TESTING
CNAS
L6214

TEST REPORT
IEC 60598-2-5
Luminaires
Part 2: Particular requirements
Section 5: Floodlights

Report Number.....:	SA1901106S 01001
Date of issue.....:	January 23, 2019
Total number of pages.....	44 pages
Name of Testing Laboratory preparing the Report.....:	Dongguan Anci Electronic Technology Co., Ltd.
Applicant's name.....:	SHENZHEN ZISTELED TECHNOLOGY CO., LTD
Address.....:	3rd Industrial Park, Tangxiayong, Songgang Town, Baoan District, Shenzhen City, 518105 P,R, China
Test specification:	
Standard.....:	IEC 60598-2-5:2015 (Third Edition) used in conjunction with IEC 60598-1:2014 (Eighth Edition)
Test procedure.....:	Type Test
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC60598_2_5E
Test Report Form(s) Originator.....:	Intertek Semko AB
Master TRF.....:	2016-02

General disclaimer:

The test results presented in this report relate only to the object tested.
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Test item description.....:	LED FLOOD LIGHT
Trade Mark.....:	N/A
Manufacturer.....:	SHENZHEN ZISTELED TECHNOLOGY CO., LTD
Address.....:	3rd Industrial Park, Tangxiayong, Songgang Town, Baoan District, Shenzhen City, 518105 P,R, China
Model/Type reference.....:	See model list on page 5
Ratings.....:	See model list on page 5

☒ **Testing Laboratory:**		
Testing location/ address……:	Dongguan Anci Electronic Technology Co., Ltd. 1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China	
Tested by (name, function, signature).....:	Seven Liu	Seven Liu
Approved by (name, function, signature).:	MingHua,Zhu	MingHua.Zhu

List of Attachments (including a total number of pages in each attachment):

Attachment No. 1: 2 pages of European group differences and national differences according to EN 60598-2-5:2015 used in conjunction with EN 60598-1:2015

Attachment No. 2: 1 pages of report IEC/EN 62031.

Attachment No. 3: 2 pages of report IEC/EN TR62778

Attachment No. 4: 3 pages of photo documentation.

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
IEC 60598-2-5(ed.3) IEC 60598-1(ed.8) IEC 62471(ed.1) IEC 62031(ed.1);am1;am2 The submitted samples were classified as blue light risk group 1 according to IEC TR 62778:2014	Dongguan Anci Electronic Technology Co., Ltd. 1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China

Summary of compliance with National Differences:

List of countries addressed

☐ The product fulfils the requirements of Germany and European Group differences

EN 60598-2-5:2015;

EN 60598-1:2015;

EN 62471:2008;

EN 62493:2015;

EN 62031:2008+A1:2013+A2:2015

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

LED FLOOD LIGHT
Model: BA2-3200W-6K
200-240V~, 50/60Hz, 200W
CCT:6000K CRI:>80 PF:0.9
Luminous efficiency:130LM/W
Beam angle:120°

IP65 ta45℃
SHENZHEN ZISTELED TECHNOLOGY CO., LTD
MADE IN CHINA

Remarks:

1. Representative markings of BA2-3200W-6K, markings of all models are identical except for the model name and rating.

2. Height of CE mark at least 5mm, height of WEEE symbol should not less than 7mm, height of other marks at least 5mm, height of letters and numerals at least 2mm.

Test item particulars..... :	
Classification of installation and use.....:	Floodlights
Supply Connection.....:	Supply cord
Protection Class.....:	Class I
Degree of Protection.....:	IP65
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing..... :	
Date of receipt of test item.....:	January 11, 2019
Date (s) of performance of tests.....:	January 11, 2019 – January 22, 2019

General remarks:

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item tested.

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.
Clause numbers between brackets refer to clauses in IEC/EN 60598-1.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....:	Same as manufacturer

General product information:

- All models have similar appearance except size, power and LED drivers are difference.
- Unless otherwise specified, the model BA2-3200W-6K was chosen as representative model to perform all test.

Model List:

Model No.	Rating	Size & weight	LED DRIVER	Max. installation height	Projected area
BA2-3010W-6K	200-240V~, 50/60Hz, 10W	166x116x32mm, 0.5kg	TG-S/TG3A/b-1	15M	0.019m^2
BA2-3020W-6K	200-240V~, 50/60Hz, 20W	217x152x40mm, 0.8kg	TG-S/TG3A/b-2	15M	0.033m^2
BA2-3030W-6K	200-240V~, 50/60Hz, 30W	227x167x40mm, 1.0kg	TG-S/TG3A/b-3	15M	0.038m^2
BA2-3050W-6K	200-240V~, 50/60Hz, 50W	311x220x50mm, 1.5kg	TG-S/TG3A/b-4	15M	0.068m^2
BA2-3100W-6K	200-240V~, 50/60Hz, 100W	403x295x60mm, 3.8kg	ELG-100-36A	15M	0.119m^2
BA2-3150W-6K	200-240V~, 50/60Hz, 150W	431x371x60mm, 5.0kg	ELG-150-36A	15M	0.160m^2
BA2-3200W-6K	200-240V~, 50/60Hz, 200W	472x401x60mm, 6.0kg	ELG-200-36A	15M	0.189m^2
BA2-ABBBW-CK	The second “A” stands for luminous efficacy, which can be "0", "1", "2", "3", "4", 0=100LM/W, 1=110LM/W, 2=120LM/W, 3=130LM/W, 4=160LM/W. “BBB” stands for power, and the range is 010-200, the rising step is 1W. “C” stands for color temperature, which can be "3", "4", "5", "6", 3=3000K, 4=4000K, 5=5000K,6 =6000K.				

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict

5.4 (0+2)	**CLASSIFICATION OF LUMINAIRES**		P
5.4 (0.1)	Information for luminaire design considered..... :	Standard Yes ☒ No ☐	—
5.4 (0.3)	More sections applicable..... :	Yes ☐ No ☒	—
5.4 (2.2)	Type of protection ..... :	Class I	P
5.4 (2.3)	Degree of protection..... :	IP65	P
5.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces..... :	Yes ☐ No ☒	—
5.4 (2.5)	Luminaire for normal use ..... :	Yes ☒ No ☐	—
	Luminaire for rough service ..... :	Yes ☐ No ☒	—

5.5 (3)	**MARKING**		P
5.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
5.5 (3.3)	Additional information		P
	Language of instructions	English	P
5.5 (3.3.1)	Combination luminaires		N/A
5.5 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
5.5 (3.3.3)	Operating temperature	ta.45℃	P
5.5 (3.3.4)	Symbol or warning notice		N/A
5.5 (3.3.5)	Wiring diagram	See manual	P
5.5 (3.3.6)	Special conditions		N/A
5.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
5.5 (3.3.8)	Limitation for semi-luminaires		N/A
5.5 (3.3.9)	Power factor and supply current		P
5.5 (3.3.10)	Suitability for use indoors	IP65 suitability for use outdoors	N/A
5.5 (3.3.11)	Luminaires with remote control		N/A
5.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
5.5 (3.3.13)	Specifications of protective shields		N/A
5.5 (3.3.14)	Symbol for nature of supply	~	P
5.5 (3.3.15)	Rated current of socket outlet		N/A
5.5 (3.3.16)	Rough service luminaire		N/A

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
5.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
5.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
5.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
5.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
5.5 (3.3.21)	Non replaceable and non-user replaceable light sources information provided	non-user replaceable	P
	Cautionary symbol		N/A
5.5 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
5.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P
5.5 (-)	Additional information if applicable		P
	a) Operation position		N/A
	b) Weight and dimensions		P
	c) Maximum protected area	0,189m^2	P
	d) Limitation of use indoors and/or outdoor		P
	e) Maximum mounting height if ≤ 5 m		N/A
5.6 (4)	**CONSTRUCTION**		P
5.6 (4.2)	Components replaceable without difficulty		P
5.6 (4.3)	Wireways smooth and free from sharp edges		P
5.6 (4.4)	**Lampholders**		N/A
5.6 (4.4.1)	Integral lampholder		N/A
5.6 (4.4.2)	Wiring connection		N/A
5.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
*5.6 (4.4.4)	Positioning		N/A
	- pressure test (N) ..... :		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
	After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation		N/A
	- bending test (N) .....:		—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
5.6 (4.4.5)	Peak pulse voltage		N/A
5.6 (4.4.6)	Centre contact		N/A
5.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
5.6 (4.4.8)	Lamp connectors		N/A
5.6 (4.4.9)	Caps and bases correctly used		N/A
5.6 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
5.6 (4.5)	**Starter holders**		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
5.6 (4.6)	**Terminal blocks**		N/A
	Tails		N/A
	Unsecured blocks		N/A
5.6 (4.7)	**Terminals and supply connections**		P
5.6 (4.7.1)	Contact to metal parts		N/A
5.6 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
5.6 (4.7.3)	Terminals for supply conductors		P
5.6 (4.7.3.1)	Welded method and material		P
	- stranded or solid conductor		P
	- spot welding		P
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.2.3 and 15.6.2.4		N/A
5.6 (4.7.4)	Terminals other than supply connection		N/A
5.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
5.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
5.6 (4.8)	**Switches**		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A
5.6 (4.9)	**Insulating lining and sleeves**		N/A
5.6 (4.9.1)	Retainment		N/A
	Method of fixing.....:		N/A
5.6 (4.9.2)	Insulated linings and sleeves:		N/A
	Resistant to a temperature > 20 °C to the wire temperature or		N/A
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C).....:		N/A
5.6 (4.10)	**Double or reinforced insulation**		N/A
5.6 (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
5.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
5.6 (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
5.6 (4.10.4)	Protective impedance device		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
5.6 (4.11)	**Electrical connections and current-carrying parts**		P
5.6 (4.11.1)	Contact pressure		P
5.6 (4.11.2)	Screws:		P
	- self-tapping screws		P
	- thread- cutting screws		N/A
5.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
5.6 (4.11.4)	Material of current-carrying parts		P
5.6 (4.11.5)	No contact to wood or mounting surface		P
5.6 (4.11.6)	Electro-mechanical contact systems		N/A
5.6 (4.12)	**Screws and connections (mechanical) and glands**		P
5.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:	Fixed LED PCB: 0,5Nm	P
	Torque test: torque (Nm); part.....:	Fixed LED driver: 0,6Nm	P
	Torque test: torque (Nm); part.....:		N/A
5.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
*5.6 (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
5.6 (4.12.5)	Screwed glands; force (Nm)..... :	6,25Nm	P
5.6 (4.13)	**Mechanical strength**		P
5.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)..... :	0,5Nm, no damage	P
	- other parts; energy (Nm)..... :	0,7Nm, no damage	P
	1) live parts		P
	2) linings		N/A
	3) protection		P

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
	4) covers		P
5.6 (4.13.3)	Straight test finger		P
5.6 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
5.6 (4.13.6)	Tumbling barrel		N/A
5.6 (4.14)	**Suspensions, fixings and means of adjusting**		P
5.6 (4.14.1)	Mechanical load:		P
	A) four times the weight	4x6,0kg	P
	B) torque 2,5 Nm		N/A
	C) bracket arm; bending moment (Nm)..... :		P
	D) load track- mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) ..... :		N/A
	Metal rod. diameter (mm) .....:		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
5.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg) ..... :		—
	Stress in conductors (N/mm²) .....:		N/A
	Mass (kg) of semi-luminaire .....:		N/A
	Bending moment (Nm) of semi-luminaire .....:		N/A
5.6 (4.14.3)	Adjusting devices:		P
	- flexing test; number of cycles..... :	150 cycles	P
	- strands broken..... :		P
	- electric strength test afterwards		P
5.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
5.6 (4.14.5)	Guide pulleys		N/A
5.6 (4.14.6)	Strain on socket-outlets		N/A

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
5.6 (4.15)	**Flammable materials**		P
	- glow- wire test 650°C..... :	See Test Table 5.15 (13.3.2)	P
	- spacing ≥30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
5.6 (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
5.6 (4.16)	**Luminaires for mounting on normally flammable surfaces**		P
	No lamp control gear.....:	(compliance with Section 12)	N/A
5.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
5.6 (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
5.6 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
5.6 (4.17)	**Drain holes**		N/A
	Clearance at least 5 mm		N/A
5.6 (4.18)	**Resistance to corrosion**		P
5.6 (4.18.1)	- rust- resistance		P
*5.6 (4.18.2)	- season cracking in copper		N/A
5.6 (4.18.3)	- corrosion of aluminium		P
5.6 (4.19)	Ignitors compatible with ballast		N/A
*5.6 (4.20)	Rough service vibration		N/A
5.6 (4.21)	**Protective shield**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
5.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
5.6 (4.21.3)	No direct path		N/A
5.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment.....:	See Test Table 5.15 (13.3.2)	N/A
5.6 (4.22)	Attachments to lamps not cause overheating or damage		N/A
5.6 (4.23)	Semi-luminaires comply Class II		N/A
5.6 (4.24)	**Photobiological hazards**		P
*5.6 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
5.6 (4.24.2)	Retinal blue light hazard	Exempt: RG1	P
	Class of risk group assessed according to IEC/TR 62778 .....:		—
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2... :		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A
	Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778		N/A
5.6 (4.25)	**Mechanical hazard**		P
	No sharp point or edges		P
***5.6 (4.26)**	**Short-circuit protection**		N/A
*5.6 (4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
*5.6 (4.26.2)	Short-circuit test with test chain according 4.26.3		N/A
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
5.6 (4.27)	**Terminal blocks with integrated screwless earthing contacts**		N/A
	Test according Annex V		N/A
	Pull test of terminal fixing (20 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Pull test of mechanical connection (50 N)		N/A
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
5.6 (4.28)	**Fixing of thermal sensing control**		N/A
	Not plug-in or easily replaceable type		N/A
	Reliably kept in position		N/A
	No adhesive fixing if UV radiations from a lamp can degrade the fixing		N/A
	Not outside the luminaire enclosure		N/A
	Test of adhesive fixing:		N/A
	Max. temperature on adhesive material (°C) .....:		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
5.6 (4.29)	**Luminaires with non-replaceable light source**		N/A
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		N/A
5.6 (4.30)	**Luminaires with non-user replaceable light source**		P
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		N/A
	Minimum two fixing means		N/A
5.6 (4.31)	**Insulation between circuits**		P
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		P
	Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
5.6 (4.31.1)	SELV circuits		P
	Used SELV source		P
	Voltage ≤ ELV		P

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulating of SELV circuits from LV supply		P
	Insulating of SELV circuits from other non SELV circuits		N/A
	Insulating of SELV circuits from FELV		N/A
	Insulating of SELV circuits from other SELV circuits		N/A
	SELV circuits insulated from accessible parts according Table X.1		P
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Plugs and socket-outlets does not have protective conductor contact		N/A
5.6 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of FELV circuits from LV supply		N/A
	FELV circuits insulated from accessible parts according Table X.1		N/A
	Plugs not able to enter socket-outlets of other voltage systems		N/A
	Socket outlets does not admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
5.6 (4.31.3)	Other circuits		P
	Other circuits insulated from accessible parts according Table X.1		P
	Class II construction with equipotential bonding for protection against indirect contacts with live parts:		N/A
	- conductive parts are connected together		N/A
	- test according 7.2.3		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- equipotential bonding in master/slave applications		N/A
	- master luminaire provided with terminal for accessible conductive parts of slave luminaires		N/A
	- slave luminaire constructed as class I		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6 (4.32)	**Overvoltage protective devices**		N/A
	Comply with IEC 61643-11		N/A
	External to controlgear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A
5.6.1 (-)	At least IPX3 if for outdoor use	IP65	P
5.6.2 (-)	Lampholder brackets and lamp supports		N/A
5.6.3 (-)	Adjusting means		P
5.6.4 (-)	Controlling components		N/A
5.6.5 (-)	Fixing device		P
	Wind force test		P
5.6.6 (-)	Locking of angular adjustment		P
5.6.7 (-)	Vibration resistance		P
5.6.8 (-)	Requirement on glass cover if mounting height > 5 m		P
	Method of protection ..... :		—
5.7 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		P
5.7 (11.2)	Creepage distances and clearances.....:	See Table 5.7 (11.2)	P
	Impulse withstand category (Normal category II) (Category III Annex U, Table U.1)	Category II ☒ Category III ☐	—
5.8 (7)	**PROVISION FOR EARTHING**		P
5.8 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω.....:	0,038 Ω	P
	Self-tapping screws used		N/A
	Thread-forming screws		P
	Thread-forming screw used in a grove		P
	Earth makes contact first		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
	Protective earthing of the luminaire not via built-in control gear		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.8 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		P
5.8 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
5.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
5.8 (7.2.6)	Earth terminal adjacent to mains terminals		P
5.8 (7.2.7)	Electrolytic corrosion of the earth terminal		P
5.8 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
5.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
5.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P
5.9 (14)	**SCREW TERMINALS**		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 3)	N/A
5.9 (15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		N/A
	Separately approved; component list.....:	(see Annex 1)	N/A
	Part of the luminaire.....:	(see Annex 4)	N/A
5.10 (5)	**EXTERNAL AND INTERNAL WIRING**		P
5.10 (5.2)	**Supply connection and external wiring**		**P**
5.10 (5.2.1)	Means of connection.....:	Supply cord	P
	Outdoor luminaire has not PVC insulated external wiring if not class III or SELV ≤ 25 V a.c./60 V d.c. or protected from outdoor environment		N/A
5.10 (5.2.2)	Type of cable.....:	H05RN-F	P
	Nominal cross-sectional area (mm²)..... :	3x1,0mm^2	P
	Cables equal to IEC 60227 or IEC 60245		P
5.10 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.10 (5.2.5)	Type Z not connected to screws		N/A
5.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
5.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
5.10 (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
5.10 (5.2.9)	Locking of screwed bushings		N/A
5.10 (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
5.10 (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
5.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		P
5.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- pull test: 25 times; pull (N)..... :	60N	P
	- torque test: torque (Nm)..... :	0,25Nm	P
	- displacement ≤ 2 mm	1,0mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
5.10 (5.2.11)	External wiring passing into luminaire		P
5.10 (5.2.12)	Looping- in terminals		N/A
5.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
5.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
5.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
5.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
5.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
5.10 (5.3)	**Internal wiring**		P
5.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A)..... :		N/A
	- temperatures.....:	(see Annex 2)	N/A
	Green- yellow for earth only		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm²)..... :		N/A
	Insulation thickness		N/A
	Extra insulation added where necessary		N/A
5.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
5.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
5.10 (5.3.1.4)	Conductors without insulation		N/A
5.10 (5.3.1.5)	SELV current-carrying parts		P
5.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
5.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
5.10 (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
5.10 (5.3.4)	Joints and junctions effectively insulated		N/A
5.10 (5.3.5)	Strain on internal wiring		N/A
5.10 (5.3.6)	Wire carriers		N/A
5.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
5.11 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		P
5.11 (8.2.1)	Live parts not accessible		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		N/A
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		N/A
	Double-ended high pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
5.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
5.11 (8.2.3.a)	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
	- glass protective shields not used as supplementary insulation		N/A
5.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
5.11 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- voltage under load (V)..... :		N/A
	- no-load voltage (V)..... :		N/A
	- touch current if applicable (mA) ..... :		N/A
	One conductive part insulated if required		N/A
	Other than ordinary luminaire:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- nominal voltage (V) .....:		N/A
	Class III luminaire only for connection to SELV		N/A
	Class III luminaire not provided with means for protective earthing		N/A
5.11 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
5.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
5.11 (8.2.6)	Covers reliably secured		P
5.11 (8.2.7)	Luminaire other than below with capacitor > 0,5 μF not exceed 50 V 1 min after disconnection		P
	Portable luminaire with capacitor > 0,1 μF (0.25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μF (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A

5.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		P
	If IP > IP 20 relevant test of (12.4), (12.5), (12.6) and 12.7 after (9.2) before (9.3) specified in 5.13		P
5.12 (12.3)	Endurance test:		P
	- mounting- position..... :	As normal used	—
	- test temperature (°C)..... :	45°C+10	—
	- total duration (h).....:	240h	—
	- supply voltage: Un factor; calculated voltage (V)...:	1,1X240V	—
	- lamp used..... :		—
5.12 (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
5.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
5.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N/A
5.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.12 (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
5.12 (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
5.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
5.12 (12.7.1)	Luminaire without temperature sensing control		N/A
5.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W ..... :		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions..... :		—
	- Ballast failure at supply voltage (V) ..... :		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/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..... :		—
	- calculated temperature of fixing point/exposed part (°C)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Ball-pressure test.....:	See Table 5.15 (13.2.1)	N/A
5.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/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..... :		—
	- calculated temperature of fixing point/exposed part (°C).....:		—
	Ball-pressure test.....:	See Table 5.15 (13.2.1)	N/A
5.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions.....:		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
5.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link.....:	Yes ☐ No ☐	—
	- manual reset cut-out.....:	Yes ☐ No ☐	—
	- auto reset cut-out..... :	Yes ☐ No ☐	—
	- case of abnormal conditions.....:		—
	- highest measured temperature of fixing point/ exposed part (°C):..... :		—
	Ball-pressure test:.....:	See Table 5.15 (13.2.1)	N/A
5.12.1 (-)	Reduction 10 °C of measured temperatures if for outdoor use		—
5.12.2 (-)	Glass covers used within the thermal limits		P

5.13 (9)	**RESISTANCE TO DUST AND MOISTURE**		P
5.13 (-)	If IP > IP 20 the order of tests as specified in clause 5.12		P
5.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP65	—
	- mounting position during test.....:	Normally works	—
	- fixing screws tightened; torque (Nm).....:	2/3	—
	- tests according to clauses.....:	9.2.2 and 9.2.6	—

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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 on insulation where it could become a hazard		P
	c.1) For luminaires without drain holes – no water entry		P
	c.2) For luminaires with drain holes – no hazardous water entry		N/A
	d) no water in watertight or pressure watertight luminaire		N/A
	e) no contact with live parts (IP 2X)		N/A
	e) no entry into enclosure (IP 3X and IP 4X)		N/A
	e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		P
	g) no damage of protective shield or glass envelope		P
5.13 (9.3)	Humidity test 48 h	Relative humidity 93%, temperature 25℃, 48h	P
5.14 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		P
5.14 (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
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Other than SELV		P
	- between live parts of different polarity..... :	100MΩ, limit: 2 MΩ	P
	- between live parts and mounting surface.....:	100MΩ, limit: 2 MΩ	P
	- between live parts and metal parts.....:	100MΩ, limit: 2 MΩ	P
	- between live parts of different polarity through action of a switch..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 .....:		N/A
5.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V).....:		N/A
	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
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ..... :		N/A
	Other than SELV		P
	- between live parts of different polarity..... :	1480Vac, no breakdown	P
	- between live parts and mounting surface.....:	1480Vac, no breakdown	P
	- between live parts and metal parts.....:	1480Vac, no breakdown	P
	- between live parts of different polarity through action of a switch..... :		N/A
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ..... :		N/A
5.14 (10.3)	Touch current or protective conductor current (mA).:	0,568mA, limit: 3,5mA	P

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Clause	Requirement + Test	Result - Remark	Verdict

5.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
5.15 (13.2.1)	Ball-pressure test..... :	See Test Table 5.15 (13.2.1)	P
5.15 (13.3.1)	Needle-flame test (10 s).....:	See Test Table 5.15 (13.3.1)	P
5.15 (13.3.2)	Glow- wire test (650°C).....:	See Test Table 5.15 (13.3.2)	P
*5.15 (13.4)	Proof tracking test (IEC 60112).....:	See Test Table 5.15 (13.4)	N/A

5.7 (11.2)	**TABLES: Creepage distances and clearances**	P
Table 11.1	**Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages**	P

RMS working voltage (V) not exceeding	50	150	250	500	750	1000
Creepage distances						
Required basic insulation, PTI ≥ 600	0,6	0,8	1,5	3	4	5,5
Measured						
Required basic insulation, PTI < 600	1,2	1,6	2,5	5	8	10
Measured						
Required supplementary insulation PTI ≥ 600	-	0,8	1,5	3	4	5,5
Measured						
Required supplementary insulation PTI < 600	-	1,6	2,5	5	8	10
Measured						
Required reinforced insulation	-	3,2	5	6	8	11
Measured						
Clearances						
Required basic insulation	0,2	0,8	1,5	3	4	5,5
Measured						
Required supplementary insulation	-	0,8	1,5	3	4	5,5
Measured						
Required reinforced insulation	-	1,6	3	6	8	11
Measured						

Table 11.2	**Minimum distances (mm) for non-sinusoidal pulse voltages**	**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict

Rated pulse voltage (peak kV)	2,0	2,5	3,0	4,0	5,0	6,0	8,0
Required clearances	1,0	1,5	2	3	4	5,5	8
Measured							
Rated pulse voltage (peak kV)	10	12	15	20	25	30	40
Required clearances	11	14	18	25	33	40	60
Measured							
Rated pulse voltage (peak kV)	50	60	80	100	-	-	-
Required clearances	75	90	130	170	-	-	-
Measured							

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Clause	Requirement + Test	Result - Remark	Verdict

5.7 (11.2)	TABLES: Creepage distances and clearances					P
Test Location	Working voltage	Measured cl (mm)	Required cl (mm)	Measured cr (mm)	Required cr (mm)	Verdict
L/N	200-240V~	3,5	1,5	3,5	2,5	Pass
Current-carrying parts and accessible parts	200-240V~	8,8	1,5	8,8	2,5	Pass
Current-carrying parts and mounting surface	200-240V~	8,8	1,5	8,8	2,5	Pass

5.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			N/A
Allowed impression diameter (mm) .....:		2,0mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
--	--	--	--	
Supplementary information:--				

5.15 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
--	--	--	--	--	--
Supplementary information:--					

5.15 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)			N/A
Glow wire temperature .....:		650°C		—
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
--	--	--	--	--
Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No).....:				Yes
Supplementary information:--				

*5.15 (13.4)	TABLE: Proof tracking test (IEC 60112)	N/A
Test voltage PTI ..... :	175 V	—

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Clause	Requirement + Test	Result - Remark	Verdict

Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
--	--	--	--	--	--
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1	TABLE: Critical components information					
Object / part No.	**Code**	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
Supply cords	A	Guangdong Rifeng Electrical Cable Co., Ltd	H05RN-F	300/500V, 3x1.0mm^2	DIN EN 50525-2-21	VDE 40015999
LED	B	LUMILEDS	LUXEON 3030 2D	If=max.240mA;2700K-6500K	IEC/TR62778	Test with appliance
LED PCB	B	International Laminate Material Ltd	GL12	V-0	--	UL E134893
LED Driver	B	Shenzhen Kingsum Technology Limited Company	TG-S/TG3A/b-1	Input:100-240V~, 50/60Hz Output:27-32Vdc, 320mA Ta40℃ tc70℃	IEC 61347-2-13; IEC 61347-1	CE
LED Driver	B	Shenzhen Kingsum Technology Limited Company	TG-S/TG3A/b-2	Input:100-240V~, 50/60Hz Output:30-35Vdc, 600mA Ta40℃ tc70℃	IEC 61347-2-13; IEC 61347-1	CE
LED Driver	B	Shenzhen Kingsum Technology Limited Company	TG-S/TG3A/b-3	Input:100-240V~, 50/60Hz Output:30-35Vdc, 900mA Ta40℃ tc70℃	IEC 61347-2-13; IEC 61347-1	CE
LED Driver	B	Shenzhen Kingsum Technology Limited Company	TG-S/TG3A/b-4	Input:100-240V~, 50/60Hz Output:30-35Vdc, 1500mA Ta50℃ tc95℃	IEC 61347-2-13; IEC 61347-1	CE
LED Driver	B	MEAN WELL Enterprises Co., Ltd	ELG-100-36A	Input:100-240V~, 50/60Hz, 0.6A Output:36Vdc, 2.66A ta60℃ tc90℃	IEC 61347-2-13; IEC 61347-1	DEKRA NL-51354
LED Driver	B	MEAN WELL Enterprises Co., Ltd	ELG-150-36A	Input:100-240V~, 50/60Hz, 1.7A Output:36Vdc, 4.17A(Input:200-240V~), 150.1W 2.92A(Input:100-200V~),105W ta55℃ tc90℃	IEC 61347-2-13; IEC 61347-1	DEKRA NL-51177

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict

LED Driver	B	MEAN WELL Enterprises Co., Ltd	ELG-200-36A	Input:100-240V~, 50/60Hz, 1.8A Output:36Vdc, 5.55A(Input:200-240V~), 199.8W 4.16A(Input:100-200V~),149.76W ta50℃ tc90℃	IEC 61347-2-13; IEC 61347-1	TUV Rheinland DE 2-023141
Close end connector	B	LANCAI TECHNOLOGY CO LTD	MP100+	--	--	UL E161087

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.

The codes above have the following meaning:

A - The component is replaceable with another one, also certified, with equivalent characteristics

B - The component is replaceable if authorised by the test house

C - Integrated component tested together with the appliance

D - Alternative component

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference.....:	BA2-3200W-6K	—
	Lamp used.....:	LED lamp	—
	Lamp control gear used.....:		—
	Mounting position of luminaire.....:	See product manual	—
	Supply wattage (W).....:	200,2W	—
	Supply current (A)..... :	0,833A	—
	Calculated power factor.....:	0,972	—
	Table: measured temperatures corrected for ta = 45 °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.....:		—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :		—

Temperature measurements, (°C)

Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Input wire	45℃	--	73,4	--	90	--	--
close end connector	45℃	--	79,6	--	--	--	--
Input wire of LED driver	45℃	--	84,7	--	90	--	--
TC of driver	45℃	--	88,3	--	90	--	--
Output wire of LED driver	45℃	--	86,0	--	90	--	--
Input wire of LED	45℃	--	94,4	--	90	--	--
LED PCB	45℃	--	97,4	--	Ref.	--	--
LED cover	45℃	--	75,0	--	Ref.	--	--

IEC 60598-2-5							
Clause	Requirement + Test				Result - Remark		Verdict
Lighting object (10cm)	45℃	--	48,1	--	90	--	--
Metal enclosure	45℃	--	85,5	--	Ref.	--	--
Mounting surface	45℃	--	50,6	--	90	--	--
Supplementary information:							

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict

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).....:		—
(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).....:	M	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

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict

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)	Terminals and connections for internal wiring		N/A
(15.5.1)	Mechanical tests		N/A
(15.5.1.1.1)	Pull test spring-type terminals (4 N, 4 samples).....:		N/A
(15.5.1.1.2)	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 and connections for external wiring		N/A

IEC 60598-2-5			
Clause	Requirement + Test	Result - Remark	Verdict
(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) ..... :		N/A
(15.6.2.2)	Pull test pin or tab terminals (4 samples); pull (N) .....:		N/A
(15.6.3)	Electrical tests		N/A
	Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1		N/A

(15.6.3.1) (15.6.3.2)	**TABLE: Contact resistance test / Heating tests**									N/A
	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									
	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)										
Supplementary information:										

Attachment No.1

IEC 60598_2_5E-ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60598-2-5
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Luminaires

Part 2: Particular requirements

Section 5: Floodlights

Differences according to..... :	EN 60598-2-5:2015 used in conjunction with EN 60598-1:2015
Annex Form No..... :	EU_GD_IEC60598_2_5E
Annex Form Originator..... :	OVE
Master Annex Form..... :	2015-04

	CENELEC COMMON MODIFICATIONS (EN)	N/A

5.5 (3)	**MARKING**		**N/A**
5.5 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package		N/A

5.6 (4)	**CONSTRUCTION**		**N/A**
5.6 (4.11.6)	Electro-mechanical contact systems		N/A

5.10 (5)	**EXTERNAL AND INTERNAL WIRING**		**N/A**
5.10 (5.2.1)	Connecting leads		N/A
	- without a means for connection to the supply		N/A
	- terminal block specified		N/A
	- 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
5.10 (5.2.2)	Cables equal to EN 50525		N/A
	Replace table 5.1 – Supply cord		N/A

Attachment No.1

IEC 60598_2_5E-ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.12 (12)	**ENDURANCE TESTS AND THERMAL TESTS**		**N/A**
5.12 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(4.5.1)	DK: socket- outlets		N/A
(5.2.1)	CY, DK, FI, GB: type of plug		N/A
ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N/A
	FR: Safety requirements for high buildings (Arrêté du 30 décembre 2011 portant règlement de sécurité pour la construction des immeubles de grande hauteur et leur protection contre les risques d'incendie et de panique; Section VIII; Article GH 48, Eclairage) Glow-wire test for outer parts of luminaires:		N/A
	- 850°C for luminaires in stairways and horizontal travel paths		N/A
	- 650°C for indoor luminaires		N/A
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N/A

Attachment No.2

IEC/EN 62031 LED modules for general lighting - Safety specifications			
Clause	Requirement + Test	Result - Remark	Verdict
6	Classification		---
	Built-in.....:		N/A
	Independent.....:		N/A
	Integral.....:		P
7	Marking		N/A
7.1	Mandatory marking for built-in or independent modules		N/A
7.2	Location of marking		N/A
7.3	Durability and legibility of marking		N/A
8	Terminals		N/A
9	Provisions for protective earthing		N/A
10	Protection against accidental contact with live parts		N/A
11	Moisture resistance and insulation		P
12	Electric strength		P
13	Fault conditions		P
13.1	Fault conditions accrding to IEC 61347-1, Clause 14		P
13.2	Overpower condition	No damage	P
14	Conformity testing during manufacture		N/A
15	Construction		P
	Non Wood, cotton, silk, paper and similar fibrous material used as insulation.		P
16	Creepage distances and clearances		N/A
17	Screws, current-carrying parts and connections		N/A
18	Resistance to heat, fire and tracking		N/A
19	Resistance to corrosion		N/A
20	Information for luminaire design		N/A
21	Heat management		N/A
22	Photobiological safety		P
22.1	UV radiation		P
22.2	Blue light hazard		P
22.3	Infrared radiation		N/A
Annex A	Test		--
Annex C	Conformity testing during manufacture		--
Annex D	Information for luminaire design		--

Attachment No.5

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

Tests according to IEC/TR 62778:2014				
Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	K	--	/
x/y colour coordinates			--	/
Blue light hazard radiance	L_B	$W/(m^2 \cdot sr^1)$	4163	RG1
Blue light hazard irradiance	E_B	W/m^2	--	/
Luminance	L	cd/m^2	--	/
Illuminance	E	lx	--	/
Supplementary information:				

Attachment No.4

Photo Documentation

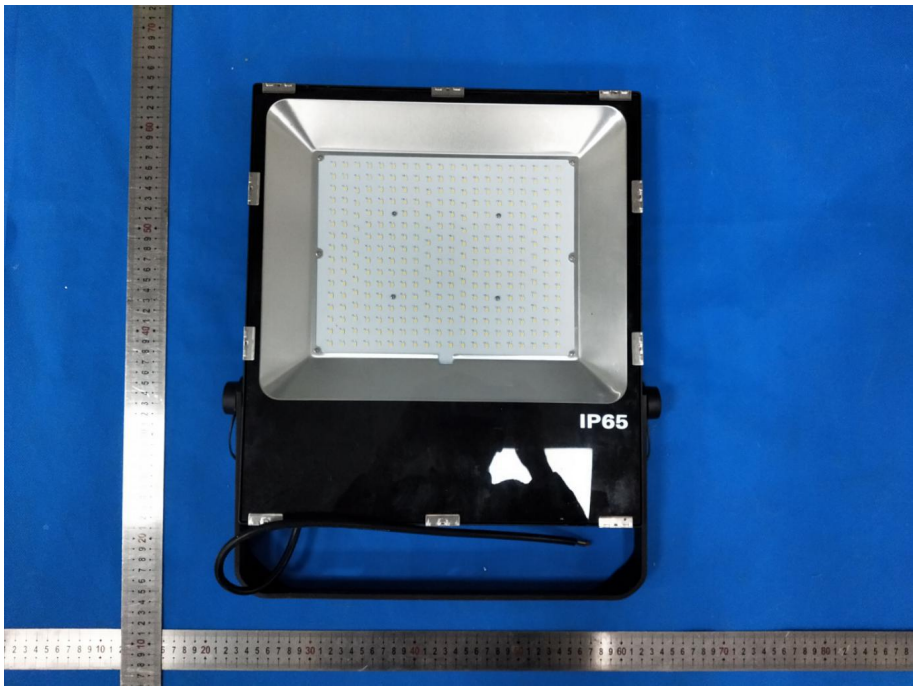

Figure 1: External View of BA2-3200W-6K

Figure 2: External View of BA2-3200W-6K

Attachment No.4

Photo Documentation

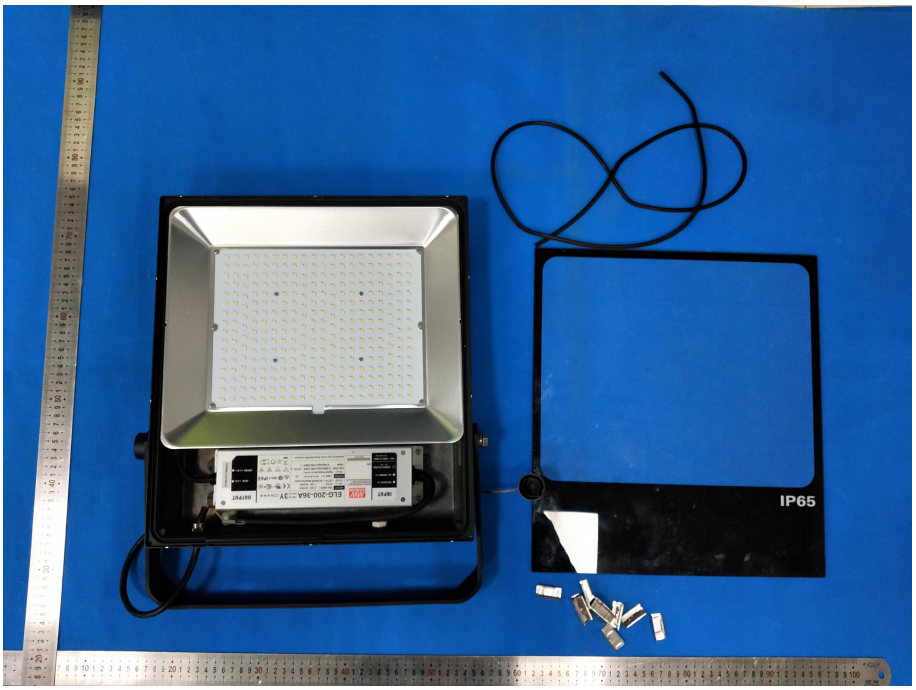

Figure 3:Internal View of BA2-3200W-6K

Figure 4: LED Driver View of BA2-3200W-6K

Attachment No.4

Photo Documentation

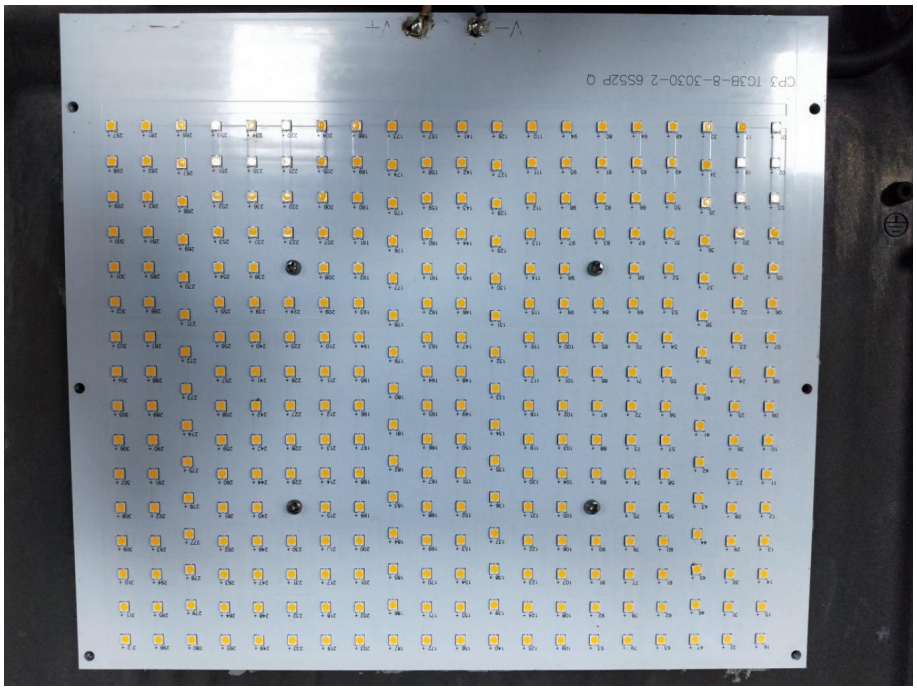

Figure 5: LED PCB View of BA2-3200W-6K

Figure 6: Support Arm View of BA2-3200W-6K

----------End of Test Report ----------