



TEST REPORT
IEC 60598-2-1
Luminaires
Part 2: Particular requirements
Section 1: Fixed general purpose luminaires

Report Number.....: LCS210106033ES

Date of issue.....: October 19, 2021

Total number of pages.....: 62 pages

Name of Testing Laboratory

preparing the Report.....: Ningbo LCS Standard Technology Service Co., Ltd.

Applicant's name.....: SHENZHEN YOUWIN OPTRONICS CO., LTD

Address.....: Room 319 Chuangke Building, Huanguan South Road No. 72-1,
Guanlan, Shenzhen, Guangdong, China

Test specification:

Standard.....: IEC 60598-2-1:1979 (First Edition) + A1:1987 used in conjunction
with IEC 60598-1:2014+A1:2017

Test procedure.....: CE-LVD

Non-standard test method.....: N/A

Test Report Form No.....: IEC60598_2_1F

Test Report Form(s) Originator.....: Intertek Semko AB

Master TRF.....: 2017-10

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Test item description.....:	LED High Bay Light	
Trade Mark.....:	YOUWIN	
Manufacturer.....:	FOSHAN YOUWIN LIGHTING CO., LTD Block 4, Area D, Bright City, Nanhai District Foshan, Guangdong, China.	
Model/Type reference.....:	See model list on page 5-6	
Ratings.....:	200-240 V~, 50/60 Hz, Max. 240W, Class I, IP65, ta.45°C, for detail information see "General product information"	
☒	Testing Laboratory:	
Testing location/ address.....:	Ningbo LCS Standard Technology Service Co., Ltd. 101-106, 202-206, Building 037, No. 166, Jinghua Road, Meixu Street, Ningbo High-tech Zone, Yinzhou District, Ningbo City, Zhejiang Province, China	
Tested by.....:	Laola Li (Engineer)	<i>Laola Li</i>
Check by.....:	Leo Qiu (Director)	<i>Leo Qiu</i>
Approved by.....:	Adam Peng (Manager)	<i>Adam Peng</i>
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 60598-2-1:1989 used in conjunction with EN 60598-1:2015+A1:2018 Attachment No. 2: 2 pages of report EMF Assessment according to EN 62493:2015. Attachment No. 3: 1 page of report IEC 62031:2018 Attachment No. 4: 2 page of report IEC TR 62778:2014. Attachment No. 5: 15 pages of photo documentation.		
Remark: Whether parts of tests for the product have been subcontracted to other labs: ☒ Yes ☐ No If Yes, list the related test items and lab information: Test items: 1. Attachment No. 4 report of IEC/TR 62778:2014. 2. Clause 9.2 RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE IP65 test Lab information: Shenzhen Southern LCS Compliance Testing Laboratory Ltd.		
Summary of testing:		
Tests performed (name of test and test clause): IEC 60598-2-1:1979+A1:1987 IEC 60598-1:2014+A1:2017 IEC TR 62778:2014 IEC 62031:2018	Testing location: Ningbo LCS Standard Technology Service Co., Ltd. 101-106, 202-206, Building 037, No. 166, Jinghua Road, Meixu Street, Ningbo High-tech Zone, Yinzhou District, Ningbo City, Zhejiang Province, China	
Summary of compliance with National Differences:		
List of countries addressed ☒ The product fulfils the requirements of New Zealand and Australia differences.		

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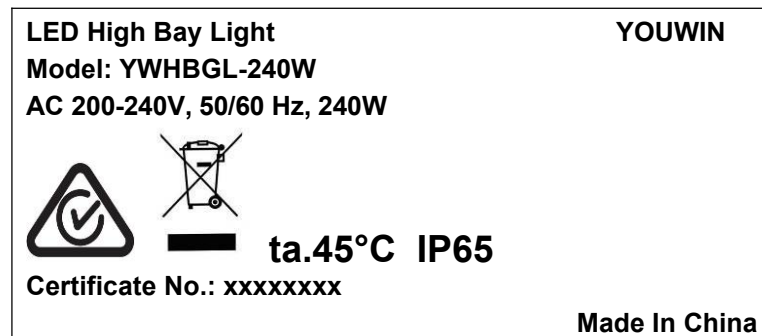
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EN 60598-2-1:1989;
EN 60598-1:2015+A1:2018;
EN 62493:2015;
EN IEC 62031:2020

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.

Marking located on the lamp body:

: "caution, electric shock risk" symbol, located near the cover, height of this marks is 15mm.

Remarks:

1. Representative markings of YWHBGL-240W, markings of all models are identical except for the model name and power.
2. Height of RCM mark is 5mm, height of WEEE symbol is 7mm, height of letters and numerals is 2mm.

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Test item particulars.....									
Classification of installation and use..... Fixed general purpose luminaires									
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..... August 30, 2021									
Date (s) of performance of tests..... August 30, 2021 - October 19, 2021									
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 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. Modified Information <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Version</th><th>Report No.</th><th>Revision Date</th><th>Summary</th></tr></thead><tbody><tr><td>V1.0</td><td>LCS210106033ES</td><td>/</td><td>Original Version</td></tr></tbody></table>		Version	Report No.	Revision Date	Summary	V1.0	LCS210106033ES	/	Original Version
Version	Report No.	Revision Date	Summary						
V1.0	LCS210106033ES	/	Original Version						
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1:									
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).....	Factory 1: SHENZHEN YOUWIN OPTRONICS CO., LTD Room 319 Chuangke Building, Huanguan South Road No. 72-1, Guanlan, Shenzhen, Guangdong, China Factory 2: FOSHAN YOUWIN LIGHTING CO., LTD Block 4, Area D, Bright City,Nanhai District Foshan,Guangdong, China.
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General product information:

- The products are Class I fixed general purpose luminaires with non-user replaceable LED module.
- The maximum operating temperature is 45 °C, and suitable for direct mounting on normally flammable surfaces.
- The product is powered by approved SELV driver.
- The protection of degree is IP65, suitable for indoor and outdoor use .
- The mechanical and electrical construction of all models are similar.
- Unless otherwise specified, the models YWHBGL-240W, YWHBFM-200W and YWHBHF-200W were chosen as representative model to perform all test.

Model List:

Models	Power (W)	Size (mm)	Weight (kg)	LED driver	Photos
YWHBFN-100W	100W	310*310*195	3.9	HBG-100-48A	
YWHBFN-150W	150W	310*310*198	4.5	HBG-240-48A	
YWHBFN-200W	200W	310*310*201	5.5	HBG-240-48A	
YWHBFN-240W	240W	310*310*201	5.5	HBG-240-48A	
YWHBKB-100W	100W	240*240*166	3.0	HBG-100-48A	
YWHBKB-150W	150W	280*280*170	3.2	HBG-240-48A	
YWHBKB-200W	200W	280*280*170	4.0	HBG-240-48A	
YWHBHB-100W	100W	310*310*166	3.9	BSA-120-48-A	
YWHBHB-150W	150W	310*310*166	3.9	BSA-120-48-A	
YWHBFM-100W	100W	260*210*320	4.8	ELG-100-48A	
YWHBFM-150W	150W	260*210*320	5.1	ELG-150-48A	
YWHBFM-200W	200W	260*210*320	5.3	ELG-200-48A	
4300001	200W	260*210*320	5.3	ELG-200-48A	
YWHBFM-240W	240W	260*210*320	5.3	ELG-240-48A	
YWHBIB-100W	100W	280*280*125	2.0	HBG-100-48A	
YWHBIB-150W	150W	330*330*125	3.1	HBG-240-48A	
YWHBIB-200W	200W	380*380*125	4.0	HBG-240-48A	
YWHBIB-240W	240W	380*380*125	4.5	HBG-240-48A	
YWHBGL-100W	100W	280*280*185	3.4	HBG-100-48A	
YWHBGL-150W	150W	320*320*188	5.0	HBG-240-48A	
YWHBGL-200W	200W	400*400*208	7.4	HBG-240-48A	

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YWHBGL-240W	240W	400*400*208	7.4	HBG-240-48A	
YWHBHF-100W	100W	380*380*155	3.5	ELG-100-48A	
YWHBHF-150W	150W	420*420*155	4.0	ELG-150-48A	
YWHBHF-200W	200W	460*460*155	4.6	ELG-200-48A	



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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.2 (0)	GENERAL TEST REQUIREMENTS		P
1.2 (0.1)	Information for luminaire design considered..... :	Standard Yes ☒ No ☐	—
1.2 (0.3)	More sections applicable..... :	Yes ☐ No ☒	—
1.2 (0.5)	Components	(see Annex 1)	—
1.2 (0.7)	Information for luminaire design in light sources standards		—
1.2 (0.7.2)	Light source safety standard :	IEC 62031	—
	Luminaire design in the light source safety standard		P

1.4 (2)	CLASSIFICATION		P
1.4 (2.2)	Type of protection :	Class I	—
1.4 (2.3)	Degree of protection..... :	IP65	—
1.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces..... :	Yes ☒ No ☐	—
1.4 (2.5)	Luminaire for normal use :	Yes ☒ No ☐	—
	Luminaire for rough service :	Yes ☐ No ☒	—

1.5 (3)	MARKING		P
1.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
1.5 (3.3)	Additional information		P
	Language of instructions	English	P
1.5 (3.3.1)	Combination luminaires		N/A
1.5 (3.3.2)	Nominal frequency in Hz	50/60 Hz	P
1.5 (3.3.3)	Operating temperature		N/A
1.5 (3.3.5)	Wiring diagram		P
1.5 (3.3.6)	Special conditions		N/A
1.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
1.5 (3.3.8)	Limitation for semi-luminaires		N/A
1.5 (3.3.9)	Power factor and supply current		P
1.5 (3.3.10)	Suitability for use indoors		P
1.5 (3.3.11)	Luminaires with remote control		N/A
1.5 (3.3.12)	Clip-mounted luminaire – warning		N/A

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5 (3.3.13)	Specifications of protective shields		N/A
1.5 (3.3.14)	Symbol for nature of supply	~	P
1.5 (3.3.15)	Rated current of socket outlet		N/A
1.5 (3.3.16)	Rough service luminaire		N/A
1.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
1.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
1.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
1.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
1.5 (3.3.21)	Non-replaceable and non-user replaceable light sources information provided	Non-user replaceable light sources	P
1.5 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
1.5 (3.3.23)	Luminaire without controlgear provided with necessary information for selection of appropriate component		N/A
1.5 (3.3.24)	If not supplied with terminal block, information on the packaging		P
1.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		P

1.6 (4)	CONSTRUCTION		P
1.6 (4.2)	Components replaceable without difficulty		N/A
1.6 (4.3)	Wireways smooth and free from sharp edges		P
1.6 (4.4)	Lampholders		N/A
1.6 (4.4.1)	Integral lampholder		N/A
1.6 (4.4.2)	Wiring connection		N/A
1.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
1.6 (4.4.4)	Positioning		N/A
	- pressure test (N)		—
	After test the lampholder comply with relevant standard sheets and show no damage		N/A

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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
1.6 (4.4.5)	Peak pulse voltage		N/A
1.6 (4.4.6)	Centre contact		N/A
1.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
1.6 (4.4.8)	Lamp connectors		N/A
1.6 (4.4.9)	Caps and bases correctly used		N/A
1.6 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
1.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
1.6 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
1.6 (4.7)	Terminals and supply connections		P
1.6 (4.7.1)	Contact to metal parts		P
1.6 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		N/A
1.6 (4.7.3)	Terminals for supply conductors		N/A
1.6 (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 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
1.6 (4.7.4)	Terminals other than supply connection		P
1.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
1.6 (4.7.6)	Multi-pole plug		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- test at 30 N		N/A
1.6 (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
1.6 (4.9)	Insulating lining and sleeves		P
1.6 (4.9.1)	Retainment		P
	Method of fixing.....:	By construction	—
1.6 (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
1.6 (4.10)	Double or reinforced insulation		N/A
1.6 (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
1.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
1.6 (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
1.6 (4.11)	Electrical connections and current-carrying parts		P
1.6 (4.11.1)	Contact pressure		N/A
1.6 (4.11.2)	Screws:		P
	- self-tapping screws		N/A
	- thread-cutting screws		N/A

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1.6 (4.11.3)	Screw locking:		P
	- spring washer		P
	- rivets		N/A
1.6 (4.11.4)	Material of current-carrying parts		P
1.6 (4.11.5)	No contact to wood or mounting surface		P
1.6 (4.11.6)	Electro-mechanical contact systems		N/A
1.6 (4.12)	Screws and connections (mechanical) and glands		P
1.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :	Fixed cover: 0,6Nm	P
	Torque test: torque (Nm); part..... :	Fixed LED driver(Round shape): 2,5Nm	P
	Torque test: torque (Nm); part..... :	Fixed LED driver(Square shape): 0,6Nm	P
	Torque test: torque (Nm); part..... :	Fixed LED driver cavity; 1,2Nm	P
	Torque test: torque (Nm); part..... :	Fixed LED PCB: 0,6Nm	P
	Torque test: torque (Nm); part..... :	Fixed earthing: 0,6Nm	P
	Torque test: torque (Nm); part..... :	Fixed terminal: 0,6Nm	P
	Torque test: torque (Nm); part..... :	Fixed glass cover: 1,2Nm	P
1.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
1.6 (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
1.6 (4.12.5)	Screwed glands; force (Nm)..... :	Metal gland: 6,25Nm; Plastic gland: 3,25Nm	P
1.6 (4.13)	Mechanical strength		P
1.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)..... :		N/A
	- other parts; energy (Nm)..... :	0,35Nm, no damage	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P

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1.6 (4.13.3)	Straight test finger		P
1.6 (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
1.6 (4.13.6)	Tumbling barrel		N/A
1.6 (4.14)	Suspensions, fixings and means of adjusting		P
1.6 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N/A
	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
1.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		—
	Stress in conductors (N/mm ²)		N/A
	Mass (kg) of semi-luminaire		—
	Bending moment (Nm) of semi-luminaire		N/A
1.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles..... :		N/A
	- strands broken..... :		N/A
	- electric strength test afterwards		N/A
1.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
1.6 (4.14.5)	Guide pulleys		N/A
1.6 (4.14.6)	Strain on socket-outlets		N/A
1.6 (4.15)	Flammable materials		P
	- glow-wire test 650°C..... :	See Test Table 1.15 (13.3.2)	P

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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
1.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
1.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear.....:	(compliance with Section 12)	N/A
	Provided with adaptor for a track meet the requirements for direct mounting on normally flammable surfaces		N/A
1.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
1.6 (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
1.6 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
1.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
1.6 (4.18)	Resistance to corrosion		P
1.6 (4.18.1)	- rust-resistance		P
1.6 (4.18.2)	- season cracking in copper		N/A
1.6 (4.18.3)	- corrosion of aluminium		N/A
1.6 (4.19)	Igniters compatible with ballast		N/A
1.6 (4.20)	Rough service vibration		N/A
1.6 (4.21)	Protective shield		N/A
1.6 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Shield of glass if tungsten halogen lamps		N/A
1.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
1.6 (4.21.3)	No direct path		N/A
1.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment.....:	See Test Table 1.15 (13.3.2)	N/A
1.6 (4.22)	Attachments to lamps not cause overheating or damage		N/A
1.6 (4.23)	Semi-luminaires comply Class II		N/A
1.6 (4.24)	Photobiological hazards		P
1.6 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
1.6 (4.24.2)	Retinal blue light hazard	RG1	P
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2...:	RG1	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
1.6 (4.25)	Mechanical hazard		P
	No sharp point or edges		P
1.6 (4.26)	Short-circuit protection		N/A
1.6 (4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
1.6 (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
1.6 (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

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	After test, resistance < 0,05 Ω		N/A
	Voltage drop test, resistance < 0,05 Ω		N/A
1.6 (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 ($^{\circ}\text{C}$)..... :		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
1.6 (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
1.6 (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:		P
	Minimum two fixing means		P
1.6 (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
1.6 (4.31.1)	SELV circuits		P
	Used SELV source		P
	Voltage $\leq$ ELV		P
	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

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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
1.6 (4.31.2)	FELV circuits		N/A
	Used FELV source		N/A
	Voltage $\leq$ 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
1.6 (4.31.3)	Other circuits		N/A
	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 of above		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
1.6 (4.32)	Overvoltage protective devices		N/A
	Comply with IEC 61643-11		N/A
	External to control gear and connected to earth:		N/A
	- only in fixed luminaires		N/A
	- only connected to protective earth		N/A

1.7 (11)	CREEPAGE DISTANCES AND CLEARANCES	P
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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7 (11.2.1)	Impulse withstand category (Normal category II)	Category II ☒ Category III ☐	—
	Category III according Annex U		N/A
	Protected against pollution, reduced creepage and clearance according Annex P of IEC 61347-1		N/A
1.7 (11.2.2)	Creepage distances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Creepage distances for frequency over 30 kHz:		N/A
	- Controlgear marked with $\hat{U}_{OUT}$ and f_{UOUT} according IEC 61347-1, clause 7.1, item w	See Test Table 1.7 (11.2) II	N/A
	- Requirements according IEC 60664-4 for controlgear not covered by IEC 61347	See Test Table 1.7 (11.2) II	N/A
1.7 (11.2.3)	Clearances for frequency up to 30 kHz	See Test Table 1.7 (11.2) I	P
	Clearances distances for frequency over 30 kHz:		N/A
	- Controlgear marked with U_P	See Test Table 1.7 (11.2) II	N/A

1.8 (7)	PROVISION FOR EARTHING		P
1.8 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω:	Max. 0,044 Ω	P
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	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
1.8 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
1.8 (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
1.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
1.8 (7.2.6)	Earth terminal adjacent to mains terminals		P
1.8 (7.2.7)	Electrolytic corrosion of the earth terminal		P

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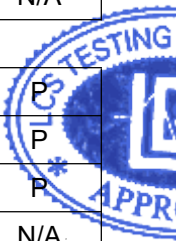


IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.8 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
1.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
1.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P
1.9 (14)	SCREW TERMINALS		N/A
	Separately approved; component list.....:	(see Annex 1)	N/A
	Part of the luminaire.....:	(see Annex 3)	N/A
1.9 (15)	SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS		P
	Separately approved; component list.....:	(see Annex 1)	P
	Part of the luminaire.....:	(see Annex 4)	N/A
1.10 (5)	EXTERNAL AND INTERNAL WIRING		P
1.10 (5.2)	Supply connection and external wiring		P
1.10 (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
1.10 (5.2.2)	Type of cable.....:	See annex 1	P
	Nominal cross-sectional area (mm ²).....:	See annex 1	P
	Cables equal to IEC 60227 or IEC 60245		N/A
1.10 (5.2.3)	Type of attachment, X, Y or Z		P
1.10 (5.2.5)	Type Z not connected to screws		N/A
1.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
1.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
1.10 (5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- tubes or guards made of insulating material		N/A
1.10 (5.2.9)	Locking of screwed bushings		N/A
1.10 (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		N/A
1.10 (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
1.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
1.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)..... : 60		P
	- torque test: torque (Nm)..... : 0,25		P
	- displacement ≤ 2 mm	Max. 1,0mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		N/A
1.10 (5.2.11)	External wiring passing into luminaire		P
1.10 (5.2.12)	Looping-in terminals		N/A

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.10 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
1.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
	No unsafe compatibility		N/A
1.10 (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
1.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
1.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
1.10 (5.3)	Internal wiring		P
1.10 (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
1.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²)..... :	See Annex 1	P
	Insulation thickness		P
	Extra insulation added where necessary		N/A
1.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Adequate cross-sectional area and insulation thickness		P
1.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.10 (5.3.1.4)	Conductors without insulation		N/A
1.10 (5.3.1.5)	SELV current-carrying parts		P
1.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
1.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		P
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		P
1.10 (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
1.10 (5.3.4)	Joints and junctions effectively insulated		N/A
1.10 (5.3.5)	Strain on internal wiring		N/A
1.10 (5.3.6)	Wire carriers		N/A
1.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
1.10 (5.4)	Test to determine suitability of conductors having a reduced cross-sectional area		N/A
	Under test the temperature of the luminaire wiring insulation not exceed the limits stated in Table 12.2	(see Annex 2)	N/A
	No damage to luminaire wiring after test		N/A

1.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
1.11 (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

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N/A
	Relevant warning according to 3.2.18 fitted to the luminaire		N/A
1.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
1.11 (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
1.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
1.11 (8.2.3.c)	SELV circuits with exposed current carrying parts:		N/A
	Ordinary luminaire:		N/A
	- touch current		N/A
	- no-load voltage.....		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage		N/A
1.11 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
1.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1.11 (8.2.6)	Covers reliably secured		P
1.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$	4V after 1 min	P
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A

1.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
1.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 1.13		—
1.12 (12.3)	Endurance test:		P
	- mounting- position..... :	As normal used	—
	- test temperature (°C)..... :	55	—
	- total duration (h)..... :	240	—
	- supply voltage: Un factor; calculated voltage (V)... :	264	—
	- lamp used..... :	LED	—
1.12 (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
1.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P
1.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
1.12 (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
1.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions..... :		—
	- thermal link		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C)..... :		N/A
	- track-mounted luminaires		N/A
1.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
1.12 (12.7.1)	Luminaire without temperature sensing control		N/A
1.12 (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).....:		—
	Ball-pressure test.....:	See Table 1.15 (13.2.1)	N/A
1.12 (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 1.15 (13.2.1)	N/A
1.12 (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

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Test with standard test finger after the test		N/A
1.12 (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 1.15 (13.2.1)	N/A

1.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
1.13 (-)	If IP > IP 20 the order of tests as specified in clause 1.12		P
1.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		—
	- classification according to IP.....: IP65		—
	- mounting position during test.....: Normal installation		—
	- fixing screws tightened; torque (Nm).....: 2/3 torque of clause 4.12.1 and 4.12.5		—
	- tests according to clauses.....: Clause 9.2.2 and 9.2.6		—
	- electric strength test afterwards	See clause 10.2.2	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
	d) i) For luminaires without drain holes – no water entry		P
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		N/A
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		N/A
1.13 (9.3)	Humidity test 48 h	25°C, 93%RH	P

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
1.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø	Covered by metal foil	—
	Insulation resistance (MΩ).....	See below	—
	SELV		P
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface.....	>100MΩ	P
	- between current-carrying parts and metal parts of the luminaire.....	>100MΩ	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts.....	>100MΩ	P
	- Insulation bushings as described in Section 5		N/A
	Other than SELV		P
	- between live parts of different polarity.....		N/A
	- between live parts and mounting surface.....	>100MΩ for metal and glass/ plastic cover	P
	- between live parts and metal parts.....	>100MΩ	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
1.14 (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).....	See below	P
	SELV		N/A
	- between current-carrying parts of different polarity:		N/A
	- between current-carrying parts and mounting surface.....	500V	P

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts and metal parts of the luminaire..... :	500V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :	500V	P
	- Insulation bushings as described in Section 5 :		N/A
	Other than SELV		P
	- between live parts of different polarity..... :		N/A
	- between live parts and mounting surface..... :	1480 V for metal enclosure; 2960 V for glass/plastic cover	P
	- between live parts and metal parts..... :	1480 V	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
1.14 (10.3)	Touch current or protective conductor current (mA):	Protective conductor current (metal enclosure): 0,33mA; limit: 3,5mA Touch current (glass/plastic enclosure): 0,08mA; limit: 0,7mA	P

1.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
1.15 (13.2.1)	Ball-pressure test..... :	See Test Table 1.15 (13.2.1)	P
1.15 (13.3.1)	Needle-flame test (10 s)..... :	See Test Table 1.15 (13.3.1)	P
1.15 (13.3.2)	Glow-wire test (650°C)..... :	See Test Table 1.15 (13.3.2)	P
1.15 (13.4)	Proof tracking test (IEC 60112)..... :	See Test Table 1.15 (13.4)	P

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.7 (11.2)	TABLE I: Creepage distances and clearances						P
	Minimum distances (mm) for a.c. up to 30 kHz sinusoidal voltages						P
	Applicable part of IEC 60598-1 Table 11.1.A*, 11.1.B* and 11.2*						P
	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	B	3,1	0,3	11.1.B	3,1	1,25	11.1.A
Distance 2:	--	--	--	--	--	--	--
Distance 3:	--	--	--	--	--	--	--
Working voltage (V)..... :					Max.62Vdc		—
PTI..... :					< 600 ☒ ≥ 600 ☐		—
Pulse voltage or U_P if applicable (kV) :					—		—
Supplementary information: The minimum values were recorded.							
Distance 1: Between trace of LED PCB and metal enclosure.							

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

1.7 (11.2)	TABLE II: Creepage distances and clearances						N/A
Minimum distances (mm) for a.c. higher than 30 kHz sinusoidal voltages							
Applicable part of IEC 61347-1 Table 7 and 8* or IEC 60664-4 Table 1 and 2							
Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	--	--	--	--	--	--	--
Working voltage (V)..... :					--		—
Frequency if applicable (kHz)..... :					--		—
PTI..... :					< 600 ☐ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) :					--		—
Supplementary information:							
Distance 2:	--	--	--	--	--	--	--
Working voltage (V)..... :					--		—
Frequency if applicable (kHz)..... :					--		—
PTI..... :					< 600 ☐ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) :					--		—
Supplementary information:							

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IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
Distance 3:	--	--	--	--	--	--	--
Working voltage (V)..... :					--		—
Frequency if applicable (kHz)..... :					--		—
PTI..... :					< 600 ☐ ≥ 600 ☐		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) :					--		—
Supplementary information:							

** Insulation type: B – Basic; S – Supplementary; R – Reinforced.

1.15 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics				P
Allowed impression diameter (mm):			2,0mm		—
Object/ Part No./ Material		Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Plastic cover		See Annex 1	86	1,0	
Terminal block		See Annex 1	125	1,2	
Supplementary information:--					

1.15 (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
Terminal block		See Annex 1	10	No	0	P
Supplementary information:--						

1.15 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)				P	
Glow wire temperature				650°C		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
Plastic cover		See Annex 1	30	No	0	P
Terminal block		See Annex 1	30	No	0	P
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

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:--

*1.15 (13.4)	TABLE: Proof tracking test (IEC 60112)					P
Test voltage PTI :			175 V			—
Object/ Part No./ Material		Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict
Plastic cover		See Annex 1	Yes	Yes	Yes	P
Supplementary information:--						



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IEC 60598-2-1			
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 cord	C	Ningbo Xuanhua Electrical Co., Ltd.	H05RN-F	3x1.0mm ²	DIN EN 50525-2-21	VDE	
LED Driver	B	Mean Well Enterprises Co., Ltd.	HBG-100-48A	Input: 100-240V~, 50/60Hz, 1,1A Output: Max.49Vdc, 2A, 96W SELV, CC, Independent, IP65, ta60°C, tc85°C,	EN 61347-2-13 EN 61347-1	CE	
LED Driver	B	Mean Well Enterprises Co., Ltd.	HBG-240-48A	Input: 100-240V~, 50/60Hz, 2,5A Output: Max.49Vdc, 5A, 240W SELV, CC, Independent, IP65, ta50°C, tc75°C,	EN 61347-2-13 EN 61347-1	CE	
LED Driver	B	SHENZHEN YOUWIN OPTRONICS CO., LTD	BSA-120-48-A	Input: 200-240V~, 50/60Hz, 0,6A Output: 35-50Vdc, Max.62Vdc, 2,4A, 120W SELV, CC, Independent, IP67, ta50°C, tc90°C	EN 61347-2-13 EN 61347-1	CE	
LED Driver	B	Mean Well Enterprises Co., Ltd.	ELG-100-48A	Input: 100-240V~, 50/60Hz, 1,1A Output: 48Vdc, 1050mA/1400 mA, SELV, CV, Independent, IP65; ta 60°C, tc 90°C	EN 61347-2-13 EN 61347-1	CE	
LED Driver	B	Mean Well Enterprises Co., Ltd.	ELG-150-48A	Input: 100-240V~, 50/60Hz, 1,7A Output: 12-	EN 61347-2-13 EN 61347-1	CE	

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IEC 60598-2-1						
Clause	Requirement + Test			Result - Remark		Verdict
				54Vdc, 84-151,2W, SELV, CC, Independent, IP65; ta 55°C, tc 90°C		
LED Driver	B	Mean Well Enterprises Co., Ltd.	ELG-200-48A	Input: 100-240V~, 50/60Hz, 1,8A Output: 48Vdc, 200W, SELV, CV, Independent, IP65; ta 50°C, tc 90°C	EN 61347-2-13 EN 61347-1	CE
LED Driver	B	Mean Well Enterprises Co., Ltd.	ELG-240-48A	Input: 100-240V~ 50/60Hz 1,8A Output: 48Vdc, Max 240W, SELV, CV, Independent, IP65; ta 50°C, tc 90°C	EN 61347-2-13 EN 61347-1	CE
Output cord	B	Yuyao Jingyi Electronics Co.,Ltd	H05RN-F	300/500V, 3x1,0mm ²	DIN EN 50525-2-21	VDE 40017356
LED cover	C	CHI MEI CORPORATION	PC-110(+)	PC; V-2	EN 60598-2-1 EN 60598-1	UL E56070 Tested with appliance
Alternative	D	GUANGDONG WAYLAM ENGINEERING PLASTICS CO LTD	PC-F2805	PC; V-0; 80°C	EN 60598-2-1 EN 60598-1	UL E257285 Tested with appliance
Alternative	D	FOSHAN NANHAI POLMA ENGINEERING PLASTICS CO LTD	PC-1025	PC; V-0	EN 60598-2-1 EN 60598-1	UL E241821 Tested with appliance
LED	C	LUMILEDS	LUXEON 2835 Line	IF=max.120mA; VF=2,9V-9,9V; 2700-6500K	IEC/TR 62778	Test with appliance
LED	C	LUMILEDS	LUXEON 3030 2D Line	IF=max.300mA; VF=5,8V-6,5V; 2200-6500K	IEC/TR 62778	Test with appliance
LED PCB	C	XIAMEN LED BOARD ELECTRON-TECH CO LTD	LDB-11/LDB-12	V-0; AI	EN 60598-2-1 EN 60598-1	UL E347474 Test with appliance
Input cord of LED	C	DONGGUAN CHENG XING ELECTRONIC CO LTD	1015	18AWG, 105°C, 600V	EN 60598-2-1 EN 60598-1	UL E249743 Test with appliance

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Clause	Requirement + Test			Result - Remark		Verdict
Terminal block	B	Ningbo Economic&Technical Development Zone Hengda Electrical	TB-7020B/x	450VAC; T110; 0.5-2.5mm ²	EN 60998-1 EN 60998-2-2	TUV R HN 69251747
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						

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IEC 60598-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P				
1	Type reference.....:	YWHBGL-240W	—				
	Lamp used.....:	LED	—				
	Lamp control gear used.....:	HBG-240-48A	—				
	Mounting position of luminaire.....:	As stated in manual	—				
	Supply wattage (W).....:	238,8	—				
	Supply current (A)..... :	0,97	—				
	Calculated power factor.....:	0,96	—				
	Table: measured temperatures corrected for ta = 45 °C:		--				
	- abnormal operating mode.....:		—				
	- test 1: rated voltage..... :	240V	—				
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	—	—				
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	—	—				
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:	—	—				
	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	--	56,5	--	90	--	--
Tc point of LED driver	45	--	74,6	--	75	--	--
Output cord of LED driver	45	--	66,8	--	90	--	--
LED PCB	45	--	71,1	--	Ref.	--	--
Glass cover	45	--	64,2	--	Ref.	--	--
Lighting object (10cm)	45	--	58,5	--	90	46,5	175
Mounting surface	45	--	46,8	--	90	45,5	130
Supplementary information: N/A							

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P			
2	Type reference.....:	YWHBFM-200W		—			
	Lamp used.....:	LED		—			
	Lamp control gear used.....:	ELG-200-48A		—			
	Mounting position of luminaire.....:	As stated in manual		—			
	Supply wattage (W).....:	200,6		—			
	Supply current (A)..... :	0,82		—			
	Calculated power factor.....:	0,96		—			
	Table: measured temperatures corrected for ta = 45 °C:			--			
	- abnormal operating mode.....:			—			
	- test 1: rated voltage.....:	240V		—			
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	—		—			
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	—		—			
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:	—		—			
	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	--	56,2	--	90	--	--
Terminal block	45	--	55,4	--	90	--	--
Tc point of LED driver	45	--	83,4	--	90	88,8	105
Output cord of LED driver	45	--	65,3	--	90	--	--
DC wire	45	--	54,8	--	105	--	--
Fan	45	--	56,8	--	90	--	--
LED PCB	45	--	72,4		Ref.	--	--
Glass cover	45	--	66,8	--	Ref.	--	--
Lighting object (10cm)	45	--	55,5	--	90	46,5	175

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IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
Mounting surface	45	--	46,3	--	90	45,5	130
Supplementary information: N/A							

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
3	Type reference.....:	YWHBHF-200W	—
	Lamp used.....:	LED	—
	Lamp control gear used.....:	ELG-200-48A	—
	Mounting position of luminaire.....:	As stated in manual	—
	Supply wattage (W).....:	198,0	—
	Supply current (A).....:	0,82	—
	Calculated power factor.....:	0,96	—
	Table: measured temperatures corrected for $t_a = 45\text{ }^{\circ}\text{C}$:		--
	- abnormal operating mode.....:		—
	- test 1: rated voltage.....:	240V	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	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.....:	264V	—
	Through wiring or looping-in wiring loaded by a current of A during the test	—	—

Temperature measurements, ($^{\circ}\text{C}$)							
Part	Ambient	Clause 12.4 – normal				Clause 12.5 – abnormal	
		test 1	test 2	test 3	limit	test 4	limit
Supply cord	45	--	56,4	--	90	--	--
Tc point of LED driver	45	--	83,4	--	90	--	--
Output cord of LED driver	45	--	64,6	--	90	--	--
LED PCB	45	--	70,2	--	Ref.	--	--
Plastic cover	45	--	60,1	--	Ref.	--	--
Lighting object (10cm)	45	--	52,5	--	90	46,0	175

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IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
Mounting surface	45	--	46,3	--	90	45,4	130
Supplementary information: N/A							

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P			
4	Type reference.....:	YWHBKB-100W		—			
	Lamp used.....:	LED		—			
	Lamp control gear used.....:	HBG-100-48A		—			
	Mounting position of luminaire.....:	As stated in manual		—			
	Supply wattage (W).....:	102,0		—			
	Supply current (A)..... :	0,42		—			
	Calculated power factor.....:	0,96		—			
	Table: measured temperatures corrected for ta = 45 °C:			--			
	- abnormal operating mode.....:			—			
	- test 1: rated voltage..... :	240V		—			
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	—		—			
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	—		—			
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:	—		—			
	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
Tc point of LED driver	45	--	77,5	--	85	--	--
Supplementary information: N/A							

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12						P
5	Type reference.....	:	YWHBHB-150W				—
	Lamp used.....	:	LED				—
	Lamp control gear used.....	:	BSA-120-48-A				—
	Mounting position of luminaire.....	:	As stated in manual				—

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IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
	Supply wattage (W).....:				148,7		—
	Supply current (A)..... :				0,61		—
	Calculated power factor.....:				0,96		—
	Table: measured temperatures corrected for ta = 45 °C:						--
	- abnormal operating mode.....:						—
	- test 1: rated voltage..... :				240V		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:				—		—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :				—		—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:				—		—
	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
Tc point of LED driver	45	--	75,9	--	90	--	--
Supplementary information: N/A							

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
6	Type reference.....:	YWHBFM-100W	—
	Lamp used.....:	LED	—
	Lamp control gear used.....:	ELG-100-48A	—
	Mounting position of luminaire.....:	As stated in manual	—
	Supply wattage (W).....:	98,9	—
	Supply current (A)..... :	0,41	—
	Calculated power factor.....:	0,96	—
	Table: measured temperatures corrected for ta = 45 °C:		--
	- abnormal operating mode.....:		—
	- test 1: rated voltage.....:	240V	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	—	—

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IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
	- 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
Tc point of LED driver	45	--	85,0	--	90	--	--
Supplementary information: N/A							

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P				
7	Type reference.....:	YWHBFM-150W	—				
	Lamp used.....:	LED	—				
	Lamp control gear used.....:	ELG-150-48A	—				
	Mounting position of luminaire.....:	As stated in manual	—				
	Supply wattage (W).....:	149,6	—				
	Supply current (A)..... :	0,62	—				
	Calculated power factor.....:	0,96	—				
	Table: measured temperatures corrected for ta = 45 °C:		--				
	- abnormal operating mode.....:		—				
	- test 1: rated voltage..... :	240V	—				
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	—	—				
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	—	—				
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:	—	—				
	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

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IEC 60598-2-1							
Clause	Requirement + Test				Result - Remark		Verdict
Tc point of LED driver	45	--	84,4	--	90	--	--
Supplementary information: N/A							

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P				
8	Type reference.....:	YWHBFM-240W	—				
	Lamp used.....:	LED	—				
	Lamp control gear used.....:	ELG-240-48A	—				
	Mounting position of luminaire.....:	As stated in manual	—				
	Supply wattage (W).....:	241,0	—				
	Supply current (A)..... :	0,97	—				
	Calculated power factor.....:	0,96	—				
	Table: measured temperatures corrected for ta = 45 °C:		--				
	- abnormal operating mode.....:		—				
	- test 1: rated voltage.....:	240V	—				
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	—	—				
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	—	—				
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:	—	—				
	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
Tc point of LED driver	45	--	86,4	--	90	--	--
Supplementary information: N/A							

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IEC 60598-2-1			
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 (mm ²)..... :		—
(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

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IEC 60598-2-1			
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

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IEC 60598-2-1											
Clause	Requirement + Test						Result - Remark				Verdict
	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:--											

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Attachment No.1

IEC 60598_2_1G-ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60598-2-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Luminaires Part 2: Particular requirements Section 1: Fixed general purpose luminaires Differences according to..... : EN 60598-2-1:1989 used in conjunction with EN 60598-1:2015+A1:2018			
--	--	--	--

	CENELEC COMMON MODIFICATIONS (EN)		P
--	--	--	----------

1.5 (3)	MARKING		P
1.5 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package		P

1.6 (4)	CONSTRUCTION		P
1.6 (4.11.6)	Electro-mechanical contact systems		N/A

1.10 (5)	EXTERNAL AND INTERNAL WIRING		P
1.10 (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
1.10 (5.2.2)	Cables equal to EN 50525		P
	Replace table 5.1 – Supply cord		P

1.12 (12)	ENDURANCE TESTS AND THERMAL TESTS		P
1.12 (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)		P
(3.3)	DK: power supply cords of class I luminaires with label		N/A
(4.5.1)	DK: socket-outlets		N/A

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Attachment No.1

IEC 60598_2_1G-ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
(5.2.1)	CY, DK, FI, GB: type of plug		P
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

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Attachment No.2

EMF test result according to EN 62493:2015			
Clause	Requirement + Test	Result - Remark	Verdict
4	LIMITS		P
4.1	General		P
	Comply with Van der Hoofden test limit in 4.2.3 or inherently compliant in 4.2.2 and pass assessment procedure for intentional radiators in 4.3		P
4.2	Unintentional radiating part of lighting equipment		P
4.2.2	Lighting equipment deemed to comply with the Van der Hoofden test without testing		P
	1) electronic controlgear	Yes ☐ No ☒	—
	2) incandescent-lamp technology	Yes ☐ No ☒	—
	3) LED-light-source technology	Yes ☒ No ☐	—
	4) OLED-light-source technology	Yes ☐ No ☒	—
	5) high-pressure discharge lamp LED-light-source technologies	Yes ☐ No ☒	—
	6) low-pressure discharge lamp technologies with exposure distance ≥ 50 cm	Yes ☐ No ☒	—
	7) independent auxiliary	Yes ☐ No ☒	—
	Not fulfil any of 1-7 above subject to 4.2.3		—
4.2.3	Applications of limits		N/A
	Not fulfil any of 1-7 in 4.2.2 but the compliance factor F is ≤ 1		N/A
4.3	Intentional radiating part of lighting equipment		N/A
	Comply with one of methods in Clause 7 if intentional radiator		N/A
6	MEASUREMENT PROCEDURE FOR THE VAN DER HOOFDEN TEST		N/A
6.1	General		N/A
	Measurements carried out under conditions according Clause 6.1 – 6.6	See Table 6	N/A
7	ASSESSMENT PROCEDURE INTENTIONAL RADIATORS		N/A
7.2	Low-power exclusion method		N/A
7.2.1	Input $P_{\text{int,rad}}$:		—
	Exclusion level P_{max}:		—
	Input power $P_{\text{int,rad}} < \text{exclusion level } P_{\text{max}}$		N/A

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Attachment No.2

EMF test result according to EN 62493:2015						
Clause	Requirement + Test			Result - Remark	Verdict	
7.3	Application of the EMF product standard for body worn-equipment				N/A	
	If not Clause 7.2 is met and expose distance ≤ 0.05 m, comply with IEC 62209-2				N/A	
7.4	Application of the EMF product standard for base stations				N/A	
	If not Clause 7.2 is met and if intentional radiator is base station, comply with IEC 62232				N/A	
7.5	Application of another EMF standard				N/A	
	If not Clause 7.2 is met and if intentional radiator cannot be considered as in Clause 7.3 or 7.4, comply with IEC 62311				N/A	
6	TABLE: Measurement results with Van der Hoofden test head				N/A	
Location of EUT		Test model	Measuring distance	Result(F)	Limit(F)	Verdict
Reference Annex B of IEC/EN 62493:2015		--	--	--	≤1.0	N/A

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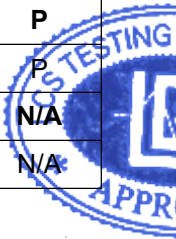
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Attachment No.3

IEC 62031:2018			
LED modules for general lighting - Safety specifications			
Clause	Requirement + Test	Result - Remark	Verdict
12 (14)	FAULT CONDITIONS		P
12.2	Overpower condition		P
	Module withstands overpower condition >15 min.		P
	Module with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
	No fire, smoke or flammable gas is produced		P
	Molten material does not ignite tissue paper, spread below the module		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	RG1	P
22.3	Infrared radiation		N/A
	Requirements for infrared radiation when required		N/A



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Attachment No.4

IEC TR 62778:2014 Spectroradiometric measurement			
Clause	Requirement + Test	Result - Remark	Verdict

Table (4.24)	Spectroradiometric measurement (IEC 62778)				--
	Measurement performed on:	Luminaire			--
	Model number	YWHBFN-240W with 2835 LEDS			--
	Test voltage (V)	240			--
	Test current (mA)	--			--
	Test frequency (Hz)	50			--
	Ambient, t (°C)	25,0			--
	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)	3245	RG1
Blue light hazard irradiance		E _B	W/m ²	--	--
Luminance		L	cd/m ²	--	--
Illuminance		E	lx	--	--
Supplementary information:					

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Attachment No.4

IEC TR 62778:2014 Spectroradiometric measurement			
Clause	Requirement + Test	Result - Remark	Verdict

Table (4.24)	Spectroradiometric measurement (IEC 62778)			--	
	Measurement performed on:		Luminaire	--	
	Model number.....		YWHBGL-240W with 3030 LEDS	--	
	Test voltage (V).....		240	--	
	Test current (mA).....		--	--	
	Test frequency (Hz).....		50	--	
	Ambient, t (°C).....		25,0	--	
	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		Symb ol	Units	Result	Remark
Correlated colour temperature		CCT	K	--	--
x/y colour coordinates		--	--	--	--
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	4862	RG1
Blue light hazard irradiance		E _B	W/m ²	--	--
Luminance		L	cd/m ²	--	--
Illuminance		E	lx	--	--
Supplementary information:					

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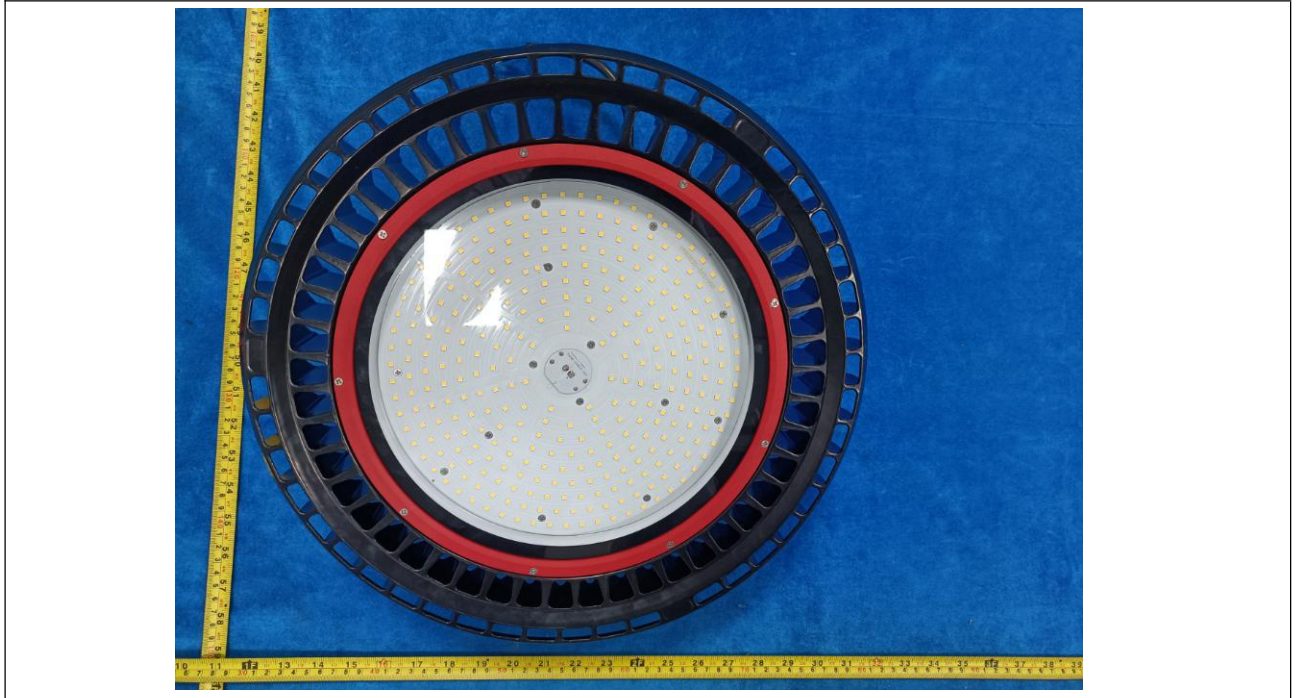
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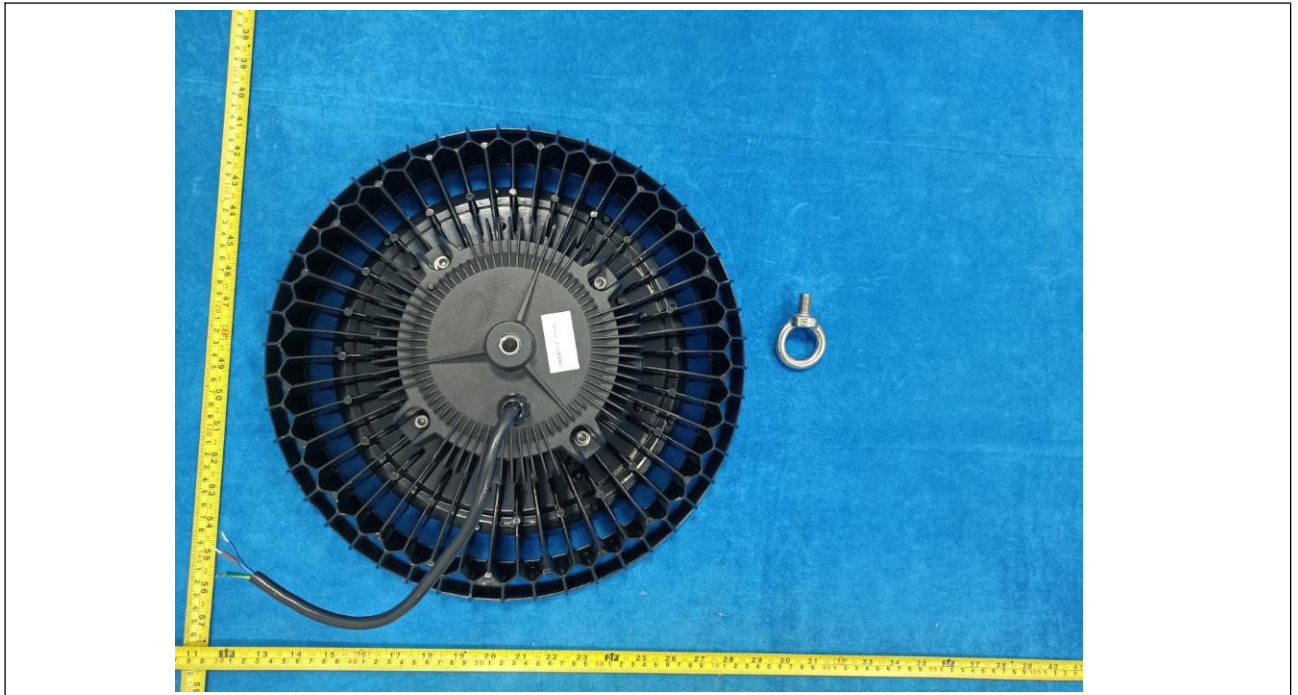
Attachment No.5

Photo Documentation

Details of: Over view of model YWHBGL-240W
Remark:



Details of: Over view of model YWHBGL-240W
Remark:



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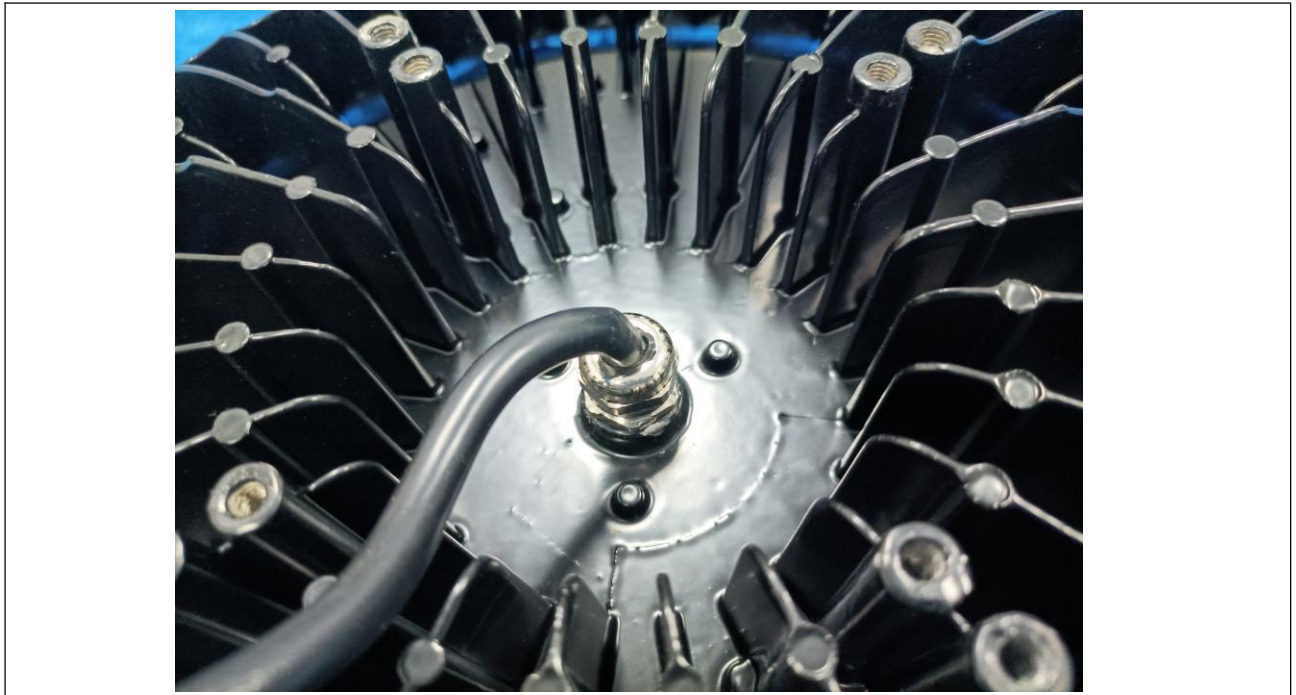
Attachment No.5

Photo Documentation

Details of: Internal view of model YWHBGL-240W
Remark:



Details of: Internal view of model YWHBGL-240W
Remark:



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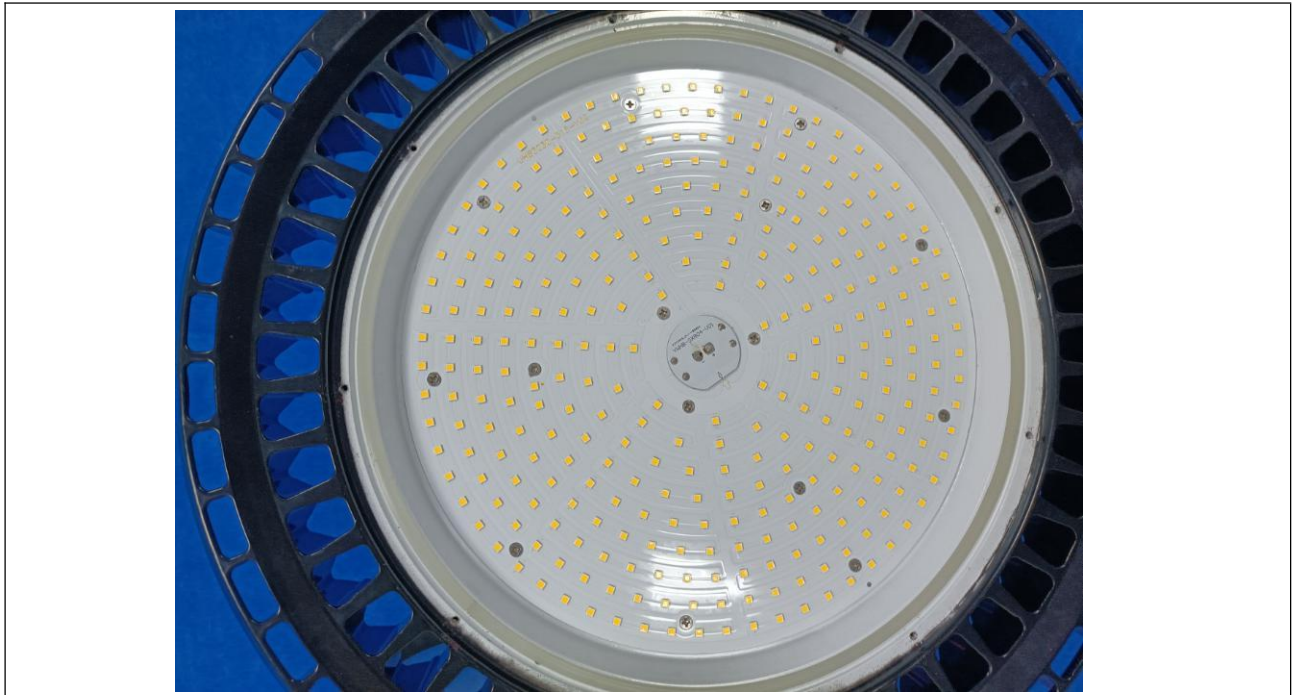
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Photo Documentation

Details of: Internal view of model YWHBGL-240W
Remark:



Details of: Internal view of model YWHBGL-240W
Remark:



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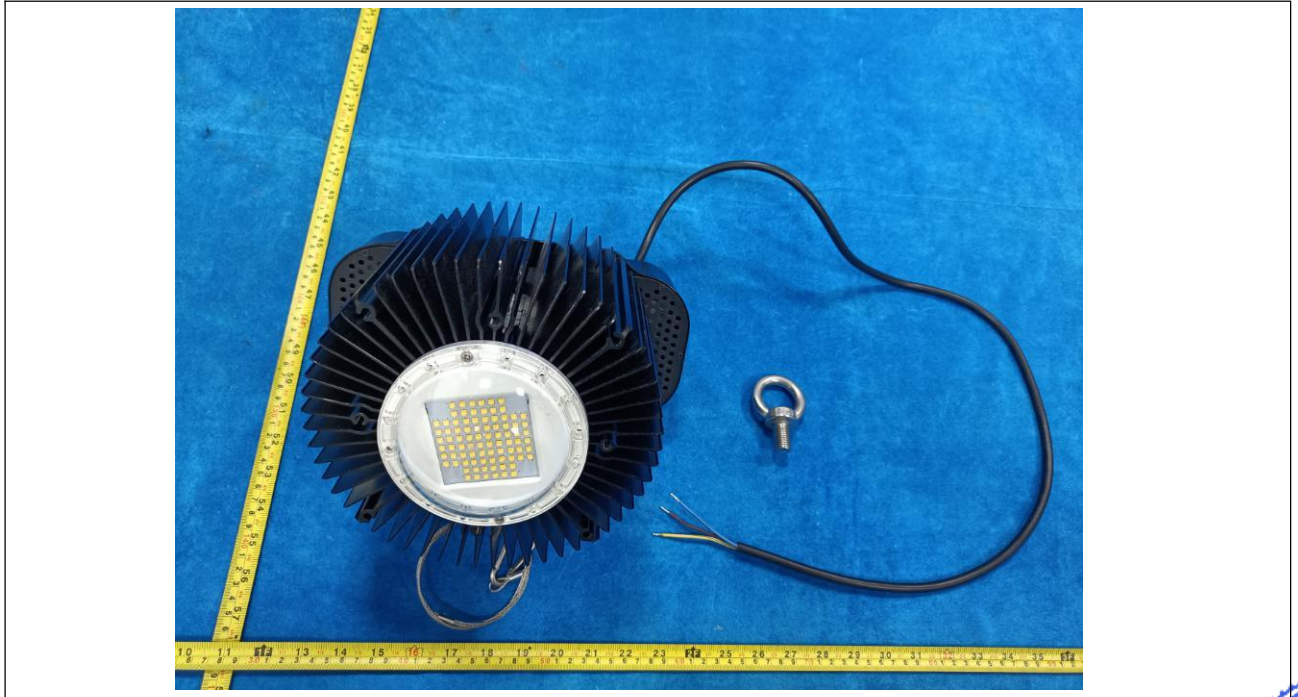


Attachment No.5

Photo Documentation

Details of: Overview of model YWHBFM-200W

Remark:



Details of: Overview of model YWHBFM-200W

Remark:



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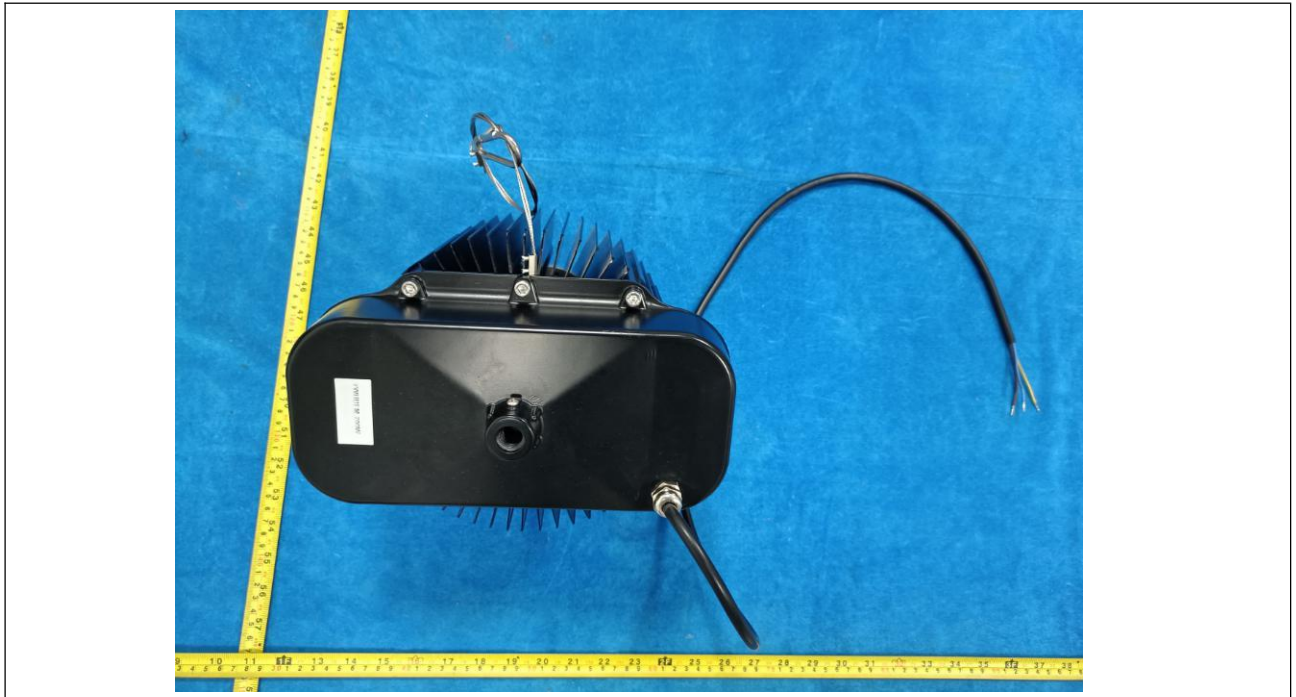


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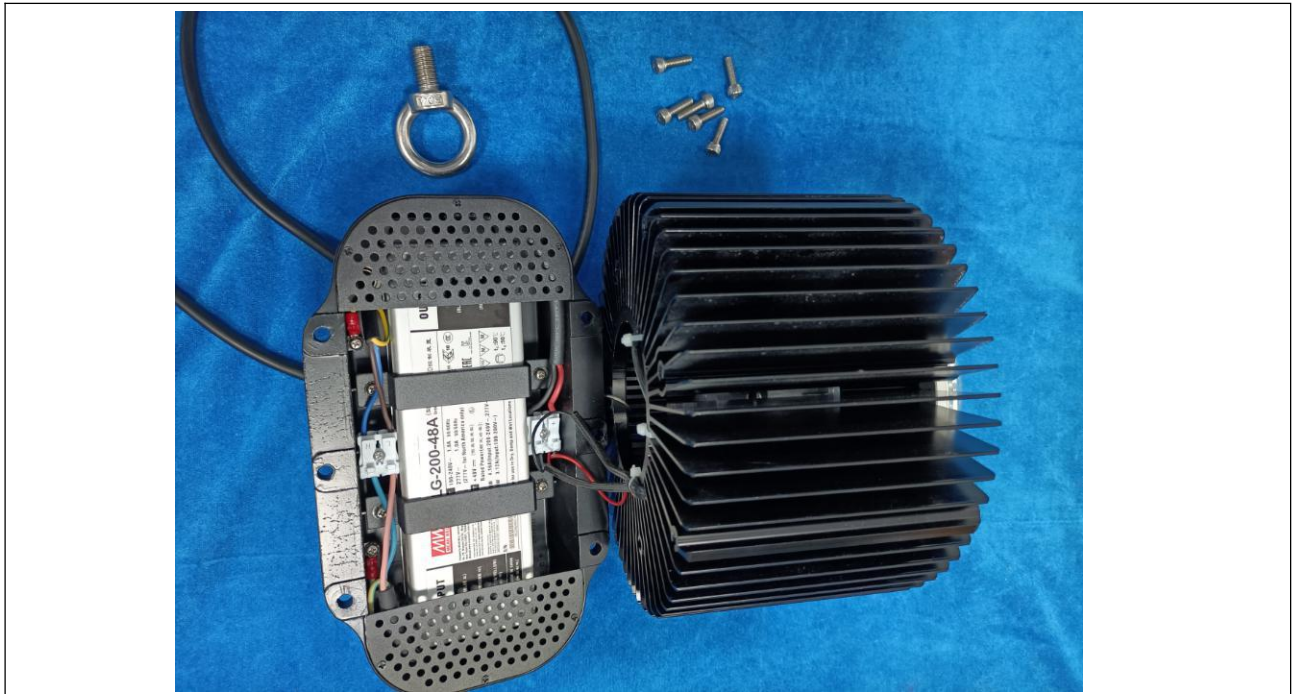
Details of: Over view of model YWHBFM-200W

Remark:



Details of: Internal view of model YWHBFM-200W

Remark:



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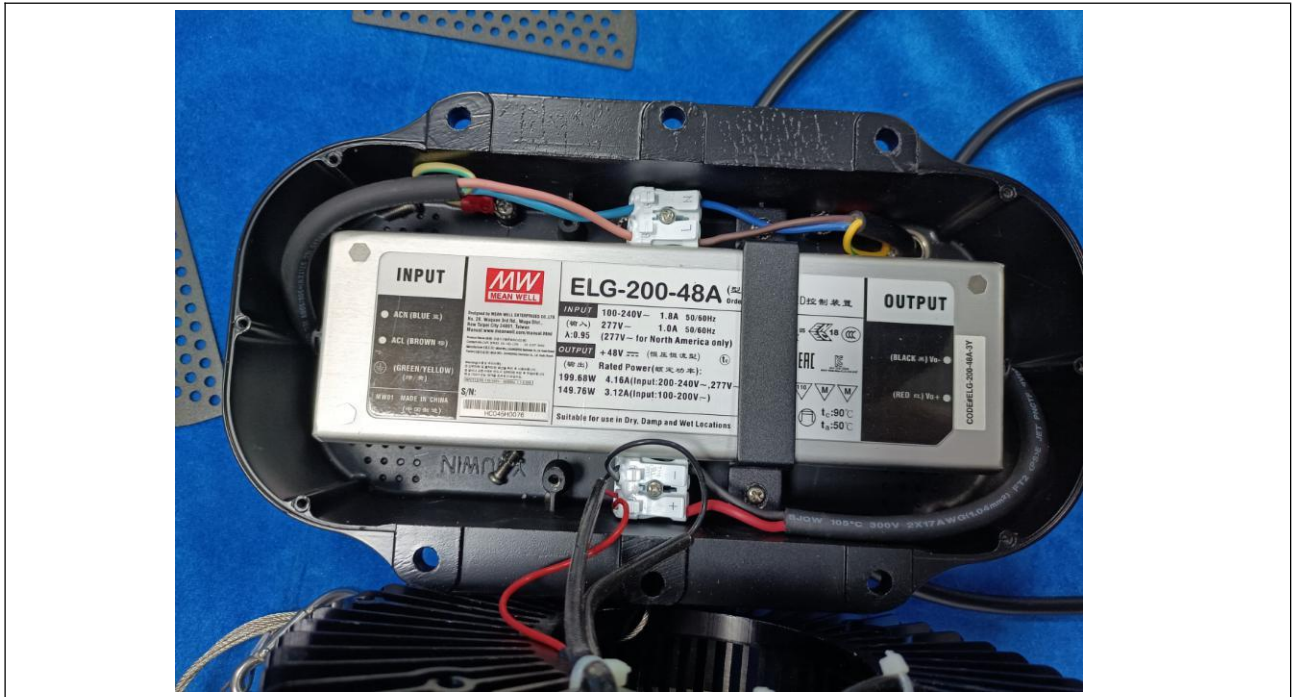


Attachment No.5

Photo Documentation

Details of: Internal view of model YWHBFM-200W

Remark:



Details of: Internal view of model YWHBFM-200W

Remark:



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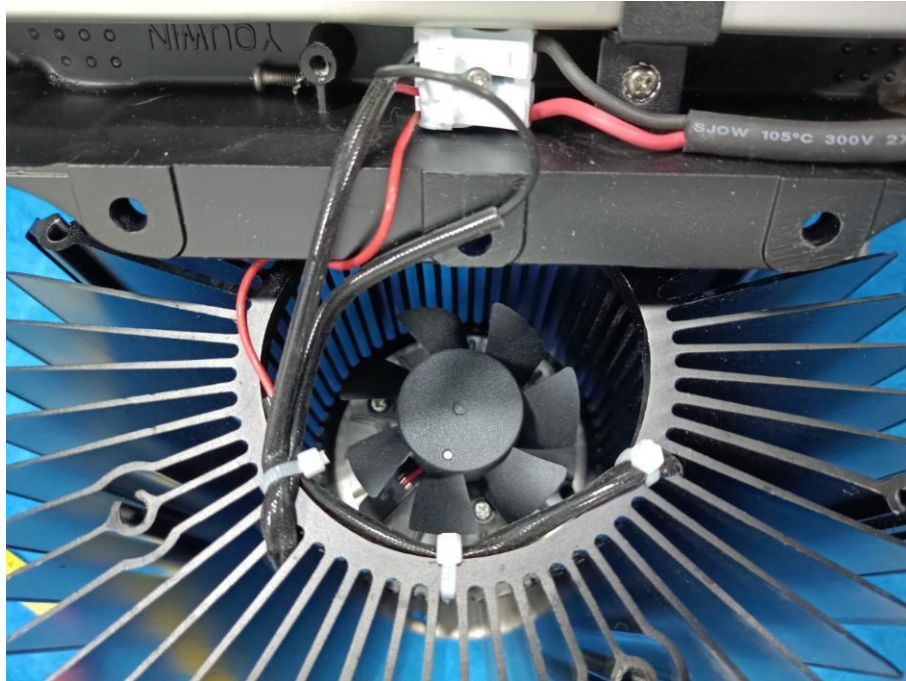


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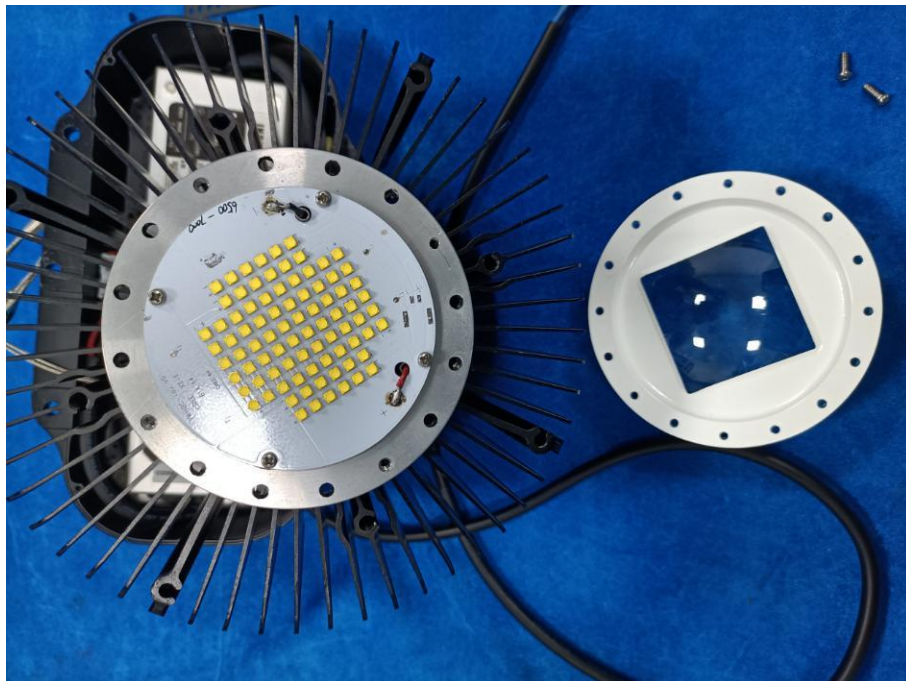
Details of: Internal view of model YWHBFM-200W

Remark:



Details of: Internal view of model YWHBFM-200W

Remark:



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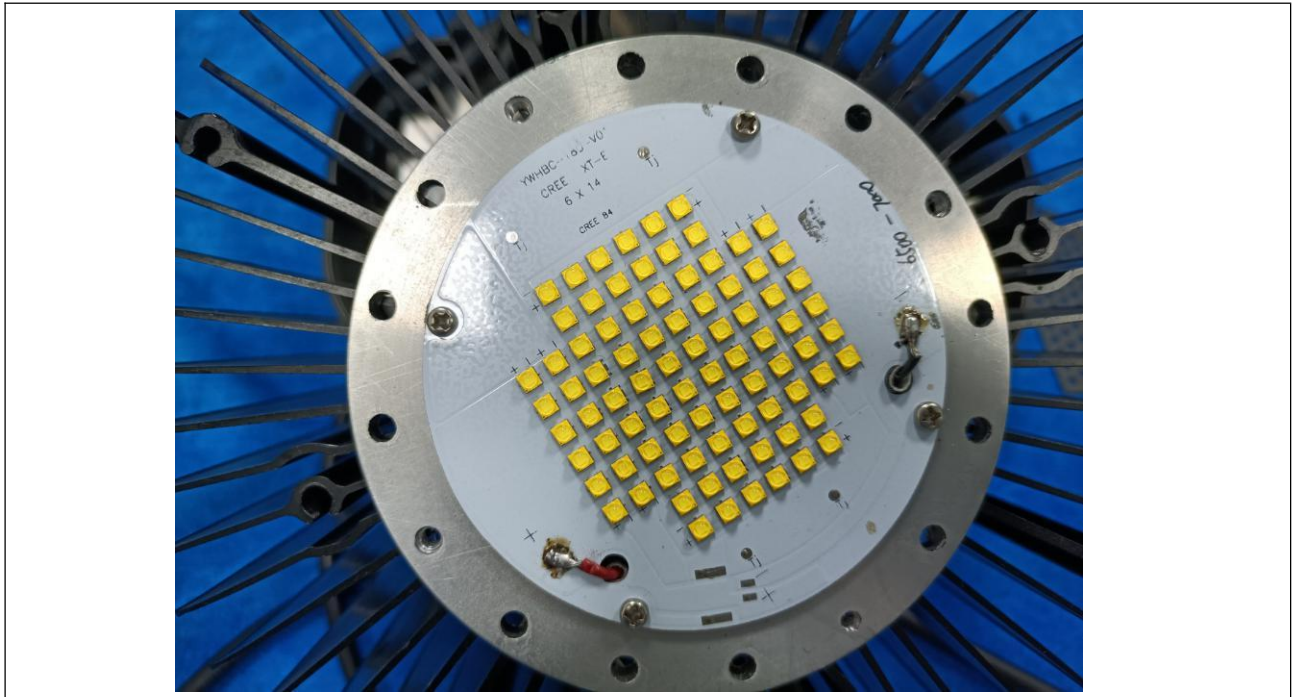


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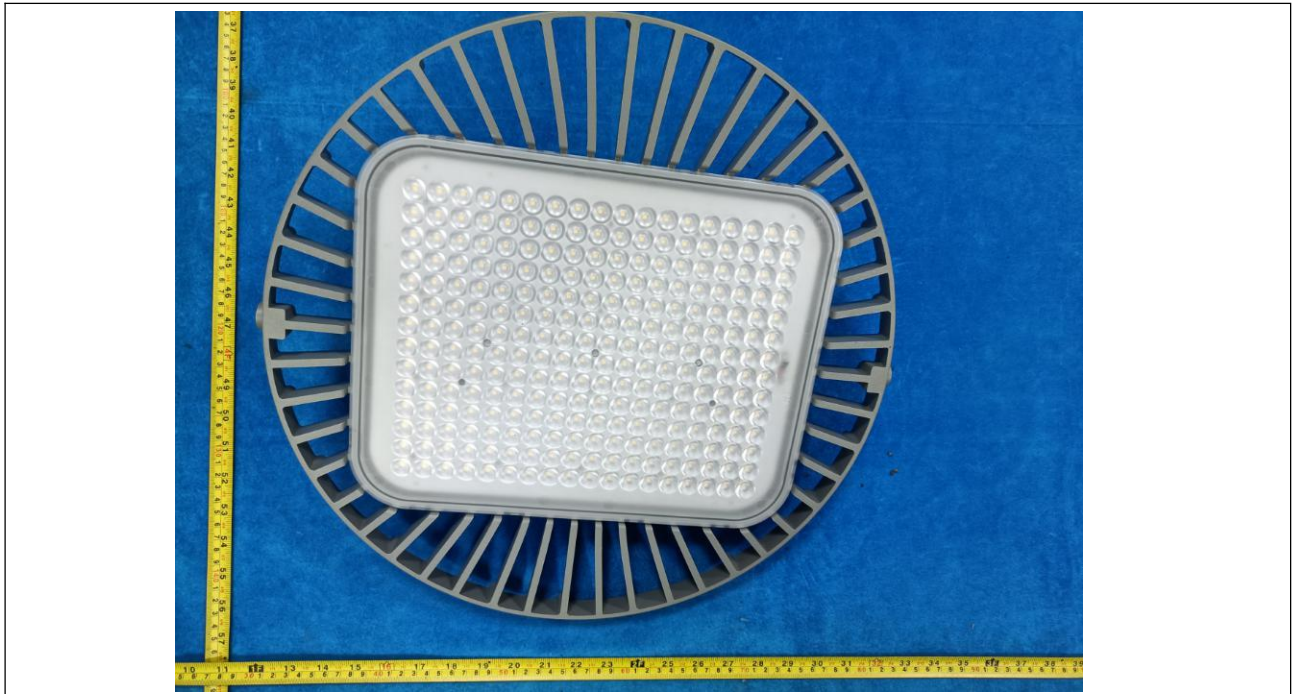
Details of: Internal view of model YWHBFM-200W

Remark:



Details of: Over view of model YWHBHF-200W

Remark:



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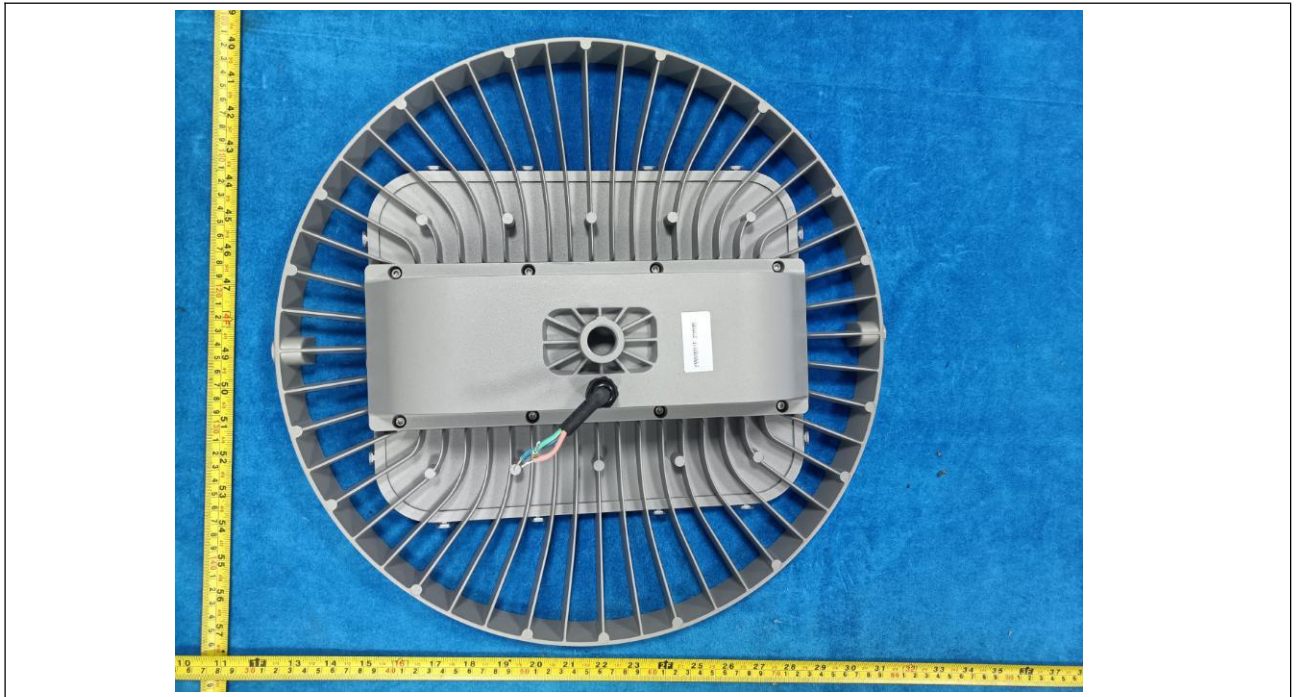


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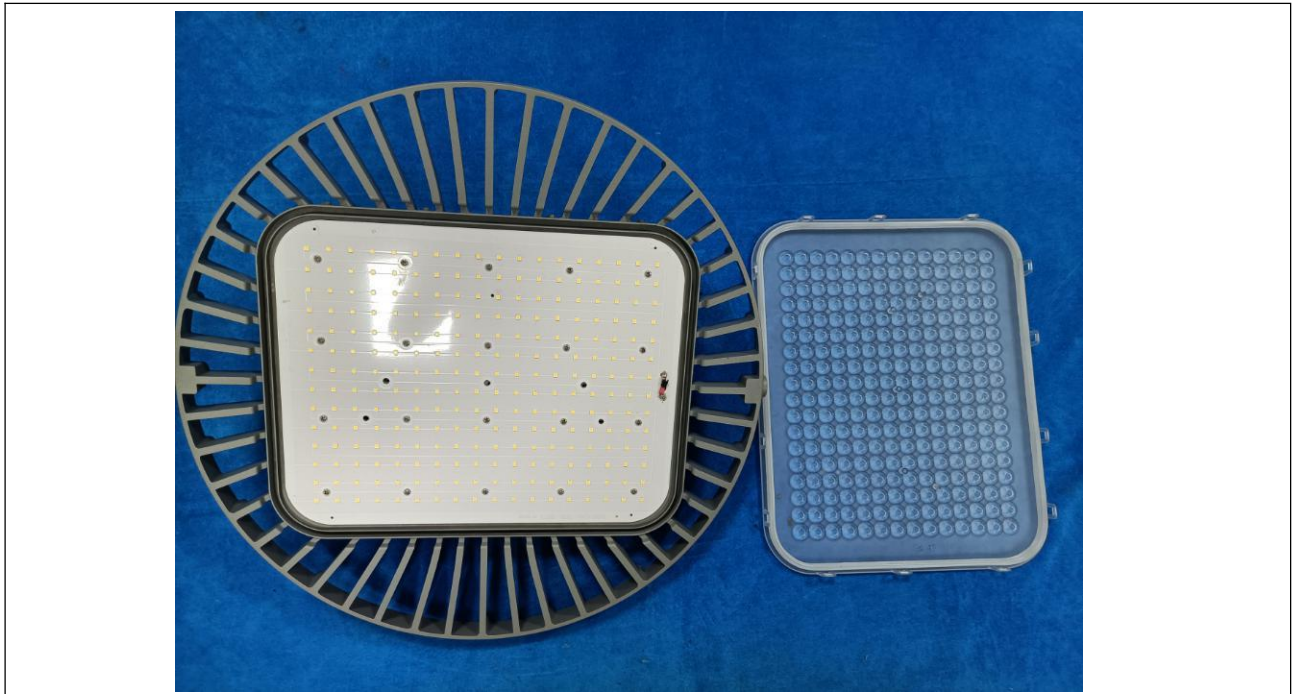
Photo Documentation

Details of: Over view of model YWHBHF-200W

Remark:

Details of: Internal view of model YWHBHF-200W

Remark:



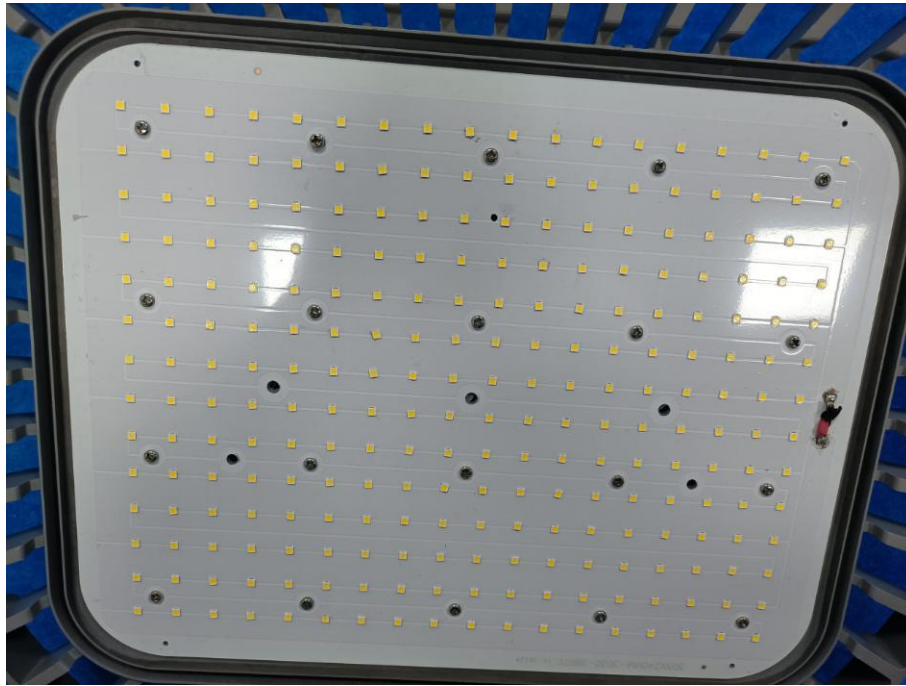
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Photo Documentation

Details of: Internal view of model YWHBHF-200W
Remark:



Details of: Internal view of model YWHBHF-200W
Remark:



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Attachment No.5

Photo Documentation

Details of: Internal view of model YWHBHF-200W
Remark: LED driver



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



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