TEST REPORT

Report Number. .....:	HA0121010208L
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 .....:	UVB lamp
Trade Mark(s).....:	N/A
Model No. .....:	ND-23 xx, ND-09 xx, ND-18 xx, ND-19 xx xx : Stand for 5-50W
Ratings .....:	AC 220-250V, 50/60Hz, Max.30W; IP20, Class II
Total number of pages.....:	11+ 2 pages of ATTACHMENT A + 3 pages of photo documents
Standard.....:	Self-ballasted fluorescent lamps for general lighting services - Safety requirements EN 60968:2015 IEC 60968:2015 (Third Edition)
Date of Receipt sample.....:	January 19, 2021
Date of Test.....:	January 19, 2021 to January 29, 2021
Date of issue .....:	January 29, 2021
Test Report Form No......:	HATEK60968A
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:

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Reviewed by:

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List of Attachments (including a total number of pages in each attachment):

1. 2 pages of ATTACHMENT A (EN 60968).
2. 3 pages of PHOTO DOCUMENTATION.

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-23 30W.

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:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

MODEL: ND-23 30W
AC 220-250V 50/60Hz 30W Lamp type: Fluorescent



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.”

Test item particulars..... :	UVB lamp
Classification of installation and use..... :	Class II for normal indoor use
Supply Connection ..... :	Self-ballasted fluorescent 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)
Testing..... :	See below
Date of receipt of test item .....:	January 19, 2021
Date (s) of performance of tests.....:	January 19, 2021 to January 27, 2021

General remarks:

"(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.

Name and address of factory (ies) ..... :	JIAXING NOMOY PET PRODUCTS CO., LTD. Second floor of second north building of Lianhua Road, Fengqiao Town, Nanhu District, Jiaxing City, Zhejiang Province.

General product information:

1. The samples are self-ballasted Class II fluorescent lamp. It is suitable for indoor use.
2. Rated voltage and frequency : AC 220-250V, 50/60Hz
3. ND-23 xx, ND-09 xx, ND-18 xx, ND-19xx are the same except for model name.
4. xx stand for 5-30W
5. After review, model ND-23 30W was selected to conduct full tests. Other models were conducted construction review.

IEC 60968			
Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1	The lamp shall be so designed and constructed that in normal use cause no danger to the user		P
4.3	Self-ballasted lamp are non-repairable		P
5	**MARKING**		P
5.1	**Lamp marking**		**P**
	1) Mark of origin		P
	2) Rated voltage(s)	220-250V	P
	3) Rated power	30	P
	4) Rated frequency	50/60Hz	P
	5) Information needed to identify the product		N/A
5.2	**Additional marking**		**P**
	1) Rated lamp current		N/A
	2) Reduced mechanical stability of certain luminaires if significant higher weight than lamp replaced		N/A
	3) Symbol or information if not suitable for dimming		P
	4) Symbol or information; to be used in dry conditions or in luminaire that provides protection		P
5.3	**Compliance of marking**		**P**
	1) Visual inspection of 5.1		P
	2) Test with water	15s	P
	3) Visual inspection of 5.2		P
5.4	**Locations where marking is required**		**P**
	Locations according Table 1		P
6	**INTERCHANGEABILITY, MASS AND BENDING MOMENT**		**P**
6.1	**Interchangeability**		**P**
	Use of caps in accordance with IEC 60061-1		P
	Compliance with gauges in IEC 60061-3		P
6.2	**Bending moment and mass imparted by the lamp at the lampholder**		**P**
	Bending moment (Nm) ..... :	<2Nm	P
	Mass not exceed value in Table 2 (Kg)..... :	0,09Kg	P
7	**PROTECTION AGAINST ELECTRIC SHOCK**		**P**

IEC 60968			
Clause	Requirement + Test	Result - Remark	Verdict
	No internal metal parts, basic insulated external parts or live metal parts are accessible when installed in a relevant lampholder		P
	Test with test finger		P
	External metal parts not become live with movable conductive material in the most onerous position		P
	Test of insulation resistance and electric strength according clause 8		P
8	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		**P**
8.1	**General**		**P**
	Adequate insulation resistance and electric strength between live parts and accessible parts		P
	Conditioned for 48 h at 91-95% relative humidity and 20-30 °C and test 8.2 and 8.3 under these conditions		↓
8.2	**Insulation resistance**		**P**
	Between live parts and the foil ≥ 4 MΩ ..... :	>100 MΩ	P
8.3	**Electric strength**		**P**
	Between live parts and the foil according Table 10.2 of IEC 60598-1 for Class II (V) .....:	3000V	P
	No flashover or breakdown		P
9	**MECHANICAL STRENGTH**		**P**
9.1	**General**		**P**
	Withstand externally applied axial pull and bending moment		P
9.2	**Torsion resistance**		**P**
9.2.1	Torsion resistance according Table 3 (Nm) ..... :	3Nm	P
	After test the lamp comply with clause 7		P
9.3	Axial strength according Table 4 (N) ..... :	120N	P
	After test the central contact remain intact		P
	No impressing of the bottom part after 9.2		P
10	**CAP TEMPERATURE RISE**		**P**
	Cap temperature rise Δt_S according Table 5 (K) ..... :	25K, limit 120K	P
11	**RESISTANCE TO HEAT**		**P**
	Sufficiently resistant to heat		P

IEC 60968			
Clause	Requirement + Test	Result - Remark	Verdict
	Ball-pressure test ..... :	See Test Table 11	P
12	**RESISTANCE TO FLAME AND IGNITION**		P
	Glow-wire test (650°C)..... :	See Test Table 12	P
13	**FAULT CONDITIONS**		P
13.1	**General requirements**		**P**
	Lamp not impair safety under fault conditions		P
13.2	**Test conditions**		**P**
	a) Short-circuit of the starter in switch-start circuit	See Test Table 13	N/A
	b) Broken electrode	See Test Table 13	P
	c) Deactivated lamp	See Test Table 13	N/A
	d) Rectifying effect	See Test Table 13	N/A
	e) Opening or bridging other points in the circuit	See Test Table 13	N/A
	Lamp not catch fire		P
	No flammable gases		P
	Live parts not become accessible according clause 7		P
	Insulation resistance according clause 8.2 with d.c. 1000V ≥ 4 MΩ ..... :	>100 MΩ	P
14	**CREEPAGE DISTANCES AND CLEARANCES**		P
	Requirements of IEC 61347-1 except for conductive accessible parts	See Table 14	N/A
	Requirements of IEC 60598-1 for conductive accessible parts	See Table 14	P
15	**Lamp end of life**		N/A
15.1	**General requirements**		**N/A**
	No overheating if partial rectification		N/A
15.3	**Compliance**		**N/A**
	Observed during test of samples according 15.2:		N/A
	a) no flaming in the enclosure		N/A
	b) no burn-through openings in the enclosure		N/A
	c) no dislodged particles of glass larger than 3,8 mm		N/A
	d) area of charred black spots does not exceed 75 mm^2		N/A

IEC 60968			
Clause	Requirement + Test	Result - Remark	Verdict
	e) no charred black area around the tube wider than 3.8 mm		N/A
16	**PHOTOBIOLOGICAL SAFETY**		P
16.1	**UV radiation**		**N/A**
	UV power ≤ 2 mW/klm ..... :		N/A
	Reflector lamp UV power ≤ 2 mW/(m^2·klx) ..... :		N/A
17	**ABNORMAL OPERATION**		P
	No hazard under abnormal or careless operation		P
	Risk of fire, mechanical damage impairing safety of protection against electric shock is obviated		P
	No hazard with non-dimmable lamp on a dimmer or on electronic switch		P
	No fire, flammable gases or accessible live parts during test of non-dimmable lamp in test circuit in Figure 10		P

IEC 60968			
Clause	Requirement + Test	Result - Remark	Verdict

11	TABLE: Ball Pressure Test			P
Allowed impression diameter (mm) .....:				↓
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Plastic enclosure	See ANNEX 1	80	1,0	
PCB	See ANNEX 1	125	1,1	
Bobbin of transformer	See ANNEX 1	125	1,3	
Supplementary information:				

12	TABLE: Glow-wire test			P
Glow wire temperature .....:	650°C			↓
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Plastic enclosure	See ANNEX 1	No	0	P
Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....:				Yes
Supplementary information:				

13	TABLE: tests of fault conditions	P
Part	Simulated fault	Hazard
C1	Short- circuit, fuse opened immediately	~~YES/~~NO
C2	Short- circuit, normal operation	~~YES/~~NO
C3	Short- circuit, normal operation	~~YES/~~NO
C4	Short- circuit, normal operation	~~YES/~~NO

IEC 60968			
Clause	Requirement + Test	Result - Remark	Verdict

14	TABLE: clearance and creepage distance measurements (mm)							P
Applicable part of IEC 61347-1 Table 7 – 11* and IEC 60598-1 Table 11.1 – 11.2*								
	Insulation type **	Measured clearance	Required		Measured creepage	Required		
			clearance	*Table		creepage	*Table	
Distance 1:	B	2,8	1,5	11.1 B	2,8	2,5	11.1A	
Working voltage (V)..... :					250V			↓
Frequency if applicable (kHz)..... :					50/60Hz			↓
PTI ..... :					< 600 ☒ ≥ 600 ☐			↓
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A			↓
Pulse voltage if applicable (kV) ..... :					N/A			↓
Supplementary information: Between Land N								
Distance 2:	S	>2,5	1,5	11.1 B	>2,5	2,5	11.1A	
Working voltage (V)..... :					250V			↓
Frequency if applicable (kHz)..... :					50/60Hz			↓
PTI ..... :					< 600 ☐ ≥ 600 ☐			↓
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A			↓
Pulse voltage if applicable (kV) ..... :					N/A			↓
Supplementary information: Between internal wire and plastic enclosure								
Distance 3:	R	>5,0	2,5	11.1 B	>5,0	5,0	11.1A	
Working voltage (V)..... :					250V			↓
Frequency if applicable (kHz)..... :					50/60Hz			↓
PTI ..... :					< 600 ☐ ≥ 600 ☐			↓
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :					N/A			↓
Pulse voltage if applicable (kV) ..... :					N/A			↓
Supplementary information: Between live part and plastic enclosure								

** Insulation type: B – Basic; S – Supplementary; R – Reinforced

IEC 60968			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1	TABLE: Critical components information					P
Object / part No.	**Code**	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
Plastic enclosure	C	Jiangsu Meiao New Material Co Ltd	ABS-FG(cc)	V-0, 60°C	EN 60968	Tested with appliance & UL E342952
Internal wire	C	ZHUANG LONG FLUOROPLASTICS PRODUCT FACTRY	1015	24AWG, 105°C	EN 60968	Tested with appliance & UL E306226
Heat-shrinkable tubes	C	SHENZHEN WOLIDA TRADING CO LTD	RSFR-H-2	VW-1, 125°C	EN 60968	Tested with appliance & UL E329530
Fuse resistor	C	Huaian Zebang Electronic Co Ltd	RXF-1WS	2,2Ω	EN 60968	Tested with appliance & UL E477494
PCB	C	HUBEI ZHONGPEI ELECTRONICS TECHNOLOGY CO LTD	ZP-2	V-0, 130°C	EN 60968	Tested with appliance & UL E481795
Magnet of transformer	C	ZHEJIANG HONGBO TECHNOLOGY CO LTD	xUEW/155, QA-x/155	VW-1, 155 °C	EN 60968	Tested with appliance & UL E221719
Bobbin of transformer	C	ZHEJIANG JIAMIN PLASTIC CO LTD	PF2A4-161J	150°C, V-0	EN 60968	Tested with appliance & UL E231508
Tape of transformer	C	HAINING CHULONG TAPE CO LTD	CL ALL TAPE	PET, 130 °C	EN 60968	Tested with appliance & UL E464604

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.

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

ATTACHMENT A - EN 60968			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60968
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
Self-ballasted fluorescent lamps for general lighting services - Safety requirements

Differences according to .....: EN 60968:2015

Annex Form No. ..... : HATEK_IEC60968A

Annex Form Originator ..... : HATEK

Master Annex Form ..... : 2021-01

	CENELEC COMMON MODIFICATIONS (EN)		**P**
4	**GENERAL REQUIREMENTS**		**P**
4.2	All measurements unless otherwise specified in this standard, shall be carried out at rated voltage and frequency and in a draught-proof room		P
9	**MECHANICAL STRENGTH**		**P**
9.2	Torsion resistance		P
9.2.2	Torsion resistance of lamps after a defined time of usage		P
	The torsion resistance of used lamps is under consideration		P
13	**FAULT CONDITIONS**		**P**
13.3	Test setup for non-starting lamp		N/A
	Test setup for c) in 13.2.		N/A
15	**Lamp end of life**		**N/A**
15.2	One of the following options shall be chosen when the manufacturer provides samples for testing.		N/A
	– Six samples shall be used for the test. Three of the samples shall have no emission-mix on one lamp electrode and the other three samples shall have no emission-mix on the other lamp electrode.		N/A
	– Six samples shall be used for the test. The samples may have minimum amount emission-mix on one or both electrode(s).		N/A

ATTACHMENT A - EN 60968			
Clause	Requirement + Test	Result - Remark	Verdict
20	**Collation of type test verification**		**P**
	The minimum sampling size for type testing shall be as given in Table 6		P
Annex A	**Whole production assessment**		**N/A**
A.1	Assessment – General		N/A
A.2	Whole production assessment by means of the manufacturer's records		N/A
A.2.1	In presenting the test results, the manufacturer may combine the results of different lamp test families according to Table 5.		N/A
A.2.2	The manufacturer should provide sufficient test records with respect to each clause and subclause as indicated in Table A.1.		N/A
Annex B	**Information for luminaire design**		**N/A**
B.1	Water contact		N/A
	All lamps within the scope of this standard should be protected from direct water contact, e. g. by drips, splashing etc., by the luminaire if rated at IPX1 or higher.		N/A

PHOTO DOCUMENTATION

Photo 1

Model: ND-23 13W

Description: Overall view

Photo 2

Model: ND-23 13W

Description: Internal view

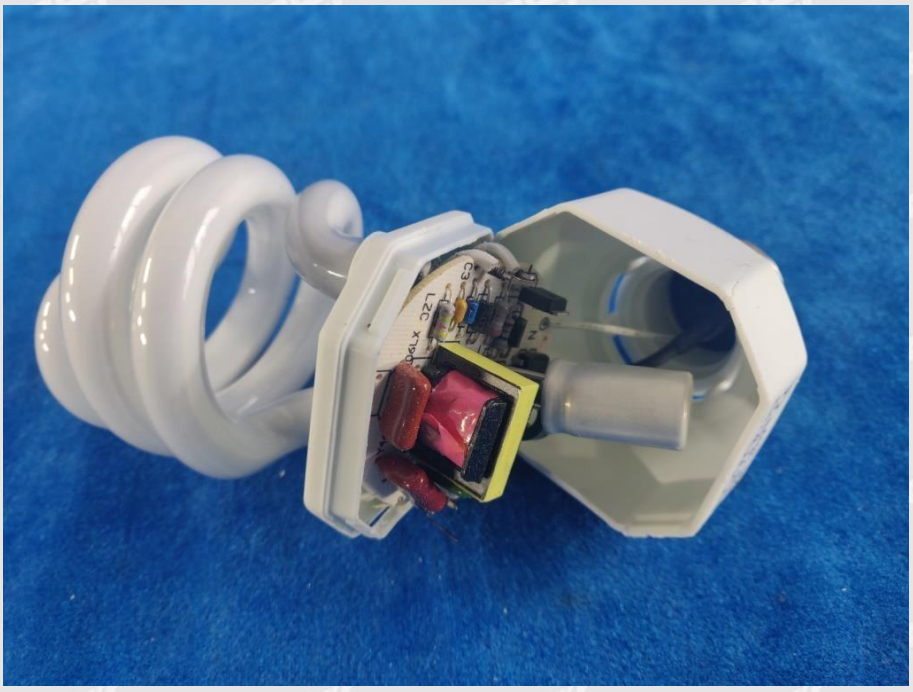


PHOTO DOCUMENTATION

Photo 3

Model: ND-23 13W

Description: Internal view

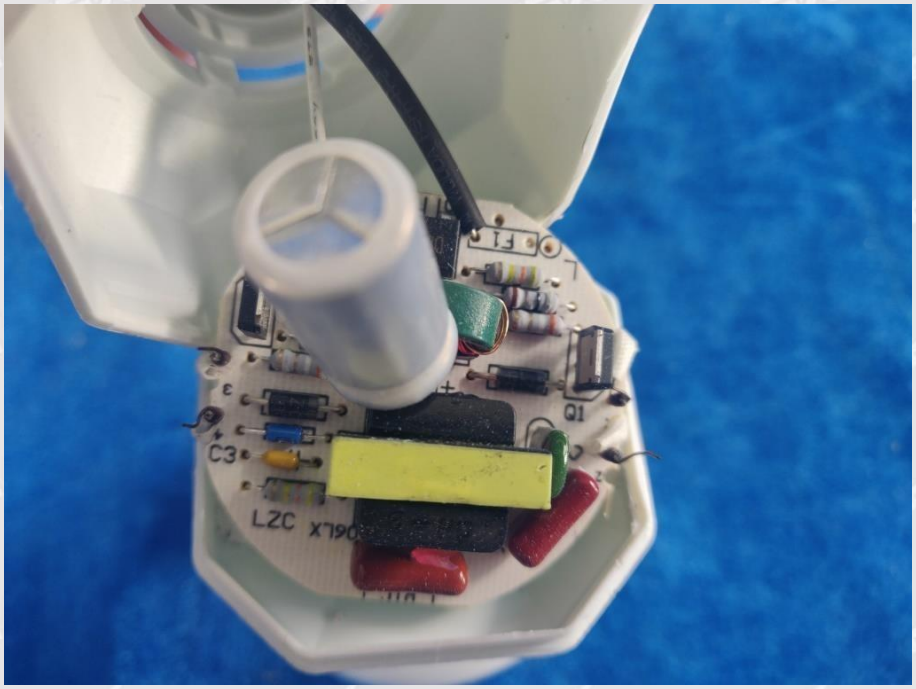


Photo 4

Model: ND-23 30W

Description: Overall view

PHOTO DOCUMENTATION

Photo 5

Model: ND-23 30W

Description: Internal view

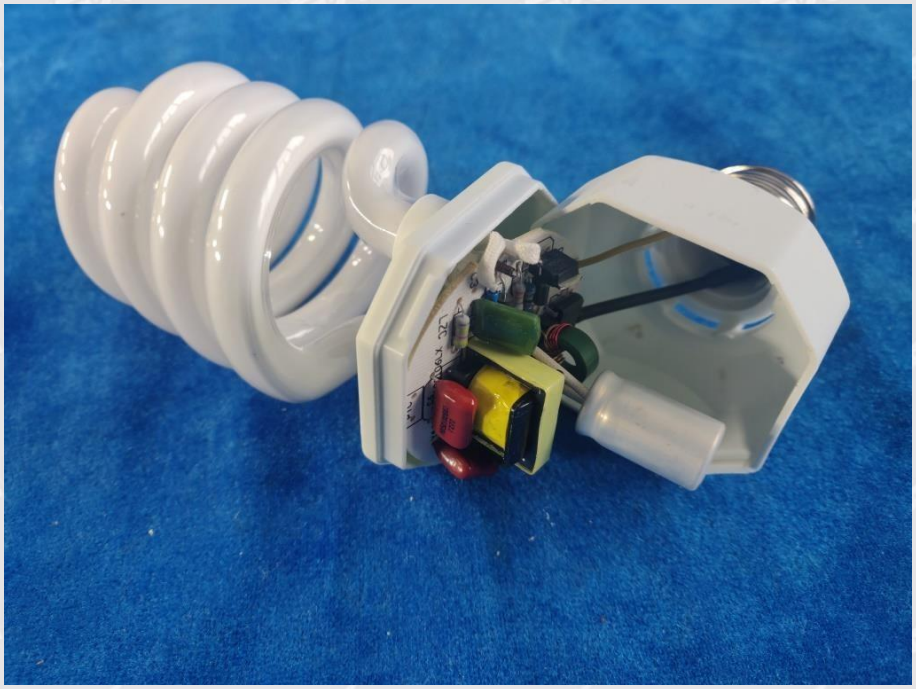
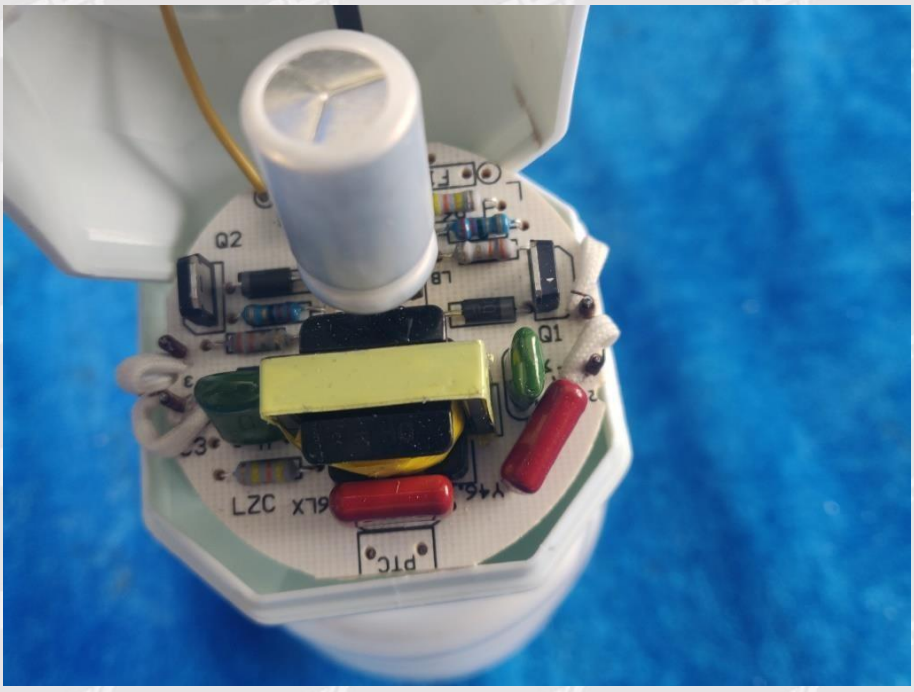


Photo 6

Model: ND-23 30W

Description: Internal view



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