

TEST REPORT

Report Number: HA0121010209LE
Applicant's name.....: JIAXING NOMOY PET PRODUCTS CO., LTD.
Applicant's address: Second floor of second north building of Lianhua Road, Fengqiao Town, Nanhu District, Jiaxing City, Zhejiang Province.
Name of manufacturer: Same as applicant
Address of manufacturer.....: Same as applicant
Name of factory (ies).....: Same as applicant
Address of factory (ies): Same as applicant
Product Name: Bulb
Trade Mark(s).....: N/A
Model No.: ND-01 XX, ND-02 XX, ND-03 XX, ND-04 XX, ND-05 XX, ND-06 XX, ND-07 XX, ND-13 XX, ND-20 XX, ND-21 XX
xx : Stand for 5-250W
Ratings: AC 220-230V, 50/60Hz, Max.150W; IP20, Class II
Total number of pages.....: 25+ 2 pages of ATTACHMENT A + 3 pages of photo documents
Standard.....: Luminaires Part 2: Particular requirements:
Section Six – Luminaires with built-in transformers or convertors for filament lamps
EN 60598-2-6: 1994 + A1: 1997 used in conjunction with
EN 60598-1: 2015 + A1: 2018
IEC 60598-2-6:1994+A1:1996 used in conjunction with
IEC 60598-1:2014 + A1: 2017
Date of Receipt sample.....: January 17, 2021
Date of Test.....: January 17, 2021 to January 29, 2021
Date of issue: January 29, 2021
Test Report Form No......: HATEK60598_2_6A
Test Result: Pass*

***Remarks:**

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and reviewer.

Prepared By:

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Prepared by:

Judy Mei

Judy Mei/ Project Engineer

Reviewed by:



Miranda Mo

Miranda Mo / Technical Manager

Summary of testing:

From the result of our inspection and tests on the submitted samples, we conclude that they comply with the requirements of the standards.

Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.

Tests performed (name of test and test clause):

Full tests on ND-04 150W.
Construction check is performed on all the models.
The product complies with the safety requirements.

Testing location:

Testing Laboratory name: Ningbo HATEK Co., Ltd.
Address: 6F, No. 65, Mujin Road, National Hi-Tech Zone, Ningbo, Zhejiang 315013, China

Summary of compliance with National Differences:

N/A.

Copy of marking plate:

MODEL: ND-04 150W			
AC 220-230V 50/60Hz 150W			
			IP20
			MADE IN CHINA
JIAXING NOMOY PET PRODUCTS CO., LTD.			
Second floor of second north building of Lianhua Road, Fengqiao Town, Nanhu District, Jiaxing City, Zhejiang Province.			

The label is representative, other models have the same except model name and rated wattage.

Series number: XXXXXX

Importer:

Name: XXXXXX

Address: XXXXXX

Remark:

1. "Manufacture or/and his importer shall ensure product bears label requirements in article 6 and article 8 of the 2014/35/EU relate to name, batch number, post address prior place the product into EU market."



2. This symbol for electric shock risk will be marked on outer enclosure:

Test item particulars	Filament lamps
Classification of installation and use	Class II for normal indoor use
Supply Connection	Self-balasted filament lamps(E27 cap)
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement.....	F (Fail)

General remarks: The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a comma (point) is used as the decimal separator. Clause numbers between brackets refer to clauses in IEC 60598-1
General product information: 1. The samples are Class II filament lamp. It is suitable for indoor use. 2. Rated voltage and frequency : AC 220-230V, 50/60Hz 3. ND-01 XX, ND-02 XX, ND-03 XX, ND-04 XX, ND-05 XX, ND-06 XX, ND-07 XX, ND-13 XX, ND-20 XX, ND-21 XX are the same except for model name. 4. xx stand for 5-150W 5. After review, model ND-04 150W was selected to conduct full tests. Other models were conducted construction review.

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict

6.2 (0)	GENERAL TEST REQUIREMENTS		P
6.2 (0.1)	Information for luminaire design considered	Standard Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	↓
64.2 (0.3)	More sections applicable	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	↓

6.4 (2)	CLASSIFICATION		P
6.4 (2.2)	Type of protection (Class 0 excluded)	Class II	↓
6.4 (2.3)	Degree of protection (Requirement: Ordinary)	IP20	↓
6.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	↓
	Luminaire not suitable for direct mounting on normally flammable surfaces.....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	↓
6.4 (2.5)	Luminaire for normal use	Yes <input type="checkbox"/> No <input type="checkbox"/>	↓
	Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	↓

6.5 (3)	MARKING		P
6.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
6.5 (3.3)	Additional information		P
	Language of instructions	English	P
6.5 (3.3.1)	Combination luminaires		N/A
6.5 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
6.5 (3.3.3)	Operating temperature	See marking plate	P
6.5 (3.3.4)	Symbol or warning notice		N/A
6.5 (3.3.5)	Wiring diagram		N/A
6.5 (3.3.6)	Special conditions		N/A
6.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
6.5 (3.3.8)	Limitation for semi-luminaires		N/A
6.5 (3.3.9)	Power factor and supply current		N/A
6.5 (3.3.10)	Suitability for use indoors		P
6.5 (3.3.11)	Luminaires with remote control		N/A
6.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
6.5 (3.3.13)	Specifications of protective shields		N/A
6.5 (3.3.14)	Symbol for nature of supply		P
6.5 (3.3.15)	Rated current of socket outlet		N/A

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict
6.5 (3.3.16)	Rough service luminaire		N/A
6.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments		N/A
6.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
6.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
6.5 (3.3.20)	Provided with information if not intended to be mounted within arms reach		N/A
6.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
6.5.1 (-)	Rated voltage		P
6.5.2 (-)	Output voltage visible during lamp replacement		P
6.5.3 (-)	Warning notice		N/A
6.5.4 (-)	Marking on transformer or convertor		N/A
6.5.5 (-)	Fuse-link rating		N/A

6.6 (4)	CONSTRUCTION		P
6.6 (4.2)	Components replaceable without difficulty		N/A
6.6 (4.3)	Wireways smooth and free from sharp edges		P
6.6 (4.4)	Lampholders		P
6.6 (4.4.1)	Integral lampholder		N/A
6.6 (4.4.2)	Wiring connection		P
6.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
6.6 (4.4.4)	Positioning		N/A
	- pressure test (N)		N/A
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		P
	- bending test (N)	2,0Nm	P
	After test the lampholder have not moved from its position and show no permanent deformation		P
6.6 (4.4.5)	Peak pulse voltage		N/A
6.6 (4.4.6)	Centre contact		N/A

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
6.6 (4.4.8)	Lamp connectors		N/A
6.6 (4.4.9)	Caps and bases correctly used		N/A
6.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
6.6 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
6.6 (4.7)	Terminals and supply connections		N/A
6.6 (4.7.1)	Contact to metal parts		N/A
6.6 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
6.6 (4.7.3)	Terminals for supply conductors		N/A
6.6 (4.7.3.1)	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
6.6 (4.7.4)	Terminals other than supply connection		N/A
6.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
6.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
6.6 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with 61058-1 for electronic switches		N/A
6.6 (4.9)	Insulating lining and sleeves		N/A
6.6 (4.9.1)	Retainment		N/A
	Method of fixing..... :		N/A

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict
6.6 (4.9.2)	Insulated linings and sleeves		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C)..... :		N/A
6.6 (4.10)	Insulation of Class II luminaires		P
6.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
6.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
6.6 (4.10.3)	Retention of insulation:		P
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		P
6.6 (4.11)	Electrical connections		N/A
6.6 (4.11.1)	Contact pressure		N/A
6.6 (4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
6.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
6.6 (4.11.4)	Material of current-carrying parts		N/A
6.6 (4.11.5)	No contact to wood or mounting surface		N/A
6.6 (4.11.6)	Electro-mechanical contact systems		N/A
6.6 (4.12)	Mechanical connections and glands		N/A
6.6 (4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part		N/A
	Torque test: torque (Nm); part		N/A

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict
	Torque test: torque (Nm); part		N/A
6.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
6.6 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)		N/A
	- lampholder; torque (Nm)		N/A
	- push-button switches; torque 0,8 Nm		N/A
6.6 (4.12.5)	Screwed glands; force (Nm)		N/A
6.6 (4.13)	Mechanical strength		P
6.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)	0,2Nm	P
	- other parts; energy (Nm).....	0,35Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
6.6 (4.13.3)	Straight test finger		P
6.6 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
6.6 (4.13.6)	Tumbling barrel		N/A
6.6 (4.14)	Suspensions and adjusting devices		P
6.6 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	Metal rod. diameter (mm)		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
6.6 (4.14.2)	Load to flexible cables		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Mass (kg)		N/A
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		N/A
	Bending moment (Nm) of semi-luminaire		N/A
6.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
6.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
6.6 (4.14.5)	Guide pulleys		N/A
6.6 (4.14.6)	Strain on socket-outlets		N/A
6.6 (4.15)	Flammable materials:		N/A
	- 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
6.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
6.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	(compliance with Section 12)	P
6.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
6.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
6.6 (4.16.3)	Design to satisfy the test of 12.6	(see 12.6)	N/A

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

6.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V)	230V	↓
	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).....	2,5kV	↓
	Measured circuit.....		

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Clause	Requirement + Test	Result - Remark	Verdict
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm).....	>2,5mm	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....	>5,0mm	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm).....		N/A
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm).....		N/A
	(5) Not used		↓
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....	>5,0mm	P
	Between transformer windings: cr (mm); cl (mm) ..		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

6.8.1 (-)	Metal shell of lampholders		N/A
6.8.2 (-)	Earthing of secondary circuit		N/A
6.8.3 (-)	Current path during operation		N/A

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

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

6.10 (5)	EXTERNAL AND INTERNAL WIRING		P
6.10 (5.2)	Supply connection and external wiring		P
6.10 (5.2.1)	Means of connection.....:		N/A
6.10 (5.2.2)	Type of cable.....:		N/A
	Nominal cross-sectional area (mm ²).....:		N/A
	Cables equal to IEC 60227 or IEC 60245		N/A
6.10 (5.2.3)	Type of attachment, X, Y or Z		N/A
6.10 (5.2.5)	Type Z not connected to screws		N/A
6.10 (5.2.6)	Cable entries:		N/A
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
6.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
6.10 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
6.10 (5.2.9)	Locking of screwed bushings		N/A
6.10 (5.2.10)	Cord anchorage:		N/A
	- covering protected from abrasion		N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- no tying of cables into knots etc.		N/A
	- insulating material or lining		N/A
6.10 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
6.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
6.10 (5.2.10.3)	Tests:		N/A
	- impossible to push cable; unsafe		N/A
	- pull test: 25 times; pull (N)		N/A
	- torque test: torque (Nm).....		N/A
	- displacement ≤ 2 mm		N/A
	- no movement of conductors		N/A
	- no damage of cable or cord		N/A
6.10 (5.2.11)	External wiring passing into luminaire		P
6.10 (5.2.12)	Looping-in terminals		N/A
6.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
6.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
6.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Appliance couplers of class II type		N/A
6.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
6.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
6.10 (5.3)	Internal wiring		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.10 (5.3.1)	Internal wiring of suitable size and type		N/A
	Through wiring		N/A
	- not delivered/ mounting instruction		P
	- factory assembled		N/A
	- socket outlet loaded (A)		N/A
	- temperatures..... : (see Annex 2)		N/A
	Green-yellow for earth only		P
6.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm ²)		N/A
	Insulation thickness		N/A
	Extra insulation added where necessary		N/A
6.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
6.10 (5.3.1.3)	Double or reinforced insulation for class II		P
6.10 (5.3.1.4)	Conductors without insulation		N/A
6.10 (5.3.1.5)	SELV current-carrying parts		N/A
6.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
6.10 (5.3.2)	Sharp edges etc.		N/A
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
6.10 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
6.10 (5.3.4)	Joints and junctions effectively insulated		N/A
6.10 (5.3.5)	Strain on internal wiring		N/A
6.10 (5.3.6)	Wire carriers		N/A
6.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
6.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, within arms reach, on wall-mounted luminaires		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
6.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		P
6.11 (8.2.3.a)	Class II luminaire:		N/A
	- 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/A
6.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
6.11 (8.2.3.c)	Class III luminaires with exposed SELV parts:		N/A
	Ordinary luminaire:		N/A
	- touch current		N/A
	- no-load voltage		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage		N/A
6.11 (8.2.4)	Portable luminaire:		N/A
	- protection independent of supporting surface		N/A
	- terminal block completely covered		N/A

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict
6.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
6.11 (8.2.6)	Covers reliably secured		P
6.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A

6.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
6.12 (12.3)	Endurance test:		P
6.12a (-)	- test voltage $1,1 U_n$ (V)	$1,1 \times 230\text{V} = 253\text{V}$	↓
6.12 (12.3)	- mounting-position	Normal operation	↓
	- test temperature ($^{\circ}\text{C}$)	35	↓
	- total duration (h).....	240	↓
	- supply voltage: U_n factor; calculated voltage (V):		↓
	- lamp used		↓
6.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
6.12 (12.4)	Thermal test (normal operation)		(see Annex 2) P
6.12b (-)	- test voltage $1,06 U_n$ (V)	$1,06 \times 230\text{V} = 243,8\text{V}$	↓
6.12 (12.5)	Thermal test (abnormal operation)		(see Annex 2) N/A
6.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
6.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A)		↓
	- case of abnormal conditions		↓
	- electronic lamp control gear		N/A
	- measured winding temperature ($^{\circ}\text{C}$): at $1,1 U_n$:		↓
	- measured mounting surface temperature ($^{\circ}\text{C}$) at $1,1 U_n$		N/A
	- calculated mounting surface temperature ($^{\circ}\text{C}$) . :		N/A
	- track-mounted luminaires		N/A

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict
6.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions		↓
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C) ...:		N/A
	- track-mounted luminaires		N/A
6.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
6.12 (12.7.1)	Luminaire without temperature sensing control		N/A
6.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex V		↓
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		↓
	- Ballast failure at supply voltage (V)		↓
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex V:		N/A
	- case of abnormal conditions		↓
	- measured winding temperature (°C): at 1,1 Un...:		↓
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un.....:		↓
	- calculated temperature of fixing point/exposed part(°C).....:		↓
	Ball-pressure test:		N/A
	- part tested; temperature (°C)		N/A
	- part tested; temperature (°C)		N/A
6.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		↓
	- measured winding temperature (°C): at 1,1 Un...:		↓
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un.....:		↓
	- calculated temperature of fixing point/exposed part(°C).....:		↓
	Ball-pressure test:		N/A
	- part tested; temperature (°C)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- part tested; temperature (°C).....:		N/A
6.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		↓
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
6.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link	Yes <input type="checkbox"/> No <input type="checkbox"/>	↓
	- manual reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	↓
	- auto reset cut-out	Yes <input type="checkbox"/> No <input type="checkbox"/>	↓
	- case of abnormal conditions		↓
	- highest measured temperature of fixing point/exposed part (°C):.....:		↓
	Ball-pressure test:		N/A
	- part tested; temperature (°C).....:	N/A	
	- part tested; temperature (°C).....:	N/A	

6.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
6.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		N/A
	- classification according to IP	IP20	↓
	- mounting position during test.....	Normal operation	↓
	- fixing screws tightened; torque (Nm)	N/A	↓
	- tests according to clauses	Clause 9.2.1, 9.2.2 and 9.2.6	↓
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		P
6.13 (9.3)	Humidity test 48 h	Humidity: 93%, Temp.: 25°C	P

6.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
6.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø	Covered by metal foil	↓
	Insulation resistance (MΩ)	As below	↓
	SELV:		N/A
	- between current-carrying parts of different polarity.....		N/A
	- between current-carrying parts and 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	>100 MΩ	P
	- between live parts and mounting surface	>100 MΩ	P
	- between live parts and metal parts		N/A
	- between live parts of different polarity through action of a switch		N/A
6.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):	See below	P
	SELV:		N/A
	- between current-carrying parts of different polarity.....		N/A
	- between current-carrying parts and 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	1460V	P
	- between live parts and mounting surface	2920V	P

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Clause	Requirement + Test	Result - Remark	Verdict
	- between live parts and metal parts		N/A
	- between live parts of different polarity through action of a switch		N/A
6.14 (10.3)	Touch current (mA)	0,03mA, limit: 0,7mA peak	P

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

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 1: components		N/A
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object/part No.	code	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 2: temperature measurements, thermal tests of Section 12		P
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Type reference	:	N/A	↓
Lamp used	:	N/A	↓
Lamp control gear used.....	:	N/A	↓
Mounting position of luminaire.....	:	Normal operation	↓
Supply wattage (W)	:	161,9W	↓
Supply current (A).....	:	0,666A	↓
Calculated power factor.....	:	0,482	↓
Table: measured temperatures corrected for ta = 25 °C:			
- abnormal operating mode	:		↓
- test 1: rated voltage.....	:	N/A	↓
- test 2: 1,06 times rated voltage or 1,05 times rated wattage	:	1,06 x 230V = 243,8V	↓
- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....	:	N/A	↓
- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....	:	N/A	↓
Through wiring or looping-in wiring loaded by a current of A during the test	:	N/A	↓

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Contact cap	N/A	114,6	N/A	Ref.	N/A	N/A
Luminaire cover	N/A	189,6	N/A	Ref.	N/A	N/A

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 3: screw terminals (part of the luminaire)		N/A
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(14)	SCREW TERMINALS		N/A
(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 (mm ²)		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

IEC 60598-2-6			
Clause	Requirement + Test	Result - Remark	Verdict

	ANNEX 4: screwless terminals (part of the luminaire)		N/A
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(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal		↓
	Rated current (A)		↓
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples).....:		N/A
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples).....:		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.2)	Permanent connections: pull-off test (20 N)		N/A
(15.6)	Electrical tests		
	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
(15.8.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N)		N/A

EN 60598 - ATTACHMENT A

Clause	Requirement + Test	Result - Remark	Verdict
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**ATTACHMENT TO TEST REPORT IEC 60598-2-6
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**

Luminaires

Part 2: Particular requirements:

Section Six – Luminaires with built-in transformers or convertors for filament lamps

Differences according	EN 60598-2-6:1994 + A1:1997 used in conjunction with EN 60598-1:2015 + A1:2018
Annex Form No.	EU_GD_IEC_60598_2_6A
Annex Form Originator	I HATEK
Master Annex Form	2021-01

	CENELEC COMMON MODIFICATIONS (EN)	P
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6.5 (3)	MARKING	P
6.5 (3.3.101)	Adequate warning on the package	P

6.6 (4)	CONSTRUCTION	P
6.6 (4.11.6)	Electro-mechanical contact systems	N/A

6.10 (5)	EXTERNAL AND INTERNAL WIRING	P
6.10 (5.2.1)	Connecting leads	P
	- without a means for connection to the supply	P
	- terminal block specified	N/A
	- relevant information provided	N/A
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1	N/A
6.10 (5.2.2)	Cables equal to HD21 S2 or HD22 S2	N/A

6.12 (12)	ENDURANCE TEST AND THERMAL TEST	P
6.12 (12.4.2c)	Thermal test (normal operation)	P

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)	N/A
(3.3)	DK: power supply cord with label	N/A
	IT: warning label on Class 0 luminaire	N/A
(4.5.1)	DK: socket-outlets	N/A
(5.2.1)	CY, DK, FI, SE, GB: type of plug	N/A

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)	N/A
(4 & 5)	FR: Shuttered socket-outlets 10/16A	N/A

EN 60598 - ATTACHMENT A

Clause	Requirement + Test	Result - Remark	Verdict
(13.3)	FR: Glow-wire test 850°C alt. 750°C for luminaires in premises open to public or 960°C for luminaires in emergency exits		N/A
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N/A

PHOTO DOCUMENTATION

Photo 1

Model: ND-13 20W

Description: Overall view



Photo 2

Model: ND-13 20W

Description: Overall view



PHOTO DOCUMENTATION

Photo 3

Model: ND-13 20W

Description: Internal view



Photo 4

Model: ND-04 150W

Description: Overall view



PHOTO DOCUMENTATION

Photo 5

Model: ND-04 150W

Description: Overall view



===== End of Photo Documentation =====