



# CE LVD TEST REPORT

For  
LED SPOTLIGHT

**Model No.:** VT-2102

**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.

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**Report Number :** J02.06.0174S

**Issued Date :** August 01, 2017

**Date of Report :** August 01, 2017

**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. ....:	J02.06.0174S
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+A54:2016 EN 61347-1:2015 EN 61347-2-13:2014 EN 62031:2008+A1:2013+A2:2015 EN 62471:2008 EN 62493:2015
Procedure deviation.....:	N/A
Non-standard test method.....:	N/A
Type of test equipment .....	LED SPOTLIGHT
Trade mark.....:	
Model/Type designation.....:	VT-2102
Rating.....:	220-240V~, 50/60Hz, 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	IP44

<p><b>General remarks:</b></p> <p>“(see remark #)” refers to a remark appended to the report.</p> <p>“(see appended table)” refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>Until otherwise specified, all tests are done under normal ambient condition <math>25^{\circ}\text{C}\pm 10^{\circ}\text{C}</math>, Max RH: 75% and air pressure of 860 mbar to 1060 mbar.</p>	<p>Attached with:</p>
<p>Brief description of the test sample:</p> <ol style="list-style-type: none"> <li>1. The European standard EN 62471 for LED laser product requirement has considered;</li> <li>2. 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 INF-9 have been consideration;</li> <li>3. The Safety specifications of LED modules for general lighting was evaluated with reference to EN 62031;</li> <li>4. The European standard EN 62493 for requirement has considered.</li> </ol>	

**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:** Sean Xiao

July 24, 2017

Signature

Date

Sean Xiao/ Engineer  
 Name/title

**Witnessed by:** Peter Chen

August 01, 2017  
 Date

Signature

Peter Chen / Project Engineer  
 Name/title

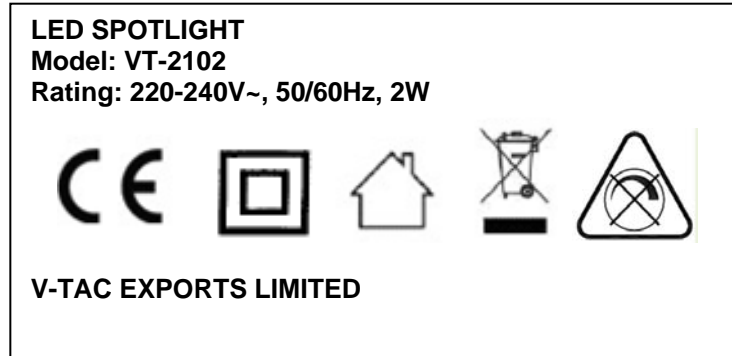
**Approved by:** 

August 01, 2017  
 Date



Tim Sun / Manager  
 Name/title

**Copy of marking plate**



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.

<b>4</b>	<b>GENERAL REQUIREMENTS</b>		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

<b>5.</b>	<b>MARKING</b>		P
5.1	Mandatory marking	V-TAC EXPORTS LIMITED	P
	- mark of origin		P
	- rated supply voltage (V).....	See label	P
	- rated wattage (W) .....	See label	P
	- rated frequency (Hz) .....	See label	P
5.2	Addition marking	See label	P
	- burning position		N
	- rated current (A).....	See label	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 suitable for dimming;symbol used  		P
	- eye protection	The products are classified as exempt group according to IEC 62471:2006.	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

<b>6</b>	<b>INTERCHANGEABILITY</b>		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) .....	40N	P
	Mass not exceeding value tabel 2 (kg) .....	0.012	P

<b>7.</b>	<b>PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS</b>		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		P
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		N
	Covers have adequate strength		P
	Covers reliably secured		P
	Portable plug connected luminaire with capacitor		N

<b>8.</b>	<b>INSULATION RESISTANCE AND ELECTRIC STRENGTH AFTER HUMIDITY TREATMENT</b>		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 :	>100MΩ.	P
8.3	Immediately after clause 8.2 electric strength test for 1 min		P
	Double or reinforced insulation, 4U + 2000 V	2960	P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
	No flashover or breakdown		P
9.	<b>MECHANICAL STRENGTH</b>		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
	GU10 Cap.....1.15Nm		N
	E 14 Cap ..... 1,15 Nm		N
	E 27 Cap ..... 1,5 Nm		N
	Cap ..... 3,0 Nm		P
	GX 53 Cap ..... 3,0 Nm		N
9.2	Torsion resistance of lamps after a defined time of usage		N
	Torsion resistance of used lamp		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:		N
	- fixed arms; torque (Nm).....:		N
	- lampholder; torque (Nm).....:		N
	- push-button switches; torque (Nm).....:		N
	No sharp point or edges		N
	Impact tests:		N
	- fragile parts; energy (Nm).....:		N
	- other parts; energy (Nm) .....		N
	1) live parts		N
	2) linings		N



EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict

	3) protection		N
	4) covers		N
	Straight test finger		N

<b>10</b>	<b>CAP TEMPERATURE RISE</b>		<b>P</b>
	The cap temperature rise $\Delta t_s$ of the lamp shall not exceed 120 K.		P
	- B22d ..... 125K :		N
	- B15d ..... 120K :		N
	- E27 ..... 120K :		N
	- Cap ..... 125 K :	ANNEX 1	P
	- E14 ..... 125 K :		N
	-GU10.....100 K		N

<b>11</b>	<b>RESISTANCE TO HEAT</b>		<b>P</b>
	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 ( $\leq 2$ mm):	See appended table	P
	Part tested; temperature (°C); diameter of impression ( $\leq 2$ mm):		N
	Part tested; temperature (°C); diameter of impression ( $\leq 2$ mm):		N

<b>12.</b>	<b>RESISTANCE TO FLAME AND IGNITION</b>		<b>P</b>
	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
	No visible flame and no sustained glowing		P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict

<b>13</b>	<b>FAULT CONDITIONS</b>		<b>P</b>
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

<b>14 (16)</b>	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		<b>P</b>
	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

<b>TABLE</b>		<b>List of critical components and materials</b>		
Component	manufacturers / trademark	Type / model	Value / rating	Approval/ Reference
LED PCB	Shikibo Electronics Co Ltd	E4	V-0, 130°C	UL
Diffuser	V-TAC EXPORTS LIMITED	Various	Glass material	--

## Test Data table

<b>13</b>	<b>TABLE: tests of fault conditions</b>		<b>N/A</b>
Part	Simulated fault	Result	Hazard

<b>11</b>	<b>TABLE: ball pressure test of thermoplastics</b>			<b>P</b>
Part	Test temperature (°C)	Impression diameter (mm)	Required impression diameter (mm)	
PCB	125	0.77	≤2.0	

<b>14(16)</b>	<b>TABLE: Clearance And Creep age Distance Measurements</b>					<b>P</b>
<b>clearance cl and creep age distance decry at/of:</b>	<b>Up (V)</b>	<b>U rams. (V)</b>	<b>Required Cl (mm)</b>	<b>Cl (mm)</b>	<b>required Cr (mm)</b>	<b>Cr (mm)</b>
L and N on PCB	--	240	3.0	>3.0	5.0	>5.0
Live parts on driver PCB and accessible part	--	240	3.0	>3.0	5.0	>5.0
<b>Supplementary information:</b>						

<b>ANNEX 1</b>	<b>TABLE: temperature measurements, thermal tests of Section 12</b>					<b>P</b>
	Lamp used .....	VT-2102				—
	Ballast used .....					—
	Mounting position of luminaire.....	As in normal use				—
	Supply wattage (W) .....	1.8W				—
	Supply current (A).....	0.06A				—
	Table: measured temperatures corrected for Ta = 25°C:					<b>P</b>
	- abnormal operating mode .....	—				—
	- test 1: rated voltage .....	—				—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage .....	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 .....	—				—
	temperature (°C) of part	clause 12.4 - normal			clause 12.5 - abnormal	
		test 1	test 2	test 3	limits	test 4 limit




Report Reference No.: J02.06.0174S

Pin lamp cap	---	67.3	---	145	---	---
LED PCB	---	51.5	---	130	---	---
LED	---	77.8	---	Ref.	---	---
Diffuser outside	---	42.3	---	90	---	---
Mounting surface	---	37.5	---	90	---	---
Ambient	---	25.0	---	---	---	---

Attachment –A  
Photo Documentation

<p>Photo 1</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input checked="" type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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<p>Photo 2</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input checked="" type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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--END--