CE LVD
TEST REPORT

For

LED SMD STREET LIGHT

Model No.:	**VT-15155ST, VT-15130ST, VT-15150ST, VT-15120ST, VT-15100ST, VT-15080ST, VT-15104ST, VT-15131ST, VT-15151ST, VT-15105ST, VT-15121ST,VT-15165ST, VT-15135ST, VT-15121ST, VT-15115ST, VT-15055ST**
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.**
Tel :	**+86 755 33863599**
Email :	**market.@gstslab.com**
Report Number :	**D00.06.0437S**
Issued Date :	**December 26, 2016**
Date of Report :	**December 26, 2016**

Note:

1. The test data and result is based on the tested sample.
2. Please verify information in the report on GST web: www.gstslab.com by using report number. Or email to us..
3.

LVD Report EN60598-1&EN60598-2-3 Luminaires—Part 1 :General requirements and tests Part 2: Particular requirements Section Three – Luminaires for road and street lighting	
Report reference No. ……..……:	D00.06.0437S
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 60598-2-3:2003+A1:2011 EN 60598-1:2015 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 SMD STREET LIGHT
Trade mark……:	V-TAC
Model/Type designation……..:	VT-15155ST, VT-15130ST, VT-15150ST, VT-15120ST, VT-15100ST, VT-15080ST, VT-15104ST, VT-15131ST, VT-15151ST, VT-15105ST, VT-15121ST, VT-15165ST, VT-15135ST, VT-15121ST, VT-15115ST, VT-15055ST
Rating……:	AC 100-240V, 50-60Hz, Max. 120W
TRF originator……:	Global-Standard Testing Service Co., Ltd.
Copyright blank test report:	Global-Standard Testing Service Co., Ltd.
Test item particulars:	--
Operating Condition	Continuous
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	N/A.
Class of equipment	Class I equipment and Fixed equipment

Protection against ingress of water	IP65

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 — December 24, 2016
Signature — Date

Sean Xiao / Engineer
Name/title

Reviewed by : Jerry Hu — December 26, 2016
Signature — Date

Jerry Hu / Project engineer
Name/title

Approved by : APPROVED — December 26, 2016
Signature — Date

Tim Sun / Manager
Name/title

General remarks: Clause number between brackets refer to clauses in IEC 60598-1 "(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. Unless otherwise specified, test are made under normal conditions at an ambient temperature within the range of 15℃ to 35℃, RH45% to 75% and an air pressure of 860mbar of 1060mbar	Attachment with: 1) Photo documentation

Brief description of the test sample:

1.This report covers the LED SMD STREET LIGHT with models VT-15155ST, VT-15130ST, VT-15150ST, VT-15120ST, VT-15100ST, VT-15080ST, VT-15104ST, VT-15131ST, VT-15151ST, VT-15105ST, VT-15121ST, VT-15165ST, VT-15135ST, VT-15121ST, VT-15115ST, VT-15055ST

2.All models have the same construction except for LED number and wattage;

3.The model VT-15120ST was selected representative sample to perform all testing due to maximum wattage;

4.The safety specifications of LED modules for general lighting was evaluated with reference to EN 62031;

5.The standard of EN 62471 and EN 62493 have been considered in report.

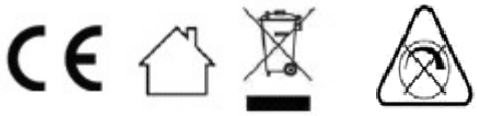
6.This report is based on GST1509221133S, dated September 28, 2015.

Label

Representative

LED SMD STREET LIGHT

Model: VT-15120ST
Rating:AC 100-240V 50-60Hz 120W



V-TAC EXPORTS LIMITED
Made in China

Note:

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

2,All models have the same marking plate except the model name and input rating with wattage.

3.The height of WEEE directive mark is at least 7mm .Others directive mark are at least

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict

3.2.(0)	**GENERAL TEST REQUIREMENTS**		**P**
3.2	Type of luminaire		—
	☐ Luminaire for road, street or other public outdoor	Yes	—
	☐ Tunnel lighting	No	—
	☐ Column – integrated luminaire	No	—
	☐ Only appropriate part of the luminaire tested	No	—
3.2 (0.3)	Information for luminaire design considered	Standard IEC 62031 Yes ☐ No ☒	—
3.1 (0.1)	More sections applicable .....:	Yes ☒ No ☐	—

3.4 (2)	**CLASSIFICATION**		**P**
3.4 (2.2)	Type of protection .....:	Class I	—
3.4 (2.3)	Degree of protection.....:	IP65	—
3.4 (2.4)	Portable or handheld luminaire .....:	Yes ☐ No ☒	—
	Luminaire suitable for normally flammable surfaces .....:	Yes ☐ No ☒	—
	Luminaire suitable to be covered by insulating materials .....:	Yes ☐ No ☒	—
3.4 (2.5)	Luminaire for normal use .....:	Yes ☒ No ☐	—
	Luminaire for rough service .....:	Yes ☐ No ☒	—

3.5 (3)	**MARKING**		**P**
3.5 (3.2)	Mandatory markings		P
	Position of the marking	On the body	P
	Format of symbols/text		P
3.5 (3.3)	Additional information		P
	Language of instructions	English	P
3.5 (3.3.1)	Combination luminaires		N/A
3.5 (3.3.2)	Nominal frequency in Hz	50-60Hz	P
3.5 (3.3.3)	Operating temperature		P
3.5 (3.3.4)	Symbol or warning notice	See above the label	P
3.5 (3.3.5)	Wiring diagram		N/A
3.5 (3.3.6)	Special conditions		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.5 (3.3.7)	Metal halid lamp luminaire – warning		N/A
3.5 (3.3.8)	Limitation for semi-luminaires		N/A
3.5 (3.3.9)	Power factor and supply current		N/A
3.5 (3.3.10)	Suitability for use indoors	Street light	N/A
3.5 (3.3.11)	Luminaires with remote control	No this part	N/A
3.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
3.5 (3.3.13)	Specifications of protective shields		N/A
3.5 (3.3.14)	Symbol for nature of supply	AC	P
3.5 (3.3.15)	Rated current of socket outlet		N/A
3.5 (3.3.16)	Rough service luminaire		N/A
3.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
3.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
3.5. (3.3.101)	Adequate warning on the package (EN)		N/A
3.5 (-)	All relevant information provided on the instruction leaflet		P
3.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P

3.6 (4)	**CONSTRUCTION**		**P**
3.6.1 (-)	At least IP X3 or X5 respectively	IP65	P
	Column-integrated luminaires:		-
	- parts below 2,5 m		P
	- parts above 2,5 m		N/A
3.6.2 (-)	Suspension on span wires		N/A
3.6.3 (-)	Fixing device		P

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.6.3.1(-)	Static load test		-
	-drag coefficient .....:		N/A
	-loaded area (m²) .....:		N/A
	-used load (N) .....:		N/A
	-measured deformation (cm/m) .....:		N/A
	-no rotation		N/A
3.6.4 (-)	Adjustable lampholders		N/A
3.6.5 (-)	Glass cover:		-
	- . means of protection .....:		N/A
	- . number of particles .....:		N/A
3.6.6 (-)	Connection compartment of column-integrated luminaire		-
	- provides adequate space		N/A
	- means for attachment		N/A
3.6.7 (-)	Compliance with .....:		N/A
3.6.8 (-)	Doors of column-integrated luminaires:		-
	- corrosion resistance according to 4.18 of Part 1		N/A
	- opening of the door only possible for an authorized person		N/A
	- impact test on the door at an energy of (5 Nm) .... :		N/A
3.6.9 (-)	Column-integrated luminaire:		-
	- dimension of the entry slot (mm) .....:		N/A
	- cable path from the slot to the connection compartment (mm) .....:		N/A
	- cable path free from obstruction that might cause abrasion of the cable		N/A
3.6 (4.2)	Components replaceable without difficulty	No replaceable parts	N/A
3.6 (4.3)	Wireways smooth and free from sharp edges		P
3.6 (4.4)	Lampholders		N/A
3.6 (4.4.1)	Integral lampholder		N/A
3.6 (4.4.2)	Wiring connection		N/A
3.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
3.6 (4.4.4)	Positioning		N/A
	- pressure test (N) .....:		N/A
	-.bending test (Nm) .....:		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.6 (4.4.5)	Peak pulse voltage		N/A
3.6 (4.4.6)	Centre contact		N/A
3.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
3.6 (4.4.8)	Lamp connectors		N/A
3.6 (4.4.9)	Caps and bases correctly used		N/A
3.6 (4.5)	Starter holders		-
	Starter holder in luminaires other than class II		N/A
	Starter holders class II construction		N/A
3.6 (4.6)	Terminal blocks		-
	Tails		P
	Unsecured blocks		N/A
3.6 (4.7)	Terminals and supply connections		-
3.6 (4.7.1)	Contact to metal parts		N/A
3.6 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
3.6 (4.7.3)	Terminals for supply conductors		N/A
3.6 (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
3.6 (4.7.4)	Terminals other than supply connection		N/A
3.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
3.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
3.6 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
3.6 (4.9)	Insulating lining and sleeves		P

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.6 (4.9.1)	Retainment		N/A
	Method of fixing.....:		N/A
3.6 (4.9.2)	Insulated linings and sleeves		P
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C).....:		N/A
3.6 (4.10)	Insulation of Class II luminaires		N/A
3.6 (4.10.1)	No contact, mounting surface - accessible metal parts - wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
3.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		P
	- no straight access with test probe		P
3.6 (4.10.3)	Retainment of insulation:		P
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		P
	- lining in lampholder		N/A
3.6 (4.11)	Electrical connections		P
3.6 (4.11.1)	Contact pressure		P
3.6 (4.11.2)	Screws:		P
	- self-tapping screws		N/A
	- thread-cutting screws		P
	- at least two self-tapping screws		N/A
3.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
3.6 (4.11.4)	Material of current-carrying parts		P

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.6 (4.11.5)	No contact to wood	No wood	N/A
3.6 (4.11.6)	Electro-mechanical contact systems		N/A
3.6 (4.12)	Mechanical connections and glands		P
3.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part .....:	3.78mm, 1.2Nm	P
	Torque test: torque (Nm); part .....:		N/A
	Torque test: torque (Nm); part .....:		N/A
3.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
3.6 (4.12.4)	Locked connections:		P
	- fixed arms; torque (Nm) .....:	5.0Nm	P
	- lampholder; torque (Nm).....:		N/A
	- push-button switches; torque 0,8 Nm .....:		N/A
3.6 (4.12.5)	Screwed glands; force (N) .....:	No this part	N/A
3.6 (4.13)	Mechanical strength		P
3.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....:	Diffuser: 0.2Nm	P
	- other parts; energy (Nm).....:	Matel base: 0.35Nm	P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		N/A
3.6 (4.13.3)	Straight test finger		P
3.6 (4.13.4)	Rough service luminaires		P
	- IP54 or higher		P
	a) fixed		P
	b) hand-held		N/A
	c) delivered with a stand		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
	d) for temporary installations and suitable for mounting on a stand		P
3.6 (4.13.6)	Tumbling barrel		N/A
3.6 (4.14)	Suspensions and adjusting devices		N/A
3.6 (4.14.1)	Mechanical load:		P
	A) four times the weight	5.204kg x 4=20.816kg	P
	B) torque 2,5 Nm .....:		N/A
	C) bracket arm; bending moment (Nm) .....:	2.5Nm	P
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm).....:		N/A
	metal rod. Diameter (mm) .....:		N/A
3.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) .....:		N/A
	Stress in conductors (N/mm²) .....:		N/A
3.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles .....:		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
3.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
3.6 (4.14.5)	Guide pulleys		N/A
3.6 (4.14.6)	Strain on socket-outlets		N/A
3.6 (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

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.6 (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
3.6 (4.16)	Luminaires marked with F-symbol		N/A
	No lamp control gear	(compliance with section 12)	N/A
3.6 (4.16.1)	Lamp control gear spacing:		-
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
3.6 (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
3.6 (4.16.3)	"F" curve measured	(see 12.6)	N/A
3.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
3.6 (4.18)	Resistance to corrosion:		P
3.6 (4.18.1)	- rust-resistance		P
3.6 (4.18.2)	- season cracking in copper		N/A
3.6 (4.18.3)	- corrosion of aluminium		P
3.6 (4.19)	Ignitors compatible with ballast	No this part	N/A
3.6 (4.20)	Rough service vibration		N/A
3.6 (4.21)	Protective shield:		N/A
3.6 (4.21.1)	Shield fitted		N/A
3.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
3.6 (4.21.3)	No direct path		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment		N/A
3.6 (4.22)	Attachments to lamps		N/A
3.6 (4.23)	Semi-luminaires comply class II		N/A
3.6 (4.24)	UV radiation, metal halide lamps		N/A
3.6 (4.25)	No sharp point or edges		P
3.6 (4.26)	Short-circuit protection:		N/A
3.6 (4.26.1)	Uninsulated accessible SELV parts		N/A
3.6 (4.26.2)	Short-circuit test		N/A
3.6 (4.26.3)	Test chain according to Figure 29		N/A

3.7 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		P
	Working voltage (V).....:	AC 100-240V	—
	Voltage form	Sinusoidal ☒ Non-sinusoidal ☐	—
	PTI	< 600 ☐ ≥ 600 ☐	—
	Rated pulse voltage (kV).....:		—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm)4.0/3.0.....:	>3.0mm	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm)6.5.....:	>6.5mm	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).....:		N/A

3.8 (7)	**PROVISION FOR EARTHING**		P
3.8.1 (-)	Attachment prevented from rotation		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.8 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω	0.15Ω	P
	Two self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a grove		N/A
	Earth makes contact first		N/A
3.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N/A
3.8 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P
3.8 (7.2.5)	Earth terminal integral part of connector socket		P
3.8 (7.2.6)	Earth terminal adjacent to mains terminals		P
3.8 (7.2.7)	Electrolytic corrosion of the earth terminal		P
3.8 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
3.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
3.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P

3.9 (14)	**SCREW TERMINALS**		N/A
3.9 (-)	Additional requirements		N/A
3.9 (14)	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 3)	N/A

3.9 (15)	**SCREWLESS TERMINALS**		P
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 4)	P

3.10 (5)	**EXTERNAL AND INTERNAL WIRING**	**P**

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.10 (5.2)	Supply connection and external wiring		P
3.10 (5.2.1)	Means of connection.....:	Connector	P
	Connecting leads (EN):		P
	- without a means for connection to the supply		P
	- terminal block specified		P
	- 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
3.10 (5.2.2)	Type of cable.....:		P
	Cables equal to HD21S2 or HD22S2 (EN)		P
	Nominal cross-sectional area (mm²).....:	0.75 mm²	P
3.10 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
3.10 (5.2.5)	Type Z not connected to screws		N/A
3.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		N/A
	- adequate degree of protection		P
3.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
3.10 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		N/A
3.10 (5.2.9)	Locking of screwed bushings		N/A
3.10 (5.2.10)	Cord anchorage:		N/A
3.10.1 (-)	- additional requirements		N/A
3.10 (5.2.10)	- covering protected from abrasion		N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
	- no tying of cables into knots etc.		N/A
	- insulating material or lining		N/A
3.10 (5.2.10.1)	Cord anchorage for type X attachment:		-
	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
3.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		-
3.10 (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
3.10 (5.2.11)	External wiring passing into luminaire		N/A
3.10 (5.2.12)	Looping-in terminals		N/A
3.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
3.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
3.10 (5.2.15)	Colour code low voltage (EN)		N/A
3.10 (5.2.16)	Appliance inlets (EN 60320)		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
	Appliance couplers of class II type		N/A
3.10 (5.2.17)	Non standardized interconnecting cables properly assembled		N/A
3.10 (5.2.18)	Used plug in accordance with:		N/A
	- IEC 60063		N/A
	- other standard		N/A
3.10 (5.3)	Internal wiring		P
3.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		P
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A) .....:		N/A
	- temperatures.....:		P
	Green-yellow for earth only		P
3.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm²) .....:	0.75 mm²	N/A
	Insulation thickness	0.5mm	N/A
	Extra insulation added where necessary		N/A
3.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Adequate cross-sectional area and insulation thickness		P
3.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
3.10 (5.3.1.4)	Conductors without insulation		N/A
3.10 (5.3.1.5)	SELV current-carrying parts		N/A
3.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
3.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
3.10 (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
3.10 (5.3.4)	Joints and junctions effectively insulated		P
3.10 (5.3.5)	Strain on internal wiring		N/A
3.10 (5.3.6)	Wire carriers		N/A
3.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
3.11 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		**P**
3.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		P
	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
3.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
3.11 (8.2.3)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
	- glass protective shields not used as supplementary insulation		N/A
	Class I luminaire with BC lampholder		N/A
3.11 (8.2.4)	Portable luminaire:		N/A
	- protection independent of supporting surface		N/A
	- terminal block completely covered		N/A
3.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
3.11 (8.2.6)	Covers reliably secured		P
3.11 (8.2.7)	Discharging of capacitors ≥ 0,5 μF		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

3.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		**P**
3.12 (12.3)	Endurance test:		P
	- mounting-position.....:	As normal position	—
	- test temperature (°C) .....:	35°C	—
	- total duration (h).....:	240	—
	- supply voltage: Un factor; calculated voltage (V) :	240V	—
	- lamp used .....:	LED	—
3.12 (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
3.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
3.12.1 (-)	Temperature reduction		P
3.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
3.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of A .....:		—
	- case of abnormal conditions .....:		—
	- electronic lamp control gear		—
	- measured winding temperature (°C): at 1,1 Un ...:		—
	- measured mounting surface temperature (°C): at 1,1 Un .....:		N/A
	- calculated mounting surface temperature (°C) ..... :		N/A
	- track-mounted luminaires		N/A
3.12 (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
3.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
3.12 (12.7.1)	Through wiring or looping-in wiring loaded by a current of A .....:		—
	- case of abnormal conditions .....:		—
	- measured temperature of fixing point/ exposed part (°C): at 1,1 Un .....:		N/A
	- calculated temperature of fixing point/ exposed part (°C).....:		N/A
3.12 (12.7.2)	Temperature sensing control		N/A
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured temperature of fixing point/ exposed part (°C): .....:		N/A

3.13 (9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**	**P**
3.13 (9.2)	Tests for ingress of dust, solid objects and moisture:	P

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
	- classification according to IP .....:		—
	- mounting position during test.....:		—
	- fixing screws tightened; torque (Nm) .....:		—
	- tests according to clauses .....:		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		P
	c) no trace of water on current-carrying parts or where it could become a hazard		N/A
	d) i) For luminaires without drain holes – no water entry		P
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		P
	f) no contact with live parts (IP 2X)		N/A
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP 3X and IP 4X)		N/A
3.13 (9.3)	Humidity test 48 h	25℃, 93%	P

3.14 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		**P**
3.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø .....:		—
	Insulation resistance (MΩ):		—
	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 .....:	＞2MΩ	P
	- between live parts and mounting surface .....:		N/A
	- between live parts and metal parts .....:	＞2MΩ	P

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
	- between live parts of different polarity through action of a switch.....:		N/A
3.14 (10.2.2)	Electric strength test		P
	Dummy lamp	No ignitor	N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):		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 .....:	1500V	P
	- between live parts and mounting surface .....:		N/A
	- between live parts and metal parts .....:	1500V	P
	- between live parts of different polarity through action of a switch.....:		N/A
3.14 (10.3.1)	Leakage current (mA) .....:	0.06mA	P

3.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		N/A
3.15 (13.2.1)	Ball-pressure test:		N/A
	- part tested; temperature (°C).....:		N/A
	- part tested; temperature (°C).....:		N/A
3.15 (13.3.1)	Needle flame test (10 s):		N/A
	- part tested .....:		N/A
	- part tested .....:		N/A
3.15 (13.3.2)	Glow-wire test (650°C):		N/A
	- part tested .....:		N/A
	- part tested .....:		N/A

EN 60598-1 & EN 60598-2-3			
Clause	Requirement – Test	Result - Remark	Verdict
3.15 (13.4.1)	Tracking test: part tested .....:		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
(2.2)	Class 0 not accepted		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
(4.5.1)	FR: 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
(13.3)	DK: Needle flame test during 30 s		N/A
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N/A
(13.3.2)	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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Certification No.
Power cord	Various	H05VV-F	3x0.75mm2	VDE
Internal wire	Various	1015	20AWG, 105℃	UL
LED	V-TAC EXPORTS LIMITED	SMD2835	Vf: 2.2-3.0V CCT: 6000K; view angle: 120 22-24LM	UL
LED PCB	Various	Various	Metal base PCB, V-0, 130°C, min. thickness 1.0mm	UL
LED Driver	V-TAC EXPORTS LIMITED	VT-15	AC 100-240V;50-60Hz, Max.120W	CE

	ANNEX 2: temperature measurements, thermal tests of Section 12		P
	Type reference.....:	VT-15120ST	—
	Lamp used .....:	lamp	—
	Ballast used .....:	—	—
	Mounting position of luminaire.....:	As in normal use	—
	Supply wattage (W) .....:	124.41W	—
	Supply current (A).....:	0.493A	—
	Table: measured temperatures corrected for Ta = 25°C:		P
	- abnormal operating mode .....:	—	—
	- test 1: rated voltage.....:	—	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage .....:	1.06×240V	—
	- 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
Metal enclosure	--	57.2	--	Ref	--	--
Power cord	--	61.2	--	90	--	--
Enclosure of LED driver	--	82.3	--	90	--	--
Internal wire	--	63.7	--	105	--	--
LED body	--	97.5	--	Ref	--	--
Diffuser	--	48.2	--	Ref	--	--
Ambient:	--	25.2	--	--	--	--

	ANNEX 3: SCREW TERMINALS (PART OF THE LUMINAIRE)		N/A
(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 (mm²) :		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) :		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

	ANNEX 4: SCREWLESS TERMINALS (PART OF THE LUMINAIRE)		N/A
(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		N/A
	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 (4 samples); pull (N)		N/A
	Pull test pin or tab terminals (4 samples); pull (N)		N/A
(15.9)	Contact resistance test		N/A
	Voltage drop (mV) after 1 h		N/A

Appendix 1

Photo documentation

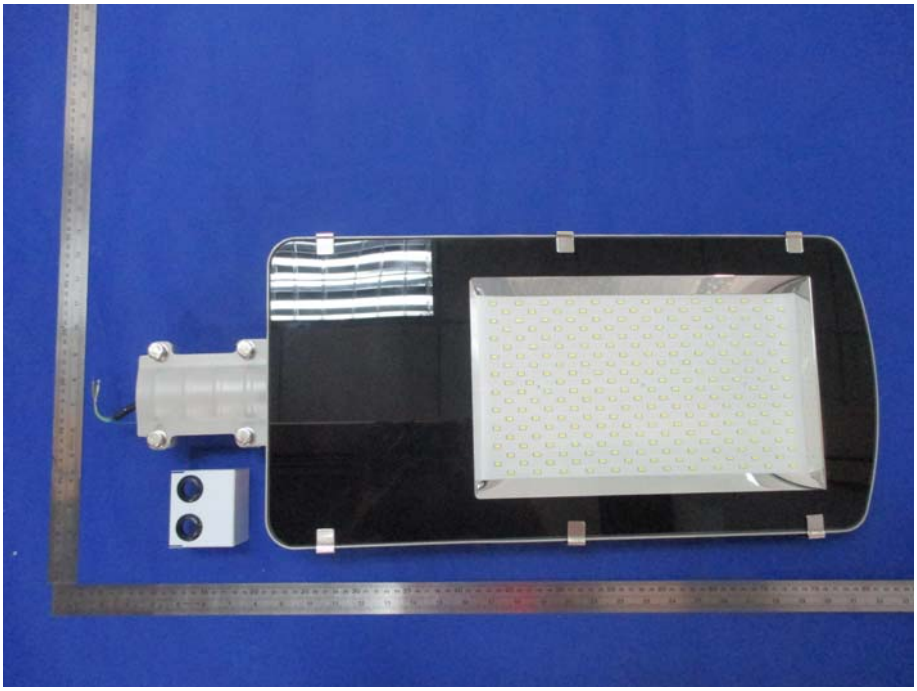
Photo 1 View: [√] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [ ] Internal	

Photo 2 View: [ ] Front [√] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [ ] Internal	

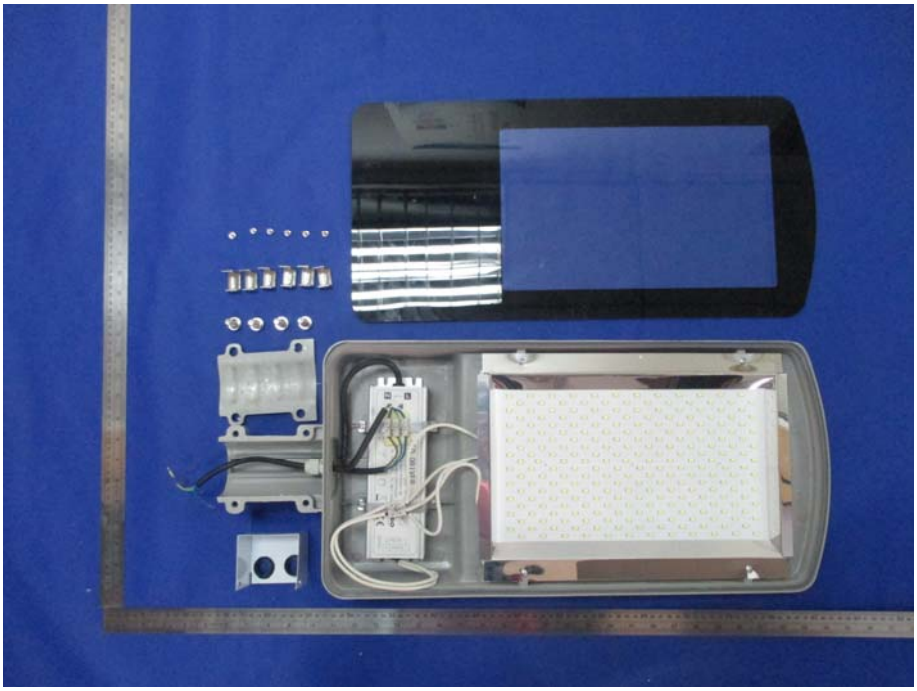
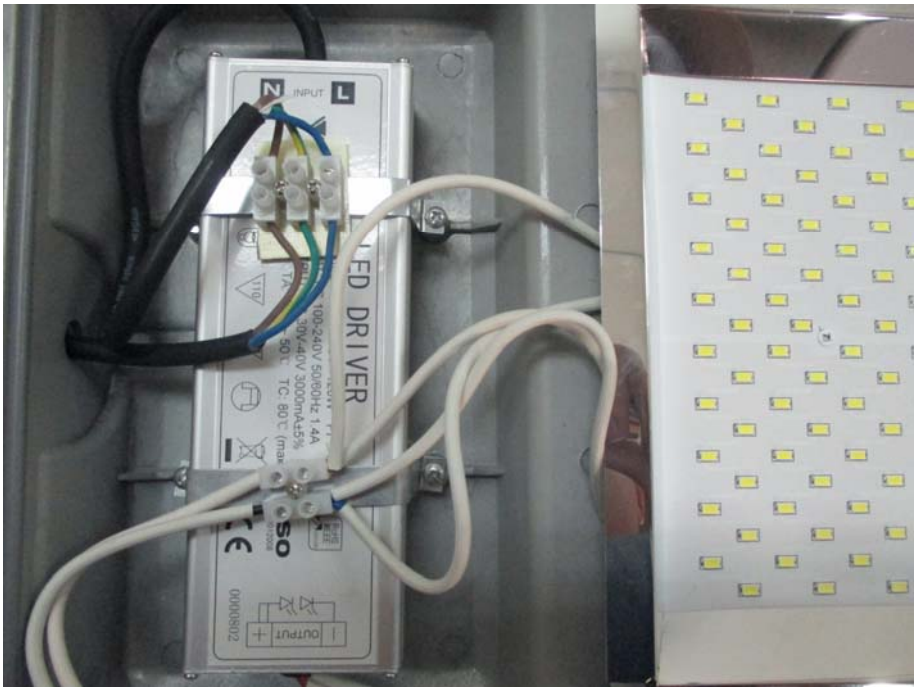
Photo 3 View: [ ] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [√] Internal	

Photo 4 View: [ ] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [√] Internal	

Photo 5 View: [ ] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [√] Internal	

--END.--