



TEST REPORT

REPORT Ref. No.: RZCE2014-0430LVD

NAME OF SAMPLE: Portable Luminaires(Shelter Tablelamp)

CLIENT: Normann Copenhagen

CLASSIFICATION OF TEST: Commission Test



检验报告

TEST REPORT

No.: RZCE2014-0430LVD

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Name of product: Portable Luminaires(Shelter Tablelamp)	Trade mark: —
Type/Model: 505045 220-240V~ 50Hz E27 IP20 Class II Incandescent lamp MAX 60W / Self ballast fluorescent lamp MAX 20W , suitable for direct mounting on normally flammable surfaces	Sample status: —
	Commissioned by: Normann Copenhagen
	Commissioner address: Normann Copenhagen Aps, Østerbrogade 70, 2100 Copenhagen, Denmark.
Quantity of sample: 2 pcs	Sampled by: —
Sample identification: 2-1, 2-2	Sampling at (place): —
Means of receiving: Submitted by commissioner	Means of sampling: —
Classification of test: Commission Test	Sampling date: —
Receiving date: 2014-12-18	Completing date: 2015-07-20
Tested according to: EN 60598-2-4: 1997; EN 60598-1: 2008+A11: 2009	Test item: Full safety tests
<p>Test conclusion:</p> <p>The Portable Luminaires submitted by Normann Copenhagen are tested according to: EN 60598-2-4: 1997; EN 60598-1: 2008+A11: 2009</p> <p>All items tested comply with the requirements of the standards</p> <p>CE LVD Test result: Pass.</p> <p style="text-align: center;">Seal of CVC</p> <p style="text-align: center;">Date of issue: 2015.07.20</p>	



Approved by: Liu Bo

Liu Bo

Reviewed by: Liu Weikai

Liu Weikai

Tested by: Zheng Haotun

Zheng Haotun

Description and illustration of the sample:

The samples' status is good.

Description of the sampling procedure:

/

Description of the deviation from the standard, if any :

/

Remarks:

The following type of Portable Luminaires:

number	type	Lampholder	Rated wattage	mounting	Colour
1.	505045	E27	Incandescent lamp MAX 60W / Self ballast fluorescent lamp MAX 20W	Table	Black
2.	505046	E27	Incandescent lamp MAX 60W / Self ballast fluorescent lamp MAX 20W	Table	Limestone
3.	505047	E27	Incandescent lamp MAX 60W / Self ballast fluorescent lamp MAX 20W	Table	White

which was made by Normann Copenhagen, having the similar components, constructions and electrical connections to those of 505045, and all having the same parameters: 220-240V~ 50Hz class II IP20 suitable for direct mounting on normally flammable surfaces are also covered by this report.

The differences between these models are the appearances;

505045 is selected as representative model for full tests on condition that floor standing;

The tests of ENDURANCE TEST AND THERMAL TEST are carried out on Model 505045 with 60W E27 Incandescent lamp;

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

Copy of marking plate:

Type:505045


normann
COPENHAGEN

220~240V~,50Hz, 60W

Shelter Tablelamp black



IP20

PL Max 60W E27 Incandescent lamp  Made in PRCPL Max 20W E27 Self-ballasted fluorescent lamps 

Model:505045

Type:505046

normann
COPENHAGEN

220~240V~,50Hz, 60W

Shelter Tablelamp limestone



IP20

PL Max 60W E27 Incandescent lamp  Made in PRCPL Max 20W E27 Self-ballasted fluorescent lamps 

Model:505046

Type:505047

normann
COPENHAGEN

220~240V~,50Hz, 60W

Shelter Tablelamp white



IP20

PL Max 60W E27 Incandescent lamp  Made in PRCPL Max 20W E27 Self-ballasted fluorescent lamps 

Model:505047

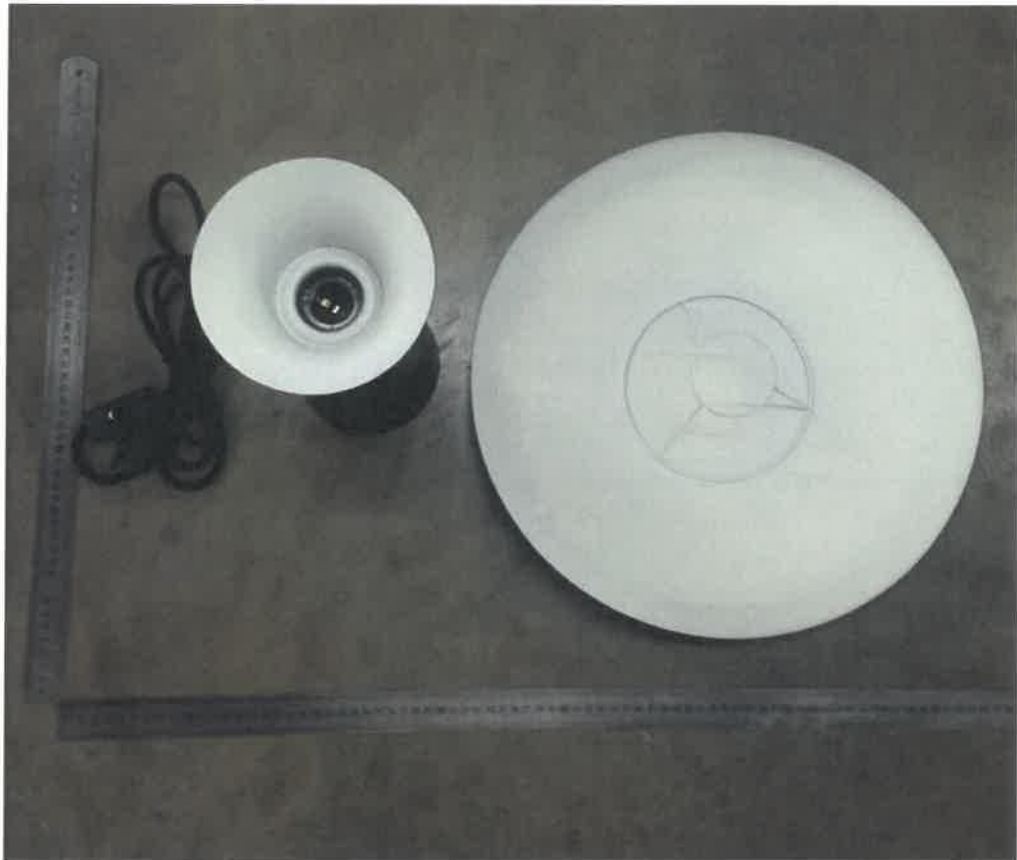
Photos:

Model: 505045



Photos:

Model: 505045



Photos:

Model: 505045



Photos:

Model: 505045



Photos:

Model:505046



Model:505047



EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

4.2 (0)	GENERAL TEST REQUIREMENTS		P
4.2 (0.1)	Information for luminaire design considered	Standard: IEC 60432-1 IEC 60968 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.2 (0.3)	More sections applicable	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—

4.4 (2)	CLASSIFICATION		P
4.4 (2.2)	Type of protection (Class 0 excluded)	Class II	—
4.4 (2.3)	Degree of protection (Requirement: Ordinary).....	IP20	—
4.4 (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"/>	—
4.4 (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"/>	—

4.5 (3)	MARKING		P
4.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
4.5 (3.3)	Additional information		P
	Language of instructions	English	P
4.5 (3.3.1)	Combination luminaires		N
4.5 (3.3.2)	Nominal frequency in Hz	50Hz	P
4.5 (3.3.3)	Operating temperature		N
4.5 (3.3.4)	Symbol or warning notice		N
4.5 (3.3.5)	Wiring diagram		N
4.5 (3.3.6)	Special conditions		N
4.5 (3.3.7)	Metal halide lamp luminaire – warning		N
4.5 (3.3.8)	Limitation for semi-luminaires		N
4.5 (3.3.9)	Power factor and supply current		N
4.5 (3.3.10)	Suitability for use indoors		P
4.5 (3.3.11)	Luminaires with remote control		N
4.5 (3.3.12)	Clip-mounted luminaire – warning		N
4.5 (3.3.13)	Specifications of protective shields		N
4.5 (3.3.14)	Symbol for nature of supply	~	P
4.5 (3.3.15)	Rated current of socket outlet		N

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.5 (3.3.16)	Rough service luminaire		N
4.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
4.5 (3.3.18)	Non-ordinary luminaries with PVC cable		N
4.5 (3.3.19)	Protective conductor current in instruction if applicable		N
4.5 (3.3.20)	Provided with information if not intended to be mounted within arms reach		N
4.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		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		P
4.6 (4.4)	Lampholders		P
4.6 (4.4.1)	Integral lampholder		N
4.6 (4.4.2)	Wiring connection		N
4.6 (4.4.3)	Lampholder for end-to-end mounting		N
4.6 (4.4.4)	Positioning		P
	- pressure test (N)		N
	After test the lampholder comply with relevant standard sheets and show no damage		N
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N
	- bending test (N)	E27: 2,0Nm	P
	After test the lampholder have not moved from its position and show no permanent deformation		P
4.6 (4.4.5)	Peak pulse voltage		N
4.6 (4.4.6)	Centre contact		N
4.6 (4.4.7)	Parts in rough service luminaries resistant to tracking		N
4.6 (4.4.8)	Lamp connectors		N
4.6 (4.4.9)	Caps and bases correctly used		N
4.6 (4.5)	Starter holders		N
	Starter holder in luminaries other than class II		N
	Starter holder class II construction		N

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.6 (4.6)	Terminal blocks		N
	Tails		N
	Unsecured blocks		N
4.6 (4.7)	Terminals and supply connections		P
4.6 (4.7.1)	Contact to metal parts		P
4.6 (4.7.2)	Test 8 mm live conductor		N
	Test 8 mm earth conductor		N
4.6 (4.7.3)	Terminals for supply conductors		P
4.6 (4.7.3.1)	Welded connections:		N
	- stranded or solid conductor		N
	- spot welding		N
	- welding between wires		N
	- Type Z attachment		N
	- mechanical test according to 15.8.2		N
	- electrical test according to 15.9		N
	- heat test according to 15.9.2.3 and 15.9.2.4		N
4.6 (4.7.4)	Terminals other than supply connection		N
4.6 (4.7.5)	Heat-resistant wiring/sleeves		N
4.6 (4.7.6)	Multi-pole plug		N
	- test at 30 N		N
4.6 (4.8)	Switches:		P
	- adequate rating	2A, 250V	P
	- adequate fixing		P
	- polarized supply		P
	- compliance with 61058-1 for electronic switches		N
4.6 (4.9)	Insulating lining and sleeves		P
4.6 (4.9.1)	Retainment		P
	Method of fixing.....: By position		P
4.6 (4.9.2)	Insulated linings and sleeves		P
	Resistant to a temperature > 20 °C to the wire temperature or		N
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C).....:		N
4.6 (4.10)	Insulation of Class II luminaires		P
4.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		N

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
	Capacitors and switches		P
	Interference suppression capacitors according to IEC 60384-14		N
4.6 (4.10.2)	Assembly gaps:		P
	- not coincidental		P
	- no straight access with test probe		P
4.6 (4.10.3)	Retention of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		N
4.6 (4.11)	Electrical connections		P
4.6 (4.11.1)	Contact pressure		P
4.6 (4.11.2)	Screws:		N
	- self-tapping screws		N
	- thread-cutting screws		N
4.6 (4.11.3)	Screw locking:		N
	- spring washer		N
	- rivets		N
4.6 (4.11.4)	Material of current-carrying parts	Copper alloy	P
4.6 (4.11.5)	No contact to wood or mounting surface		P
4.6 (4.11.6)	Electro-mechanical contact systems		N
4.6 (4.12)	Mechanical connections 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	0,5Nm; fixing wiring Cord anchorage	P
	Torque test: torque (Nm); part		N
	Torque test: torque (Nm); part		N
4.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N
4.6 (4.12.4)	Locked connections:		P
	- fixed arms; torque (Nm)	2,5Nm	P
	- lampholder; torque (Nm)	E27; 2,0Nm	P
	- push-button switches; torque 0,8 Nm		N
4.6 (4.12.5)	Screwed glands; force (Nm)		N
4.6 (4.13)	Mechanical strength		P
4.6 (4.13.1)	Impact tests:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- fragile parts; energy (Nm)		N
	- other parts; energy (Nm).....	0,5Nm	P
	1) live parts		P
	2) linings		N
	3) protection		P
	4) covers		P
4.6 (4.13.3)	Straight test finger	30N	P
4.6 (4.13.4)	Rough service luminaires		N
	- IP54 or higher		N
	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
4.6 (4.13.6)	Tumbling barrel		N
4.6 (4.14)	Suspensions and adjusting devices		N
4.6 (4.14.1)	Mechanical load:		N
	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
	Fixed luminaire or independent control gear without fixing devices		N
4.6 (4.14.2)	Load to flexible cables		N
	Mass (kg)		N
	Stress in conductors (N/mm ²)		N
	Mass (kg) of semi-luminaire		N
	Bending moment (Nm) of semi-luminaire		N
4.6 (4.14.3)	Adjusting devices:		N
	- flexing test; number of cycles		N
	- strands broken		N
	- electric strength test afterwards		N
4.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.6 (4.14.5)	Guide pulleys		N
4.6 (4.14.6)	Strain on socket-outlets		N
4.6 (4.15)	Flammable materials:		P
	- glow-wire test 650 °C		N
	- spacing \geq 30 mm		P
	- screen withstanding test of 13.3.1		N
	- screen dimensions		N
	- no fiercely burning material		P
	- thermal protection		N
	- electronic circuits exempted		N
4.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N
	a) construction		N
	b) temperature sensing control		N
	c) surface temperature		N
4.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	P
4.6 (4.16.1)	Lamp control gear spacing:		N
	- spacing 35 mm		N
	- spacing 10 mm		N
4.6 (4.16.2)	Thermal protection:		N
	- in lamp control gear		N
	- external		N
	- fixed position		N
	- temperature marked lamp control gear		N
4.6 (4.16.3)	Design to satisfy the test of 12.6	(see 12.6)	N
4.6 (4.17)	Drain holes		N
	Clearance at least 5 mm		N
4.6 (4.18)	Resistance to corrosion:		P
4.6 (4.18.1)	- rust-resistance		N
4.6 (4.18.2)	- season cracking in copper		P
4.6 (4.18.3)	- corrosion of aluminium		N
4.6 (4.19)	Ignitors compatible with ballast		N
4.6 (4.20)	Rough service vibration		N
4.6 (4.21)	Protective shield:		N
4.6 (4.21.1)	Shield fitted		N
	Shield of glass if tungsten halogen lamps		N

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.6 (4.21.2)	Particles from a shattering lamp not impair safety		N
4.6 (4.21.3)	No direct path		N
4.6 (4.21.4)	Impact test on shield		N
	Glow-wire test on lamp compartment		N
4.6 (4.22)	Attachments to lamps		N
4.6 (4.23)	Semi-luminaires comply Class II		N
4.6 (4.24)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N
4.6 (4.25)	No sharp point or edges		N
4.6 (4.26)	Short-circuit protection:		N
4.6 (4.26.1)	Uninsulated accessible SELV parts		N
4.6 (4.26.2)	Short-circuit test		N
4.6 (4.26.3)	Test chain according to Figure 29		N
4.6.1 (-)	Insulation not damaged when placing on support		P
4.6.2 (-)	Wiring fixed, to avoid rubbing		P
4.6.3 (-)	Stability 6°		P
4.6.4 (-)	Candlestick luminaires with switch		N
4.6.5 (-)	E5 lampholders		N

4.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V)	220V-240V~	—
	Voltage form	Sinusoidal <input checked="" type="checkbox"/> Non-sinusoidal <input 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)	/	—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm)	Cr: >3,30mm; Cl: >2,20mm	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm)	Cr: >6,70mm; Cl: >6,70mm	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm)	Cr: >3,30mm; Cl: >3,30mm	P
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm)	Cr: >6,70mm; Cl: >6,70mm	P
	(5) Not used		—

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict

	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm)	Cr: >6,70mm; Cl: >6,70mm	P
4.8 (7)	PROVISION FOR EARTHING		N
4.8 (7.2.1 + 7.2.3)	Accessible metal parts		N
	Metal parts in contact with supporting surface		N
	Resistance < 0,5 Ω		N
	Self-tapping screws used		N
	Thread-forming screws		N
	Thread-forming screw used in a groove		N
	Earth makes contact first		N
4.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N
4.8 (7.2.4)	Locking of clamping means		N
	Compliance with 4.7.3		N
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N
4.8 (7.2.5)	Earth terminal integral part of connector socket		N
4.8 (7.2.6)	Earth terminal adjacent to mains terminals		N
4.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N
4.8 (7.2.8)	Material of earth terminal		N
	Contact surface bare metal		N
4.8 (7.2.10)	Class II luminaire for looping-in		N
	Double or reinforced insulation to functional earth		N
4.8 (7.2.11)	Earthing core coloured green-yellow		N
	Length of earth conductor		N

4.9 (14)	SCREW TERMINALS		N
	Separately approved; component list	(see Annex 1)	N
	Part of the luminaire	(see Annex 3)	N

4.9 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		N
	Separately approved; component list	(see Annex 1)	N
	Part of the luminaire	(see Annex 4)	N

4.10 (5)	EXTERNAL AND INTERNAL WIRING		P
4.10 (5.2)	Supply connection and external wiring		P

EN 60598-2-4			
Clause	Requirement + Test	Result - Remark	Verdict
4.10 (5.2.1)	Means of connection.....	Supply cord with plug	P
4.10 (5.2.2)	Type of cable	H03VV-F	P
	Nominal cross-sectional area (mm ²).....	2×0,75mm ²	P
	Cables equal to IEC 60227 or IEC 60245		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
4.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
4.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
4.10 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		P
4.10 (5.2.9)	Locking of screwed bushings		N
4.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
4.10 (5.2.10.1)	Cord anchorage for type X attachment:		N
	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
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

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Clause	Requirement + Test	Result - Remark	Verdict
	- pull test: 25 times; pull (N)	60N	P
	- torque test: torque (Nm).....	0,15Nm	P
	- displacement ≤ 2 mm	0,5mm	P
	- no 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
4.10 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N
4.10 (5.2.14)	Mains plug same protection		P
	Class III luminaire plug		N
4.10 (5.2.16)	Appliance inlets (IEC 60320)		N
	Appliance couplers of class II type		N
4.10 (5.2.17)	No standardized interconnecting cables properly assembled		N
4.10 (5.2.18)	Used plug in accordance with		P
	- IEC 60083		P
	- other standard		P
4.10 (5.3)	Internal wiring		P
4.10 (5.3.1)	Internal wiring of suitable size and type	H03VV-F	P
	Through wiring		N
	- not delivered/ mounting instruction		N
	- factory assembled		N
	- socket outlet loaded (A).....		N
	- temperatures.....	(see Annex 2)	N
	Green-yellow for earth only		N
4.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²)	2×0,75mm ²	P
	Insulation thickness		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
	Adequate cross-sectional area and insulation thickness		N
4.10 (5.3.1.3)	Double or reinforced insulation for class II		P
4.10 (5.3.1.4)	Conductors without insulation		N
4.10 (5.3.1.5)	SELV current-carrying parts		N
4.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		P
	Joints, raising/lowering devices		N
	Telescopic tubes etc.		N
	No twisting over 360°		P
4.10 (5.3.3)	Insulating bushings:		P
	- suitable fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- cables with protective sheath		P
4.10 (5.3.4)	Joints and junctions effectively insulated		N
4.10 (5.3.5)	Strain on internal wiring		N
4.10 (5.3.6)	Wire carriers		P
4.10 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N

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
	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
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		P
	Basic insulation only accessible under lamp or starter replacement		P
	Protection in any position		P
	Double-ended tungsten filament lamp		N
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N
	Relevant warning according to 3.2.18 fitted to the luminaire		N
4.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
4.11 (8.2.3.a)	Class II luminaire:		P

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Clause	Requirement + Test	Result - Remark	Verdict

	- 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		N
4.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N
4.11 (8.2.3.c)	Class III luminaires with exposed SELV parts:		N
	Ordinary luminaire:		N
	- touch current		N
	- no-load voltage		N
	Other than ordinary luminaire:		N
	- nominal voltage		N
4.11 (8.2.4)	Portable luminaire:		P
	- protection independent of supporting surface		P
	- terminal block completely covered		P
4.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
4.11 (8.2.6)	Covers reliably secured		P
4.11 (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

4.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
4.12 (12.3)	Endurance test:		P
	- mounting-position	table standing	—
	- test temperature (°C).....	$35 \pm 2^\circ\text{C}$	—
	- total duration (h).....	240h	—
	- supply voltage: Un factor; calculated voltage (V):	$240,0\text{V} \times 1,1 = 264\text{V}$	—
	- lamp used	E27 20W Self ballast fluorescent lamp	—
4.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N

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Clause	Requirement + Test	Result - Remark	Verdict
	- marking legible		P
	- no cracks, deformation etc.		P
4.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
4.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P
4.12 (12.6)	Thermal test (failed lamp control gear condition):		N
4.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions		—
	- electronic lamp control gear		N
	- 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
4.12 (12.6.2)	Temperature sensing control		N
	- 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
4.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N
4.12 (12.7.1)	Luminaire without temperature sensing control		N
4.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N
	Test method 12.7.1.1 or Annex V		—
	Test according to 12.7.1.1:		N
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N
	- Test with standard test finger after the test		N
	Test according to Annex V:		N
	- 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)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Ball-pressure test:		N
	- part tested; temperature (°C)		N
	- part tested; temperature (°C)		N
4.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N
	- 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
	- part tested; temperature (°C)		N
	- part tested; temperature (°C)		N
4.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N
	- case of abnormal conditions		—
	- Components retained in place after the test		N
	- Test with standard test finger after the test		N
4.12 (12.7.2)	Luminaire with temperature sensing control		N
	- 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
	- part tested; temperature (°C)		N
	- part tested; temperature (°C)		N
4.12 (-)	Test overturned position (overturns < 15°)	overturns	P
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	table standing	—
	- fixing screws tightened; torque (Nm)		—
	- tests according to clauses	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
	b) no talcum in dust-tight luminaire		N
	c) no trace of water on current-carrying parts or SELV 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)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N
	f) no contact with live parts (IP3X and IP4X)		N
	g) no trace of water on part of lamp requiring protection from splashing water		N
	h) no damage of protective shield or glass envelope		N
4.13 (9.3)	Humidity test 48 h		P

4.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
4.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø	covered by metal foil	—
	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:		P
	- between live parts of different polarity	500MΩ	P
	- between live parts and mounting surface	500MΩ	P
	- between live parts and metal parts	500MΩ	P
	- between live parts of different polarity through action of a switch	500MΩ	P
4.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N
	Luminaires with ignitors after 24 h test		N
	Luminaires with manual ignitors		N


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Clause	Requirement + Test	Result - Remark	Verdict

	Test voltage (V):		P
	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:		P
	- between live parts of different polarity	1480V	P
	- between live parts and mounting surface	2960V	P
	- between live parts and metal parts	2960V	P
	- between live parts of different polarity through action of a switch	2960V	P
4.14 (10.3)	Touch current (mA)	0,005mA (limit: 0,7mA)	P

4.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		N
4.15 (13.2.1)	Ball-pressure test:		N
	- part tested; temperature (°C)		N
	- part tested; temperature (°C)		N
4.15 (13.3.1)	Needle flame test (10 s):		N
	- part tested		N
	- part tested		N
4.15 (13.3.2)	Glow-wire test (650°C):		N
	- part tested		N
	- part tested		N
4.15 (13.4.1)	Tracking test: part tested		N

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Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 1: components	P
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object/part No.	manufacturer/trademark	type/model	technical data	standard	Mark of conformity
Cord			300/300V 2× 0.75mm ²	EN 60227-3	VDE 40027906
Plug			250V 2.5A	EN 884-1	VDE 40016225
Switch			250V 2A	EN 61058-1 EN 61058-2	VDE 106396
Lampholder			250V 4A	EN 60238	VDE 40025119

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Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 2: temperature measurements, thermal tests of Section 12	P
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	Type reference	505045	—
	Lamp used	20W E27 Self ballast fluorescent lamp	—
	Lamp control gear used	/	—
	Mounting position of luminaire	table standing	—
	Supply wattage (W).....	21,7W	—
	Supply current (A)	0,143A	—
	Calculated power factor	0,596	—
	Table: measured temperatures corrected for $t_a = 25\text{ }^{\circ}\text{C}$:		P
	- abnormal operating mode.....	overturns	—
	- test 1: rated voltage	/	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage	1,06Un=254,4V	—
	- 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	1,10Un=264V	—
	Through wiring or looping-in wiring loaded by a current of A during the test	/	—

temperature ($^{\circ}\text{C}$) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Mounting surface	—	25,1	—	90+5	27,4	130+5
Surface heated by the lamp	—	—	—	—	37,7	175+5
Lampholder	—	42,3	—	165+5	—	—
Lamp cap	—	49,9	—	145+5	—	—
Internal wiring	—	34,2	—	90+5	—	—
Supply cord	—	25,6	—	90+5	—	—
Plug/socket interface	—	26,5	—	70+5	—	—
Switch	—	25,5	—	55+5	—	—

Remark: measurements were taken after the luminaire had stabilized thermally in test 2 and test 4.

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Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 3: screw terminals (part of the luminaire)		N
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(14)	SCREW TERMINALS		N
(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		N
(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) ..	M	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

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Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 4: screwless terminals (part of the luminaire)	N
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(15)	SCREWLESS TERMINALS	N
(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 or welded connections (4 samples); pull (N)	N
	Pull test pin or tab terminals (4 samples); pull (N)	N

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Clause	Requirement + Test	Result - Remark	Verdict

[illegible]

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Clause	Requirement + Test	Result - Remark	Verdict

The tests of ENDURANCE TEST AND THERMAL TEST are carried out on Model 505045 with 60W E27 Incandescent lamp:

4.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
4.12 (12.3)	Endurance test:		P
	- mounting-position	table standing	—
	- test temperature (°C).....	35±2°C	—
	- total duration (h).....	240h	—
	- supply voltage: Un factor; calculated voltage (V):	227,0V×1,05=238.35V	—
	- lamp used	60W E27 Incandescent lamp	—
4.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N
	- marking legible		P
	- no cracks, deformation etc.		P
4.12 (12.4)	Thermal test (normal operation)	(see Annex 5)	P
4.12 (12.5)	Thermal test (abnormal operation)	(see Annex 5)	P
4.12 (12.6)	Thermal test (failed lamp control gear condition):		N
4.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		—
	- case of abnormal conditions.....		—
	- electronic lamp control gear		N
	- 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
4.12 (12.6.2)	Temperature sensing control		N
	- 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
4.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaries):		N
4.12 (12.7.1)	Luminaire without temperature sensing control		N
4.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N

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Clause	Requirement + Test	Result - Remark	Verdict
	Test method 12.7.1.1 or Annex V		—
	Test according to 12.7.1.1:		N
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V)		—
	- Components retained in place after the test		N
	- Test with standard test finger after the test		N
	Test according to Annex V:		N
	- 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
	- part tested; temperature (°C)		N
	- part tested; temperature (°C)		N
4.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N
	- 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
	- part tested; temperature (°C)		N
	- part tested; temperature (°C)		N
4.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N
	- case of abnormal conditions		—
	- Components retained in place after the test		N
	- Test with standard test finger after the test		N
4.12 (12.7.2)	Luminaire with temperature sensing control		N
	- 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		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- highest measured temperature of fixing point/exposed part (°C):		—
	Ball-pressure test:		N
	- part tested; temperature (°C)		N
	- part tested; temperature (°C)		N
4.12 (-)	Test overturned position (overturns < 15°)	overturns	P

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Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 5: temperature measurements, thermal tests of Section 12	P
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	Type reference	505045	—
	Lamp used	60W E27 Incandescent lamp	—
	Lamp control gear used	/	—
	Mounting position of luminaire	table standing	—
	Supply wattage (W)	63W	—
	Supply current (A)	0,277A	—
	Calculated power factor	1,00	—
	Table: measured temperatures corrected for $t_a = 25\text{ }^{\circ}\text{C}$:		P
	- abnormal operating mode	overturns	—
	- test 1: rated voltage	/	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage	1,05P _n =63W	—
	- 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	1,05P _n =63W	—
	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
Mounting surface	—	27,8	—	90+5	29,2	130+5
Surface heated by the lamp	—	—	—	—	42,1	175+5
Lampholder	—	47,1	—	165+5	—	—
Lamp cap	—	64,8	—	210+5	—	—
Internal wiring	—	38,5	—	90+5	—	—
Supply cord	—	29,4	—	90+5	—	—
Plug/socket interface	—	28,3	—	70+5	—	—
Switch	—	27,4	—	55+5	—	—

Remark: measurements were taken after the luminaire had stabilized thermally in test 2 and test 4.

注意事项 Important

1. 报告无检验单位印章无效;

The test report is invalid without the official stamp of CVC;

2. 未经本试验室书面同意, 不得部分地复制本报告;

Any photocopies or part photocopies of the test report are forbidden without the written permission from CVC;

3. 报告无主检、审核、批准人签名无效;

The test report is invalid without the signatures of Author and Reviewer;

4. 报告涂改无效;

The test report is invalid if altered;

5. 对检验报告若有异议, 请于收到报告之日起十五天内向检验单位提出;

Objections to the test report must be submitted to CVC within 15 days;

6. 一般情况, 委托检验结果仅对所检验样品有效;

Generally, commission test is responsible for the tested samples only;

7. 检验结果中“—”表示“不适用”, “/”表示“未检验”。

As for the test result, “N” means “not applicable”, “P” means “pass” and “F” means “fail”.

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