CE LVD

TEST REPORT

For

LED SPOTLIGHT

Model No.:	**VT-1846, VT-1849, VT-1946, VT-1943, VT-2083D, VT-2003, VT-203, VT-204, VT-2103, VT-2175D, VT-2177, VT-2254, VT-2243, VT-2227, VT-2228**
Applicant :	**V-TAC EXPORTS LIMITED** **ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG**
Manufacturer :	**V-TAC EXPORTS LIMITED** **ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG**
Issued By :	**Global-Standard Testing Service Co., Ltd.** **Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District,Shenzhen, Guangdong, China.**
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Report Number :	**D00.06.0429S-R2**
Issued Date :	**January 16, 2019**
Date of Report :	**January 16, 2019**

Note:

1. The test data and result is based on the tested sample only.
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TEST REPORT EN 62560:2012 Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications	
Report reference No. ……..……:	D00.06.0429S-R2
Testing laboratory ……:	Global-Standard Testing Service Co., Ltd.
Location……..:	Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District, Shenzhen, Guangdong, China.
Applicant……..:	V-TAC EXPORTS LIMITED
Address:……..:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG
Manufacturer……..:	V-TAC EXPORTS LIMITED
Address:……..:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG
Standards……..:	EN 62560: 2012+ A1:2015 EN 60061-1:1993+A57:2018 EN 62031: 2008+A1:2013+A2:2015 EN 61347-1:2015 EN 61347-2-13:2014+A1:2017 EN 62471:2008 EN 62493: 2015
Procedure deviation……:	N/A
Non-standard test method……..:	N/A
Type of test equipment ……...:	LED Bulb
Trade mark……:	V-TAC
Model/Type designation……..:	VT-1846, VT-1849, VT-1946, VT-1943, VT-2083D, VT-2003, VT-203, VT-204, VT-2103, VT-2175D, VT-2177, VT-2254, VT-2243, VT-2227, VT-2228
Rating……:	AC230V, 50/60Hz, Max.2W
Copyright blank test report:	Global-Standard Testing Service Co., Ltd.
Test item particulars:	--
Operating Condition	Continuous
Class of equipment	Class II equipment
Protection against ingress of water	IP20

General remarks:	
"(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. 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 testing laboratory. Until otherwise specified, all tests are done under normal ambient condition 25℃±10℃, Max RH: 75% and air pressure of 860 mbar to 1060 mbar.	Attached with: Attachment - A. Photo Documentation

Brief description of the test sample:

1.The equipment with models VT-1846, VT-1849, VT-1946, VT-1943, VT-2083D, VT-2003, VT-203, VT-204, VT-2103, VT-2175D, VT-2177, VT-2254, VT-2243, VT-2227, VT-2228;

2.All the models are the same construction except cap head, LED color and LED numbers. The control gear inside lamp with different out voltage have different parameters of secondary components.

3.Model VT-1846 was selected as representative sample .

4.The European standard EN 62471 for LED laser product requirement has considered.

5.Clauses 8,10, 11, 12, 14, 16, 17, 18, 19 and 20 of the European standard test EN61347-2-13 used in conjunction with EN 61347-1 for lamp control gear inside P56-32W have been consideration.

6.The Safety specifications of LED modules for general lighting was evaluated with reference to EN 62031.

7.The European standard EN 62493 for requirement has considered.

8.This report is based on report D00.06.0429S-R1 dated May 07, 2018.

Possible test case verdicts :	
test case does not apply to the test object	N(/A.)
test object does meet the requirement	P(ass)
test object does not meet the requirement	F(ail)

Name and address of the testing laboratory :

Global-Standard Testing Service Co., Ltd.
Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District, Shenzhen, Guangdong, China.

Tested by : _____ May 03, 2018
Signature Date

Evan Chen / Engineer
Name/title

Witnessed by: _____ January 16, 2019
Signature Date

John Huang / Project engineer
Name/title

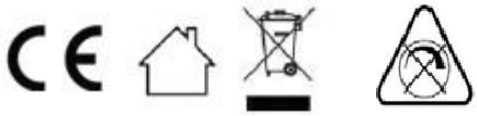
Approved by : _____ January 16, 2019
Signature Date

Global-Standard Testing Service Co.,Ltd. APPROVED

Nico Xie / Manager
Name/title

Copy of marking plate

LED Bulb
Model: VT-1846
Rating: 230Vac, 50/60Hz, 2W
Non-replaced LED



V-TAC EXPORTS LIMITED

Note: Due to similarity of the labels, only above label was listed.

- The above copy of marking plate as an example, All the other models will have the same marking plate except the model name and input rating only and other parameter

-The above markings are the minimum requirements required by the safety standard. For the final productions samples, the additional markings which do not give rise to misunderstanding may be added.

- The height of WEEE directive mark is at least 7mm height.

EN 62560			
Clause	Requirement	Result - Remark	Verd.
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
4.2	Self-ballasted LED-Lamp are non-repairable.		P

5.	**MARKING**		P
5.1	Mandatory marking	V-TAC EXPORTS LIMITED	P
	- mark of origin		P
	- rated supply voltage (V).....	230VAC	P
	- rated wattage (W).....	See label	P
	- rated frequency (Hz).....	50/60Hz	P
5.2	Addition marking	See label	P
	- burning position		N
	- rated current (A).....		P
	- weight significantly higher	Warning:increased weight of lamp may reduce the mechanical stability of certain luminaires and lampholders and may impair contact making and lanp retention (inthe instruction manual)	P
	- special conditions or restrictions		N
	Not suiltable for dimming;symbol used 		P
	- eye protection	The products are classified as exempt group according to IEC 62471:2008.	P
5.3	Marking durable and legible		P
	rubbing 15 s water, 15 s petroleum; marking legible		P
Addition:	Position of the marking	On the body	P
	Language of instructions	English	P
	Suitability for use indoors		P
	Wireways smooth and free from sharp edges		P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
6	**INTERCHANGEABILITY**		P
6.1	Cap interchangeability in accordance with IEC 60061-1		P
	Gauge in accordance with IEC 60061-3		P
6.2	Bending moment,axial pull ande mass		P
	Bending moment imparted by the lamp at the lampholder		P
	Lamp construction withstands axial pull (N)		P
	Mass not exceeding value tabel 2 (kg) ..... :	0.002kg	P
7.	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		P
	Internal, basic insulated or live metal parts not accessible		P
	Tested with a test finger with a force of 10 N		P
	Compliance checked with appropriate gauges		N
Addition:	Live parts not accessible		P
	Protection in any position		P
	Insulation lacquer not reliable		P
	Class II luminaire:		P
	- insulation-encased, reinforced insulation		P
	- glass protective shields not used as supplementary insulation		P
	Covers have adequate strength		P
	Covers reliably secured		P
	Portable plug connected luminaire with capacitor		N
8.	**INSULATION RESISTANCE AND ELECTRIC STRENGTH AFTER HUMIDITY TREATMENT**		P
8.1	Insulation resistance and electric strength shall be adequate between live parts of the lamp and accessible parts of the lamp.		P
8.2	After storage 48 h at 91- 95% relative humidity and 20- 30 °C measuring of insulation resistance with d.c. 500 V (MΩ):		P
	≥ 4 MΩ for double or reinforced insulation :	100 MΩ.	P
8.3	Immediately after clause 8.2 electric strength test for 1 min		P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
	Double or reinforced insulation, 4U + 2000 V	3000	P
	No flashover or breakdown		P
9.	**MECHANICAL STRENGTH**		P
	Torsion resistance of unused lamps		
9.1	Torque test		P
	B 15 d Cap..... 1,15 Nm		N
	B 22 d Cap..... 3,0 Nm		N
	E 11 Cap..... 0,8 Nm		N
	E 12 Cap..... 0,8 Nm		N
	E 14 Cap..... 1,15 Nm		N
	E 27 Cap..... 1,5 Nm		N
	Cap.....3,0 Nm		N
	G4.....1.150 Nm		P
	GX 53 Cap..... 3,0 Nm	under consideration	N
9.2	Torsion resistance of lamps after a defined time of usage		N
	Torsion resistance of used lamp	under consideration.	N
9.3	Repetition of clause 8		P
	Clause 8 shall comply after the mechanical strength test.		P
Addition:	Lampholders		N
	Mounting brackets for Edison screw or bayonet-capped lampholders are subjected to testing for 1min, to the following bending moments:		N
	Locked connections:		P
	- fixed arms; torque (Nm).....:	5.0Nm	P
	- lampholder; torque (Nm).....:		N
	- push-button switches; torque (Nm).....:		N
	No sharp point or edges		P
	Impact tests:		P
	- fragile parts; energy (Nm).....:	0.35Nm	N
	- other parts; energy (Nm).....:		P
	1) live parts		P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
	2) linings		P
	3) protection		P
	4) covers		P
	Straight test finger		P
10	**CAP TEMPERATURE RISE**		P
	The cap temperature rise Δt_s of the lamp shall not exceed 120 K.		P
	- B22d.....125K :		N
	- B15d.....120K :		N
	- E27.....120K :		N
	- Cap.....125 K :		N
	- E17.....125 K :		N
	-G4.....75 K	51.2	P
11	RESISTANCE TO HEAT		P
	External parts of insulating material providing protection against electric shock, and parts of insulating material retaining live parts in position, ball pressure test:		P
	Part tested; temperature (°C); diameter of impression (≤ 2 mm):	See appended table	P
	Part tested; temperature (°C); diameter of impression (≤ 2 mm):		N
	Part tested; temperature (°C); diameter of impression (≤ 2 mm):		N
12.	RESISTANCE TO FLAME AND IGNITION		P
	Parts of insulating material retaining live parts in position and external parts of insulating material providing protection against electric shock, glow-wire test 650 °C		P
	- no flaming drops igniting tissue paper		P
	- flame extinguished within 30 s		P
	Part tested; temperature (°C).....:	See table 11	P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
	No visible flame and no sustained glowing		P
13	**FAULT CONDITIONS**		P
13.2	Extreme electrical conditions (dimmable lamps)		P
	Lamp withstands overpower condition >15 min.		N
	Lamp fails safe after 15 min overpower condition		P
	Lamp with automatic protective device or power limiter, test performed 15 min. at limit.		P
13.3	Extreme electrical conditions (non-dimmable lamps)		P
	Tested according 13.2 (as far as possible)		P
13.4	Short-circuit across capacitors	(see appended table)	P
13.5	Fault conditions: where diagram indicates fault condition impairs safety, electronic components have been short-circuited or disconnected	(see appended table)	P
13.6	When operated under fault conditions the lamp		P
	- does not emit flames or molten material		P
	- does not produce flammable gases or smoke		P
	- live parts not accessible		P
	After the tests the insulation resistance with d.c. 1000 V complies with requirements of Cl. 8.1.....		P
14 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Creep age distances and clearances according to Table 3 and 4 of IEC 61347-1, as appropriate		P
	Printed boards see clause 14 of IEC 61347-1		P
	Insulating lining of metallic enclosures		N

TABLE	List of critical components and materials			
Component	manufacturers / trademark	Type / model	Value / rating	Approval/ Reference
PCB	Shikibo Electronics Co Ltd	E4	V-0, 130℃	UL
Heat-shrinkable tube	Shenzhen Woer Heat-Shrinkable Material Co Ltd	RSFR	600V, 125℃	UL
internal wire	--	1007	VW-1, 300V, 80℃, 22AWG	UL
Plastic part	CHENGUANG RESEARCH INSTITUTE OF CHEMICAL IND CHINA NATL BLUE STAR CO LTD	PCV0	V-0, 130℃	UL

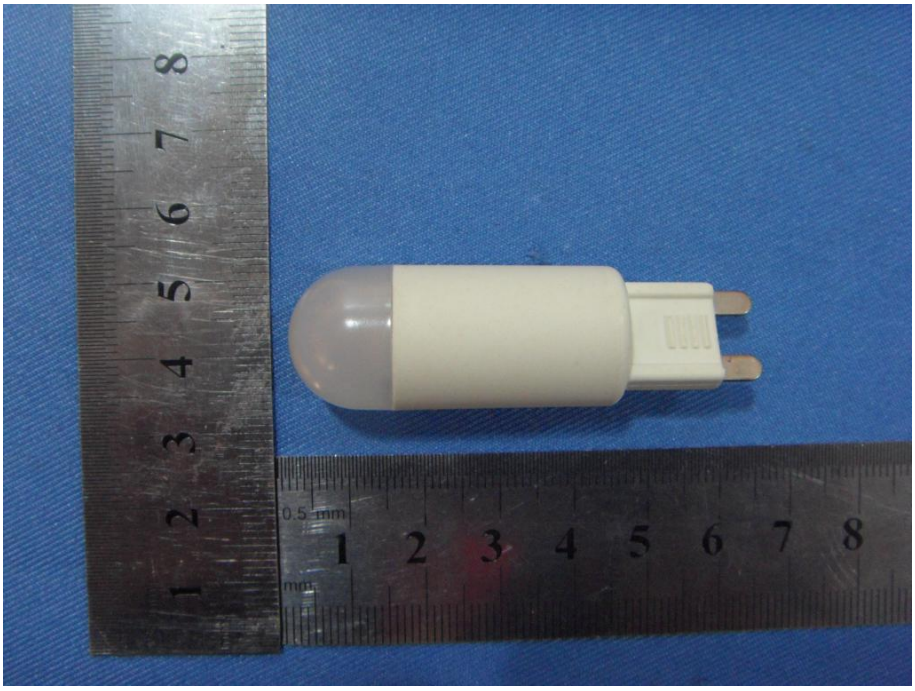
Test Data table

13	TABLE: tests of fault conditions		
Part	Simulated fault	Result	Hazard

11	TABLE: ball pressure test of thermoplastics		P
Part	Test temperature (℃)	Impression diameter (mm)	Required impression diameter (mm)
PCB	125	0.95	≤2.0
Lamp shade	75	1.22	≤2.0

14(16)	TABLE: Clearance And Creep age Distance Measurements					P
clearance cl and creep age distance decry at/of:	**Up (V)**	**U rams. (V)**	**Required cl (mm)**	**cl (mm)**	**required decry (mm)**	**decry (mm)**
L and N on PCB	--	230	1.5	2.6	2.5	4.2
Different polarity of fuse	--	230	1.5	2.7	2.5	2.7
Live parts on driver PCB and accessible part	--	230	3.0	>3.0	3.0	>3.0
Primary circuit and secondary circuit of LED driver PCB	--	230	3.0	>3.0	3.0	>3.0
Primary winding of transformer and secondary circuit of LED driver	--	230	3.0	>3.0	3.0	>3.0
Core of transformer and secondary winding of LED driver	--	230	3.0	>3.0	3.0	>3.0
Supplementary information:						

Attachment –A
Photo Documentation

Photo 1 View: [√] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [ ] Internal	

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