6 (4.11.6)	Electro-mechanical contact systems		N/A
	After the test, the samples shall show		N/A
	- no wear impairing their further use;		N/A
	- no deterioration of enclosures or barriers		N/A
	- no loosing of electrical or mechanical connections		N/A
4.6 (4.12)	Screws and connections (mechanical) and glands		P
4.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		P
	Torque test: torque (Nm); part .....:	0.6Nm; Screw for fixing tray (Φ3.1mm)	P
	Torque test: torque (Nm); part .....:		N/A
4.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
4.6 (4.12.4)	Locked connections		P
	- fixed arms: torque (Nm).....:		N/A
	- lampholder: torque (Nm); .....:	E14:1.0Nm	P
	- push-button switches: torque 0.8 Nm .....:		N/A
4.6 (4.12.5)	Torque test of screwed glands, and after the test, the luminaire and glands shall show no damage.		N/A
4.6 (4.13)	Mechanical strength		P
4.6 (4.13.1)	Impact test:		P
	- fragile parts: energy (Nm);.....:	Glass:0.35Nm	N/A
	- other parts: energy (Nm); .....:	Enclosure: 0,5Nm	P
	a) live parts		P
	b) linings		N/A
	c) protection		P
	d) covers		P
4.6 (4.13.3)	Straight test finger.	Apply to enclosure, 30N	P
4.6 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	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
4.6 (4.13.6)	Tumbling barrel		N/A
4.6 (4.14)	Suspensions and means of adjustment		N/A
4.6 (4.14.1)	Mechanical suspension shall have adequate factors of safety.		N/A
	A) suspended luminaires: four times the weight:		N/A
	B) rigid suspension luminaires: torque 2.5 Nm:		N/A
	C) rigid suspension brackets: bracket arm; bending moment(Nm) .....:		N/A
	D) load track-mounted luminaires:		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness(mm) .....:		N/A
4.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) .....:		N/A
	Stress in conductors (N/mm²) .....:		N/A
	Semi-luminaire – mass (kg).....:		N/A
	Semi-luminaire – bending moment (Nm) .....:		N/A
4.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles.....:		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
4.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
4.6 (4.14.5)	Guide pulleys		N/A
4.6 (4.14.6)	Strain on socket-outlets		N/A
4.6 (4.15)	Flammable materials		N/A
4.6 (4.15.1)	- glow-wire test 650 °C		N/A
	- spacing ≥ 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

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
4.6 (4.15.2)	Luminaires made of thermoplastic material shall withstand temperature rises.		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature.		N/A
4.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	Luminaires classified as suitable for mounting on a normally flammable surface shall comply with one of the following requirements of 4.16.1, 4.16.2, or 4.16.3.		P
4.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 10 mm		N/A
	- spacing 35 mm		N/A
4.6 (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
4.6 (4.16.3)	"F" curve measured		N/A
4.6 (4.17)	Drain holes		N/A
	Clearance at least 5mm		N/A
4.6 (4.18)	Resistance to corrosion:		P
4.6 (4.18.1)	- resistant to rust		N/A
4.6 (4.18.2)	- resistant to stress corrosion		P
4.6 (4.18.3)	- resistant to corrosion		N/A
4.6 (4.19)	Ignitors compatible with ballast		N/A
4.6 (4.20)	Rough service vibration		N/A
4.6 (4.21)	Protective shield:		N/A
4.6 (4.21.1)	Shield fitted		N/A
4.6 (4.21.2)	Particles from a shattering lamp cannot impair safety		N/A
4.6 (4.21.3)	No direct path		N/A
4.6 (4.21.4)	Impact test on shield		N/A
4.6 (4.22)	Attachments to lamps		N/A
4.6 (4.23)	Semi-luminaires comply class II		N/A
4.6 (4.24)	UV radiation, metal halide lamps		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
4.6 (4.25)	No sharp point or edges	No hazard	P
4.6 (4.26)	Short-circuit protection:		N/A
4.6 (4.26.1)	Uninsulated accessible SELV parts		N/A
4.6 (4.26.2)	Short-circuit test		N/A
4.6 (4.26.3)	Test chain according to Figure 29		N/A
4.6 (4.27)	Terminal blocks with integrated screwless earthing contacts		N/A
4.6.1	Insulation of flexible cable shall not be damage		P
4.6.2	Wiring shall be fixed		P
4.6.3	Portable luminaire shall have adequate stability Luminaires which are fasten by clamps or similar devices are not subjected to this test.		P
4.6.4	Candlestick luminaires shall be provided with a switch		N/A
4.6.5	Requirement of E5 and E10 lampholder about rated voltage and rated wattage		N/A

4.7 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Working voltage (V) .....:	240V	—
	Voltage form	Sinusoidal ☒ Non-sinusoidal ☐	—
	PTI	< 600 ☒ > 600 ☐	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II ☒ Category III ☐	—
	Rated pulse voltage (kV) .....:	——	—
	(1) Live parts of different polarity: cr ≥2.5(mm); cl ≥1.7(mm)	For L-N: Cr >2.5mm; Cl >1.5mm	P
	(2) Live parts and accessible metal parts: cr ≥2.5(mm); cl ≥1.7(mm)	For L/N-enclosure: Cr >5.0mm; Cl >3.0mm	P
	(3) Parts becoming live due to the breakdown of basic insulation and metal parts: cr (mm); cl (mm) .....:		N/A
	(4) Outer surface of a flexible cord or cable and an accessible metal part: cr (mm); cl (mm) .....:		N/A
	(5) Not used		—
	(6) Current-carrying parts and supporting surface	Cr >5.0mm; Cl >3.0mm	P

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	cr ≥3.6(mm); cl ≥3.6(mm)		
4.8 (7.2)	**PROVISION FOR EARTHING**		**N/A**
4.8 (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
	Two self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread forming screw used in a grove		N/A
	Earth makes contact first		N/A
4.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N/A
4.8 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
4.8 (7.2.5)	Earth terminal integral part of connector socket.		N/A
4.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
4.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
4.8 (7.2.8)	Material of earth terminal and the screw.		N/A
	Contact surface shall be bare metal.		N/A
4.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double and reinforced insulation to functional earth		N/A
4.8 (7.2.11)	Earthing core coloured green-yellow.		N/A
	Length of earth conductor		N/A
4.9 (14)	**SCREW TERMINALS**		**N/A**
	General requirements and basic principles		N/A
	Mechanical tests of different screws		N/A
4.9 (15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		**N/A**
	General requirements		N/A
	General instructions on tests		N/A
	Terminal and connections for internal wiring		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
4.10 (5)	**EXTERNAL AND INTERNAL WIRING**		**P**
4.10	Exception of this clause:		N/A
	1) a requirement of cord anchorage does not apply to table lamps of glass or ceramic material		N/A
	2) the mass of luminaires < 1kg, rated current ≤ 2.5A, length of flexible cable ≤ 2m, cross-sectional area of cable ≥ 0.5mm^2		N/A
4.10 (5.2)	Supply connection and other external wiring		P
4.10 (5.2.1)	Means of connection .....:	non-detachable flexible cable with plug	P
	Connecting leads (EN)		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
4.10 (5.2.2)	Type of cable.....:		P
	Cable equal to HD21 S2 or HD22 S2 (EN)		P
	Nominal cross-sectional area (mm²) .....:	2×0.75mm^2	P
4.10 (5.2.3)	Type of attachment, X, Y, or Z	Type Y	P
4.10 (5.2.5)	Type Z not connected to screws		N/A
4.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection	IP20	P
4.10 (5.2.7)	Cable entries through rigid material shall have smoothly rounded edges		N/A
4.10 (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
4.10 (5.2.9)	Locking of screwed bushing	No screwed bushing	N/A
4.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P

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Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cable or cord into knots etc.		P
	- insulating material or lining		P
4.10 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cord		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
4.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
4.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N).....:	60N	P
	- torque test: torque (Nm).....:	0,15Nm	P
	- displacement ≤ 2 mm	1.06mm	P
	- no noticeable movement of conductors		P
	- no damage of cable or cord		P
4.10 (5.2.11)	External wiring passing into luminaire		P
4.10 (5.2.12)	Looping-in terminals		N/A
4.10 (5.2.13)	Wire ends not tinned		N/A
	Wire end tinned: no cold flow		P
4.10 (5.2.14)	Mains plug same protection	IP20	P
	Class III luminaire plug	Class II	N/A
4.10	Appliance inlets (EN 60320)		N/A

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Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
(5.2.16)			
	Appliance couplers of class II type		N/A
4.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
4.10 (5.2.18)	Used plug in accordance with		N/A
	- EN 60083		N/A
	- other standard		N/A
4.10 (5.3)	Internal wiring		P
4.10 (5.3.1)	Internal wiring of a suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A) .....:		N/A
	- temperatures.....:		N/A
	Green-yellow for earth only		N/A
4.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm²).....:	$2\times0.75mm^2$	P
	Insulation thickness	0.6mm	P
	Extra insulation added where necessary		P
4.10 (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
4.10 (5.3.1.3)	Double or reinforced insulation for class II		P
4.10 (5.3.1.4)	Conductors without insulation		N/A
4.10 (5.3.1.5)	SELV current-carrying parts		N/A
4.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
4.10 (5.3.2)	Sharp edges etc.;	Checked by inspection	P
	No moving parts of switches etc.;		P
	Joints, raising/lowering devices		N/A

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Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	Telescopic tubes etc.		N/A
	No twisting over 360 °		P
4.10 (5.3.3)	Insulating bushing		P
	- suitable fixed		N/A
	- material in bushing		N/A
	- material not likely to deteriorate		N/A
	- cable with protective sheath		P
4.10 (5.3.4)	Joints and junctions effectively insulated	Checked by inspection	P
4.10 (5.3.5)	Strain on internal wiring.		P
4.10 (5.3.6)	Wire carriers		N/A
4.10 (5.3.7)	Wire end not tinned		N/A
	Wire end tinned: no cold flow		P
4.11 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		**P**
4.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
4.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
4.11 (8.2.3)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		P
	- basic insulation not accessible other than during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		P
	Class I luminaire with BC lampholder		N/A
	Class III luminaire only connect to a SELV source		N/A
4.11 (8.2.4)	Portable luminaire:		P

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	- protection independent of supporting surface		P
	- terminal block completely covered		N/A
4.11 (8.2.5)	Compliance with standard test finger or relevant probe	every possible position: 10 N	P
4.11 (8.2.6)	Covers reliably secured		P
4.11 (8.2.7)	Discharging of capacitors ≥ 0.5μF		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
4.11.1	Class I luminaires with bayonet base shall either		N/A
	1) lamp cap is not accessible, or	Class II	N/A
	2) earthed metal lampholder		N/A

4.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		**P**
4.12 (12.3)	Endurance test:		P
	- mounting-position .....:	As normal used	—
	- test temperature (°C).....:	36°C	—
	- total duration (h) .....:	240h	—
	- supply voltage: Un factor; calculated voltage (V) .....:	252V	—
	- lamp used .....:	Filament lamp	—
4.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system	No track system	N/A
	- marking legible		P
	- no cracks, deformation etc.		P
4.12 (12.4)	Thermal test (normal operation)	(see Annex 1)	P
4.12 (12.5)	Thermal test (abnormal operation)	(see Annex 1)	N/A
4.12 (12.6)	Thermal test (failed in lamp control gear):		N/A
4.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A) .....:		N/A
	- case of abnormal conditions .....:		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	- electronic lamp control gear .....:		N/A
	- measured mounting surface temperature (°C) at 1,1 times rated voltage .....:		N/A
	- calculated mounting surface temperature (°C) .....:		N/A
	- track-mounted luminaires		N/A
4.12 (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
	- measure mounting surface temperature (°C)		N/A
	- track-mounted luminaires		N/A
4.12 (12.7)	Thermal test in regard to fault conditions in lamp control gear or electronic device incorporated in thermoplastic luminaires		N/A
4.12 (12.7.1)	Test for luminaire without temperature sensing control		N/A
4.12(12.7.1.1)	Test for luminaire incorporating ballast(s) of fluorescent lamps with a lamp load ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W .....:		—
	Test according to 12.7.1.1:		N/A
	- The ballast under test shall be supplied directly at 1.1 times the rated supply voltage, in normal operation with the relevant lamp (s) in the circuit (up to the end of the test).		—
	- The supply voltage to the ballast under test shall be increased by 20 % of the rated supply voltage and left for a period of 15 min.		—
	- If no failure of the ballast occurs during the period, the supply voltage to the ballast under test shall be increased repeatedly in steps of 10 % of the rated supply voltage at 15 min intervals until ballast failure occurs.		N/A
	- After the ballast failure, the luminaire shall be allowed to cool to ambient temperature.		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	Annex W provides an alternative method to the tests. The reference is given in 12.7.1.1		N/A
4.12 (12.7.1.2)	Test for luminaires incorporating discharge lamp, fluorescent lamps (> 70W), transformer of power > 10 VA		N/A
	- 20% of the lamp circuits in the luminaire and not less than one lamp circuit shall be subjected to abnormal conditions		N/A
	- The circuit which have the most thermal influence on the fixing point and exposed parts shall be chosen and other lamp circuits shall be operated at rated voltage under normal conditions.		N/A
	- The circuit subjected to abnormal conditions, shall be operated at 0, 9, 1, 0 and 1,1 times the rated voltage.		N/A
4.12 (12.7.1.3)	Test for luminaires with inherently short-circuit proof transformer of power ≤ 10 VA		N/A
	- The fault test shall be carried out to small transformers with power up to 10 VA; at the end of the first period of 4 h, the secondary winding shall be short circuited.		N/A
	- The short circuit shall be allowed to continue until transformer failure occurs;		N/A
4.12 (12.7.2)	Test for luminaires with temperature sensing control internal/external to the ballast or transformer		N/A
	- The circuits subjected to abnormal conditions shall be operated with a slowly and steadily increasing current through the windings, until the temperature sensing control operates.		N/A
	- Time intervals and increments in current shall be such that the thermal equilibrium between winding temperatures and temperature of fixing points and most thermally exposed parts is achieved as far as practicable.		N/A
	- For luminaires fitted out with manual-reset thermal cut-outs, the test shall be repeated six times, allowing 30 min intervals between tests. At the end of each 30 min interval, the cut-out		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	shall be reset.		
4.13 (9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		P
4.13 (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) .....:	--	—
	- tests according to clauses.....:	Clause 9.2.0 to 9.2.9 of EN 60598-1	—
	- 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		N/A
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – can drain effectively, no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) i)no contact with live parts (IP 2X)		P
	f) ii)no entry into enclosure (IP 3X and IP 4X)		N/A
	f) iii)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 a protective shield or glass envelope		N/A
4.13 (9.3)	Humidity test 48 h	26℃; 93%	P

4.14 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		**P**
4.14 (10.2.1)	Insulation resistance test		P
	SELV:		N/A
	- between current-carrying parts of different polarity .....:		N/A
	- between current-carrying parts and the		N/A

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Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	mounting surface .....:		
	- between current-carrying parts and metal parts of the luminaire .....:		N/A
	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
4.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V) of insulation of parts of SELV:		N/A
	- between current-carrying parts of different polarity .....:		N/A
	- between current-carrying parts and the mounting surface .....:		N/A
	- between current-carrying parts and metal parts of the luminaire .....:		N/A
	Other than SELV:		P
	- between live parts of different polarity.....:	1480	P
	- between live parts and mounting surface .....:	2960	P
	- between live parts and metal parts.....:	2960	P
	- between live parts of different polarity through action of a switch .....:		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts .....:		N/A
4.14 (10.3)	Leakage current (mA).....:	0,05mA	P

4.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
4.15 (13.2.1)	Ball-pressure test:		P
	- part tested; temperature (°C) .....:	E14 lampholder:	P

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Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
		125℃, 1h, 1.1mm	
			N/A
	- part tested; temperature (°C) .....:	Switch: 125℃, 1h, 1.1mm	P
4.15 (13.3.1)	Needle flame test (10 s):		P
	- part tested .....:	E14 lampholder: no igition	P
			N/A
	- part tested .....:	Switch: no igition	P
4.15 (13.3.2)	Glow-wire test (650 °C):		P
	- part tested .....:	Protective sheath: no igition	P
	- part tested .....:		N/A
4.15 (13.4)	Resistance to tracking		N/A
1.15 (13.4.1)	- part tested .....:		N/A

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	ANNEX 1: components		**P**

object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Plug	B			250V, 2.5A	EN 50075	VDE 115386
Flexible cable(cord)	B			2x0,75mm²	DIN VDE 0281-5	VDE 40024517
E14 lampholder	B			E14, 250V, 2A, T210	EN 60238	VDE 40032350
Touch dimmer	B			AC220-240V 50/60Hz Max load:150W Min load:25W ta:45℃	EN61058-1 EN61058-2-1	TUV R 50275385

The codes above have the following meaning:

A - The component is replaceable with another one, also certified, with equivalent characteristics

B - The component is replaceable if authorised by the test house

C - Integrated component tested together with the appliance

D - Alternative component

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Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	ANNEX 2: temperature measurements, thermal tests of Section 12		P
	Type reference ..... :	502121	—
	Lamp used ..... :	Filament lamp	—
	Lamp control gear used ..... :	--	—
	Mounting position of luminaire ..... :	As normal use	—
	Supply wattage (W)..... :	42W	—
	Supply current (A) ..... :	0.22A	—
	Calculated power factor ..... :	--	—
	Table: measured temperatures corrected for ta = 25 °C:		P
	- abnormal operating mode..... :		—
	- test 1: rated voltage ..... :		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage ..... :	1.05×40W=42W	—
	- 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 (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Power cord		29.3		Cl 12.4		
Switch		28.1		90		
Input wire of lampholder		48.9		90		
Protective sheath		47.3		Cl 12.4		
E27 lamp holder lead wire bifurcation point		71.9		165		
E27 rim of lampholder		92.1		165		
E27 contact point of lampholder		93.4		165		
Enclosure		59.7		70		
Mounting surface		30.4		90		

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Clause	**Requirement + Test**	**Result - Remark**	**Verdict**

Room temp.		25		Ref		

	ANNEX 3: screw terminals (part of the luminaire)	**N/A**

(14)	SCREW TERMINALS		N/A
(14.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm²) ..... :		N/A
(14.3.3)	Conductor space (mm) ..... :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread) ..... :	M	N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm)..... :		N/A
	Torque (Nm) ..... :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N)..... :		N/A
(14.4.8)	Without undue damage		N/A

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Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	ANNEX 4: screwless terminals (part of the luminaire)		**N/A**
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(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
	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

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EN 60598-2-4 (EN 60598-1)			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
(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)										

	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)										

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Appendix A: Photo document

Fig.1-502121: Over view

Bontek Compliance Testing

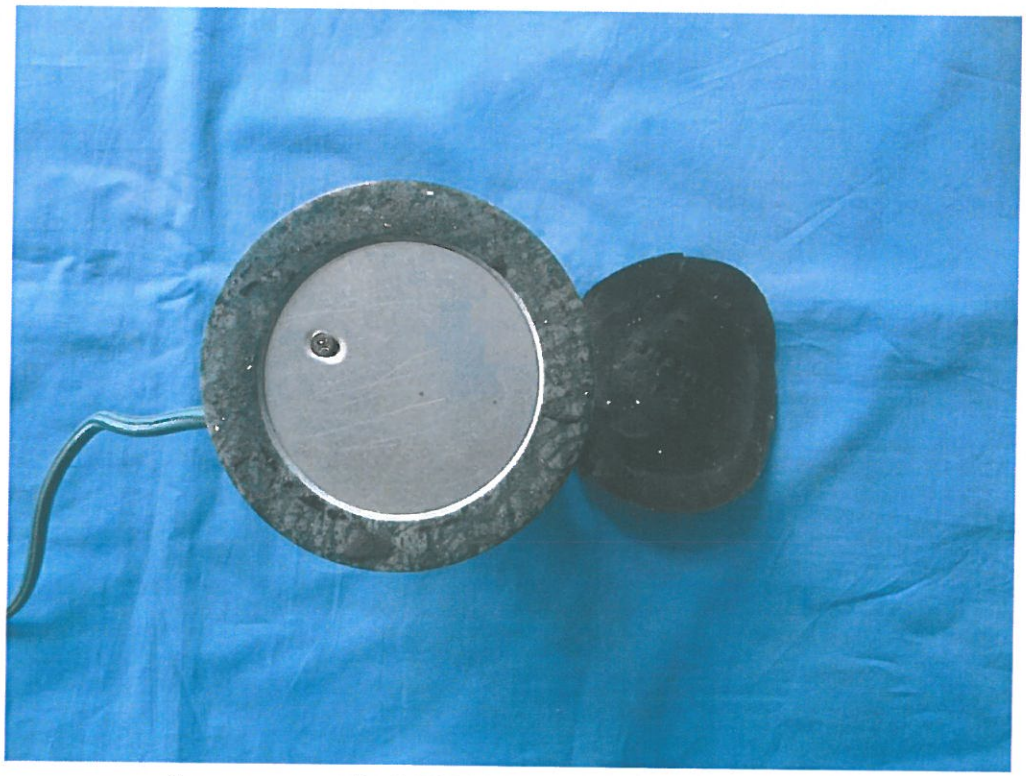

Fig.2-502121: Bottom view

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Appendix A: Photo document

Fig.3-502121: Inter view

Bontek Compliance Testing

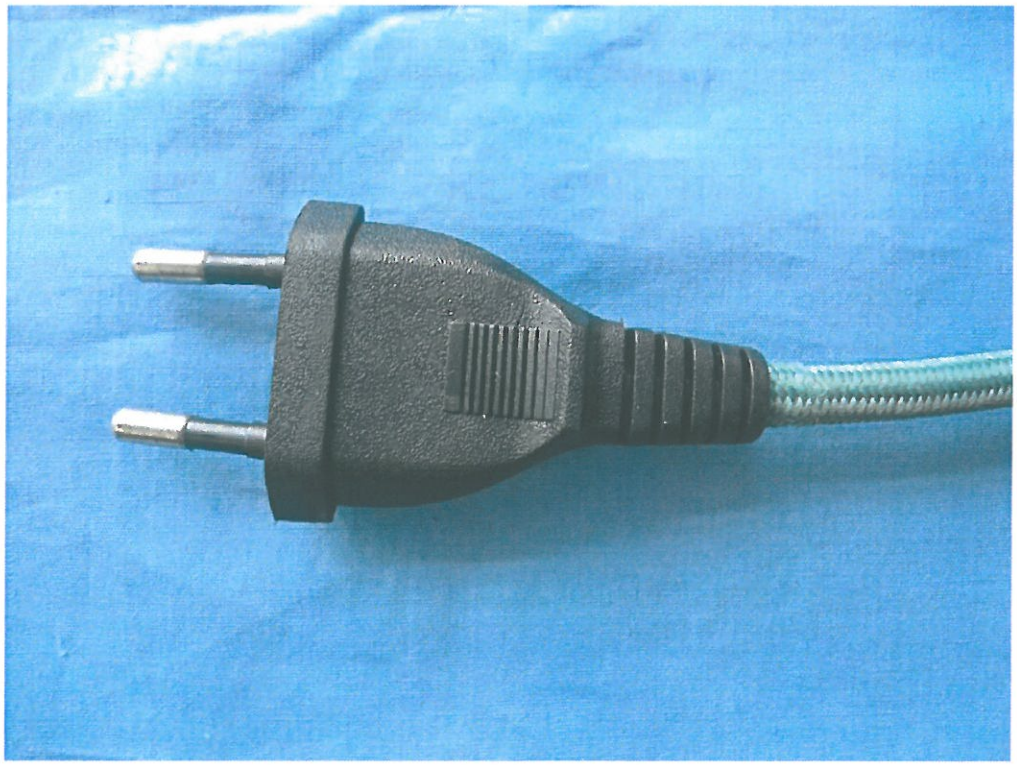

Fig.4-502121: Plug

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Appendix A: Photo document

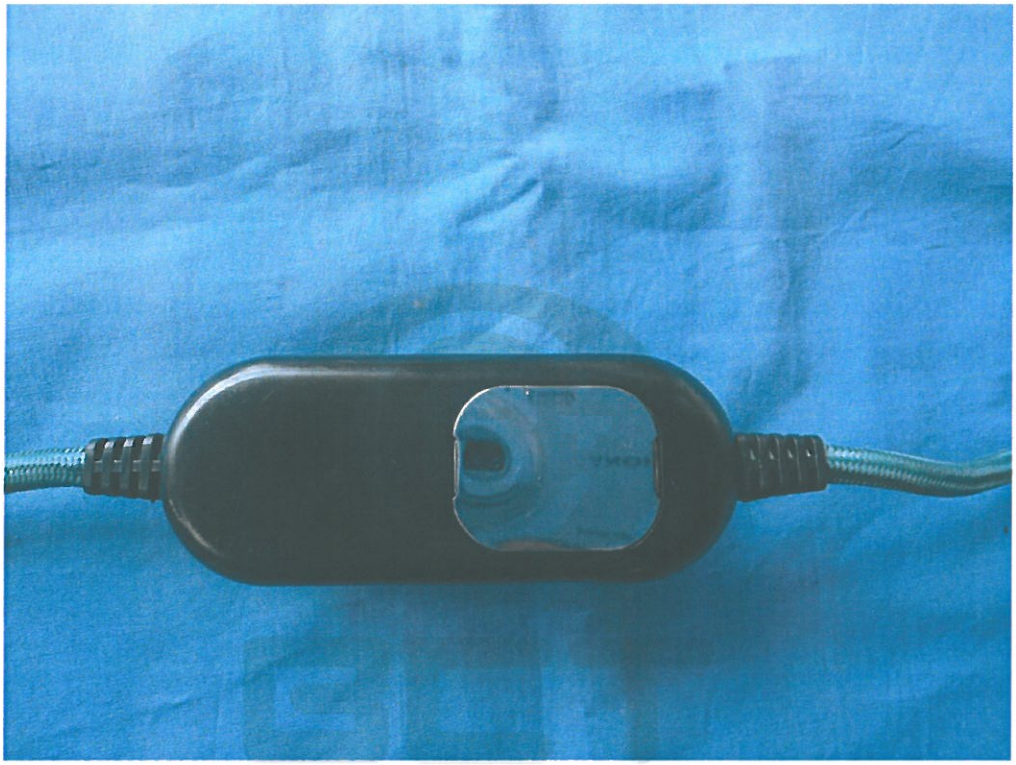

Fig.5-502121: Switch

Bontek Compliance Testing

Fig.6-502121: Lampholder

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Appendix A: Photo document

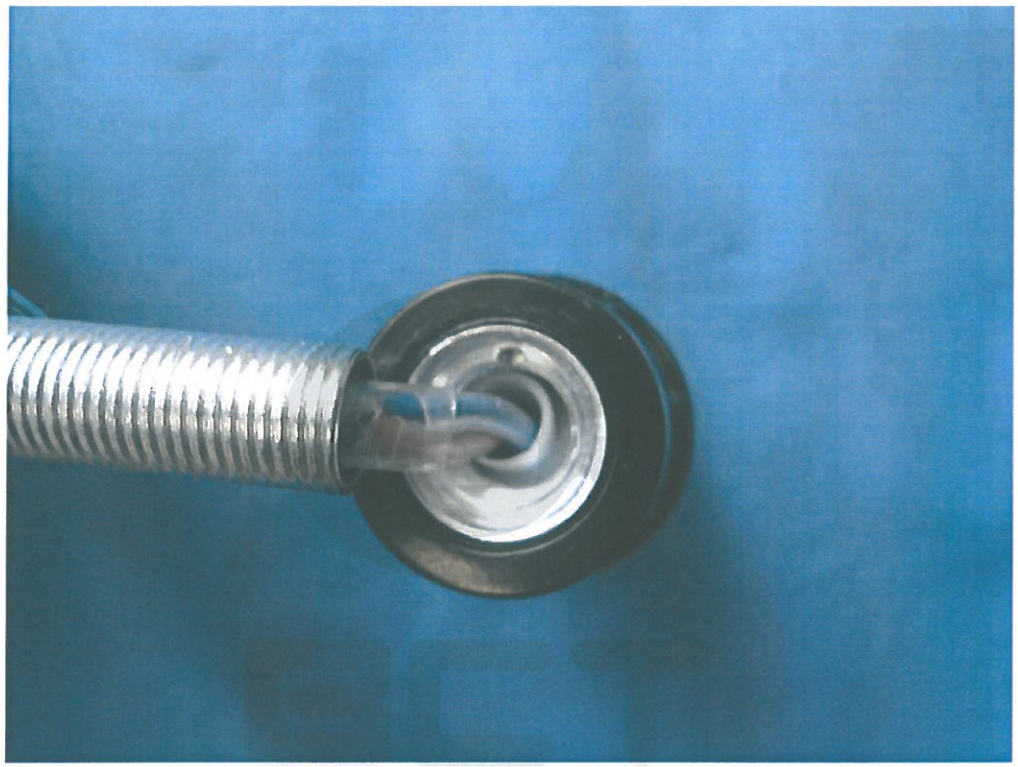

Fig.7-502121: Lampholder of bottom view

Bontek Compliance Testing

Fig.8-502121: Lampholder of inter view

-----END OF TEST REPORT-----

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