



# CE LVD TEST REPORT

For  
COB DOWNLIGHT

Model No.: VT-1120

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](mailto:Market@gstslab.com)


Report Number : J00.06.0053S

Issued Date : January 19, 2016

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**Note:**

1. The test data and result is based on the tested sample only.
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<b>EN60598-1</b> <b>Luminaires—Part 1 :General requirements and tests</b> <b>EN60598-2-2</b> <b>Part 2-2:Particular requirements</b> <b>Section Two – Recessed luminaires</b>	
Report reference No. ....:	J00.06.0053S
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 60598-1:2015 EN 60598-2-2:2012 EN 62031:2008+A1:2013+A2:2015 EN 61347-1:2015 EN 61347-2-13:2014 EN 62471:2008 EN 62493:2015
Procedure deviation.....:	N/A
Non-standard test method..:	N/A
Type of test equipment .....	COB DOWNLIGHT
Trademark.....	
Model/Type designation.....:	VT-1120
Rating.....	AC 220-240V, 50/60Hz, 20W
Copyright blank test report:	Global-Standard Testing Service Co., Ltd.
Test item particulars:	--
Operating Condition	Continuous
Tested for IT power systems	N/A.
IT testing, phase-phase voltage (V)	N/A.
Class of equipment	Class II equipment
Protection against ingress of water	IP20

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** : Justin Li January 14, 2016  
 Signature Date

Justin Li / Engineer  
 Name/title

**Reviewed by** : Jerry Hu January 19, 2016  
 Signature Date

Jerry Hu/ Supervisor  
 Name/title

**Approved by** : Tim Sun January 19, 2016  
 Signature Date



Tim Sun / Manager  
 Name/title

<p><b>General remarks:</b></p>	
<p>Clause number between brackets refer to clauses in IEC 60598-1</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>Unless otherwise specified, test are made under normal conditions at an ambient temperature within the range of 15°C to 35°C, RH45% to 75% and an air pressure of 860mbar of 1060mbar</p>	<p>Attachment with:</p> <p>1) Photo documentation</p>
<p>The test samples were pre-production samples without serial numbers. This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>1.This report covers the COB DOWNLIGHT with models VT-1120 for indoor use;</p> <p>3.The model VT-1120 to perform all testing and result comply with safety requirement;</p> <p>4.The standare of LED modules for general lighting was evaluated with reference to EN 62031;</p> <p>5.The standard of EN 62471 and EN 62493 have been considered with positive result in this report;</p> <p>6.COB DOWNLIGHT were supplied by SELV isolated electrical control gear; Live parts of control gear and lamp enclosure were separated by double or reinforce insulation, which was evaluated under EN 61347-2-13 &amp; EN61347-1.</p>	

**Label**

**Representative**

**COB DOWNLIGHT**

**Model No: VT-1120**

**Rating: AC 220-240V, 50/60Hz, 20W**



**V-TAC EXPORTS LIMITED**


**Made in China**

**Note:**

1.The height of WEEE directive mark is at least 7mm,and others driective mark are at least 5mm height.

2.1 (0)	SCOPE			P
2.2 (0.1)	Information for luminaire design concerned .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—
2.2 (0.3)	More sections applicable .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—

2.4 (2)	CLASSIFICATION			P
2.4 (2.2)	Type of protection .....	Class II		—
2.4 (2.3)	Degree of protection .....	IP20		—
2.4 (2.4)	Luminaire only suitable for non-combustible surfaces .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—
	Luminaire suitable for normally flammable surfaces.....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—
	Luminaire suitable to be covered by insulating materials .....	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	—
2.4 (2.5)	Luminaire for normal use .....	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	—
	Luminaire for rough service .....	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	—

2.5 (3)	MARKING			P
2.5.1 (-)	Warning notice, if not suitable for insulating ceiling			P
2.5 (3.2)	Mandatory markings			P
	Position of the marking	On the body		P
	Format of symbols/text			P
2.5 (3.3)	Additional information			P
	Language of instructions	English		P
2.5 (3.3.1)	Combination luminaires			N/A
2.5 (3.3.2)	Nominal frequency in Hz	50/60Hz		P
2.5 (3.3.3)	Operating temperatures			N/A
2.5 (3.3.4)	Symbol or warning notice			N/A
2.5 (3.3.5)	Wiring diagram			N/A
2.5 (3.3.6)	Special conditions			N/A
2.5 (3.3.7)	Metal halide lamp luminaire – warning			N/A
2.5 (3.3.8)	Limitation for semi-luminaires			N/A
2.5 (3.3.9)	Power factor and supply current			P
2.5 (3.3.10)	Suitability for use indoor			p
2.5 (3.3.11)	Luminaires with remote control			N/A
2.5 (3.3.12)	Clip-mounted luminaire-warning			P

2.5 (3.3.13)	Specifications of protective shields		N/A
2.5 (3.3.14)	Symbol for nature of supply	~	P
2.5 (3.3.15)	Rated current of socket outlet		N/A
2.5 (3.3.16)	Rough service luminaire		N/A
2.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	type Y	P
2.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
2.5 (3.3.101)	Adequate warning on the package (EN)		P
2.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P

2.6 (4)	CONSTRUCTION		<b>P</b>
2.6 (4.2)	Components replaceable without difficulty		N/A
2.6 (4.3)	Wireways smooth and free from sharp edges		P
2.6 (4.4)	Lampholders		N/A
2.6 (4.4.1)	Integral lampholder		N/A
2.6 (4.4.2)	Wiring connection		N/A
2.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
2.6 (4.4.4)	Positioning		N/A
	- pressure test (N) .....		N/A
	- bending test (Nm) .....		N/A
2.6 (4.4.5)	Peak pulse voltage		N/A
2.6 (4.4.6)	Centre contact		N/A
2.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
2.6 (4.4.8)	Lamp connectors		N/A
2.6 (4.4.9)	Caps and bases correctly used		N/A
2.6 (4.5)	Starter holders		N/A
	Starter holders in luminaires other than class II		N/A
	Starter holder class II construction		N/A
2.6 (4.6)	Terminal blocks		P
	Tails		P

	Unsecured blocks		N/A
2.6 (4.7)	Terminals and supply connections		P
2.6 (4.7.1)	Contact to metal parts		P
2.6 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
2.6 (4.7.3)	Terminals for supply conductors		N/A
2.6 (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
2.6 (4.7.4)	Terminals other than supply connection		N/A
2.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
2.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
2.6 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
2.6 (4.9)	Insulating lining and sleeves		N/A
2.6 (4.9.1)	Retainment		N/A
	Method of fixing.....:		N/A
2.6 (4.9.2)	Insulated linings and sleeves		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C) .....		N/A
2.6 (4.10)	Insulation of Class II luminaires		P
2.6 (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
2.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A



	- no straight access with test probe		N/A
2.6 (4.10.3)	Retainment of insulation:		N/A
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
2.6 (4.11)	Electrical connections		P
2.6 (4.11.1)	Contact pressure		P
2.6 (4.11.2)	Screws:		P
	- self-tapping screws		N/A
	- thread-cutting screws		P
	- at least two self-tapping screws		N/A
2.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
2.6 (4.11.4)	Material of current-carrying parts		N/A
2.6 (4.11.5)	No contact to wood		P
2.6 (4.11.6)	Electro-mechanical contact systems		P
2.6 (4.12)	Mechanical connections and glands		N/A
2.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part .....	0.50Nm; Fixed enclosure	P
	Torque test: torque (Nm); part .....		N/A
	Torque test: torque (Nm); part .....		N/A
2.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
2.6 (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
2.6 (4.12.5)	Screwed glands; force (N) .....		N/A
2.6 (4.13)	Mechanical strength		P

2.6 (4.13.1)	Impact tests:		P
2.6.1 (-)	- recessed parts providing protection against electric shock; energy (Nm) .....		P
	- other recessed parts; energy (Nm) .....		P
2.6 (4.13.1)	- fragile parts; energy (Nm) .....	0.20Nm	P
	- other parts; energy (Nm) .....	0.35Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		N/A
2.6 (4.13.3)	Straight test finger	30N	P
2.6 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		P
	b) hand-held		P
	c) delivered with a stand		P
	d) for temporary installations and suitable for mounting on a stand		P
2.6 (4.13.6)	Tumbling barrel		N/A
2.6 (4.14)	Suspensions and adjusting devices		N/A
2.6 (4.14.1)	Mechanical load:		P
	A) four times the weight	0.625kg x 4 =2.500kg	P
	B) torque 2,5 Nm .....	1h	P
	C) bracket arm; bending moment (Nm) .....		N/A
	D) load track-mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) .....		P
	metal rod. Diameter (mm) .....		P
	Fixed luminaire or independent control gear without fixing devices		N/A
2.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg):		N/A
	Stress in conductors (N/mm <sup>2</sup> ):		N/A
	Semi-luminaires - mass (kg):		N/A
	Semi-luminaires - bending moment (Nm):		N/A

2.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles .....		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
2.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
2.6 (4.14.5)	Guide pulleys		N/A
2.6 (4.14.6)	Strain on socket-outlets		N/A
2.6 (4.15)	Flammable materials:		N/A
	- glow-wire test 650 °C		N/A
	- spacing $\geq$ 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
1.6 (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
2.6 (4.16)	Luminaires marked with F-symbol		N/A
	No lamp control gear		N/A
2.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
2.6 (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
2.6 (4.16.3)	"F" curve measured		N/A
2.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A

2.6 (4.18)	Resistance to corrosion:		N/A
2.6 (4.18.1)	- rust-resistance		N/A
2.6 (4.18.2)	- season cracking in copper		N/A
2.6 (4.18.3)	- corrosion of aluminium		N/A
2.6 (4.19)	Igniters compatible with ballast		N/A
2.6 (4.20)	Rough service vibration		N/A
2.6 (4.21)	Protective shield:		N/A
2.6 (4.21.1)	Shield fitted		N/A
2.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
2.6 (4.21.3)	No direct path		P
2.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment		N/A
2.6 (4.22)	Attachments to lamps		N/A
2.6 (4.23)	Semi-luminaires comply class II		P
2.6 (4.24)	UV radiation, metal halide lamps		P
2.6 (4.25)	No sharp point or edges		P
2.6 (4.26)	Short-circuit protection:		N/A
2.6 (4.26.1)	Uninsulated accessible SELV parts		N/A
2.6 (4.26.2)	Short-circuit test		N/A
2.6 (4.26.3)	Test chain according to Figure 29		P

2.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V) .....	AC 220-240V	—
	Voltage form	Sinusoidal <input checked="" type="checkbox"/> Non-sinusoidal <input type="checkbox"/>	— —
	PTI	< 600 <input checked="" type="checkbox"/> > 600 <input type="checkbox"/>	—
	Rated pulse voltage (kV).....		—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm).....		P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....	LED to accessible surface :>1.2mm	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		N/A
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....:		P

2.8 (7)	PROVISION FOR EARTHING		N/A
2.8 (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
	Two 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
2.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N/A
2.8 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
2.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
2.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
2.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
2.8 (7.2.8)	Material of earth terminal		N/A
	Contact surface bare metal		N/A
2.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
2.8 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A

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

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

2.10 (5)	EXTERNAL AND INTERNAL WIRING		P
2.10 (5.2)	Supply connection and external wiring		P
2.10 (5.2.1)	Means of connection .....		P
	Connecting leads (EN)		P
	- without a means for connection to the supply		N/A
	- 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
2.10 (5.2.2)	Type of cable.....		P
	Cables equal to HD21 S2 or HD22 S2 (EN)		N/A
	Nominal cross-sectional area (mm <sup>2</sup> ).....		N/A
2.10 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
2.10 (5.2.5)	Type Z not connected to screws		N/A
2.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
2.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
2.10 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		N/A
	- tubes or guards made of insulating material		P
2.10 (5.2.9)	Locking of screwed bushings		N/A
2.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
2.10 (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
2.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		P
2.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) .....: 60N		P
	- torque test: torque (Nm).....:		P
	- displacement $\leq 2$ mm		P
	- no movement of conductors		P
	- no damage of cable or cord		P
2.10 (5.2.11)	External wiring passing into luminaire		P
2.10 (5.2.12)	Looping-in terminals		N/A
2.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
2.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
2.10 (5.2.15)	Colour code low voltage (EN)		N/A
2.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Appliance couplers of class II type		N/A
2.10 (5.2.17)	Non standardized interconnecting cables properly assembled		N/A
2.10 (5.2.18)	Used plug in accordance with:		N/A
	- IEC 60083		N/A
	- other standard		N/A
2.10 (5.3)	Internal wiring		P

2.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		P
	- not delivered/ mounting instruction		P
	- factory assembled		P
	- socket outlet loaded (A) .....		N/A
	- temperatures.....	(see Annex 2)	P
	Green-yellow for earth only		N/A
2.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm <sup>2</sup> ) .....	0.5 mm <sup>2</sup>	P
	Insulation thickness	0.4mm	P
	Extra insulation added where necessary		N/A
2.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Adequate cross-sectional area and insulation thickness		P
2.10 (5.3.1.3)	Double or reinforced insulation for class II		P
2.10 (5.3.1.4)	Conductors without insulation		N/A
2.10 (5.3.1.5)	SELV current-carrying parts		N/A
2.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
2.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		P
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
2.10 (5.3.3)	Insulating bushings:		P
	- suitable fixed		P
	- material in bushings		P
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
2.10 (5.3.4)	Joints and junctions effectively insulated		P
2.10 (5.3.5)	Strain on internal wiring		N/A
2.10 (5.3.6)	Wire carriers		N/A



2.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
2.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
2.11 (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		P
	Insulation lacquer not reliable		P
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
2.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
2.11 (8.2.3)	Class II luminaire:		P
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
	Class I luminaire with BC lampholder		N/A
2.11 (8.2.4)	Portable luminaire:		N/A
	- protection independent of supporting surface		N/A
	- terminal block completely covered		N/A
2.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
2.11 (8.2.6)	Covers reliably secured		P
2.11 (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

2.12 (12)	ENDURANCE TEST AND THERMAL TEST	P
2.12 (12.3)	Endurance test:	P
	- mounting-position .....	—
	- test temperature (°C) .....	35°C
	- total duration (h).....	240h
	- supply voltage: Un factor; calculated voltage (V)	—
	- lamp used .....	LED lamp
2.12 (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
2.12 (12.4)	Thermal test (normal operation)	P
2.12 (12.5)	Thermal test (abnormal operation)	P
2.12 (12.6)	Thermal test (failed lamp control gear condition):	N/A
2.12 (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 (°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
2.12 (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
2.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):	N/A
2.12 (12.7.1)	Through wiring or looping-in wiring loaded by a current of (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.....:		N/A
	- calculated temperature of fixing point/ exposed part (°C).....:		N/A
2.12 (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

2.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
2.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP .....	IP20	—
	- mounting position during test.....:		—
	- fixing screws tightened; torque (Nm) .....		—
	- tests according to clauses .....		—
	- electric strength test afterwards		N/A
	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 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)		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
2.13 (9.3)	Humidity test 48 h	25°C, 93%RH, 48h	P

2.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
2.14 (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 .....	100MΩ	P
	- between live parts and mounting surface .....	100MΩ	P
	- between live parts and metal parts .....	100MΩ	P
	- between live parts of different polarity through action of a switch .....		N/A
2.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test	No ignitor	N/A
	Luminaires with manual ignitors	No manual ignitor	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 .....	1500VAC	P
	- between live parts and mounting surface .....	1500VAC	P
	- between live parts and metal parts .....	1500VAC	P
	- between live parts of different polarity through action of a switch .....		N/A
2.14 (10.3.1)	Leakage current (mA) .....	<0.005mA	P
2.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		N/A
2.15 (13.2.1)	Ball-pressure test:		N/A
	- part tested; temperature (°C).....		N/A
	- part tested; temperature (°C).....		N/A
2.15 (13.3.1)	Needle flame test (10 s):		N/A

	- part tested .....		N/A
	- part tested .....		N/A
2.15 (13.3.2)	Glow-wire test (650°C):		N/A
	- part tested .....		N/A
	- part tested .....		N/A
2.15 (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

	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 (mm <sup>2</sup> ) .....		N/A
(14.3.3)	Conductor space (mm) .....		N/A
(14.4)	Mechanical tests		
(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 or weded connections (4 samples); pull (N) .....		N/A
	Pull test pin or tab terminals (4 samples); pull (N) .....		N/A

TABLE		List of critical components and materials		
Component	manufacturers / trademark	Type / model	Value / rating	Approval/ Reference
Input wire	Various	1007	VW-1, 300V, 90°C, 24AWG	UL
LED	Shenzhen tongyifang Optoelectronic Technology Co.,Ltd	20W Mature white LED	30-36V, 750mA CCT: 4000-4500K	Test with appliance
LED PCB	Various	Various	.V-0, 130°C,	UL
LED driver	V-TAC EXPORTS LIMITED	VT-1120	Input:AC 100-260V, 50/60Hz, Output:DC 40-65V, 300mA	CE
Terminal block	Various	Various	V-1, 90°C	Test with appliance
Sleeving	Various	Various	V-0, 200°C	UL



ANNEX 2: temperature measurements, thermal tests of Section 12		P				
Model .....	VT-1120	—				
Lamp used .....	LED	—				
Ballast used .....	--	—				
Mounting position of luminaire .....	As in normal use	—				
Supply wattage (W) .....	18.65W	—				
Supply current (A) .....	0.089A	—				
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 .....	—	—				
- 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
Terminal block	30.4			90		
Input wire	51.3			90		
Diffuser, Outside	45.2			90		
LED	56.7			Ref		
LED PCB	50.2			130		
Metal enclosure	27.8			70		
Ambient	24.3			--		


<b>ANNEX 3</b>	<b>Screw terminals (part of the luminaire)</b>		N/A
<b>(14)</b>	<b>SCREW TERMINALS</b>		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 <sup>2</sup> ) .....		—
(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


<b>ANNEX 4</b>	<b>Screwless terminals (part of the luminaire)</b>		N/A
<b>(15)</b>	<b>SCREWLESS TERMINALS</b>		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

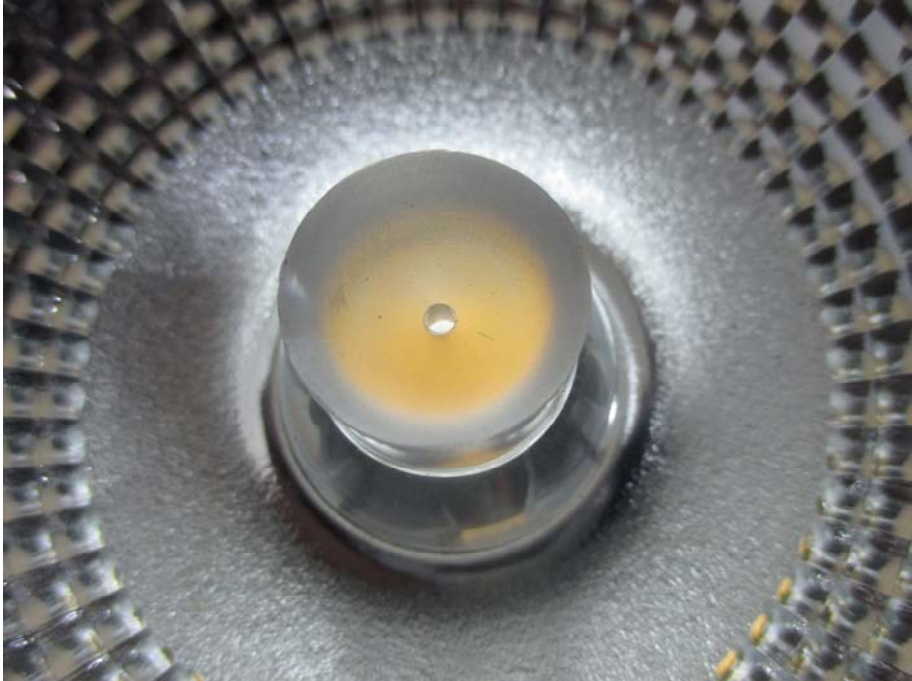
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples)..... :		N/A
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)..... :		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	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
(15.6)	Terminals external wiring		N/A
	Terminal size and rating		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) .....		N/A
	Pull test pin or tab terminals (4 samples); pull (N) .....		N/A

**Appendix 1**

Photo Documentation

<p>Photo 1</p> <p>View:</p> <p><input checked="" type="checkbox"/> Front</p> <p><input 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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<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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<p>Photo 3</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input 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 checked="" type="checkbox"/> Internal</p>	 <p>The image shows a close-up of a component mounted on a printed circuit board (PCB). The component is a small, cylindrical, silver-colored part with a yellowish, translucent top surface. It is mounted on a circular pad on the PCB. The surrounding PCB area is visible, showing a grid of pads and some yellow solder points.</p>
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