APPLICATION FOR LOW VOLTAGE DIRECTIVE

On Behalf of

V-TAC EXPORTS LIMITED

LED PANEL LIGHT

Model No.: VT-6060, VT-6060 D, VT-3030, VT-6061, VT-12030, VT-12030 M, VT-3030 M, VT-6061 M

Prepared for : 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

Prepared By : Global-Standard Testing Service Co., Ltd.

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Report Number : GST121217591S

Date of Test : December 09, 2012- December 19, 2012

Date of Report : December 20, 2012

LVD Report

EN60598-1
Luminaires—Part 1 :General requirements and tests

EN60598-2-1
Part 2-1: Particular requirements
Section 1: Fixed general purpose luminaires

Report reference No. ……..…:	GST121217591S
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: 2008+A11: 2009 EN 60598-2-1: 1989
Procedure deviation……:	N/A
Non-standard test method……..:	N/A
Type of test equipment ……..…:	LED PANEL LIGHT
Trade mark……:	V-TAC
Model/Type designation……..:	VT-6060, VT-6060 D, VT-3030, VT-6061, VT-12030, VT-12030 M, VT-3030 M, VT-6061 M
Rating……:	220-240V~, 50/60Hz, 25W Max.
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 II equipment and Recessed 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 : _____ December 10 2012
Signature Date

Tim Sun / Test Engineer
Name/title

Reviewed by : _____ December 20 2012
Signature Date

Rita Liu / Project Engineer
Name/title

Approved by : _____ December 20, 2012
Signature Date

Kevin Liu/ 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
1. the equipment with model VT-6060, VT-6060 D, VT-3030, VT-6061, VT-12030, VT-12030 M, VT-3030 M, VT-6061 M are class II LED PANEL LIGHT used for Fixing luminaires. 2. VT-6060 was selected as representative sample . 3. The control gear matched lamp has be approved CE. 4.The test result presented in this report relate only to the object tested. The samples tested comply with the requirements of this standard.	

Label

LED PANEL LIGHT
Model No.: VT-6060
Rating: 220-240V~, 50/60Hz, 25W Max.

V-TAC EXPORTS LIMITED

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

EN 60598-2-1			
Cl.	Requirement Test	Result-Remark	Verdict
1.1 (0)	**SCOPE**		**---**
1.1 (0.2)	More sections applicable .....:	No	---
1.4 (2)	**CLASSIFICATION**		**---**
1.4 (2.2)	Type of protection .....:	Class II	---
1.4 (2.3)	Degree of protection .....:		---
1.4 (2.4)	Portable and handheld luminaire .....:	No	---
	Fixed luminaire suitable for normally flammable surfaces.....:	Yes	---
	Fixed luminaire suitable for non-combustible materials only .....:	No	---
1.4 (2.5)	Luminaire for normal use .....:	Yes	---
	Luminaire for rough service .....:	No	---
1.5 (3)	**MARKING**		---
1.5 (3.2)	Mandatory markings	Manufacturer: V-TAC EXPORTS LIMITED Rated voltage: 220-240V~ Type reference: VT-6060 Rated wattage: 25W Max	P
	Position of the marking		P
	Format of symbols/text		P
1.5 (3.3)	Additional information		P
	Language of instructions	English	P
1.5 (3.3.1)	Combination luminaries		N
1.5 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
1.5 (3.3.3)	Operating temperature		N
1.5 (3.3.4)	Symbol or warning notice	Suitable for mounting on a normally flammable surface, no such requirements	N
1.5 (3.3.5)	Wiring diagram	Suitable for direct connection to the mains supply	N
1.5 (3.3.6)	Special conditions	Separately used	N
1.5 (3.3.7)	Metal halid lamp luminaire – warning	Intended for ordinary tungsten filament lamps	N
1.5 (3.3.8)	Limitation for semi-luminaires		N
1.5 (3.3.9)	Power factor and supply current		P
1.5 (3.3.10)	Suitability for use indoors		P

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Cl.	Requirement Test	Result-Remark	Verdict
1.5 (3.3.11)	Luminaires with remote control	No remote control	N
1.5 (3.3.12)	Clip-mounted luminaire – warning	Mounted on the ceiling	N
1.5 (3.3.13)	Specifications of protective shields	No special protective shields used	N
1.5 (3.3.14)	Symbol for nature of supply	Not necessary for such requirement	N
1.5 (3.3.15)	Rated current of socket outlet	No socket outlet incorporated in the luminaire	N
1.5 (3.3.16)	Rough service luminaire	Normal used luminaire	N
1.5 (3.3.17)	The mounting instructions for luminaires with type X, Y or Z attachments	Supply cord not provided by manufacturer	N
1.5 (3.3.18)	Information of luminaires provided with a PVC non-detachable calbe or cord	As above	N
1.5 (3.4)	Test of marking		---
	Test with water	Rubbed lightly for 15 s with a piece of cloth soaked with water	P
	Test with hexane	For a further 15 s	P
	Legible after test		P
	Label attached		P
1.6 (4)	**CONSTRUCTION**		**---**
1.6 (4.2)	Components replaceable without difficulty	Replacement of lamps without difficulty and without impairing safety	P
1.6 (4.3)	Wireways smooth and free from sharp edges	Insulating sheath used in such position, and no metal set screws protruded into wireways	P
1.6 (4.4)	Lampholders		---
1.6 (4.4.1)	Integral lampholder	Separate lampholders used, no such requirement	N
1.6 (4.4.2)	Wiring connection	As above	N
1.6 (4.4.3)	Lampholder for end-to-end mounting		N
1.6 (4.4.4)	Positioning	Put into position by the luminaire manufacturer	N
1.6 (4.4.5)	Peak pulse voltage	Without ignitors	N
1.6 (4.4.6)	Centre contact	As above	N
1.6 (4.4.7)	Rough service luminaires	normal use luminaires	N

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Cl.	Requirement Test	Result-Remark	Verdict
1.6 (4.4.8)	Lamp connectors	Lampholder provided	N
1.6 (4.5)	Starter holders		---
	Starter holder in luminaires other than class II	Without starter	N
	Starter holder class II construction		N
1.6 (4.6)	Terminal blocks		---
	Tails		N
	Unsecured blocks		N
1.6 (4.7)	Terminals and supply connections		---
1.6 (4.7.1)	Contact to metal parts		N
1.6 (4.7.2)	Location stranded wires		N
	8 mm test live conductor		N
	8 mm test earth conductor		N
1.6 (4.7.3)	Terminals for supply conductors	Suitable for connection to be made by means of screws	N
1.6 (4.7.4)	Terminals other than supply connection	Screwless terminals used for multiple connection of internal wiring, not used for the connection of external wiring	N
1.6 (4.7.5)	Heat-resistant wiring/sleeves		P
1.6 (4.7.6)	Multi-pole plug	No plug used	N
1.6 (4.8)	Switches:		---
	- adequate rating	No switch used	N
	- adequate fixing		N
	- polarized supply		N
1.6 (4.9)	Insulating lining and sleeves		---
1.6 (4.9.1)	Retainment		P
	Method of fixing.....:		P
1.6 (4.9.2)	Insulated linings and sleeves		---
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C) .....:		N
1.6 (4.10)	Insulation of Class II luminaires		---
1.6 (4.10.1)	No contact, mounting surface - accessible metal parts - wiring of basic insulation		P
	Safe installation fixed luminaires		P

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Cl.	Requirement Test	Result-Remark	Verdict
	Capacitors	No capacitors used	N
	Interference suppression capacitors according to IEC 60384-14		P
1.6 (4.10.2)	Assembly joints:		---
	- not coincidental		N
	- no straight access		N
	- degree of protection		N
1.6 (4.10.3)	Retainment of insulation:		---
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		N
	- lining in lampholder		N
1.6 (4.11)	Electrical connections		---
1.6 (4.11.1)	Contact pressure	Contact pressure transmitted through metal parts	P
1.6 (4.11.2)	Screws:		---
	- spaced threaded screws	No specified screws used	N
	- thread-cutting screws		N
	- earth continuity		N
	- at least two screws		N
1.6 (4.11.3)	Screw locking:		---
	- spring washer	No screws or rivets serve as electrical as well as mechanical connections	N
	- rivets		N
1.6 (4.11.4)	Material of current-carrying parts		P
1.6 (4.11.5)	No contact to wood		P
1.6 (4.11.6)	Electro-mechanical contact systems	No electro-mechanical contact systems	N
1.6 (4.12)	Mechanical connections and glands		---
1.6 (4.12.1)	Mechanical stress		N
	Not made of soft metal		N
	Screws of insulating material		N
	Torque test: torque (Nm); part .....:		N

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Cl.	Requirement Test	Result-Remark	Verdict
	Torque test: torque (Nm); part .....:		N
	Torque test: torque (Nm); part .....:		N
1.6 (4.12.2)	Screw diameter up to 3 mm		N
1.6 (4.12.3)	Screws in insulation		N
1.6 (4.12.4)	Locked connections:		---
	- fixed arms; torque (Nm).....:		N
	- lampholder; torque (Nm).....:		N
	- push-button switches; torque (Nm) .....:		N
1.6 (4.12.5)	Screwed glands; force (N) .....:		N
1.6 (4.13)	Mechanical strength		---
1.6 (4.13.1)	Impact tests:		---
	- fragile parts; energy (Nm).....:	0,2Nm	P
	- other parts; energy (Nm) .....:	0,35Nm	P
	1) live parts	Not became accessible	P
	2) linings	Effectiveness not been impaired	P
	3) protection	In accordance with its classification	P
	4) covers		P
1.6 (4.13.3)	Straight test finger	Pressed against the surface with a force of 30 N, metal parts not touched live parts	P
1.6 (4.13.4)	Rough service luminaires		---
	a) fixed	Normal use luminaires, no such requirements	N
	b) hand-held		N
	c) delivered with a stand		N
	d) for temporary installations and suitable for mounting on a stand		N
1.6 (4.13.6)	Tumbling barrel	Ceiling mounted luminaires, not socket-outlet-mounted luminaires	N
1.6 (4.14)	Suspensions and adjusting devices		---
1.6 (4.14.1)	Mechanical load:		---
	A) four times the weight		N
	B) torque 2,5 Nm		N

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Cl.	Requirement Test	Result-Remark	Verdict
	C) bracket arm; force (N).....:	No bracket arm	N
	D) load track-mounted luminaires	Ceiling mounted luminaires	N
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) .....:	As above	N
	metal rod. Diameter (mm) .....:		N
1.6 (4.14.2)	Load to flexible cables		---
	Mass (kg) .....:		N
	Stress in conductors (N/mm²).....:	Does not exceed 15 N/mm^2	N
	Semi-luminaires – mass (kg) .....:	Not semi-luminaires	N
	Semi-luminaires – bending moment (Nm)..:		N
1.6 (4.14.3)	Adjusting devices:		---
	- rotating test; number of cycles.....:	No adjusting devices	N
	- strands broken		N
	- high voltage test		N
1.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors	No telescopic tubes	N
1.6 (4.14.5)	Guide pulleys	No such parts	N
1.6 (4.14.6)	Strain on socket-outlets	Ceiling mounted, not socket-outlet-mounted	N
1.6 (4.15)	Flammable materials:		---
	- glow-wire test 650 ℃		P
	- spacing ≥ 30 mm		N
	- screen withstanding test of 13.3.1		N
	- screen dimensions		N
	- no fiercely burning material		P
	- thermal protection		N
	- electronic circuits exempted		N
1.6 (4.15.2)	Luminaires made of thermoplastic material		---
	a) construction		P
	b) temperature sensing control		N
	c) surface temperature		N
1.6 (4.16)	Luminaires marked with "F" symbol		---
	No lamp control gear		N
1.6 (4.16.1)	Lamp control gear spacing:		---

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Cl.	Requirement Test	Result-Remark	Verdict
	- spacing 35 mm		N
	- spacing 10 mm		N
1.6 (4.16.2)	Thermal protection:		---
	- in lamp control gear		N
	- external		N
	- fixed position		N
	- temperature marked lamp control gear		N
1.6 (4.16.3)	"F" curve measured		N
1.6 (4.17)	Drain holes		N
	Clearance at least 5 mm	Ordinary luminaire, no such requirement	N
1.6 (4.18)	Resistance to corrosion:		---
1.6 (4.18.1)	- rust-resistance	As above	N
1.6 (4.18.2)	- season cracking in copper		P
1.6 (4.18.3)	- corrosion of aluminium		N
1.6 (4.19)	Ignitors compatible with ballast	No ignitors	N
1.6 (4.20)	Rough service vibration ..... :	Normal use luminaire	N
1.6 (4.21)	Protective shield:		---
1.6 (4.21.1)	Shield fitted	Not tungsten halogen lamp, no such requirements	N
1.6 (4.21.2)	Particles from a shattering lamp not impair safety		N
1.6 (4.21.3)	No direct path		N
1.6 (4.21.4)	Impact test on shield		N
	Glow-wire test on lamp compartment		N
1.6 (4.22)	Attachments to lamps	Not incorporate attachments to lamps which might cause overheating or damage to the lamps, lamps caps or holders	P
1.6 (4.23)	Semi-luminaires comply class II	Not semi-luminaires	N
1.6 (4.24)	UV radiation, metal halide lamps	No metal halide lamps	N
1.6 (4.25)	No sharp point or edges		P
1.6 (4.26)	Short-circuit protection:		---
1.6 (4.26.1)	Uninsulated accessible SELV parts	No SELV parts	N
1.6 (4.26.2)	Short-circuit test		N

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Cl.	Requirement Test	Result-Remark	Verdict
1.6 (4.26.3)	Test chain according to IEC 61032		N
1.7 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		**---**
	Class of protection .....:	Class II	---
	Working voltage (V) .....:	220-240V~	---
	Voltage form	Sinusoidal [√] Non-sinusoidal [ ]	---
	PTI	< 600 [√] ≥ 600 [ ]	---
	Rated pulse voltage (kV) .....:		---
	(1) Live parts of different polarity: cr (mm); cl (mm) .....:	Cr: ≥ Cl: > 2,5mm	P
	(2) Live parts and accessible parts: cr (mm); cl (mm).....:	Cr: ≥ Cl: > 6,5mm	P
	(3) Parts becoming live: cr (mm); cl (mm) ..:		N
	(4) Outer surface of cable: cr (mm); cl (mm).....:		N
	(5) Live parts of switches: cr (mm); cl (mm) .....:	No switches	N
	(6) Live parts and supporting surface: cr (mm); cl (mm).....:	Cr: ≥ Cl: > 8mm	P
1.8 (7)	**PROVISION FOR EARTHING**		**---**
1.8 (7.2.1 + 7.2.3)	Metal parts		N
	Accessible metal parts		N
	Metal parts and supporting surface		N
	Resistance < 0,5 Ω		N
	Two spaced threaded screws used		N
	Thread-forming screws	As above	N
	Connector earthing first	Not provided by manufacturer	N
1.8 (7.2.2 + 7.2.3)	Earth continuity		N
1.8 (7.2.4)	Locking of clamping means	Screw terminal	N
	Compliance with 4.7.3		N
	Adequate locking		N
	Loosening of clamping means	Not be possible to loosen the clamping means by hand	N

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Cl.	Requirement Test	Result-Remark	Verdict
1.8 (7.2.5 + 7.2.9)	Connector socket	Terminal block provided	N
1.8 (7.2.6 + 7.2.9)	Position of the earth terminal		N
1.8 (7.2.7 + 7.2.9)	Corrosion of the earth terminal	Ordinary luminaire, no such requirements	N
1.8 (7.2.8 + 7.2.9)	Material of earth terminal	Non-rusting metal	P
	Contact surface bare metal		P
1.8 (7.2.10)	Class II luminaire for looping-in		N
1.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		N
1.9 (14)	**SCREW TERMINALS**		**---**
	Separately approved; component list	See below	P
	Part of the luminaire		N
1.9 (15)	**SCREWLESS TERMINALS**		**---**
	Separately approved; component list	See below	P
	Part of the luminaire		N
1.10 (5)	**EXTERNAL AND INTERNAL WIRING**		**---**
1.10 (5.2)	Supply connection and external wiring		---
1.10 (5.2.1 + 5.2.4)	Means of connection.....:	Adapters for engagement with supply tracks	P
1.10 (5.2.2 + 5.2.4)	Type of cable .....:		N
	Nominal cross-sectional area (mm²).....:		N
1.10 (5.2.3 + 5.2.4)	Replacement of non-detachable cable and cords		N
1.10 (5.2.5)	Non-rewirable connection		N
1.10 (5.2.6)	Cable entries:		---
	- suitable for introduction		N
	- adequate degree of protection		N
1.10 (5.2.7)	Cable entries through rigid material have rounded edges		N
1.10 (5.2.8)	Insulating bushings:		---
	- suitably fixed		N
	- material in bushings		N

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Cl.	Requirement Test	Result-Remark	Verdict
	- tubes or guards made of insulating material		N
1.10 (5.2.9)	Locking of bushings		N
1.10 (5.2.10)	Cord anchorage:		---
	- covering protected from abrasion		N
	- clear how to be effective		N
	- no mechanical or thermal stress		N
	- no tying of cables into knots etc.		N
	- insulating material or lining		N
	a) at least one part fixed		N
	b) types of cable		N
	c) no damaging of the cable		N
	d) whole cable can be mounted		N
	e) no touching of clamping screws		N
	f) metal screw not directly on cable		N
	g) replacement without special tool		N
	Glands not used as anchorage		N
	Labyrinth type anchorages		N
1.10 (5.2.10.1)	Tests:		---
	- impossible to push cable; unsafe		N
	- pull test: 25 times; pull (N) .....:		N
	- torque test: torque (Nm) .....:		N
	- displacement ≤ 2 mm		N
	- no movement of conductors		N
	- no damage of cable or cord		N
1.10 (5.2.11)	External wiring passing into luminaire		N
1.10 (5.2.12)	Looping-in terminals	Not for looping-in	N
1.10 (5.2.13)	Wire ends not tinned		N
	Wire ends tinned: no cold flow		N
1.10 (5.2.14)	Mains plug same protection	Intended to be connected to the fixed wiring, no mains plug used	N
	Class III luminaire plug		N

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Cl.	Requirement Test	Result-Remark	Verdict
1.10 (5.2.15)	Colour code low voltage	Mains supply voltage, no low voltage	N
1.10 (5.2.16)	Appliance inlets (IEC 60320)		P
	Appliance couplers of class II type		N
1.10 (5.3)	Internal wiring		---
1.10 (5.3.1)	Cross-sectional area (mm²).....:	0,75mm²	P
	Insulation thickness		P
	Temperature resistant		P
	Sleeves suitable for hot spots		P
	Green-yellow for earth only		N
	Through wiring		---
	- cross-sectional area (mm²).....:		N
	- not delivered/ mounting instruction		N
	- factory assembled		N
	- socket outlet loaded (A).....:		N
	- temperatures.....:		N
1.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.	No such parts	N
	Joints, raising/lowering devices		N
	Telescopic tubes etc.		N
	No twisting over 360^0		N
1.10 (5.3.3)	Openings		P
	Bushings not removable		P
	Bushings in sharp openings		P
	Cables with protective sheath		P
1.10 (5.3.4)	Joints and junctions:		---
	- easily accessible		P
	- effectively insulated		P
1.10 (5.3.5)	Strain on internal wiring		P
1.10 (5.3.6)	Wire carriers		N
1.10 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N
1.11 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		**---**

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Cl.	Requirement Test	Result-Remark	Verdict
1.11 (8.2.1 + 8.2.5)	Live parts not accessible		P
	Protection in any position		P
	Insulation lacquer not reliable		P
	Double-ended tungsten filament lamp		N
	Double-ended high pressure discharge lamp		N
1.11 (8.2.2 + 8.2.5)	Portable luminaire	Fixed luminaire	N
1.11 (8.2.3 + 8.2.5)	Class II luminaire:		---
	- insulation-encased, reinforced insulation		N
	- metal-encased, double insulation		N
	- basic insulated metal parts or basic insulated live conductors only accessible during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		N
	Class I luminaire with BC lampholder	No BC lampholder	N
1.11 (8.2.4 + 8.2.5)	Portable luminaire:		---
	- non-detachable cable	Fixed luminaire	N
	- terminal block completely covered		N
1.11 (8.2.6)	Covers have adequate strength		P
	Covers reliably secured		P
1.11 (8.2.7)	Discharging of capacitors ≥ 0,5 μF	No capacitors used, No such requirements	N
	Portable plug connected luminaire with capacitor		N
	Other plug connected luminaire with capacitor		N
	Discharge device on or within capacitor		N
	Discharge device mounted separately		N
1.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		**---**
1.12 (12.3)	Endurance test:		---
	- mounting-position .....:	(see Annex 2)	---
	- test temperature (℃) .....:	35	---
	- total duration (h).....:	240h	---
	- supply voltage: Un factor; calculated voltage (V).....:		---

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Cl.	Requirement Test	Result-Remark	Verdict
	- lamp used .....:	(see Annex 2)	---
1.12 (12.3.2)	After endurance test:		---
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system	Not track-mounted luminaires	N
	- marking legible		P
	- no cracks, deformation etc.		P
1.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.12 (12.5)	Thermal test (abnormal operation)		N
1.12 (12.6)	Thermal test (failed lamp control gear condition):		---
1.12 (12.6.1)	- case of abnormal conditions.....:	No control gear used	N
	- electronic lamp control gear		N
	- measured winding temperature (℃) at 1,1 Un .....:		N
	- measured mounting surface temperature (℃) at 1,1 Un .....:		N
	- calculated mounting surface temperature (℃).....:		N
	- track-mounted luminaires		N
1.12 (12.6.2)	Temperature sensing control		---
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured mounting surface temperature (℃) .....:		N
	- track-mounted luminaires		N
1.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		---
	- case of abnormal conditions.....:	As above	N
1.12 (12.7.1)	- measured winding temperature (℃) at 1,1 Un .....:		N
	- measured temperature of fixing point/ exposed part (℃) at 1,1 Un .....:		N
	- calculated temperature of fixing point/ exposed part (℃).....:		N
1.12 (12.7.2)	Temperature sensing control		---

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Cl.	Requirement Test	Result-Remark	Verdict
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured temperature of fixing point/ exposed part (℃) .....:		N
1.13 (9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		**---**
1.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		---
	- classification according to IP .....:		---
	- mounting position during test.....:		---
	- fixing screws tightened; torque (Nm).....:		---
	- tests according to clauses .....:		---
	- electric strength		N
	a) no deposit in dust-proof luminaire		N
	b) no talcum in dust-tight luminaire		N
	c) no trace of water on live parts		N
	d) no accumulation of water in waterproof luminaire		N
	e) no water in watertight luminaire		N
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N
1.13 (9.3)	Humidity test 48 h	Humidity: 93% Temperature: 25℃	P
1.14 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		**---**
1.14 (10.2.1)	Insulation resistance test:		---
	Class of protection .....:	Class II	---
	Insulation resistance (MΩ):		---
	SELV:		---
	- between current-carrying parts of different polarity .....:	No SELV parts	N
	- between current-carrying parts and mounting surface .....:		N
	- between current-carrying parts and metal parts of the luminaire .....:		N
	Other than SELV:		---
	- between live parts of different polarity.....:	More than 100 MΩ	P

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Cl.	Requirement Test	Result-Remark	Verdict
	- between live parts and mounting surface.:	More than 100 MΩ	P
	- between live parts and metal parts.....:	More than 100 MΩ	P
	- between live parts of different polarity through action of a switch .....:	No such switch	N
1.14 (10.2.2)	Electric strength test		---
	Class of protection .....:	Class II	---
	Dummy lamp		N
	Luminaires with ignitors after 24 h test	No ignitor	N
	Luminaires with manual ignitors	As above	N
	Test voltage (V):		---
	SELV:		---
	- between current carrying parts of different polarity .....:	No SELV parts	N
	- between current carrying parts and mounting surface .....:		N
	- between carrying parts parts and metal parts of the luminaire .....:		N
	Other than SELV:		---
	- between live parts of different polarity.....:	2 x 240 +1000	P
	- between live parts and mounting surface.:	4 x 240 +2750	P
	- between live parts and metal parts.....:	4 x 240 +2750	P
	- between live parts of different polarity through action of a switch .....:	No such switch	N
1.14 (10.3.1)	Leakage current (mA).....:	Measured value: 0,05mA	P
1.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		**---**
1.15 (13.2.1)	Ball-pressure test:		---
	- part tested; temperature (℃).....:	PCB: 125℃ (impression diameter: 0,75mm)	P
	- part tested; temperature (℃).....:	Plastic enclosure: 75℃ (impression diameter: 1,29mm)	P
1.15 (13.3.1)	Needle flame test (10 s):		---
	- part tested.....:		N
	- part tested.....:		N
1.15 (13.3.2)	Glow wire test (650 ℃):		---
	- part tested.....:		N

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Cl.	Requirement Test	Result-Remark	Verdict
	- part tested.....:		N
1.15 (13.4.1)	Tracking test: part tested .....:		N
	COMMON MODIFICATIONS		---
(5.2.2)	Cables equal to HD 21 S2 or HD 22 S2		Not checked
(5.2.15)	Colour code low voltage		Not checked
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS**		---
(2.2)	Class 0 not accepted		N
(3.3)	DK: power supply cord with label		N
	IT: warning label on Class 0 luminaire		N
(4.5.1)	DK: socket-outlets		N
(4.5.1)	FR: socket-outlets		N
(5.2.1)	DK, FI, SE, GB: type of plug		N
ZC	**ANNEX ZC, NATIONAL DEVIATIONS**		---
(13.3)	DK: Needle flame test or glow-wire test 750° for luminaires in access routes		N
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N
(13.3.2)	FR: Glow-wire test 850° alt. 750° for luminaires in premises open to public and workers		N

ANNEX 1	components				P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity
Tube	GUANGZHOU KAIHENG NEW MATERIAL CO., LTD	K-102	125℃	UL 224	UL
Internal wire	CHUANGLIZHI ELECTRICITY (SHENZHEN) CO LTD	1015	18AWG, 105℃	UL 758	UL
	NIZING ELECTRIC CO LTD	3239	24AWG, 150℃	UL 758	UL
LED Drive	EAGL CRISE	ELP040C1000LS	Input: AC100-240, 50/60Hz, 0.45A Output: DC20-40V, 1000mA	EN 61347	CE
Transformer	Various	Various	Class B, 130℃	EN 61347-1 EN 61347-2-13	Test with appliance
Plastic Enclosure	Various	Various	Min. V-2, 80℃	UL 94	UL

No.	mark of conformity	No.	mark of conformity	No.	mark of conformity	No.	mark of conformity
1		2	VDE	3	SEV	4	ÖVE
5	DEMKO	6	SEMKO	7	NEMKO	8	FIMKO
9	BSI	10	UL	11	CSA	12	UTE
13	IMQ	14	BNL	15	CEBEC	16	KEMA

ANNEX 2	Temperature measurements, thermal tests of Section 12		P
	Type reference.....:	VT-6060	---
	Lamp used .....:	;LED Lamp	---
	Ballast used .....:	No	---
	Mounting position of luminaire .....:	Ceiling	---
	Supply wattage (W).....:	25W	---
	Supply current (A).....:	0,58A	---
	Calculated power factor.....:	0,86	---
	Table: measured temperatures corrected for Ta = 25 ℃:		--
	- abnormal operating mode.....:		---
	- test 1: rated voltage .....:		---
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage .....:	240V×1,06	---
	- 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 (℃) of part	clause 12.4 – normal				clause 12.5 – abnormal	
	test 1	test 2	test 3	limits	test 4	Limit
Supply cord		25.6℃		75℃		
Enclosure (metal)		48.5℃		Ref.		
Transformer		94.2℃		130℃		
PCB		67.3℃		130℃		
Winding		84.6℃		130℃		
X Capacitor		64.7℃		110℃		
Y Capacitor		51.9℃		110℃		
Input Terminal		42.5℃		75℃		
Plastic Enclosure(Inside)		51.2℃		75℃		
LED body		78.3℃		Ref.		
Ambient		24.3,℃		10-35℃		

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Cl.	Requirement Test	Result-Remark	Verdict
ANNEX 3	**Screw terminals (part of the luminaire)**		---
(14)	**SCREW TERMINALS**		---
(14.2)	Type of terminal.....:		---
	Rated current (A).....:		---
(14.3.2.1)	One or more conductors		N
(14.3.2.2)	Special preparation		N
(14.3.2.3)	Terminal size		N
	Cross-sectional area (mm²).....:		N
(14.3.3)	Conductor space (mm).....:		N
(14.4)	Mechanical tests		N
(14.4.1)	Minimum distance		N
(14.4.2)	Cannot slip out		N
(14.4.3)	Special preparation		N
(14.4.4)	Nominal diameter of thread (metric ISO thread) .....:		N
	External wiring		N
	No soft metal		N
(14.4.5)	Corrosion		N
(14.4.6)	Nominal diameter of thread (mm).....:		N
	Torque (Nm) .....:		N
(14.4.7)	Between metal surfaces		N
	Lug terminal		N

ANNEX 4	**Screwless terminals (part of the luminaire)**		**---**
(15)	**SCREWLESS TERMINALS**		**---**
(15.2)	Type of terminal.....:		---
	Rated current (A).....:		---
(15.3.1)	Material		N
(15.3.2)	Clamping		N
(15.3.3)	Stop		N
(15.3.4)	Unprepared conductors		N
(15.3.5)	Pressure on insulating material		N

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Cl.	Requirement Test	Result-Remark	Verdict
(15.3.6)	Clear connection method		N
(15.3.7)	Clamping independently		N
(15.3.8)	Fixed in position		N
(15.3.10)	Conductor size		N
	Type of conductor		N
(15.5.1)	Terminals internal wiring		N
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples)		N
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)		N
	Insertion force not exceeding 50 N		N
(15.5.2)	Permanent connections: pull-off test (20 N)		N
(15.6)	Electrical tests		--
	Voltage drop (mV) after 1 h (4 samples) ....:		N
	Voltage drop of two inseparable joints		N
	Number of cycles.....:		---
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples) .....:		N
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N
(15.7)	Terminals external wiring		N
	Terminal size and rating		N
(15.8.1)	Pull test spring-type terminals (4 samples); pull (N)		N
	Pull test pin or tab terminals (4 samples); pull (N)		N
(15.9)	Contact resistance test		--
	Voltage drop (mV) after 1 h		---

terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										

	Voltage drop of two inseparable joints		--

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Cl.	Requirement Test	Result-Remark	Verdict

	Voltage drop after 10th alt. 25th cycle									--
	Max. allowed voltage drop (mV).....:									---
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop after 50th alt. 100th cycle									--
	Max. allowed voltage drop (mV)..... :									---
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 10th alt. 25th cycle									--
	Max. allowed voltage drop (mV)..... :									---
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 50th alt. 100th cycle									--
	Max. allowed voltage drop (mV)..... :									---
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										

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	

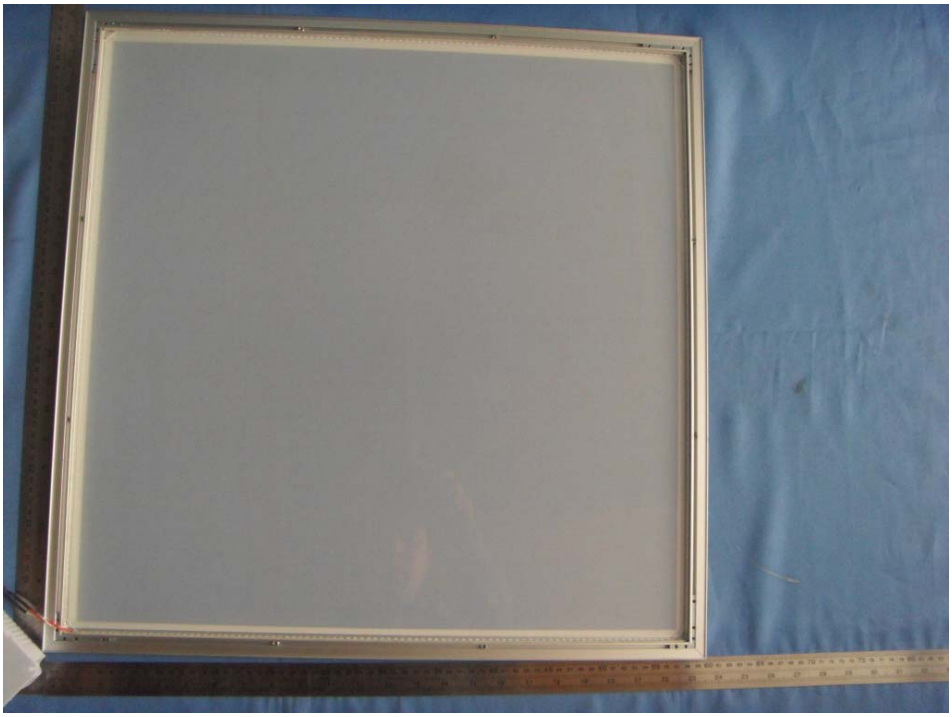
Photo 3 View: [ ] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [√] internal	

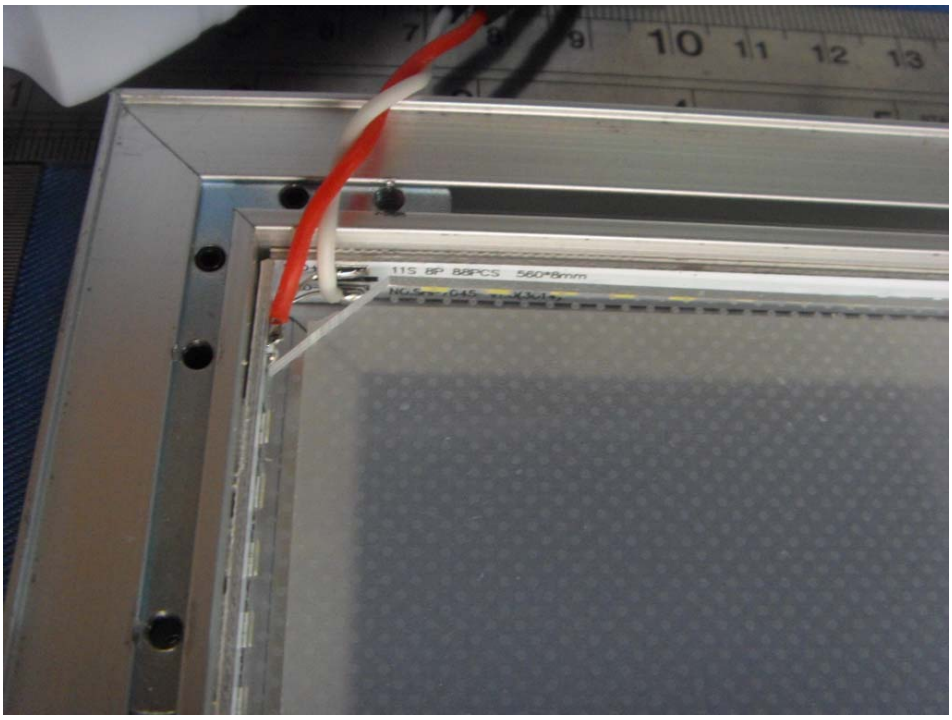
Photo 4 View: [ ] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [√] internal	

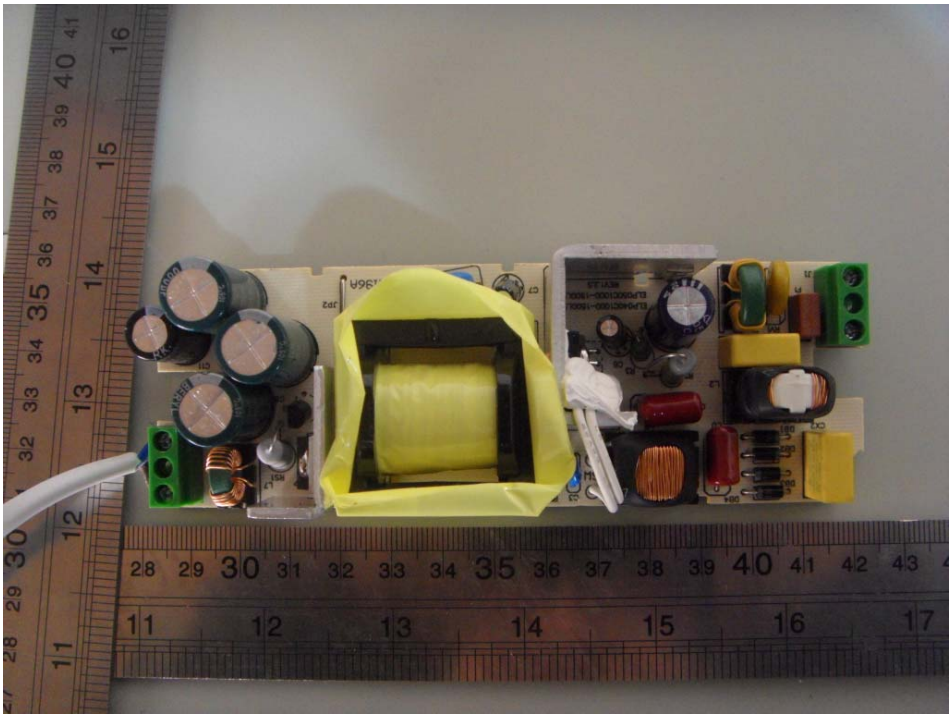
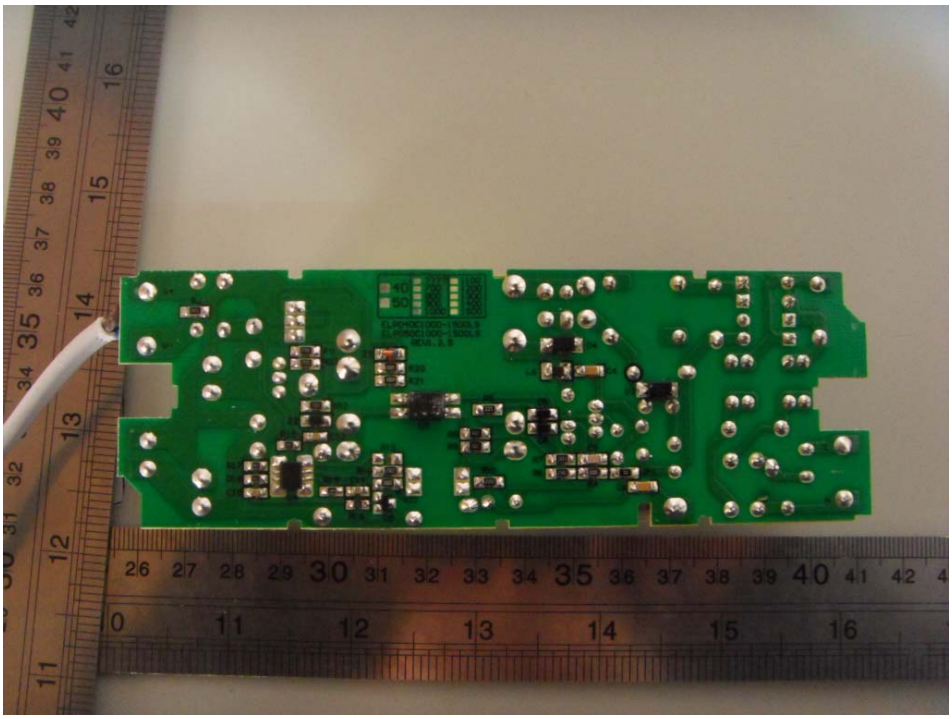
Photo 5 View: [ ] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [√] internal	

Photo 6 View: [ ] front [ ] rear [ ] right side [ ] left side [ ] top [ ] bottom [√] internal	

END.