	Ref. Certif. No.
	DE 2-022742

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product	HV SMD Downlight
Name and address of the applicant	Seeshine Lighting Technologies Limited 7th Floor East, 5 Building Binhaimingzhu Industrial Park, Gongming Street, Guangming New District, Shenzhen, 518003 Guangdong, China
Name and address of the manufacturer	Seeshine Lighting Technologies Limited 7th Floor East, 5 Building Binhaimingzhu Industrial Park, Gongming Street, Guangming New District, Shenzhen, 518003 Guangdong, China
Name and address of the factory	Seeshine Lighting Technologies Limited 7th Floor East, 5 Building Binhaimingzhu Industrial Park, Gongming Street, Guangming New District, Shenzhen, 518003 Guangdong, China
Ratings and principal characteristics	AC 200-240V; 50/60Hz; 13W; ta:45°C; Class I; IP65; For other ratings, see test report.
Trademark (if any)	
Customer's Testing Facility (CTF) Stage used	N/A
Model / Type Ref.	For model names, see test report.
Additional information (if necessary may also be reported on page 2)	-see also test report ref. no. 50104434 001.
A sample of the product was tested and found to be in conformity with	IEC 60598-2-2:2011 IEC 60598-1:2014 for national deviations see test report
As shown in the Test Report Ref. No. which forms part of this Certificate	50104434 001

This CB Test Certificate is issued by the National Certification Body

TÜVRheinland®

TÜV Rheinland LGA Products GmbH
Tillystraße 2 · 90431 Nürnberg, Germany
Phone + 49 221 806-1371
Fax + 49 221 806-3935
Mail: cert-validity@de.tuv.com
Web: www.tuv.com

TÜV Rheinland LGA Products GmbH TÜVRheinland Zertifizierungsstelle

Date: 18.01.2018

Signature: Dipl.-Ing. Univ. S. O. Steinke

TÜV Rheinland (China) Ltd.
Member of TÜV Rheinland Group

TÜVRheinland®
Precisely Right.

Seeshine Lighting Technologies Limited

7th Floor East, 5 Building
Binhaimingzhu Industrial Park, Gongming
Street, Guangming New District,
Shenzhen, 518003, Guangdong, China

Date : 2018-01-18
Our ref. : awa ZD
Your ref.: 0164107335

Ref : CB Certificate Germany

Type of Equipment: HV SMD Downlight
Model Designation: See Certificate
Certificate No. : DE 2-022742 01
Report No. : 50104434 001

Dear Ladies and Gentlemen,

Thank you very much for your interest in our services.

Please find enclosed your certification documents.

We appreciate your support and would like to offer our assistance in the approval of your future products though our extensive range of technical services. Please feel free to contact us whatever your requirements may be.

With kind regards,

Certification Body

Dipl.-Ing. Univ. S. O. Steimke

Enclosure

TÜV Rheinland (China) Ltd.
莱茵检测认证服务（中国）有限公司
Unit 707, AVIC Bldg., No. 10B, Central Road, East 3rd Ring Road, Chaoyang District, Beijing, 100022, P.R.China
北京市朝阳区东三环中路乙10号
艾维克大厦707室
邮编：100022
Tel: (8610)6566 6660
Fax: (8610)6566 6667
e-mail: info@bj.chn.tuv.com
Internet: http://www.chn.tuv.com

Test Report issued under the responsibility of:

TÜVRheinland®

TEST REPORT
IEC 60598-2-2
Luminaires
Part 2: Particular requirements
Section 2: Recessed luminaires

Report Number. ..... :	**50104434 001**
Date of issue ..... :	**2018-01-12**
Total number of pages	**65**
Name of Testing Laboratory preparing the Report ..... :	**TÜV Rheinland (Shenzhen) Co., Ltd.**
Applicant's name ..... :	**Seeshine Lighting Technologies Limited**
Address ..... :	7th Floor East, 5 Building, Binhaimingzhu Industrial Park, Gongming Street, Guangming New District, Shenzhen, 518003 Guangdong, China
Test specification:	
Standard ..... :	IEC 60598-2-2 (ed.3) used in conjunction with IEC 60598-1 (ed.8)
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60598_2_2E
Test Report Form(s) Originator .... :	Intertek Semko AB
Master TRF ..... :	2016-04

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

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 Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	HV SMD Downlight
Trade Mark ..... :	N/A
Manufacturer..... :	Same as the applicant
Model/Type reference ..... :	See model list
Ratings ..... :	See general product information

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	**TÜV Rheinland (Shenzhen) Co., Ltd.**	
Testing location/ address ..... :		East of F/1, F/2~F/4, Building 1, Cybio Technology Building No. 6 Langshan No.2 Road, North Hi-tech Industry Park 518057 Shenzhen Nanshan District CHINA	
☐	**Associated CB Testing Laboratory:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :		Martin Ma	Martin Ma
Approved by (name, function, signature) .. :		Jack Li	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address ..... :			
Tested by (name + signature) ..... :			
Witnessed by (name, function, signature). :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Witnessed by (name, function, signature). :			
Approved by (name, function, signature) .. :			
Supervised by (name, function, signature) :			

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

-Photo document, 3 pages embedded in this report.

Summary of testing:

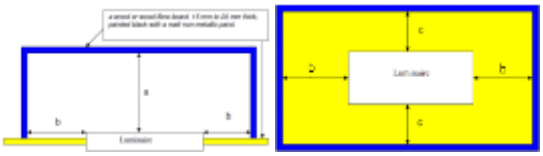
Tests performed (name of test and test clause):

Clause(s)	Test(s)
IEC 60598-1:2014	
3.4	Rubbing test
4.12.1	Screw torque test
4.13.1	Impact test
4.13.3	Straight unjointed test finger
4.14.1	Test for mechanical suspensions
5.2.10.3	Pull and torque test on cord anchorage
8.2.5	Protection against electric shock test
8.2.6	Test for covers and other parts providing protection against electric shock
9.2	Tests for ingress of dust, solid objects and moisture
9.3.1	Humidity test
10.2.1	Insulation resistance test
10.2.2	Electric strength test
10.3	Touch current test and protective conductor current test
12.3.1	Endurance test
12.4	Thermal test (normal operation)
12.5	Thermal test (abnormal operation)
13.2	Ball pressure test
13.3.1	Needle flame test
13.3.2	Glow-wire test
14.4	Mechanical test for screw terminal
IEC/EN 62031:2008+A1+A2	
13.2	Overpower condition: 1.5times rated power
IEC 62471: 2006 and EN 62471: 2008	
	Photobiological safety test
IEC TR 62778	
	Blue light hazard test
IEC/EN 61347-1: 2015	
14	Fault conditions

Testing location:

TÜV Rheinland (Shenzhen) Co., Ltd.

East of F/1, F/2~F/4, Building 1, Cybio Technology Building No. 6 Langshan No.2 Road, North Hi-tech Industry Park 518057 Shenzhen Nanshan District CHINA

Remark: Full test were performed on model TK-00350-W-DL. During heating test, fix the luminaire to a ceiling, a box as following cover the luminaire, a=b=c=50mm 	

Summary of compliance with National Differences:

List of countries addressed

DE=Germany

☒ **The product fulfils the requirements of EN60598-1:2015, EN 60598-2-2:2012**

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.

Note: above labels are only representative, other model labels are the same design, except model name and rating correspondingly.

Below symbol marked on the luminaire cover (the height of this symbol is 15mm):

Test item particulars.....:	
Classification of installation and use.....:	Recessed luminaires for indoor and outdoor use
Supply Connection.....:	Power cord
.....:	
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 .....:	2017-10-09
Date (s) of performance of tests.....:	2017-10-10 to 2017-10-21

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

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

Clause numbers between brackets refer to clauses in IEC 60598-1

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's name and address.

General product information:

Product: HV SMD Downlight

Rating: AC 200-240V, 50/60Hz, ta=45℃, IP65, Class I, suitable for direct mounting on normally flammable surface, but not suitable for covering with thermally insulating material.

1. All models have the same construction and circuit, but different model name and different CCT.
2. All models were designed for recessed in ceiling.

Model list:

Model No.	Power	Size(mm)	LED type	CCT
TK-00350-W-DL	13W	Ø108*H50	2835	6000K
SS-DL-92mm-SS-CW-13W-RD-90D-IP65				
TK-00350-W-NW				4500K
SS-DL-92mm-SS-NW-13W-RD-90D-IP65				
TK-00350-W-WW				3000K
SS-DL-92mm-SS-WW-13W-RD-90D-IP65				

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.3 (0)	**GENERAL TEST REQUIREMENTS**		P
2.3 (0.1)	Information for luminaire design considered ..... :	Yes ☒ No ☐ Lamp standard:	—
2.3 (0.3)	More sections applicable..... :	Yes ☐ No ☒ Section/s:	—
2.5 (2)	**CLASSIFICATION OF LUMINAIRES**		P
2.5 (2.2)	Type of protection ..... :	Class I	P
2.5 (2.3)	Degree of protection..... :	IP65	P
2.5 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces ..... :	Yes ☒ No ☐	—
2.5 (2.5)	Luminaire for normal use ..... :	Yes ☒ No ☐	—
	Luminaire for rough service ..... :	Yes ☐ No ☒	—
2.6 (3)	**MARKING**		P
2.6 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
2.6 (3.3)	Additional information		P
	Language of instructions	English	P
2.6 (3.3.1)	Combination luminaires		N/A
2.6 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
2.6 (3.3.3)	Operating temperature		N/A
2.6 (3.3.4)	Symbol or warning notice		N/A
2.6 (3.3.5)	Wiring diagram		N/A
2.6 (3.3.6)	Special conditions		N/A
2.6 (3.3.7)	Metal halide lamp luminaire – warning		N/A
2.6 (3.3.8)	Limitation for semi-luminaires		N/A
2.6 (3.3.9)	Power factor and supply current		N/A
2.6 (3.3.10)	Suitability for use indoors		P
2.6 (3.3.11)	Luminaires with remote control		N/A
2.6 (3.3.12)	Clip-mounted luminaire – warning		N/A
2.6 (3.3.13)	Specifications of protective shields		N/A
2.6 (3.3.14)	Symbol for nature of supply	~	P
2.6 (3.3.15)	Rated current of socket outlet		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.6 (3.3.16)	Rough service luminaire		N/A
2.6 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y attachment	P
2.6 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
2.6 (3.3.19)	Protective conductor current in instruction if applicable		N/A
2.6 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
2.6 (3.3.21)	Non replaceable and non-user replaceable light sources information provided	Non-user replaceable light sources	P
	Cautionary symbol	Marking on the lamp cover	P
2.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
2.6 (3.4)	Test with water	15s	P
	Test with hexane	15s	P
	Legible after test		P
	Label attached		P
2.7 (4)	**CONSTRUCTION**		P
2.7 (4.2)	Components replaceable without difficulty		P
2.7 (4.3)	Wireways smooth and free from sharp edges		P
2.7 (4.4)	**Lampholders**		N/A
2.7 (4.4.1)	Integral lampholder		N/A
2.7 (4.4.2)	Wiring connection		N/A
2.7 (4.4.3)	Lampholder for end-to-end mounting		N/A
2.7 (4.4.4)	Positioning		N/A
	- pressure test (N) ..... :		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A
	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
2.7 (4.4.5)	Peak pulse voltage		N/A
2.7 (4.4.6)	Centre contact		N/A
2.7 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.7 (4.4.8)	Lamp connectors		N/A
2.7 (4.4.9)	Caps and bases correctly used		N/A
2.7 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
2.7 (4.5)	**Starter holders**		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
2.7 (4.6)	**Terminal blocks**		N/A
	Tails		N/A
	Unsecured blocks		N/A
2.7 (4.7)	**Terminals and supply connections**		**P**
2.7 (4.7.1)	Contact to metal parts		P
2.7 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
2.7 (4.7.3)	Terminals for supply conductors		N/A
2.7 (4.7.3.1)	Welded method and material		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 15.6.2		N/A
	- electrical test according to 15.6.3		N/A
	- heat test according to 15.6.3.2.3 and 15.6.3.2.4		N/A
2.7 (4.7.4)	Terminals other than supply connection		N/A
2.7 (4.7.5)	Heat-resistant wiring/sleeves		N/A
2.7 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
2.7 (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
2.7 (4.9)	**Insulating lining and sleeves**		N/A
2.7 (4.9.1)	Retainment		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Method of fixing ..... :		N/A
2.7 (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
2.7 (4.10)	**Double or reinforced insulation**		N/A
2.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation	Class I	N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
2.7 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
2.7 (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
2.7 (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
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A
2.7 (4.11)	**Electrical connections and current-carrying parts**		**P**
2.7 (4.11.1)	Contact pressure		P
2.7 (4.11.2)	Screws:		P
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
2.7 (4.11.3)	Screw locking:		P
	- spring washer		N/A
	- rivets		N/A
2.7 (4.11.4)	Material of current-carrying parts		P

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.7 (4.11.5)	No contact to wood or mounting surface		P
2.7 (4.11.6)	Electro-mechanical contact systems		N/A
2.7 (4.12)	**Screws and connections (mechanical) and glands**		**P**
2.7 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :	Fixed metal enclosure: 2,87mm, 0,5Nm	P
	Torque test: torque (Nm); part..... :	Screw for earthing: 2,87mm, 0,5Nm	P
2.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		P
2.7 (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
2.7 (4.12.5)	Screwed glands; force (Nm)..... :	Metal gland: 6mm, 6,25Nm	P
2.7 (4.13)	**Mechanical strength**		**P**
2.7 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm) ..... :	Lamp cover: 0,2Nm	P
	- other parts; energy (Nm)..... :	Metal enclosure: 0,35Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
2.7 (4.13.3)	Straight test finger		N/A
2.7 (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
2.7 (4.13.6)	Tumbling barrel		N/A
2.7 (4.14)	**Suspensions, fixings and means of adjusting**		**P**
2.7 (4.14.1)	Mechanical load:		P
	A) four times the weight	0,3kgx4=1,2kg	P
	B) torque 2,5 Nm		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	C) bracket arm; bending moment (Nm)..... :		N/A
	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
2.7 (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
2.7 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles..... :		N/A
	- strands broken ..... :		N/A
	- electric strength test afterwards		N/A
2.7 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
2.7 (4.14.5)	Guide pulleys		N/A
2.7 (4.14.6)	Strain on socket-outlets		N/A
2.7 (4.15)	**Flammable materials**		**P**
	- glow-wire test 650°C ..... :	See Test Table 2.16 (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
2.7 (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
2.7 (4.16)	**Luminaires for mounting on normally flammable surfaces**		**P**
	No lamp control gear..... :	(compliance with Section 12)	N/A
2.7 (4.16.1)	Lamp control gear spacing:		P
	- spacing 35 mm		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- spacing 10 mm		P
2.7 (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
2.7 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
2.7 (4.17)	**Drain holes**		N/A
	Clearance at least 5 mm		N/A
2.7 (4.18)	**Resistance to corrosion**		P
2.7 (4.18.1)	- rust-resistance		N/A
2.7 (4.18.2)	- season cracking in copper		N/A
2.7 (4.18.3)	- corrosion of aluminium	Coated with paint	P
2.7 (4.19)	Ignitors compatible with ballast		N/A
2.7 (4.20)	Rough service vibration		N/A
2.7 (4.21)	**Protective shield**		N/A
2.7 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
2.7 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
2.7 (4.21.3)	No direct path		N/A
2.7 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment..... :	See Test Table 2.16 (13.3.2)	N/A
2.7 (4.22)	Attachments to lamps not cause overheating or damage		N/A
2.7 (4.23)	Semi-luminaires comply Class II		N/A
2.7 (4.24)	**Photobiological hazards**		**P**
2.7 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
2.7 (4.24.2)	Retinal blue light hazard		P
	Class of risk group assessed according to IEC/TR 62778 ..... :	RG1 unlimited	—
	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

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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
2.7 (4.25)	**Mechanical hazard**		**P**
	No sharp point or edges		P
2.7 (4.26)	**Short-circuit protection**		N/A
2.7 (4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
2.7 (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
2.7 (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
2.7 (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
2.7 (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
2.7 (4.30)	**Luminaires with non-user replaceable light source**		**P**

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		P
	Minimum two fixing means		P
2.7 (4.31)	**Insulation between circuits**		N/A
	Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3		N/A
	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
2.7 (4.31.1)	SELV circuits		N/A
	Used SELV source		N/A
	Voltage ≤ ELV		N/A
	Insulating of SELV circuits from LV supply		N/A
	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		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
	Plugs and socket-outlets does not have protective conductor contact		N/A
2.7 (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
2.7 (4.31.3)	Other circuits		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Other circuits insulated from accessible parts according Table X.1		N/A
	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
2.7 (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
2.8 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		P
2.8 (11.2)	Creepage distances and clearances..... :	See Table 2.8 (11.2)	P
	Impulse withstand category (Normal category II) (Category III Annex U, Table U.1)	Category II ☒ Category III ☐	—
2.9 (7)	**PROVISION FOR EARTHING**		P
2.9 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω..... :	0,0219 Ω< 0,5 Ω	P
	Self-tapping screws used		N/A
	Thread-forming screws		P
	Thread-forming screw used in a grove		N/A
	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		N/A
2.9 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.9 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
2.9 (7.2.5)	Earth terminal integral part of connector socket		N/A
2.9 (7.2.6)	Earth terminal adjacent to mains terminals		N/A
2.9 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
2.9 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
2.9 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
2.9 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P
2.10 (14)	**SCREW TERMINALS**		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 3)	N/A
2.10 (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
2.11 (5)	**EXTERNAL AND INTERNAL WIRING**		P
2.11 (5.2)	**Supply connection and external wiring**		N/A
2.11 (5.2.1)	Means of connection ..... :	Power 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
2.11 (5.2.2)	Type of cable..... :	H05RN-F	P
	Nominal cross-sectional area (mm²) ..... :	3 x 1,0mm^2	P
	Cables equal to IEC 60227 or IEC 60245		P
2.11 (5.2.3)	Type of attachment, X, Y or Z	Y attachment	P
2.11 (5.2.5)	Type Z not connected to screws		N/A
2.11 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.11 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
2.11 (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
2.11 (5.2.9)	Locking of screwed bushings		N/A
2.11 (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		N/A
2.11 (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
2.11 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Y attachment	P
2.11 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N) ..... :	60N	P
	- torque test: torque (Nm) ..... :	0,25Nm	P
	- displacement ≤ 2 mm	1,28mm<2mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- function independent of electrical connection		N/A
2.11 (5.2.11)	External wiring passing into luminaire		N/A
2.11 (5.2.12)	Looping-in terminals		N/A
2.11 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A
2.11 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
2.11 (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
2.11 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
2.11 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
2.11 (5.3)	**Internal wiring**		P
2.11 (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		N/A
2.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm²)..... :	1,0	P
	Insulation thickness		P
	Extra insulation added where necessary		P
2.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Adequate cross-sectional area and insulation thickness		N/A
2.11 (5.3.1.3)	Double or reinforced insulation for class II		N/A
2.11 (5.3.1.4)	Conductors without insulation		N/A
2.11 (5.3.1.5)	SELV current-carrying parts		N/A
2.11 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
2.11 (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
2.11 (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
2.11 (5.3.4)	Joints and junctions effectively insulated		P
2.11 (5.3.5)	Strain on internal wiring		N/A
2.11 (5.3.6)	Wire carriers		N/A
2.11 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
2.12 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		P
2.12 (8.2.1)	Live parts not accessible		P
	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

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulation only accessible under lamp or starter replacement		P
	Protection in any position		P
	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
2.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
2.12 (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
2.12 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
2.12 (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
	- 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
2.12 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
2.12 (8.2.5)	Compliance with the standard test finger or relevant probe		P
2.12 (8.2.6)	Covers reliably secured		N/A
2.12 (8.2.7)	Luminaire other than below with capacitor $>$ 0,5 μF not exceed 50 V 1 min after disconnection	Capacitor < 0,5 μF	N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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
2.12 (-)	Parts within the celling space provide same degree of protection against electric shock as parts below the celling space		P
2.13 (12)	**ENDURANCE TEST AND THERMAL TEST**		P
2.13 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 2.14		—
2.13 (12.3)	Endurance test:		P
	- mounting-position ..... :	According to instruction	—
	- test temperature (°C) ..... :	55℃	—
	- total duration (h) ..... :	240h	—
	- supply voltage: Un factor; calculated voltage (V)... :	264V	—
	- lamp used..... :	Integral LED	—
2.13 (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
2.13 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
2.13 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P
2.13 (12.6)	Thermal test (failed lamp control gear condition):		N/A
2.13 (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

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.13 (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
2.13 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
2.13 (12.7.1)	Luminaire without temperature sensing control		N/A
2.13 (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) ..... :		—
	Ball-pressure test .....:	See Table 2.16 (13.2.1)	N/A
2.13 (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 2.16 (13.2.1)	N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.13 (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
2.13 (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 2.16 (13.2.1)	N/A
2.13.1 (-)	Wiring, for connection to the supply, not reach unsafe temperature		P
	- measured temperature of the cable (°C) ..... :	See Annex 2	P

2.14 (9)	**RESISTANCE TO DUST AND MOISTURE**		P
2.14 (-)	If IP > IP 20 the order of tests as specified in clause 2.13		P
2.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP65	—
	- mounting position during test ..... :	According to instruction	—
	- fixing screws tightened; torque (Nm) ..... :	Metal gland: 4,17Nm Screw: 0,34Nm	—
	- tests according to clauses..... :	9.2.2 & 9.2.6	—
	- 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)		P

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	g) no damage of protective shield or glass envelope		P
2.14 (9.3)	Humidity test 48 h	25°C, 93% R.H	P
2.15 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		P
2.15 (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
	Other than SELV		P
	- between live parts of different polarity ..... :	Between L and N: 100MΩ>2 MΩ	P
	- between live parts and mounting surface ..... :	Between L/N and mounting surface: 100MΩ>2 MΩ	P
	- between live parts and metal parts ..... :	Between L/N and metal enclosure: 100MΩ>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..... :	Between outer surface of a power cord where it is clamped in a cord anchorage and accessible metal parts: 100MΩ>2 MΩ	P
	- Insulation bushings as described in Section 5 ..... :		N/A

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
2.15 (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) ..... :		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
	- 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 ..... :	Between L and N: 1480V	P
	- between live parts and mounting surface ..... :	Between L/N and mounting surface: 1480V	P
	- between live parts and metal parts ..... :	Between L/N and metal enclosure: 1480V	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..... :	Between outer surface of a power cord where it is clamped in a cord anchorage and accessible metal parts: 1480V	P
	- Insulation bushings as described in Section 5 ..... :		N/A
2.15 (10.3)	Touch current or protective conductor current (mA).:	Protective conductor current: 0,0013mA<3,5mA	P

2.16 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
2.16 (13.2.1)	Ball-pressure test ..... :	See Test Table 2.16 (13.2.1)	P
2.16 (13.3.1)	Needle-flame test (10 s)..... :	See Test Table 2.16 (13.3.1)	P
2.16 (13.3.2)	Glow-wire test (650°C) ..... :	See Test Table 2.16 (13.3.2)	P
2.16 (13.4)	Proof tracking test (IEC 60112)..... :	See Test Table 2.16 (13.4)	N/A

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

2.8 (11.2)	**TABLE: Creepage distances and clearances**							**P**
	Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages							--
	Applicable part of IEC 60598-1 Table 11.1* and 11.2*							--
	Insulation type **	**Measured clearance**	**Required**		**Measured creepage**	**Required**		
			clearance	***Table**		**creepage**	***Table**	
Distance 1:	--	See Annex 6	--	--	See Annex 6	--	--	
Working voltage (V) .....:					AC 200-240V			—
PTI .....:					< 600 ☒ ≥ 600 ☐			—
Pulse voltage if applicable (kV) .....:								—
Supplementary information:								

** Insulation type: B – Basic; S – Supplementary; R – Reinforced. See also IEC 60598-1 Annex M.

2.16 (13.2.1)	**TABLE: Ball Pressure Test of Thermoplastics**			**P**
Allowed impression diameter (mm) ..... :		2		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Lamp cover	See Annex 1	83	0,7	
PCB	See Annex 1	125	0,36	
Supplementary information:				

2.16 (13.3.1)	**TABLE: Needle-flame test (IEC 60695-11-5)**					**P**
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	
PCB	See Annex 1	10	No	0	P	
Supplementary information:						

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

2.16 (13.3.2)	**TABLE: Glow-wire test (IEC 60695-2-11)**				**P**
Glow wire temperature ..... :		650°C			—
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb) (s)		Verdict
Lamp cover	See Annex 1	No	30s		Pass
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:					

2.16 (13.4)	**TABLE: Proof tracking test (IEC 60112)**					**N/A**
Test voltage PTI ..... :		175 V				—
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens				Verdict
--	--	--	--	--		--
Supplementary information:						

IEC 60598-2-2			
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	B	DecoNeon Lighting Co., Ltd.	H05RN-F	3 x 1,0mm^2	EN 505250-2-11	VDE 40025104
Alt.	D	Queshan Yuqiang Cable Co., Ltd.	H05RN-F	3 x 1,0mm^2	EN 505250-2-11	VDE 40044073
Metal Gland	C	Dongguan Silong Hardware & Plastics Factory	JX-M12C-Z	Cable range Φ: 3-6,5mm; -40°C --+100°C;	--	Tested with appliance
Translucent cover	C	Kingfa Sci & Tech Co Ltd	JH830	V-0, 80°C	--	UL E171666
PCB	C	SHENZHEN JIN SHI YU ELECTRONIC CO LTD	JSY-3	130°C, V-0	--	UL E331780
Fuse	B	Dongguan Better Electronics Technology Co., Ltd.	244	AC 250V; 50/60Hz; 1A;	EN 60127-1: 2006+A1+A2; EN 60127-4: 2005+A1+A2	TUV Mark R 50335764 0001
Varistor	B	Thinking Electronic Industrial Co., Ltd.	TVR10751-M	AC 130-465V DC 170-615V; peak current: 3500A; Class current: 25A; 125°C	DIN EN 61051-1:2009-04 IEC 61051-1: 2007-04 IEC 61051-2: 1991-01 IEC 61051-2(ed.1);am1:2009-05 IEC 61051-2-2:1991-01	VDE 40036061
LED	C	OSRAM Opto Semiconductors	GW JTLRS1.EM	8.8-9.2V, 60mA, 2835, 2700K-6500K	--	Tested with appliance

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

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference ..... :	TK-00350-W-DL	—
	Lamp used..... :	Integral LED	—
	Lamp control gear used..... :	Integral LED driver	—
	Mounting position of luminaire ..... :	According to instruction from manufacturer	—
	Supply wattage (W) ..... :	13,2	—
	Supply current (A) ..... :	0,053	—
	Calculated power factor..... :	0,986	—
	Table: measured temperatures corrected for ta = 45 °C:		
	- abnormal operating mode ..... :	LED Driver output short circuit	—
	- test 1: rated voltage..... :	--	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage ..... :	1,06×240V=254,4V	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage ..... :	--	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage ..... :	Short-circuited output of driver. LED driver protected immediately, recoverable.	—
	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
Supply cord	45,0	--	67,7	--	90	--	--
Varistor	45,0	--	66,4	--	85	--	--
LED PCB	45,0	--	80,9	--	Ref	--	--
Metal enclosure	45,0	--	54,4	--	Ref.	--	--
Lamp cover	45,0	--	57,9	--	Ref.	--	--
Inside of recessed box	45,0	--	46,6	--	90	--	--
Light surface(10cm)	45,0	--	48,1	--	90	--	--
Mounting surface	45,0	--	49,4	--	90	--	--

Supplementary information:

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

ANNEX 3	**Screw terminals (part of the controlgear)**		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) .....:		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 60598-2-2			
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
(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A

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

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:										

ANNEX 5	EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ATTACHMENT TO TEST REPORT IEC 60598-2-2
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
LUMINAIRES
PART 2: PARTICULAR REQUIREMENTS
SECTION 2: RECESSED LUMINAIRES

Differences according to.....: EN 60598-2-2:2012 used in conjunction with EN 60598-1:2015

Annex Form No.....: EU_GD_IEC60598_2_2E

Annex Form Originator .....: OVE

Master Annex Form .....: 2015-04

	CENELEC COMMON MODIFICATIONS (EN)	**P**

2.6 (3)	**MARKING**		**P**
2.6 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package	Applied in user manual	P

2.7 (4)	**CONSTRUCTION**		**P**
2.7 (4.11.6)	Electro-mechanical contact systems		N/A

2.11 (5)	**EXTERNAL AND INTERNAL WIRING**		**P**
2.11 (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
2.11 (5.2.2)	Cables equal to EN 50525		P
	Replace table 5.1 – Supply cord		P

2.13 (12)	**ENDURANCE TESTS AND THERMAL TESTS**		**P**
2.13 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring		P

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
	GB: Requirements according to United Kingdom Building Regulation		N/A

ANNEX 6	Creepage distances and clearances for luminaire (Follow Table 11.1 of IEC 60598-1)

Model: TK-00350-W-DL, Class I						P
clearance cl and creepage distance cr at/of:	U r.m.s. (V)	required cl (mm)	Cl(mm)	required cr (mm)	Cr(mm)	
(1) Live parts of different polarity	240	1,5	3,3	2,5	3,3	
(2a) Live parts and accessible metal parts	240	1,5	4,8	2,5	4,8	
trace of LED board to accessible metal parts	--	--	--	--	--	
(2b) Live parts and the outer accessible surface of insulating parts	240	1,5	4,8	2,5	4,8	
trace of LED board to accessible insulating parts	--	--	--	--	--	
(3) Parts which may become live due to the breakdown of basic insulation in luminaires of class II and accessible metal parts	--	--	--	--	--	
(4)The outer surface of a flexible cord or cable and an accessible metal part to which it is secured by means of a cord grip, cable carrier or clip of insulating material	N/A					
(6) Live parts and other metal parts, between them and the supporting surface (ceiling, wall, table, etc.) or between live parts and the supporting surface where there is no intervening metal	--	--	--	--	--	

ANNEX 7	Tests according to IEC 62031:2008+A1:2012+A2:2014,EN 62031:2008+A1:2013+A2:2015		
13.2	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		P
	During the tests, tissue paper, spread below module, does not ignite		P
14	**Conformity testing during manufacture**	Tested as a part of luminaire	**P**
17	**Screws, current-carrying parts and connections**		P
	The requirements of IEC 61347-1, Clause 17, apply.		P
22	**PHOTOBIOLOGICAL SAFETY**		**P**
22.1	**UV radiation**		N/A
	Luminous radiation not exceed 2mW/klm		N/A
22.2	**Blue light hazard**		P
	Assessed according to IEC TR 62778	See annex 8	P
22.3	**Infrared radiation**		N/A
	Requirements for infrared radiation when required		N/A

ANNEX 8	**Photobiological safety of lamps and lamp systems were according to standard EN 62471:2008 and IEC TR 62778:2014**

Measure distance 850,0mm, α=58,8mrad				
Optical hazard	Test result	Used hazard exposure limit		Ref.
1. E_S	7,600E-06 W/m^2	0,001 W/m^2	200-400 nm	P
2. E_{UVA}	7,400E-05 W/m^2	0,33 W/m^2	315-400 nm	P
3. L_B	2,290E+01 W/m^{2}sr	100 W/m^{2}sr	300-700 nm	P
4. $E_{B\ (small\ source)}$	--	--	300-700 nm	N/A
5. L_R	0,000E+00 W/m^{2}sr	4,800E+05 W/m^{2}sr	380-1400 nm	P
6. L_{IR}	6,900E+00 W/m^{2}sr	1,020E+05 W/m^{2}sr	780-1400 nm	P
7. E_{IR}	3,200E-03 W/m^2	100 W/m^2	780-3000 nm	P
8. E_H	1,900E+00 W/m^2	3556,56 W/m^2	380-3000 nm	P

	Measurement performed on:	☐ **LED package** ☐ **LED module** ☐ **Lamp** ☒ **Luminaire**	
	Model number.....	TK-00350-W-DL	
	Test voltage (V).....	240V	—
	Test current (mA)	--	—
	Test frequency (Hz).....	50Hz	—
	Ambient, t (°C).....	25,3°C	—
	Measurement distance	☒ 20 cm ☐ ... cm	—
	Source size	☒ Non-small ☐ Small : .... mm	—
	Field of view	☐ 100 mrad ☒ 11 mrad ☐ 1,7 mrad (for small sources)	—

Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	K	--	
x/y colour coordinates			--	
Blue light hazard radiance	L_B	W/(m^2•sr^1)	444	RG1 unlimited
Blue light hazard irradiance	E_B	W/m^2	--	
Luminance	L	cd/m^2	--	
Illuminance	E	lx	--	

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1		
Clause	Requirement + Test	Result - Remark	Verdict
4 (4)	**GENERAL REQUIREMENTS**		N/A
- (4)	Insulation materials according requirements in Annex N of IEC 61347-1	(see Annex N)	N/A
- (4)	Compliance of independent controlgear enclosure with IEC 60 598-1		N/A
- (4)	Built-in magnetic ballast with double or reinforced insulation comply with Annex I of IEC 61347-1		N/A
- (4)	Built-in electronic controlgear with double or reinforced insulation comply with Annex O of IEC 61347-1	(see Annex O)	N/A
4 (4)	SELV controlgear comply with Annex I of this part 2 and Annex L of IEC 61347-1	(see Annex L)	N/A
4 (-)	Transformer comply with IEC 61558		N/A
	Dielectric strength test of insulated winding wires is limited to 3 kV if input voltage ≤ 300 V		N/A
6 (6)	**CLASSIFICATION**		**P**
	Built-in controlgear ..... :	Yes ☐ No ☒	—
	Independent controlgear..... :	Yes ☐ No ☒	—
	Integral controlgear ..... :	Yes ☒ No ☐	—
6 (-)	Auto-wound controlgear ..... :	Yes ☐ No ☒	—
	Separating controlgear ..... :	Yes ☐ No ☒	—
	Isolating controlgear ..... :	Yes ☐ No ☒	—
	SELV controlgear ..... :	Yes ☐ No ☒	—

7 (7)	**MARKING**		N/A
7.1 (7.1)	Mandatory markings		N/A
	a) mark of origin		N/A
	b) model number or type reference		N/A
	c) symbol for independent controlgear, if applicable		N/A
	d) correlation between interchangeable parts and controlgear marked		N/A
	e) rated supply voltage (V)		N/A
	supply frequency (Hz)		N/A
	supply current (A)		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict
	f) earthing symbol		N/A
	k) wiring diagram		N/A
	l) value of tc		N/A
	m) symbol for declared temperature		N/A
	t) LUM earthing symbol		N/A
	u) if not SELV maximum working voltage Uout between:		N/A
	- output terminals (V) ..... :		N/A
	- output terminals and earth (V) ..... :		N/A
7.1 (-)	Constant voltage type:	Yes ☐ No ☐	—
	- rated output power Prated (W) ..... :		N/A
	- rated output voltage Urated (V) ..... :		N/A
	Constant current type:	Yes ☐ No ☐	—
	- rated output power Prated (W) ..... :		N/A
	- rated output current Irated (A) ..... :		N/A
	Indication if for LED modules only		N/A
7.1 (7.2)	Marking durable and legible		N/A
	Rubbing 15 s water, 15 s petroleum; marking legible		N/A
7.2 (7.1)	Information to be provided, if applicable		N/A
	h) declaration on protection against accidental contact		N/A
	i) cross-section of conductors (mm²)		N/A
	j) number, type and wattage of lamp(s)		N/A
	s) SELV symbol		N/A
7.2 (-)	- declaration of mains connected windings		N/A

8 (10)	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		N/A
- (10.1)	Controlgear protected against accidental contact with live parts	Protection against accidental contact with live parts upon the luminaire enclosure.	N/A
- (A2)	Voltage measured with 50 kΩ		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict
- (A3)	Voltage > 35 V peak or > 60 V d.c. or protective impendance device		N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		N/A
	Adequate mechanical strength on parts providing protection		N/A
- (10.2)	Capacitors > 0,5 μF: voltage after 1 min (V): < 50 V ..... :		N/A
- (10.3)	**Controlgear providing SELV**		N/A
	Accessible conductive parts are insulated from live parts by double or reinforced insulation in SELV controlgear		N/A
	No connection between output circuit and the body or protective earthing circuit		N/A
	No possibility of connection between output circuit and the body or protective earthing circuit through other conductive parts		N/A
	SELV outputs separated by at least basic insulation		N/A
	ELV conductive parts insulated as live parts		N/A
	Tests according Annex L of IEC 61347-1		N/A
- (10.4)	**Accessible conductive parts in SELV circuits**		N/A
	Output voltage under load ≤ 25 V r.m.s. or ≤ 60 V d.c.		N/A
	If output voltage > 25 V r.m.s. or > 60 V d.c.; No load output ≤ 35 V peak or ≤ 60 V d.c and touch current does not exceed 0,7 mA (peak) or 2 mA d.c. ..... :		N/A
	One conductive part is insulated if output voltage or current exceeding the values above and withstand test voltage 500 V		N/A
	Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor		N/A
	Y1 or Y2 capacitors comply with IEC 60384-14		N/A
	Resistors comply with test (a) in 14.1 of IEC 60065		N/A

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1		
Clause	Requirement + Test	Result - Remark	Verdict
9 (8)	**TERMINALS**		N/A
	Screw terminals according section 14 of IEC 60598-1:		N/A
	Separately approved; component list		N/A
	Part of the controlgear		N/A
	Screwless terminals according section 15 of IEC 60598-1:		N/A
	Separately approved; component list		N/A
	Part of the controlgear		N/A
10 (9)	**PROVISION FOR PROTECTIVE EARTHING**		N/A
- (9.1)	**Provisions for protective earthing**		N/A
	Terminal complying with clause 8		N/A
	Locked against loosening and not possible to loosen by hand		N/A
	Not possible to loosen clamping means unintentionally on screwless terminals		N/A
	Earthing via means of fixing		N/A
	Earthing terminal only used for the earthing of the control gear		N/A
	All parts of material minimizing the danger of electrolytic corrosion		N/A
	Made of brass or equivalent material		N/A
	Contact surface bare metal		N/A
- (9.2)	**Provision for functional earthing**		N/A
	Comply with clause 8 and 9.1		N/A
- (9.3)	**Earth contact via the track on the printed board**		N/A
	Test with a current of 25 A between earthing terminal and each of the accessible metal parts; measured resistance (Ω) at ≥ 10 A according 7.2.3 of IEC 60598-1: < 0,5 Ω ..... :		N/A
- (9.4)	**Earthing of built-in lamp controlgear**		N/A
	Earth by means of fixing to earthed metal of luminaire in compliance of 7.2 of IEC 60598-1		N/A

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1		
Clause	Requirement + Test	Result - Remark	Verdict
	Earthing terminal only for earthing the built-in controlgear		N/A
- (9.5)	**Earthing via independent controlgear**		N/A
- (9.5.1)	Earth connection to other equipment		N/A
	Looping or through connection, conductor min. 1,5 mm² and of copper or equivalent		N/A
	Protective earthing wires in line with 5.3.1.1 and clause 7		N/A
- (9.5.2)	Earthing of the lamp compartments powered via the independent lamp controlgear		N/A
	Test with a current of 25 A between input and output earth terminals; measured resistance (Ω) between earthing terminal and each of the accessible metal parts at ≥ 10 A according 7.2.3 of IEC 60598-1: < 0,5 Ω ..... :		N/A
	Output earthing terminal marked as in 7.1 t) of IEC 61347-1		N/A
11 (11)	**MOISTURE RESISTANCE AND INSULATION**		**P**
- (11)	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (MΩ):		P
	For basic insulation ≥ 2 MΩ ..... :	Between LED driver input different polarity: Min.100 MΩ >2 MΩ	P
	For double or reinforced insulation ≥ 4 MΩ ..... :		N/A
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		N/A
12 (12)	**ELECTRIC STRENGTH**		**P**
- (12)	Immediately after clause 11 electric strength test for 1 min		P
	Basic insulation for SELV, test voltage 500 V		N/A
	Working voltage ≤ 50 V, test voltage 500 V		N/A
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		P

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulation, 2U + 1000 V	Between LED driver input different polarity: 1480V	P
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 V		N/A
	No flashover or breakdown		P
	Solid or thin sheet insulation for double or reinforced insulation fulfil the requirements in Annex N in IEC 61347-1		N/A
14 (14)	**FAULT CONDITIONS**		**P**
- (14)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	P
- (14.2)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)	(see appended table)	N/A
- (14.3)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.4)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
- (14.5)	Short-circuit across electrolytic capacitors	(see appended table)	P
14 (-)	Reversed voltage polarity if d.c. supplied control gear	(see appended table)	N/A
- (14.6)	After the tests has been carried out on three samples:		P
	The insulation resistance $\geq$ 1 MΩ ..... :		P
	No flammable gases		P

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict
	No accessible parts have become live		P
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.7)	Relevant fault condition tests with high-power supply		—
14 (-)	Temperature declared thermally protected lamp controlgear fulfil requirements in Annex C		N/A
15 (-)	**TRANSFORMER HEATING**		N/A
15.1	**General**		N/A
	Transformer comply with clause L.6 and L.7 of IEC 61347-1		N/A
	Output voltage of SELV controlgear not exceed limits in 10.4 of IEC 61347-1 during the test of 15.1 and 15.2		N/A
15.2 (-)	**Normal operation**		N/A
	Comply with clause L.6 of IEC 61347-1		N/A
15.3 (-)	**Abnormal operation**		N/A
	Comply with clause L.7 of IEC 61347-1		N/A
	Double LED modules or equivalent load connected in parallel to the output terminals of constant voltage type		N/A
	Double LED modules or equivalent load connected in parallel to the output terminals of constant current type		N/A
15 (-)	During and at the end of the tests no defect impairing safety, nor any smoke or flammable gases produced		N/A
16 (15)	**CONSTRUCTION**		**P**
- (15.1)	**Wood, cotton, silk, paper and similar fibrous material**		**N/A**
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		N/A
- (15.2)	**Printed circuits**		**P**

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict
	Printed circuits used as internal connections complies with clause 14		P
- (15.3)	**Plugs and socket-outlets used in SELV or ELV circuits**		**N/A**
	No dangerous compatibility between output socket-outlet and a plug for socket-outlets for input circuit in relation to installation rules, voltages and frequencies		N/A
	Plugs and socket-outlets for SELV comply with IEC 60906-3 and IEC 60884-2-4		N/A
	Plugs and socket-outlets for SELV ≤ 3 A, ≤ 25 V r.m.s. or ≤ 60 V d.c. and ≤ 72 W comply with IEC 60906-3 and IEC 60884-2-4 or:		N/A
	- plugs not able to enter socket-outlets of other standardised system		N/A
	- socket-outlets not admit plugs of other standardised system		N/A
	- socket-outlets without protective earth		N/A
- (15.4)	**Insulation between circuits and accessible parts**		P
- (15.4.2)	SELV circuits		N/A
	- safety isolating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- controlgear providing SELV in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A
	Voltage in the circuit not higher than ELV		N/A
	SELV circuits insulated from LV by double or reinforced insulation		N/A
	SELV circuits insulated from non SELV circuits by double or reinforced insulation		N/A
	SELV circuits insulated from FELV circuits by supplementary insulation		N/A
	SELV circuits insulated from other SELV circuits by basic insulation		N/A
	SELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		N/A
- (15.4.3)	FELV circuits		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict
	Source used to supply FELV circuits:		N/A
	- separating transformer in accordance with relevant part 2 of IEC 61558		N/A
	- separating controlgear providing basic insulation between input and output circuits in accordance with relevant part 2 of IEC 61347		N/A
	- another source		N/A
	- source in circuits separated by the LV supply by basic insulation		N/A
	Voltage in the circuit not higher than ELV		N/A
	FELV circuits insulated from LV supply by at least basic insulation		N/A
	FELV circuits insulated from other FELV circuits if functional purpose		N/A
	FELV circuits insulated from accessible conductive parts according Table 6 in 15.4.5		N/A
	Plugs and socket-outlets for FELV system comply with:		N/A
	- plugs not able to enter socket-outlets of other voltage systems		N/A
	- socket-outlets not admit plugs of other voltage systems		N/A
	- socket-outlets have a protective conductor contact		N/A
- (15.4.4)	Other circuits		N/A
	Insulation between circuits other than SELV or FELV and accessible conductive parts in according Table 6 in 15.4.5.		N/A
- (15.4.5)	Insulation between circuits and accessible conductive parts		N/A
	Accessible conductive parts insulated from active parts of electric circuits by insulating according Table 6		
	Requirements for Class II construction with equipotential bonding for protection against indirect contact with live parts:		N/A
	- all conductive parts are connected together		N/A
	- conductive parts are reliably connected together according test of IEC 60598-1 cl. 7.2.3		N/A

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1		
Clause	Requirement + Test	Result - Remark	Verdict
	- conductive parts comply with requirements of Annex A in case of insulation fault		N/A
17 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
- (16)	Creepage distances and clearances according to 16.2 and 16.3	See Annex 8	P
	Controlgears providing SELV comply with L.1 in Annex L		P
	Insulating lining of metallic enclosures		N/A
	Controlgear protected against pollution comply with Annex P	(see Annex P)	N/A
- (16.2)	**Creepage distances**		P
- (16.2.2)	Minimum creepage distances for working voltages		P
	Creepage distances according to Table 7	(see appended table)	P
- (16.2.3)	Creepage distances for working voltages with frequencies above 30 kHz		N/A
	Creepage distances according to Table 8	(see appended table)	N/A
- (16.3)	**Clearances**		P
- (16.3.2)	Clearances for working voltages		P
	Clearances distances according to Table 9	(see appended table)	P
- (16.3.3)	Clearances for ignition voltages and working voltages with higher frequencies		N/A
	Clearances distances for basic or supplementary insulation according to Table 10	(see appended table)	N/A
	Clearances distances for reinforced insulation according to Table 11	(see appended table)	N/A
18 (17)	**SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS**		**P**
	Screws, current-carrying parts and connections in compliance with IEC 60598-1 (clause numbers between parentheses refer to IEC 60598-1)		P
(4.11)	**Electrical connections**		**P**
(4.11.1)	Contact pressure		N/A
(4.11.2)	**Screws:**		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
(4.11.3)	**Screw locking:**		N/A

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1		
Clause	Requirement + Test	Result - Remark	Verdict
	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
(4.12)	**Mechanical connections and glands**		N/A
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part .....:		N/A
	Torque test: torque (Nm); part .....:		N/A
	Torque test: torque (Nm); part .....:		N/A
(4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
(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
(4.12.5)	Screwed glands; force (Nm) .....:		N/A
19 (18)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		N/A
- (18.1)	Ball-pressure test:		N/A
	- part tested; temperature (°C).....:		N/A
	- part tested; temperature (°C).....:		N/A
	- part tested; temperature (°C).....:		N/A
- (18.2)	Test of printed boards:		N/A
	- part tested.....:		N/A
	- part tested.....:		N/A
- (18.3)	Glow-wire test (650°C):		N/A
	- part tested.....:		N/A
	- part tested.....:		N/A
- (18.4)	Needle flame test (10 s):		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict
	- part tested.....:		N/A
	- part tested.....:		N/A
- (18.5)	Tracking test:		N/A
	- part tested.....:		N/A
	- part tested.....:		N/A
20 (19)	**RESISTANCE TO CORROSION**		**N/A**
	- test according 4.18.1 of IEC 60598-1		N/A
	- adequate varnish on the outer surface		N/A

21 (-)	**MAXIMUM WORKING VOLTAGE (Uout) IN ANY LOAD CONDITION**		N/A
	Not exceed declared maximum working voltage U_{out} in any load condition		N/A

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1

14	TABLE: tests of fault conditions		
Part	Simulated fault		Hazard
For model TK-00350-W-DL			
MOV	short circuit	Test result: Unit shut down immediately, fuse open, unrecoverable, no flame, no smoke, no flammable gas.	No
BD1	short circuit	Test result: Unit shut down immediately, fuse open, unrecoverable, no flame, no smoke, no flammable gas.	No
D1	short circuit	Test result: Normal working, no flame, no smoke, no flammable gas. P:13,5W; I:0,061A	No
U1(1-2)	short circuit	Test result: Normal working, no flame, no smoke, no flammable gas. P:13,4W; I:0,06A	No
U1(1-3)	short circuit	Test result: Normal working, no flame, no smoke, no flammable gas. P:11,7W; I: 0,049A	No
U1(2-3)	short circuit	Test result: Unit shut down immediately, recoverable, no flame, no smoke, no flammable gas. P:7,05W; I: 0,035A	No
U2(1-2)	short circuit	Test result: Unit shut down immediately, recoverable, no flame, no smoke, no flammable gas. P:3,6W; I: 0,025A	No
U2(1-3)	short circuit	Test result: Normal working, no flame, no smoke, no flammable gas. P:11,9W; I: 0,05A	No
U2(2-3)	short circuit	Test result: Unit shut down immediately, recoverable, no flame, no smoke, no flammable gas. P:3,68W; I: 0,026A	No
U3(1-2)	short circuit	Test result: Unit shut down immediately, recoverable, no flame, no smoke, no flammable gas. P:3,7W; I: 0,026A	No
U3(1-3)	short circuit	Test result: Normal working, no flame, no smoke, no flammable gas. P:11,8W; I: 0,05A	No
U3(2-3)	short circuit	Test result: Unit shut down immediately, recoverable, no flame, no smoke, no flammable gas. P:3,64W; I: 0,026A	No
Output	short circuit	Test result: Unit shutdown immediately, recoverable, no flame, no smoke, no flammable gas. P:0,26W; I:0,02A	No

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1		
Clause	Requirement + Test	Result - Remark	Verdict

A (A)	**ANNEX A - TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK**		N/A
(A.1)	Comply with A.2 or A.3		N/A
(A.2)	Voltage ≤ 35 V peak or ≤ 60 V d.c .....:		N/A
(A.3)	If voltage > 35 V peak or > 60 V d.c. or protective impendance device; touch current does not exceed 0,7 mA (peak) or 2 mA d.c. .....:		N/A
	Comply with Annex G of IEC 60598-1		N/A

C (C)	**ANNEX C – PARTICULAR REQUIREMENTS FOR ELECTRONIC LAMP CONTROLGEAR WITH MEANS OF PROTECTION AGAINST OVERHEATING**		N/A
(C3)	**GENERAL REQUIREMENTS**		N/A
(C3.1)	Thermal protection means integral with the convertor, protected against mechanical damage		N/A
	Renewable only by means of a tool		N/A
	If function depending on polarity, for cord-connected equipment protection means in both leads		N/A
	Thermal links comply with IEC 60691		N/A
	Electrical controls comply with IEC 60730-2-3		N/A
(C3.2)	No risk of fire by breaking (clause C7)		N/A
(C5)	**CLASSIFICATION**		N/A
	a) automatic resetting type		—
	b) manual resetting type		—
	c) non-renewable, non-resetting type		—
	d) renewable, non-resetting type		—
	e) other type of thermal protection; description ..:		N/A
(C6)	**MARKING**		N/A
(C6.1)	Symbol for temperature declared thermally protected ballasts		N/A
(C6.2)	Declaration of the type of protection provided		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict

(C7)	**LIMITATION OF HEATING**		N/A
(C7.1)	**Preselection test:**		N/A
	Test sample placed for at least 12 h in an oven having temperature (t_c - 5) K		N/A
	No operation of the protection device		N/A
(C7.2)	**Functioning of protection means:**		N/A
	Normal operation of the sample in a test enclosure according to Annex D at an ambient temperature such that (t_c +0; -5) °C is obtained		N/A
	No operation of the protection device		N/A
	Introducing of the most onerous test condition determined during test of clause 14		N/A
	Output of windings connected to the mains supply short-circuited, and other part of the convertor operated under normal conditions		N/A
	Increasing of the current through the windings continuously until operation of the protection means		N/A
	Continuous measuring of the highest surface temperature		N/A
	Ballasts according to C5 a) or C5 e) operated until stable conditions are achieved		N/A
	Automatic-resetting thermal protectors working 3 times		N/A
	Ballasts according to C5 b) working 6 times		N/A
	Ballasts according to C5 c) and C5) d) working once		N/A
	Highest temperature does not exceed the marked value		N/A
	Any overshoot of 10% over the marked value within 15 min		N/A

D (D)	**ANNEX D – REQUIREMENTS FOR CARRY OUT THE HEATING TESTS OF THERMALLY PROTECTED LAMP CONTROLGEAR**		N/A
	Tests in C7 performed in accordance with Annex D, if applicable		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict

F	**ANNEX F - DRAUGHT-PROOF ENCLOSURE**		P
	Draught-proof enclosure in accordance with the description		P
	Dimensions of the enclosure		P
	Other design; description		N/A
H (H)	**ANNEX H - TESTS**		P
	All tests performed in accordance with the advice given in Annex H, if applicable		P

I (L)	**ANNEX I: PARTICULAR ADDITIONAL REQUIREMENTS FOR SELV D.C. OR A.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR LED MODULES**		N/A
(L.3)	**Classification**		N/A
	Class I	Yes ☐ No ☐	—
	Class II	Yes ☐ No ☐	—
	Class III	Yes ☐ No ☐	—
	non-inherently short circuit proof controlgear	Yes ☐ No ☐	—
	inherently short circuit proof controlgear	Yes ☐ No ☐	—
	fail safe controlgear	Yes ☐ No ☐	—
	non-short-circuit proof controlgear	Yes ☐ No ☐	—
(L.4)	**Marking**		N/A
	Adequate symbols are used		N/A
(L.5)	**Protection against electric shock**		N/A
	Comply with 9.2 of IEC 61558-1		N/A
(L.6)	**Heating**		N/A
	No excessive temperatures in normal use		N/A
	Value if capacitor t_c marked .....:		—
	Winding insulation classified as Class .....:		—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments		N/A
(L.7)	**Short-circuit and overload protection**		N/A
	Comply with tests of clause 15 of IEC 61558-1 with adjustments		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict

(L.8)	**Insulation resistance and electric strength**		N/A
(L.8.1)	Conditioned 48 h between 91 % and 95 %		N/A
(L.8.2)	Insulation resistance		N/A
	Between input- and output circuits not less than 5 MΩ .....:		N/A
	Between metal parts of class II convertors which are separated from live parts by basic insulation only and the body not less than 5 MΩ .....:		N/A
	Between metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 MΩ .....:		N/A
(L.8.3)	Electric strength		N/A
	1) Between live parts of input circuits and live parts of output circuits .....:		N/A
	2) Over basic or supplementary insulation between:		N/A
	a) live parts having different polarity .....:		N/A
	b) live parts and body if intended to be connected to protective earth .....:		N/A
	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord .....:		N/A
	d) live parts and an intermediate metal part .....:		N/A
	e) intermediate metal parts and the body .....:		N/A
	f) each input circuit and all other input circuits ....:		N/A
	3) Over reinforced insulation between the body and live parts .....:		N/A
(L.9)	**Construction**		N/A
(L.9.1)	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6		N/A
	HF transformer comply with 19 of IEC 61558-2-16		N/A
(L.10)	**Components**		N/A
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		N/A
(L.11)	**Creepage distances and clearances**		—
	1. Insulation between input and output circuits, basic insulation:		—

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict
	a) measured values ≥ specified values (mm) .....:		N/A
	b) measured values ≥ specified values (mm) .....:		N/A
	c) measured values ≥ specified values (mm) .....:		N/A
	2. Insulation between input and output circuits, double or reinforced insulation:		—
	a) measured values ≥ specified values (mm) .....:		N/A
	b) measured values ≥ specified values (mm) .....:		N/A
	c) measured values ≥ specified values (mm) .....:		N/A
	3. Insulation between adjacent input circuits		N/A
	- measured values ≥ specified values (mm) .....:		N/A
	3. Insulation between adjacent output circuits		N/A
	- measured values ≥ specified values (mm) .....:		N/A
	4. Insulation between terminals for external connection:		—
	- measured values ≥ specified values (mm) .....:		N/A
	5. Basic or supplementary insulation:		—
	a) measured values ≥ specified values (mm) .....:		N/A
	b) measured values ≥ specified values (mm) .....:		N/A
	c) measured values ≥ specified values (mm) .....:		N/A
	d) measured values ≥ specified values (mm) .....:		N/A
	e) measured values ≥ specified values (mm) .....:		N/A
	6. Reinforced insulation or insulation:		—
	Between body and output circuit: measured values ≥ specified values (mm) .....:		N/A
	Between body and output circuit if provision against transient voltages: measured values ≥ specified values (mm) .....:		N/A
	7. Distance through insulation:		—
	a) measured values ≥ specified values (mm) .....:		N/A
	b) measured values ≥ specified values (mm) .....:		N/A
	c) measured values ≥ specified values (mm) .....:		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict

(N)	**ANNEX N: REQUIREMENTS FOR INSULATION MATERIALS USED FOR DOUBLE OR REINFORCED INSULATION**		N/A
(N.4)	**General requirements**		N/A
(N.4.1)	Material comply with IEC 60085 and IEC 60216 series		N/A
(N.4.2)	**Solid insulation**		N/A
	Electric strength test at least 5 kV or 1,35 x test voltage in Table N.1		N/A
	If not classified according IEC 60085 and IEC 60216 series: Electric strength test increased 10 % of 5,5 kV or 1,5 x test voltage in Table N.1		N/A
(N.4.3)	**Thin sheet insulation**		N/A
(N.4.3.1)	Thickness and composition of thin sheet insulation		N/A
	- Inside the ballast and not subjected to handling or abrasion during the production and during maintenance		N/A
	- Non-separated layers: Min. 3 layers and fulfil mandrel test of 150N		N/A
	- Separated layers: Min. 2 layers and each layer fulfil mandrel test of 50N		N/A
	- Separated layers (alternative): Min. 3 layers and 2/3 of the layers fulfil mandrel test of 100N		N/A
(N.4.3.2)	Mandrel test (electric strength test during mechanical stress)		N/A
	Electric strength test after mandrel test:		N/A
	- Non-separated layers: min. 5 kV or 1,35 x test voltage in Table N.1		N/A
	- 2/3 of min. 3 separated layers: min. 5 kV or 1,25 x test voltage in Table N.1		N/A
	- one of 2 separated layers: min. 5 kV or 1,25 x test voltage in Table N.1		N/A
	No flashover or breakdown occurred		N/A

(O)	**ANNEX O: ADDITIONAL REQUIREMENTS FOR BUILT-IN ELECTRONIC CONTROLGEAR WITH DOUBLE OR REINFORCED INSULATION**	N/A
(O.6)	**Marking**	N/A

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1		
Clause	Requirement + Test	Result - Remark	Verdict
	Marking according clause 7 (7)	See clause 7	N/A
	Special symbol		N/A
	Meaning of the special symbol explained in catalogue		N/A
(O.7)	**Protection against accidental contact with live parts**		N/A
	Requirements of clause 8 (10)	See clause 8	N/A
	Test finger not possible to make contact with basic insulated metal parts		N/A
(O.8)	**Terminals**		N/A
	Clause 9 (8)	See clause 9	N/A
(O.9)	**Provision for earthing**		N/A
	Functional earthing terminals comply with clause 9 of part 1		N/A
	No protective earthing terminal		N/A
(O.10)	**Moisture resistance and insulation**		N/A
	Clause 11 (11)	See clause 11	N/A
(O.11)	**Electric strength**		N/A
	Clause 12 (12)	See clause 12	N/A
(O.13)	**Fault conditions**		N/A
	Clause 14 (14)	See clause 14	N/A
	End of test, between live part and accessible metal parts or external parts of insulating material in contact with the supporting surface comply with dielectric strength test reduced to 35 % of values according Table 1 in part 1		N/A
	Insulation resistance according to O.10 between live part and accessible metal parts or external parts of insulating material in contact with the supporting surface not less than 4 MΩ		N/A
(O.14)	**Construction**		N/A
	Clause 17 (15)	See clause 17	N/A
	Accessible metal parts insulated from live parts by double or reinforced insulation		N/A

Annex 9	Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1		
Clause	Requirement + Test	Result - Remark	Verdict
	Live part insulated from supporting surface in contact with external faces by double or reinforced insulation		N/A
(O.15)	**Creepage distances and clearances**		N/A
	Clause 18 (16)	See clause 18	N/A
	Comply with corresponding values for luminaries in IEC 60598-1		N/A
(O.16)	**Screws, current-carrying parts and connections**		N/A
	Clause 19 (17)	See clause 19	N/A
(O.17)	**Resistance to heat and fire**		N/A
	Clause 20 (18)	See clause 20	N/A
(O.18)	**Resistance to corrosion**		N/A
	Clause 21 (19)	See clause 21	N/A
J	**ANNEX J: PARTICULAR ADDITIONAL SAFETY REQUIREMENTS FOR A.C., A.C./D.C. OR D.C. SUPPLIED ELECTRONIC CONTROLGEAR FOR EMERGENCY LIGHTING**		N/A
J.1	**General**		N/A
	Intended for centralized emergency power supply	Yes ☐ No ☐	—
J.2	**Marking**		N/A
J.2.1	Mandatory markings		N/A
	a) symbol EL		N/A
	b) rated emergency supply voltage (V)		N/A
J.2.2	Information to be provided if applicable		N/A
	a) Limits of ambient temperature		N/A
	b) Emergency output factor (EOF_X)		N/A
	c) Information if intended for use in luminaires for high-risk task area lighting		N/A
J.3	General notes on tests		N/A
	Length of output cable in tests..... :		N/A
	Load instead of LED lamps/modules..... :		N/A
J.4	Starting conditions		N/A
	Start rated load in emergency mode without adversely affecting the performance		N/A

Annex 9	**Tests according to IEC 61347-1:2015, IEC 61347-2-13:2014+A1,EN 61347-1:2015 and EN 61347-2-13:2014+A1**		
Clause	Requirement + Test	Result - Remark	Verdict

J.5	Operating condition		N/A
	Comply with the requirements of 7.2 of IEC 62384 at 90% and 110% of rated emergency supply voltage		N/A
J.6	Emergency supply current		N/A
	Emergency supply current not differ more than ±15 %		N/A
	Supply of low impedance and low inductance		N/A
J.7	EMC immunity		N/A
	Comply with the requirements of IEC 61547		N/A
J.8	Pulse voltage from central battery systems		N/A
	Withstand pulses according Table J.1		N/A
J.9	Tests for abnormal conditions		N/A
	Comply with the requirements of 12 of IEC 62384		N/A
J.10	Comply with the requirements of 13 of IEC 62384		N/A
J.11	Functional safety (EOF_x)		N/A
	Declared emergency output factor (EOF_x) achieved during emergency operation		N/A

(P)	**Creepage distances and clearances and distance through isolation (DTI) for lamp controlgear which are protected against pollution by the use of coating or potting**		N/A
(P.1)	**General**		N/A
	P.2 applies if creepage distances less than the minimum in Table 7 and 8		N/A
	P.3 applies if clearance less than the minimum in Table 9, 10 and 11		N/A
(P.2)	**Creepage distances**		N/A
(P.2.2)	Minimum creepage distances for working voltages and rated voltages with frequencies up to 30 kHz (Table P.1)		N/A
	Basic or supplementary insulation:		N/A
	Required creepage ..... :		—
	Measured ..... :		N/A
	Supplementary information		—

	Reinforced insulation:		N/A
	Required creepage ..... :		—
	Measured ..... :		N/A
	Supplementary information		—
(P.2.3)	Creepage distances for working voltages with frequencies above 30 kHz (Table P.2)		N/A
	Voltage $\hat{U}_{out}$ kV ..... :		—
	Frequency ..... :		—
	Required distance ..... :		—
	Measured ..... :		N/A
	Supplementary information		—
(P.2.4)	Compliance with the required creepage distances		N/A
(P.2.4.1)	Compliance in accordance with 16.3.3 and test according P.2.4.2		N/A
(P.2.4.3)	Electrical tests after conditioning		N/A
(P.2.4.3.1)	Insulation resistance and electric strength according Clause 11 and 12		N/A
(P.3)	**Distance through isolation**		N/A
(P.3.4)	Electrical tests after conditioning		N/A
(P.3.4.1)	Insulation resistance and electric strength according Clause 11 and 12		N/A
(P.3.4.2)	Impulse voltage dielectrical test		N/A
	Basic or supplementary insulation:		N/A
	Working/rated voltage ..... :		—
	Impulse voltage ..... :		N/A
	Supplementary information		—
	Reinforced insulation:		N/A
	Working/rated voltage ..... :		—
	Impulse voltage ..... :		N/A
	Supplementary information		—

Annex 10	Creepage distances and clearances for LED driver	P

Cr. And Cl. Between different parts	Test result
For MG-PJ30N00	
L to N before fuse	cl.= 3,3mm>1,5mm; cr.= 3,3mm>2,5mm
Different poles of fuse	cl.= 3,3mm>1,5mm; cr.= 3,3mm>2,5mm

Photo:

Figure 1. Over view of TK-00350-W-DL

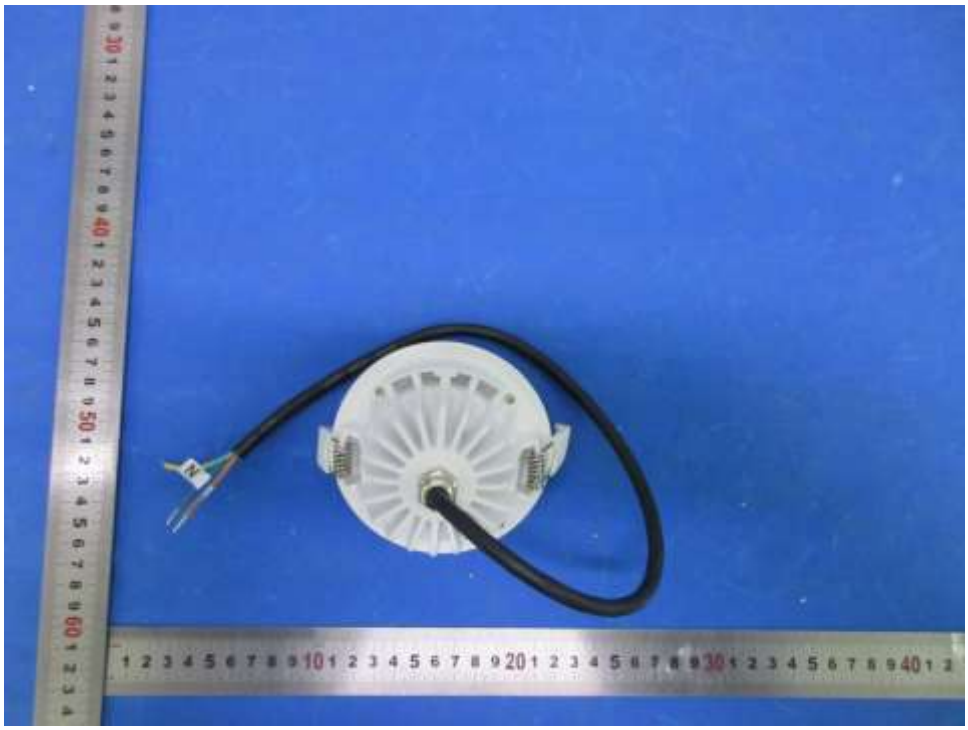


Figure 2. Base view of TK-00350-W-DL

Figure 3. Internal view of TK-00350-W-DL

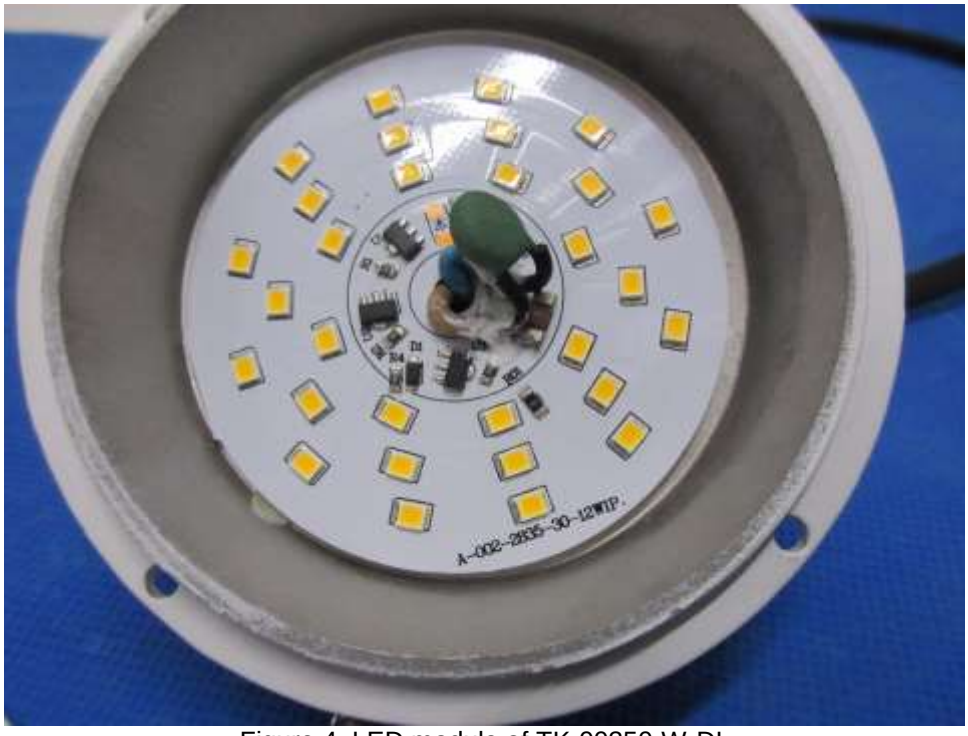


Figure 4. LED module of TK-00350-W-DL

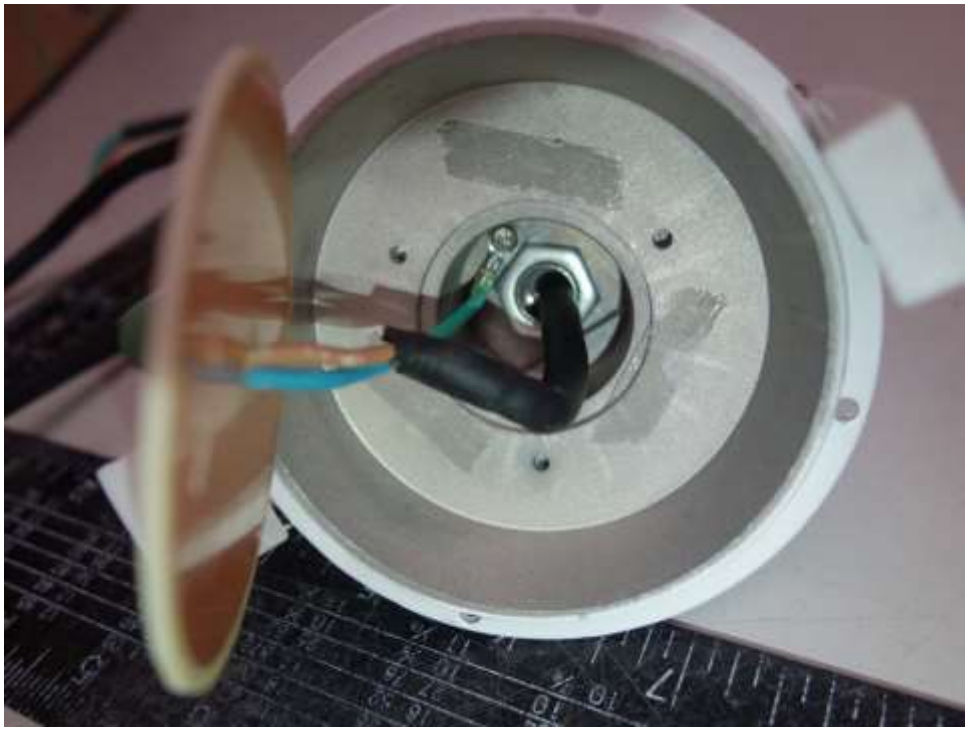


Figure 5. Earth connection

Figure 6. Metal gland