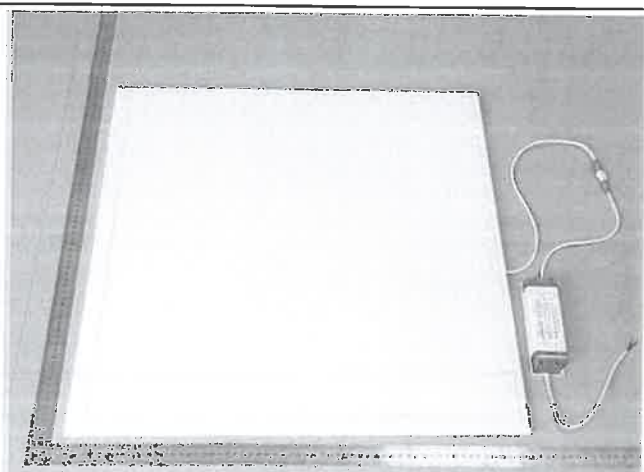


Prüfbericht-Nr.: Test Report No.:	50085533 001	Auftrags-Nr.: Order No.:	164095674	Seite 1 von 67 Page 1 of 67
Kunden-Referenz-Nr.: Client Reference No.:	N/A	Auftragsdatum: Order date:	2017-06-05	
Auftraggeber: Client:	SHENZHEN SGSLIGHT TECHNOLOGY CO., LTD. Area B, 5/F, (Phase 2) Plant Yuexiu Electronic Co., Ltd., Baotian Industrial Park, Xixiang Street Bao'an Dist, Shenzhen, Guangdong P.R. China			
Prüfgegenstand: Test item:	LED Panel Light			
Bezeichnung / Typ-Nr.: Identification / Type No.:	See pages 6 to 7			
Auftrags-Inhalt: Order content:	LVD CoC			
Prüfgrundlage: Test specification:	EN 60598-2-2:2012 EN 60598-1:2015 EN 62493:2010 EN 62471:2008			
Wareneingangsdatum: Date of receipt:	2017-06-05			
Prüfmuster-Nr.: Test sample No.:	A000560820			
Prüfzeitraum: Testing period:	2017-06-05 to 2017-07-25			
Ort der Prüfung: Place of testing:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
2017-08-16 Datum Date	Phill Liu / Engineer Name / Stellung Name / Position		2017-08-16 Datum Date	Jack Li / Technical Certifier Name / Stellung Name / Position
	Unterschrift Signature			 Unterschrift Signature
Sonstiges / Other:				
1. This report is for issuing LVD CoC for LED Panel Light mentioned above. 2. Attachment: Equipment list. 3. EMF refer to test report 50092340 001.				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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

Report Number: See cover page

Date of issue: See cover page

Total number of pages: See cover page

Name of Testing Laboratory preparing the Report.....: TÜV Rheinland (Shenzhen) Co., Ltd.

Applicant's name.....: See cover page

Address: See cover page

Test specification:

Standard: IEC 60598-2-2 (ed.3) used in conjunction with IEC 60598-1 (ed.8)

Test procedure: LVD CoC

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

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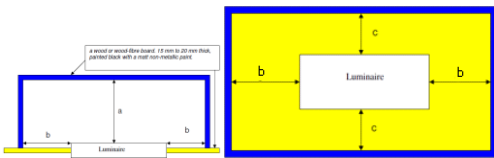
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General disclaimer:

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 : Trade Mark : Manufacturer : Model/Type reference : Ratings :	LED Panel Light SGSLIGHT Same as the applicant See model list See general product information																																
List of Attachments (including a total number of pages in each attachment): 14 pages photo document embedded in this report.																																	
Summary of testing:																																	
Tests performed (name of test and test clause): <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Clause(s)</th> <th style="text-align: left;">Test(s)</th> </tr> </thead> <tbody> <tr> <td colspan="2">IEC 60598-1:2014</td> </tr> <tr> <td colspan="2">IEC 60598-2-1:1979+A1</td> </tr> <tr> <td colspan="2">IEC 60598-2-2:2011</td> </tr> <tr> <td>3</td> <td>Rubbing test</td> </tr> <tr> <td>4</td> <td>Construction</td> </tr> <tr> <td>5</td> <td>Pull and torque tests on cord anchorage</td> </tr> <tr> <td>8</td> <td>Protection against electric shock</td> </tr> <tr> <td>9</td> <td>Humidity test</td> </tr> <tr> <td>10</td> <td>Insulation resistance and electric strength, touch current and protective conductor current</td> </tr> <tr> <td>12</td> <td>Endurance test and Thermal test</td> </tr> <tr> <td>13</td> <td>Resistance to heat, fire and tracking</td> </tr> <tr> <td colspan="2">IEC 62031:2008+A1+A2</td> </tr> <tr> <td>22</td> <td>Blue light hazard</td> </tr> <tr> <td colspan="2">IEC/EN 62471, IEC 62778</td> </tr> <tr> <td>--</td> <td>Photobiological safety</td> </tr> </tbody> </table> Remark 1: During heating test, fix the luminaire to a ceiling, a box as following cover the luminaire, b=c=0cm, a=0 cm.  Remark 2: TLP-6060-48-CW-CCC-2835, TLP-6060-60-CW -2835, TLPD-R12-CW- 2835, TLP-30120-24-CW- 2835, and TLPL-A-300-CW-2835 were selected to perform all test, other models were selected for partial test.	Clause(s)	Test(s)	IEC 60598-1:2014		IEC 60598-2-1:1979+A1		IEC 60598-2-2:2011		3	Rubbing test	4	Construction	5	Pull and torque tests on cord anchorage	8	Protection against electric shock	9	Humidity test	10	Insulation resistance and electric strength, touch current and protective conductor current	12	Endurance test and Thermal test	13	Resistance to heat, fire and tracking	IEC 62031:2008+A1+A2		22	Blue light hazard	IEC/EN 62471, IEC 62778		--	Photobiological safety	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
Clause(s)	Test(s)																																
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--	Photobiological safety																																

Summary of compliance with National Differences:
List of countries addressed

DE=Germany

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

Below label on Panel Light



Below label could be placed on product packaging



Below on connecting leads conductor



Below information to be provided on packaging

Terminal block not included. Installation may require advice from a qualified person

Note:

-Above labels are only representative, other model labels have the same design, except model name and rating are different correspondingly.

Test item particulars.....:	
Classification of installation and use.....: Recessed luminaires	
Supply Connection Supply cords	
.....:	
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 See cover page	
Date (s) of performance of tests See cover page	
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 IEC 60598-1:	
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) LED Panel Lighting Co., Ltd. 7 Floor, Jinchangda Industrial Park, Zhangkengjing, Guanlan Street, Longhua District, Shenzhen City, Guangdong Prov. P.R. China	
General product information: Product: LED Panel Light, Class II, ta=40°C, IP20, suitable for mounting on normal flammable surface 1. Models have the same mechanical and electrical construction, but dimension, quantities of LED chip and LED driver are different. 2. The LED panel light is powered by approved LED driver which is connected to the LED panel Light through a connector. 3. There are three kinds of LED chip.	

Model list:

Model No.	Ratings	Size (mm)	LED qty. (pcs)	LED driver
TLP-3030-12-YY-XXXX	200-240Vac, 50/60Hz, 12W	300x300	48	WP-CE24-40-0.6A
TLP-3030-YY-XXXX	200-240Vac, 50/60Hz, 18W	300x300	48	WP-CE24-40-0.6A
TLP-1560-12-YY-XXXX	200-240Vac, 50/60Hz, 12W	150x600	108	WP-CE24-40-0.6A
TLP-1560-YY-XXXX	200-240Vac, 50/60Hz, 18W	150x600	108	WP-CE24-40-0.6A
TLP-2060-12-YY-XXXX	200-240Vac, 50/60Hz, 12W	200x600	108	WP-CE24-40-0.6A
TLP-2060-YY-XXXX	200-240Vac, 50/60Hz, 18W	200x600	108	WP-CE24-40-0.6A
TLP-3060-YY-XXXX	200-240Vac, 50/60Hz, 18W	300x600	108	WP-CE24-40-0.6A
TLP-3060-40-YY-XXXX	200-240Vac, 50/60Hz, 40W	300x600	108	WP-CE42-40-1.1A
TLP-3162-YY-XXXX	200-240Vac, 50/60Hz, 18W	310x620	108	WP-CE24-40-0.6A
TLP-3162-40-YY-XXXX	200-240Vac, 50/60Hz, 40W	310x620	108	WP-CE42-40-1.1A
TLP-6060-26-YY-XXXX	200-240Vac, 50/60Hz, 26W	600x600	108	WP-CE42-40-1.1A
TLP-6060-30-YY-XXXX	200-240Vac, 50/60Hz, 30W	600x600	108	WP-CE42-40-1.1A
TLP-6060-36-YY-XXXX	200-240Vac, 50/60Hz, 36W	600x600	108	WP-CE42-40-1.1A
TLP-6060-YY-XXXX	200-240Vac, 50/60Hz, 40W	600x600	108	WP-CE42-40-1.1A
TLP-6060-45-YY-XXXX	200-240Vac, 50/60Hz, 45W	600x600	108	WP-CE42-40-1.1A
TLP-6060-48-YY-XXXX	200-240Vac, 50/60Hz, 48W	600x600	108	WP-CE42-40-1.1A
TLP-6060-60-YY-XXXX	200-240Vac, 50/60Hz, 60W	600x600	216	WP-CE60-40-1.5A
TLP-6060-30B-YY-XXXX	200-240Vac, 50/60Hz, 30W	600x600	144	WP-CE42-40-1.1A
TLP-6060-36B-YY-XXXX	200-240Vac, 50/60Hz, 36W	600x600	168	WP-CE42-40-1.1A
TLP-6060-40B-YY-XXXX	200-240Vac, 50/60Hz, 40W	600x600	192	WP-CE42-40-1.1A
TLP-6262-26-YY-XXXX	200-240Vac, 50/60Hz, 26W	620x620	108	WP-CE42-40-1.1A
TLP-6262-36-YY-XXXX	200-240Vac, 50/60Hz, 36W	620x620	108	WP-CE42-40-1.1A
TLP-6262-YY-XXXX	200-240Vac, 50/60Hz, 40W	620x620	108	WP-CE42-40-1.1A
TLP-6262-45-YY-XXXX	200-240Vac, 50/60Hz, 45W	620x620	108	WP-CE42-40-1.1A
TLP-6262-48-YY-XXXX	200-240Vac, 50/60Hz, 48W	620x620	108	WP-CE42-40-1.1A
TLP-6767-45-YY-XXXX	200-240Vac, 50/60Hz, 45W	620x620	144	WP-CE42-40-1.1A
TLP-6767-55-YY-XXXX	200-240Vac, 50/60Hz, 60W	620x620	288	WP-CE60-40-1.5A
TLP-10120-18-YY-XXXX	200-240Vac, 50/60Hz, 18W	100x1200	108	WP-CE24-40-0.6A
TLP-10120-YY-XXXX	200-240Vac, 50/60Hz, 40W	100x1200	108	WP-CE42-40-1.1A
TLP-15120-18-YY-XXXX	200-240Vac, 50/60Hz, 18W	150x1200	108	WP-CE24-40-0.6A
TLP-15120-YY-XXXX	200-240Vac, 50/60Hz, 40W	150x1200	108	WP-CE42-40-1.1A
TLP-20120-18-YY-XXXX	200-240Vac, 50/60Hz, 18W	200x1200	216	WP-CE24-40-0.6A
TLP-20120-YY-XXXX	200-240Vac, 50/60Hz, 40W	200x1200	216	WP-CE42-40-1.1A
TLPD-R12-YY-XXXX	200-240Vac, 50/60Hz, 24W	Φ300	120	WP-CE24-40-0.6A
TLP-30120-36-YY-XXXX	200-240Vac, 50/60Hz, 36W	300x1200	216	WP-CE42-40-1.1A
TLP-30120-YY-XXXX	200-240Vac, 50/60Hz, 40W	300x1200	216	WP-CE42-40-1.1A
TLP-30120-46-YY-XXXX	200-240Vac, 50/60Hz, 46W	300x1200	216	WP-CE42-40-1.1A
TLP-30120-60-YY-XXXX	200-240Vac, 50/60Hz, 60W	300x1200	216	WP-CE60-40-1.5A
TLP-60120-40-YY-XXXX	200-240Vac, 50/60Hz, 40W	600x1200	216	WP-CE42-40-1.1A
TLP-60120-YY-XXXX	200-240Vac, 50/60Hz, 48W	600x1200	216	WP-CE42-40-1.1A
TLP-60120-54-YY-XXXX	200-240Vac, 50/60Hz, 54W	600x1200	216	WP-CE60-40-1.5A
TLP-60120-60-YY-XXXX	200-240Vac, 50/60Hz, 60W	600x1200	216	WP-CE60-40-1.5A
TLP-62124-60-YY-XXXX	200-240Vac, 50/60Hz, 60W	620x1240	216	WP-CE42-40-1.1A
TLP-62124-40-YY-XXXX	200-240Vac, 50/60Hz, 40W	620x1240	216	WP-CE42-40-1.1A
TLP-62124-YY-XXXX	200-240Vac, 50/60Hz, 48W	620x1240	216	WP-CE42-40-1.1A
TLP-15150-YY-XXXX	200-240Vac, 50/60Hz, 40W	150x1500	216	WP-CE42-40-1.1A
TLP-30150-40-YY-XXXX	200-240Vac, 50/60Hz, 40W	300x1500	264	WP-CE42-40-1.1A
TLP-30150-48-YY-XXXX	200-240Vac, 50/60Hz, 48W	300x1500	264	WP-CE42-40-1.1A

TLP-30150-YY-XXXX	200-240Vac, 50/60Hz, 60W	300x1500	264	WP-CE60-40-1.5A
TLP-60150-YY-XXXX	200-240Vac, 50/60Hz, 60W	600x1500	264	WP-CE60-40-1.5A
TLP-9090-YY-XXXX	200-240Vac, 50/60Hz, 60W	900x900	432	WP-CE60-40-1.5A
TLPD-R7-YY-XXXX	200-240Vac, 50/60Hz, 12W	Φ170	60	WP-CE24-40-0.6A
TLPD-R8-YY-XXXX	200-240Vac, 50/60Hz, 15W	Φ200	72	WP-CE24-40-0.6A
TLPD-R9-YY-XXXX	200-240Vac, 50/60Hz, 18W	Φ225	84	WP-CE24-40-0.6A
TLPD-S12-YY-XXXX	200-240Vac, 50/60Hz, 24W	300x300	120	WP-CE24-40-0.6A
TLPD-R15-YY-XXXX	200-240Vac, 50/60Hz, 30W	Φ390	180	WP-CE42-40-1.1A
TLPD-R16-YY-XXXX	200-240Vac, 50/60Hz, 30W	Φ400	144	WP-CE42-40-1.1A
TLPD-R20-YY-XXXX	200-240Vac, 50/60Hz, 36W	Φ500	180	WP-CE42-40-1.1A
TLPD-R24-YY-XXXX	200-240Vac, 50/60Hz, 42W	Φ600	240	WP-CE42-40-1.1A
TLPD-S7-YY-XXXX	200-240Vac, 50/60Hz, 12W	170x170	60	WP-CE24-40-0.6A
TLPD-S8-YY-XXXX	200-240Vac, 50/60Hz, 15W	200x200	72	WP-CE24-40-0.6A
TLPD-S9-YY-XXXX	200-240Vac, 50/60Hz, 18W	225x225	84	WP-CE24-40-0.6A
TLPD-MT-S12-YY-XXXX	200-240Vac, 50/60Hz, 24W	300x300	120	WP-CE24-40-0.6A
TLPD-S4040-YY-XXXX	200-240Vac, 50/60Hz, 30W	Φ400	144	WP-CE42-40-1.1A
TLPD-S5050-YY-XXXX	200-240Vac, 50/60Hz, 36W	Φ500	180	WP-CE42-40-1.1A
TLPD-S6060-YY-XXXX	200-240Vac, 50/60Hz, 42W	Φ600	240	WP-CE42-40-1.1A
TLPD-MT-R7-YY-XXXX	200-240Vac, 50/60Hz, 12W	Φ170	60	WP-CE24-40-0.6A
TLPD-MT-R9-YY-XXXX	200-240Vac, 50/60Hz, 18W	Φ225	84	WP-CE24-40-0.6A
TLP-30120-24-YY-XXXX	200-240Vac, 50/60Hz, 24W	300x1200	216	WP-CE24-40-0.6A
TLPD-MT-S7-YY-XXXX	200-240Vac, 50/60Hz, 12W	170x170	60	WP-CE24-40-0.6A
TLPD-MT-S9-YY-XXXX	200-240Vac, 50/60Hz, 18W	225x225	84	WP-CE24-40-0.6A
TLPD-MT-R12-YY-XXXX	200-240Vac, 50/60Hz, 24W	Φ300	120	WP-CE24-40-0.6A
TLPD-MT-R16-YY-XXXX	200-240Vac, 50/60Hz, 30W	Φ400	144	WP-CE42-40-1.1A
TLPD-MT-S4040-YY-XXXX	200-240Vac, 50/60Hz, 30W	Φ400	144	WP-CE42-40-1.1A
TLPD-MT-R20-YY-XXXX	200-240Vac, 50/60Hz, 36W	Φ500	180	WP-CE42-40-1.1A
TLPD-MT-S5050-YY-XXXX	200-240Vac, 50/60Hz, 36W	Φ500	180	WP-CE42-40-1.1A
TLPD-MT-R24-YY-XXXX	200-240Vac, 50/60Hz, 42W	Φ600	240	WP-CE42-40-1.1A
TLPD-MT-S6060-YY-XXXX	200-240Vac, 50/60Hz, 42W	Φ600	240	WP-CE42-40-1.1A
TLPL-OPF-60YY-XXXX	200-240Vac, 50/60Hz, 18W	600x100	108	WP-CE24-40-0.6A
TLPL-OPF-90YY-XXXX	200-240Vac, 50/60Hz, 32W	900x100	108	WP-CE42-40-1.1A
TLPL-OPF-120YY-XXXX	200-240Vac, 50/60Hz, 40W	1100x100	216	WP-CE42-40-1.1A
TLPL-OPF-150YY-XXXX	200-240Vac, 50/60Hz, 46W	1500x100	216	WP-CE42-40-1.1A
TLPL-FLY-60YY-XXXX	200-240Vac, 50/60Hz, 18W	600x200	108	WP-CE24-40-0.6A
TLPL-FLY-90YY-XXXX	200-240Vac, 50/60Hz, 32W	900x200	108	WP-CE42-40-1.1A
TLPL-FLY-120YY-XXXX	200-240Vac, 50/60Hz, 40W	1200x200	216	WP-CE42-40-1.1A
TLPL-FLY-150YY-XXXX	200-240Vac, 50/60Hz, 46W	1500x200	216	WP-CE42-40-1.1A
TLPL-A-60-YY-XXXX	200-240Vac, 50/60Hz, 18W	600x300	108	WP-CE24-40-0.6A
TLPL-A-90-YY-XXXX	200-240Vac, 50/60Hz, 32W	900x300	108	WP-CE42-40-1.1A
TLPL-A-120-36-YY-XXXX	200-240Vac, 50/60Hz, 36W	1200x300	216	WP-CE42-40-1.1A
TLPL-A-120-YY-XXXX	200-240Vac, 50/60Hz, 40W	1200x300	216	WP-CE42-40-1.1A
TLPL-A-150-YY-XXXX	200-240Vac, 50/60Hz, 46W	1500x300	216	WP-CE42-40-1.1A
TLPL-A-200-YY-XXXX	200-240Vac, 50/60Hz, 50W	2000x300	216	WP-CE60-40-1.5A
TLPL-A-240-YY-XXXX	200-240Vac, 50/60Hz, 55W	2400x300	216	WP-CE60-40-1.5A
TLPL-A-300-YY-XXXX	200-240Vac, 50/60Hz, 60W	3000x300	216	WP-CE60-40-1.5A
BT-6060	200-240Vac, 50/60Hz, 40W	600x600	108	WP-CE42-40-1.1A
TT-6060	200-240Vac, 50/60Hz, 40W	600x600	108	WP-CE42-40-1.1A
RT-6060	200-240Vac, 50/60Hz, 40W	600x600	108	WP-CE42-40-1.1A

Note: YY represent CCT. YY=WW, NW or CW.

XXXX represent LED type XXXX=2835, 4014 or 5630.

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 II	P
2.5 (2.3)	Degree of protection	IP20	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	On the enclosure	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		P
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		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
2.6 (3.3.14)	Symbol for nature of supply		N/A
2.6 (3.3.15)	Rated current of socket outlet		N/A
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		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 replaceable light sources	P
	Cautionary symbol		N/A
2.6 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
2.6 (3.4)	Test with water	15 s	P
	Test with hexane	15 s	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)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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		N/A
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	Screwless terminal and soldered connection	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
	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		P
2.7 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
2.7 (4.10.2)	Assembly gaps:		P
	- not coincidental		N/A
	- no straight access with test probe		P
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	Approve LED driver used	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

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Clause	Requirement + Test	Result - Remark	Verdict
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:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
2.7 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
2.7 (4.11.4)	Material of current-carrying parts		P
2.7 (4.11.5)	No contact to wood or mounting surface		P
2.7 (4.11.6)	Electro-mechanical contact systems		P
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..... :	For TLP-6060-48-CW- 2835 TLP-6060-60-CW- 2835 TLP-30120-24-CW- 2835 Screw for fixing enclosure:3,82mm, 1,2Nm Screw for fixing mounting clip enclosure:3,82mm, 1,2Nm	P
	Torque test: torque (Nm); part..... :	For TLPD-R12-CW-2835 TLPL-A-300-CW-2835 Screw for fixing enclosure:2,84mm, 0,5Nm Screw for fixing mounting clip enclosure:3,82mm, 1,2Nm	P
	Torque test: torque (Nm); part..... :		N/A
2.7 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
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)..... :		N/A
2.7 (4.13)	Mechanical strength		P
2.7 (4.13.1)	Impact tests:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- fragile parts; energy (Nm)		N/A
	- other parts; energy (Nm)	For all enclosure:0,35 Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
2.7 (4.13.3)	Straight test finger		P
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	TLP-6060-48-CW-2835 3,250kg×4=13,0 kg TLP-6060-60-CW-2835 3,287kg×4=13,148 kg TLPD-R12-CW-2835 0,346kg×4=1,384 kg TLP-30120-24-CW-2835 3,191kg×4=12,764 kg TLPL-A-300-CW-2835 0,858kg×4=3,432 kg	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
2.7 (4.14.2)	Load to flexible cables		N/A
	Mass (kg)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Stress in conductors (N/mm ²)		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
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
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		N/A
2.7 (4.19)	Igniters 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		N/A
	Class of risk group assessed according to IEC/TR 62778	RG0	—
	Luminaires with E_{thr} :		N/A
	a) Fixed luminaires		N/A
	- distance x m, borderline between RG1 and RG2 .. :		N/A
	- marking and instruction according 3.2.23		N/A
	b) Portable and handheld luminaires		N/A
	- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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		P
	Not possible to replace light source		P
	Live part not accessible after parts have been opened by hand or tools		P
2.7 (4.30)	Luminaires with non-user replaceable light source		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If protective cover provide protection against electric shock and marked with "caution, electric shock risk" symbol:		N/A
	Minimum two fixing means		N/A
2.7 (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		P
2.7 (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
	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 $\leq$ 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

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Clause	Requirement + Test	Result - Remark	Verdict
2.7 (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		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)	
	Impulse withstand category (Normal category II) (Category III Annex U, Table U.1)	Category II ☒ Category III ☐	—

2.9 (7)	PROVISION FOR EARTHING		N/A
2.9 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω..... :		N/A
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		N/A
	Earth makes contact first		N/A
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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		N/A
	Contact surface bare metal		N/A
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		N/A
	Length of earth conductor		N/A
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		P
	Separately approved; component list..... :	(see Annex 1)	N/A
	Part of the luminaire :	(see Annex 4)	P
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 :		N/A
	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 :		N/A
	Nominal cross-sectional area (mm ²) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Cables equal to IEC 60227 or IEC 60245		N/A
2.11 (5.2.3)	Type of attachment, X, Y or Z		N/A
2.11 (5.2.5)	Type Z not connected to screws		N/A
2.11 (5.2.6)	Cable entries:		N/A
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
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:		N/A
	- covering protected from abrasion		N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A
	- no tying of cables into knots etc.		N/A
	- 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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.11 (5.2.10.3)	Tests:		N/A
	- impossible to push cable; unsafe		N/A
	- pull test: 25 times; pull (N) :		N/A
	- torque test: torque (Nm) :		N/A
	- displacement ≤ 2 mm		N/A
	- no movement of conductors		N/A
	- no damage of cable or cord		N/A
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict
	- socket outlet loaded (A)		N/A
	- temperatures	(see Annex 2)	P
	Green-yellow for earth only		N/A
2.11 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²).....	0,75 mm ²	P
	Insulation thickness		P
	Extra insulation added where necessary		N/A
2.11 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Adequate cross-sectional area and insulation thickness		P
2.11 (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		P
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		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	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
2.12 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
2.12 (8.2.3.a)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		P
	- 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:		P
	Ordinary luminaire:		N/A
	- voltage under load (V)..... :		N/A
	- no-load voltage (V)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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		P
	Class III luminaire not provided with means for protective earthing		P
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		P
2.12 (8.2.7)	Luminaire other than below with capacitor > 0,5 μ F not exceed 50 V 1 min after disconnection	Approved LED driver used	P
	Portable luminaire with capacitor > 0,1 μ F (0.25) not exceed 34 V 1 s after disconnection		N/A
	Other luminaires with capacitor > 0,1 μ F (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection		N/A
2.12 (-)	Parts within the ceiling space provide same degree of protection against electric shock as parts below the ceiling 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.....	Mounting according to the suggestion of manufacturer	—
	- test temperature (°C)	50°C	—
	- total duration (h)	240	—
	- supply voltage: Un factor; calculated voltage (V)...	264	—
	- lamp used.....	Integral LED module	—
2.13 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		N/A
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
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
2.14 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP20	—
	- mounting position during test..... :	Mounting as normal use	—
	- fixing screws tightened; torque (Nm)..... :	N/A	—
	- tests according to clauses..... :	Clause 9.2.0	—
	- electric strength test afterwards		N/A
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard		N/A
	c.1) For luminaires without drain holes – no water entry		N/A
	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
	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		N/A
2.14 (9.3)	Humidity test 48 h	48h, 25°C, R.H.: 93%	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		P
	- between current-carrying parts of different polarity :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts and mounting surface..... :	Min. $3,71 \times 10^4 \text{ M}\Omega > 1 \text{ M}\Omega$	P
	- between current-carrying parts and metal parts of the luminaire..... :	Min. $3,71 \times 10^4 \text{ M}\Omega > 1 \text{ M}\Omega$	P
	- 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	Approved LED driver	N/A
	- between live parts and mounting surface	Min. $4,65 \times 10^4 \text{ M}\Omega > 4 \text{ M}\Omega$	P
	- between live parts and metal parts	Min. $4,65 \times 10^4 \text{ M}\Omega > 4 \text{ M}\Omega$	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
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		P
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface..... :	500 V	P
	- between current-carrying parts and metal parts of the luminaire..... :	500 V	P
	- 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	Approved LED driver	N/A
	- between live parts and mounting surface	2960 V	P

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Clause	Requirement + Test	Result - Remark	Verdict
	- between live parts and metal parts	2960 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
2.15 (10.3)	Touch current or protective conductor current (mA):	Max.0,07mA<0,7mA peak	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)	N/A
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

2.8 (11.2)	TABLE: Creepage distances and clearances						P
	Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages						P
	Applicable part of IEC 60598-1 Table 11.1* and 11.2*						P
	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	--	See Annex 6	--	--	See Annex 6	--	--
Working voltage (V)					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.

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Clause	Requirement + Test	Result - Remark	Verdict

2.16 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm) :				—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
LED Cover	See Annex 1	107	1,1	
Output connector	See Annex 1	125	0,8	
Supplementary information:				

2.16 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
--	--	--	--	--	--
Supplementary information:					

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
LED Cover	See Annex 1		No	0	P
Output connector	See Annex 1		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) :				No	
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:						

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1 TABLE: Critical components information						--
Object / part No.	Code	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Input wire of LED driver	B	Shenzhen Xiekang Electric Co., Ltd.	H05VVH2-F	2X0,75mm ²	DIN VDE 0281	VDE 40049225
LED driver (See pages 6-7)	B	Shenzhen Wei Peng Shiji Technology Co., Ltd.	WP-CE24-40-0.6A	Input: 200-240VAC, 0,17A, 50/60Hz; Output: 27-38VDC, 0,6A; MAX. 50V ta:40°C tc: 85°C	EN 61347-2-13	TUV R 50309289
LED driver (See pages 6-7)	B	Shenzhen Wei Peng Shiji Technology Co., Ltd.	WP-CE42-40-1.1A	Input: 200-240VAC, 0,28A, 50/60Hz; Output: 30-40VDC, 1.1A; MAX. 50V ta:40°C tc: 85°C	EN 61347-2-13	TUV R 50309289
LED driver (See pages 6-7)	B	Shenzhen Wei Peng Shiji Technology Co., Ltd.	WP-CE60-40-1.5A	Input: 200-240VAC, 0,17A, 50/60Hz; Output: 30-40VDC, 1.5A; MAX 50V ta:40°C tc: 85°C	EN 61347-2-13	TUV R 50309289
Output wire of LED driver	B	DONGGUAN CHENG XING ELECTRONIC CO LTD	2468	80°C, 300Vac	--	UL E249743
Plastic enclosure of connector	B	SABIC INNOVATIVE PLASTICS B V	FR60	PC, 125°C, V-0, min. thickness 0,51mm	--	UL E45329
Metal part of connector	B	Top Optoelectronic Co., Ltd.	T-1	Copper: 60%	--	Tested with appliance
Internal wire	B	DONGGUAN CHENG XING ELECTRONIC CO LTD	2468	80°C, 300Vac	--	UL E249743
LED board	B	SHENZHEN BOMIN ELECTRONIC CO LTD	BM3	Metal base, V-0, 130°C.	--	UL E213371

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Clause	Requirement + Test			Result - Remark		Verdict
LED	C	Shenzhen MTC Lighting Co., Ltd	2835	3,0-3,4V, 90mA, 3750-5000K, White light	--	Test with appliance
LED	C	Shenzhen MTC Lighting Co., Ltd	4014	3,0-3,4V, 65mA, 2700-6500K, White light	--	Test with appliance
LED	C	Shenzhen MTC Lighting Co., Ltd	5630	3,0-3,4V, 180mA, 5000-7500K, White light	--	Test with appliance
LED Cover	B,C	TEIJIN LIMITED RESIN AND PLASTIC	L1250U(#)(f1), L-1250V(#)(f1), L-1250Z(#)(f1)	PC, HB, 115°C	--	UL E50075 Test with appliance
Plastic enclosure	B,C	BAYER MATERIALSCIENCE AG	6485+(f1)	PC, V-0, 125°C	--	UL E41613 Test 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						

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
1/5	Type reference	TLP-6060-48-CW-2835	—
	Lamp used.....	Integrated LED chip	—
	Lamp control gear used.....	Approved LED driver	—
	Mounting position of luminaire	In the black testing box	—
	Supply wattage (W)	42,8W	—
	Supply current (A)	0,174A	—
	Calculated power factor.....	--	—
	Table: measured temperatures corrected for $t_a = 40^\circ\text{C}$:		P
	- abnormal operating mode	Short-circuited output of LED driver(shut down)	—
	- test 1: rated voltage.....	--	—
	- 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	264 V (short circuit LED driver ,shut down temperature low than normal)	—
	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
Tc of LED driver	40	--	55,7 $^\circ\text{C}$	--	85 $^\circ\text{C}$	--	--
Input wire of LED driver	40	--	45,2 $^\circ\text{C}$	--	90 $^\circ\text{C}$	--	--
Output wire of LED driver	40	--	48,6 $^\circ\text{C}$	--	80 $^\circ\text{C}$	--	--
Supporting surface of LED driver	40	--	63,5 $^\circ\text{C}$	--	90 $^\circ\text{C}$	--	--
Connector between LED driver and Lamp board	40	--	40,9 $^\circ\text{C}$	--	Ref.	--	--

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Clause	Requirement + Test				Result - Remark		Verdict
Wire to LED board	40	--	51,3°C	--	80°C	--	--
LED board	40	--	77,2°C	--	130°C	--	--
Lamp cover(inside)	40	--	70,5°C	--	Ref.	--	--
Lamp cover(outside)	40	--	58,3°C	--	Ref.	--	--
Box	40	--	50,4°C		Ref.	--	--
Mounting surface	40	--	51,5°C	--	90°C	--	--
Lighting object(0,1m)	40	--	41,2°C	--	90°C	--	--
Supplementary information:							

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
2/5	Type reference	TLP-6060-60-CW-2835	—
	Lamp used.....	Integrated LED chip	—
	Lamp control gear used.....	Approved LED driver	—
	Mounting position of luminaire	In the black testing box	—
	Supply wattage (W)	55,3W	—
	Supply current (A)	0,228A	—
	Calculated power factor.....	--	—
	Table: measured temperatures corrected for $t_a = 40^\circ\text{C}$:		P
	- abnormal operating mode	Short-circuited output of LED driver(shut down)	—
	- test 1: rated voltage.....	--	—
	- 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	264 V (short circuit LED driver ,shut down temperature low than normal)	—
	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
Tc of LED driver	40	--	62,3 $^\circ\text{C}$	--	85 $^\circ\text{C}$	--	--
Input wire of LED driver	40	--	43,1 $^\circ\text{C}$	--	90 $^\circ\text{C}$	--	--
Output wire of LED driver	40	--	55,4 $^\circ\text{C}$	--	80 $^\circ\text{C}$	--	--
Supporting surface of LED driver	40	--	67,4 $^\circ\text{C}$	--	90 $^\circ\text{C}$	--	--
Connector between LED driver and Lamp board	40	--	41,4 $^\circ\text{C}$	--	Ref.	--	--

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Clause	Requirement + Test			Result - Remark			Verdict
Wire to LED board	40	--	58,6°C	--	80°C	--	--
LED board	40	--	62,3°C	--	130°C	--	--
Lamp cover(inside)	40	--	65,4°C	--	Ref.	--	--
Lamp cover(outside)	40	--	59,2°C	--	Ref.	--	--
Box	40	--	50,5°C		Ref.	--	--
Mounting surface	40	--	50,8°C	--	90°C	--	--
Lighting object(0,1m)	40	--	41,3°C	--	90°C	--	--
Supplementary information:							

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
3/5	Type reference	TLPD-R12-CW-2835	—
	Lamp used.....	Integrated LED chip	—
	Lamp control gear used.....	Approved LED driver	—
	Mounting position of luminaire	In the black testing box	—
	Supply wattage (W)	24,1W	—
	Supply current (A)	0,098A	—
	Calculated power factor.....	--	—
	Table: measured temperatures corrected for $t_a = 40^\circ\text{C}$:		P
	- abnormal operating mode	Short-circuited output of LED driver(shut down)	—
	- test 1: rated voltage.....	--	—
	- 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	264 V (short circuit LED driver ,shut down temperature low than normal)	—
	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
Tc of LED driver	40	--	62,3 $^\circ\text{C}$	--	85 $^\circ\text{C}$	--	--
Input wire of LED driver	40	--	43,1 $^\circ\text{C}$	--	90 $^\circ\text{C}$	--	--
Output wire of LED driver	40	--	55,4 $^\circ\text{C}$	--	80 $^\circ\text{C}$	--	--
Supporting surface of LED driver	40	--	67,4 $^\circ\text{C}$	--	90 $^\circ\text{C}$	--	--
Connector between LED driver and Lamp board	40	--	41,4 $^\circ\text{C}$	--	Ref.	--	--

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Clause	Requirement + Test			Result - Remark			Verdict
Wire to LED board	40	--	58,6°C	--	80°C	--	--
LED board	40	--	62,3°C	--	130°C	--	--
Lamp cover(inside)	40	--	65,4°C	--	Ref.	--	--
Lamp cover(outside)	40	--	59,2°C	--	Ref.	--	--
Box	40	--	50,9°C		Ref.	--	--
Mounting surface	40	--	50,8°C	--	90°C	--	--
Lighting object(0,1m)	40	--	41,3°C	--	90°C	--	--
Supplementary information:							

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Clause	Requirement + Test				Result - Remark		Verdict
ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12						P
4/5	Type reference :				TLP-30120-24-CW-2835		—
	Lamp used..... :				Integrated LED chip		—
	Lamp control gear used..... :				Approved LED driver		—
	Mounting position of luminaire :				In the black testing box		—
	Supply wattage (W) :				23,1W		—
	Supply current (A) :				0,093A		—
	Calculated power factor..... :				--		—
	Table: measured temperatures corrected for ta = 40 °C:						P
	- abnormal operating mode :				Short-circuited output of LED driver(shut down)		—
	- test 1: rated voltage..... :				--		—
	- 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 :				264 V (short circuit LED driver ,shut down temperature low than normal)		—
	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 of LED driver	40	--	52,4°C	--	85°C	--	--
Input wire of LED driver	40	--	42,4°C	--	90°C	--	--
Output wire of LED driver	40	--	50,3°C	--	80°C	--	--
Supporting surface of LED driver	40	--	58,5°C	--	90°C	--	--
Connector between LED driver and Lamp board	40	--	40,7°C	--	Ref.	--	--

IEC 60598-2-2							
Clause	Requirement + Test			Result - Remark			Verdict
Wire to LED board	40	--	43,3°C	--	80°C	--	--
LED board	40	--	47,5°C	--	130°C	--	--
Lamp cover(inside)	40	--	45,7°C	--	Ref.	--	--
Lamp cover(outside)	40	--	43,7°C	--	Ref.	--	--
Box	40	--	43,5°C		Ref.	--	--
Mounting surface	40	--	42,3°C	--	90°C	--	--
Lighting object(0,1m)	40	--	40,6°C	--	90°C	--	--
Supplementary information:							

IEC 60598-2-2							
Clause	Requirement + Test				Result - Remark		Verdict
ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12						P
5/5	Type reference :				TLPL-A-300-CW-2835		—
	Lamp used..... :				Integrated LED chip		—
	Lamp control gear used..... :				Approved LED driver		—
	Mounting position of luminaire :				In the black testing box		—
	Supply wattage (W) :				59,3W		—
	Supply current (A) :				0,240A		—
	Calculated power factor..... :				--		—
	Table: measured temperatures corrected for ta = 40 °C:						P
	- abnormal operating mode :				Short-circuited output of LED driver(shut down)		—
	- test 1: rated voltage..... :				--		—
	- 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 :				264 V (short circuit LED driver ,shut down temperature low than normal)		—
	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 of LED driver	40	--	63,6°C	--	85°C	--	--
Input wire of LED driver	40	--	44,2°C	--	90°C	--	--
Output wire of LED driver	40	--	54,7°C	--	80°C	--	--
Supporting surface of LED driver	40	--	69,7°C	--	90°C	--	--
Connector between LED driver and Lamp board	40	--	40,6°C	--	Ref.	--	--

IEC 60598-2-2							
Clause	Requirement + Test			Result - Remark			Verdict
Wire to LED board	40	--	56,4°C	--	80°C	--	--
LED board	40	--	45,9°C	--	130°C	--	--
Lamp cover(inside)	40	--	52,9°C	--	Ref.	--	--
Lamp cover(outside)	40	--	51,2°C	--	Ref.	--	--
Box	40	--	56,4°C		Ref.	--	--
Mounting surface	40	--	57,9°C	--	90°C	--	--
Lighting object(0,1m)	40	--	42,2°C	--	90°C	--	--
Supplementary information:							

IEC 60598-2-2			
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

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

IEC 60598-2-2			
Clause	Requirement + Test	Result - Remark	Verdict
(15.6.1)	Conductors		N/A
	Terminal size and rating		N/A
15.6.2	Mechanical tests		
(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

IEC 60598-2-2											
Clause	Requirement + Test					Result - Remark				Verdict	
(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)										N/A	
	Voltage drop of two inseparable joints										N/A
	Voltage drop after 10th alt. 25th cycle										N/A
	Max. allowed voltage drop (mV) :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
	Voltage drop after 50th alt. 100th cycle										N/A
	Max. allowed voltage drop (mV) :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
	Continued ageing: voltage drop after 10th alt. 25th cycle										N/A
	Max. allowed voltage drop (mV) :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
	Continued ageing: voltage drop after 50th alt. 100th cycle										N/A
	Max. allowed voltage drop (mV) :										—
terminal	1	2	3	4	5	6	7	8	9	10	
voltage drop (mV)										N/A	
										N/A	
Supplementary information:											

ANNEX 6	Creepage distances and clearances for luminaire (Follow Table 11.1 of IEC 60598-1)
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					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	Approved LED driver	2,5	Approved LED driver
(2a) Live parts and accessible metal parts	240	1,5	Approved LED driver	2,5	Approved LED driver
trace of LED board to accessible metal parts	48VDC<60VDC	--	--	--	--
(2b) Live parts and the outer accessible surface of 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	240	1,5	Approved LED driver	2,5	Approved LED driver

IEC60598_2_2E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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			
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	CENELEC COMMON MODIFICATIONS (EN)	P
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2.6 (3)	MARKING	P
2.6 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package	On packaging 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	P
	- without a means for connection to the supply	P
	- terminal block specified	N/A
	- relevant information provided	P
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1	P
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

IEC60598_2_2E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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 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
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Measure distance 1420,0mm, $\alpha=100,0\text{mrad}$				
Optical hazard	Test result	Used hazard exposure limit		Ref.
1. E_s	--	0,001 W/m ²	200-400 nm	P
2. E_{UVA}	--	0,33 W/m ²	315-400 nm	P
3. L_B	1,874E+00 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	2,864E+01 W/m ² sr	2,800E+05 W/m ² sr	380-1400 nm	P
6. L_{IR}	--	6,000E+04 W/m ² sr	780-1400 nm	P
7. E_{IR}	--	100 W/m ²	780-3000 nm	P
8. E_H	--	3556,56 W/m ²	380-3000 nm	P

	Measurement performed on:		☐ LED package ☐ LED module ☐ Lamp ☒ Luminaire	
	Model number		TLP-6060-60-CW-2835	
	Test voltage (V)		240V	
	Test current (mA)		--	
	Test frequency (Hz)		50Hz	
	Ambient, t (°C)		24,2°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	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)	4	RG0
Blue light hazard irradiance	E_B	W/m ²	/	
Luminance	L	cd/m ²	/	
Illuminance	E	lx	/	

Measure distance 1500,0mm, $\alpha=100,0\text{mrad}$				
Optical hazard	Test result	Used hazard exposure limit		Ref.
1. E_s	--	0,001 W/m ²	200-400 nm	P
2. E_{UVA}	--	0,33 W/m ²	315-400 nm	P
3. L_B	6,301E+00 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	3,357E+02 W/m ² sr	2,800E+05 W/m ² sr	380-1400 nm	P
6. L_{IR}	--	6,000E+04 W/m ² sr	780-1400 nm	P
7. E_{IR}	--	100 W/m ²	780-3000 nm	P
8. E_H	--	3556,56 W/m ²	380-3000 nm	P

	Measurement performed on:		☐ LED package ☐ LED module ☐ Lamp ☒ Luminaire	
	Model number		TLP-6060-60-CW-4014	
	Test voltage (V)		240V	—
	Test current (mA)		--	—
	Test frequency (Hz)		50Hz	—
	Ambient, t (°C)		24,2°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	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)	4	RG0
Blue light hazard irradiance	E_B	W/m ²	/	
Luminance	L	cd/m ²	/	
Illuminance	E	lx	/	

Measure distance 1060,0mm, $\alpha=100,0\text{mrad}$				
Optical hazard	Test result	Used hazard exposure limit		Ref.
1. E_s	--	0,001 W/m ²	200-400 nm	P
2. E_{UVA}	--	0,33 W/m ²	315-400 nm	P
3. L_B	4,603E+00 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	1,925E+02 W/m ² sr	2,800E+05 W/m ² sr	380-1400 nm	P
6. L_{IR}	--	6,000E+04 W/m ² sr	780-1400 nm	P
7. E_{IR}	--	100 W/m ²	780-3000 nm	P
8. E_H	--	3556,56 W/m ²	380-3000 nm	P

	Measurement performed on:		☐ LED package ☐ LED module ☐ Lamp ☒ Luminaire	
	Model number		TLP-6060-60-CW-5630	
	Test voltage (V)		240V	—
	Test current (mA)		--	—
	Test frequency (Hz)		50Hz	—
	Ambient, t (°C)		24,2°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	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)	4	RG0
Blue light hazard irradiance	E_B	W/m ²	/	
Luminance	L	cd/m ²	/	
Illuminance	E	lx	/	

Photo:

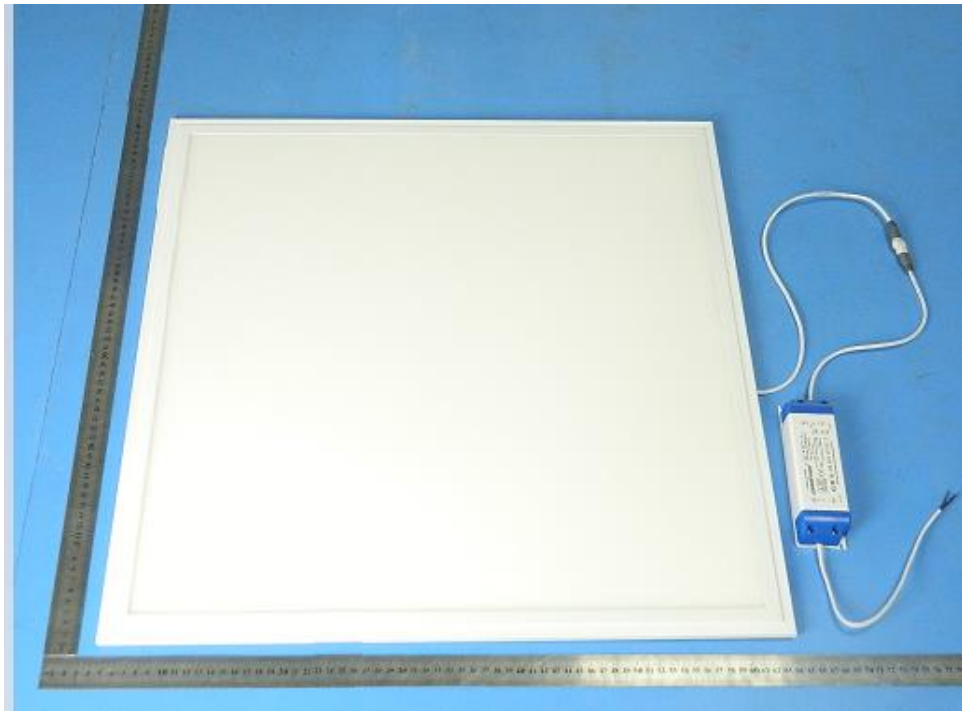


Figure 1: the whole view of TLP-6060-48-CW-2835

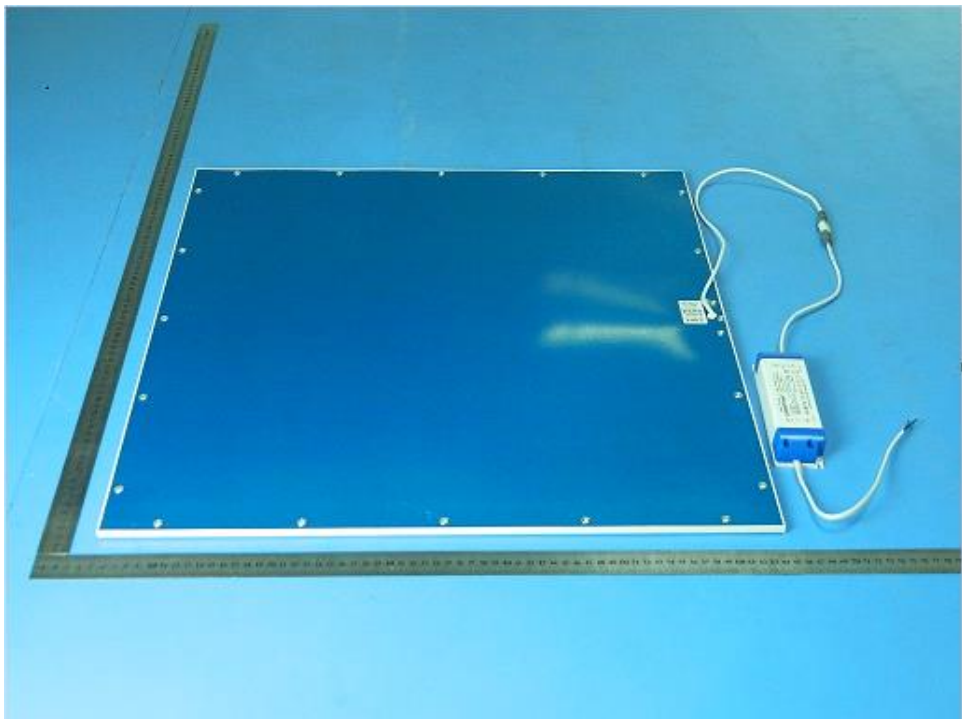


Figure 2: the back view of TLP-6060-48-CW-2835



Figure 3: LED driver



Figure 4: output connector



Figure 5: inside view of TLP-6060-48-CW-2835



Figure 6: part of LED module



Figure 7: the whole view of TLP-6060-60-CW-2835

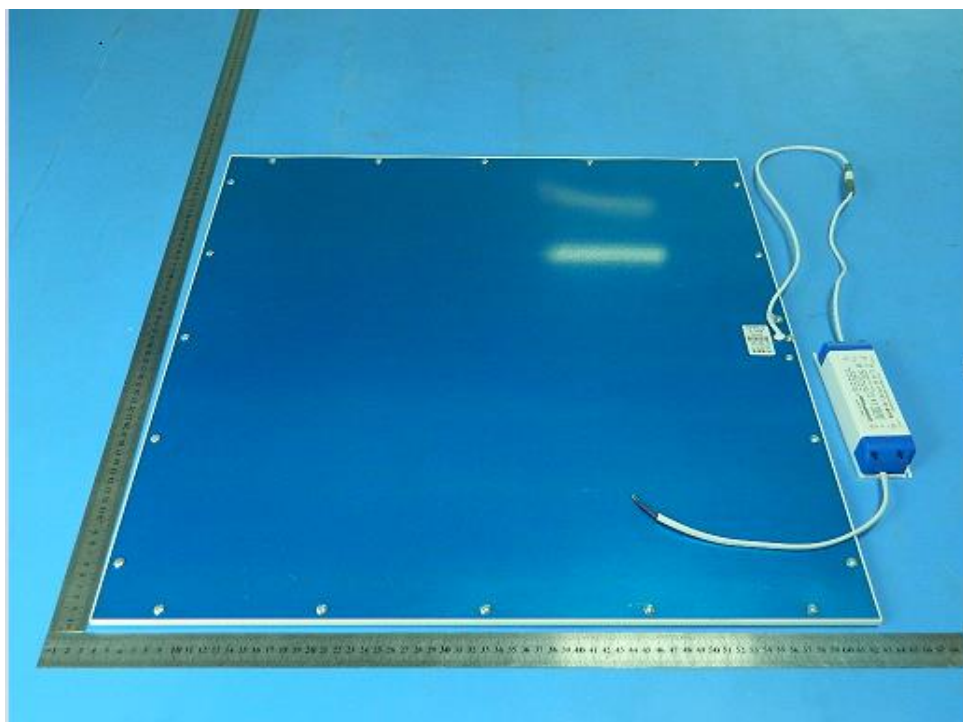


Figure 8: the back view of TLP-6060-60-CW-2835



Figure 9: LED driver



Figure 10: inside view of TLP-6060-60-CW-2835



Figure 11: part of LED module



Figure 12: the whole view of TLPD-R12-CW-2835

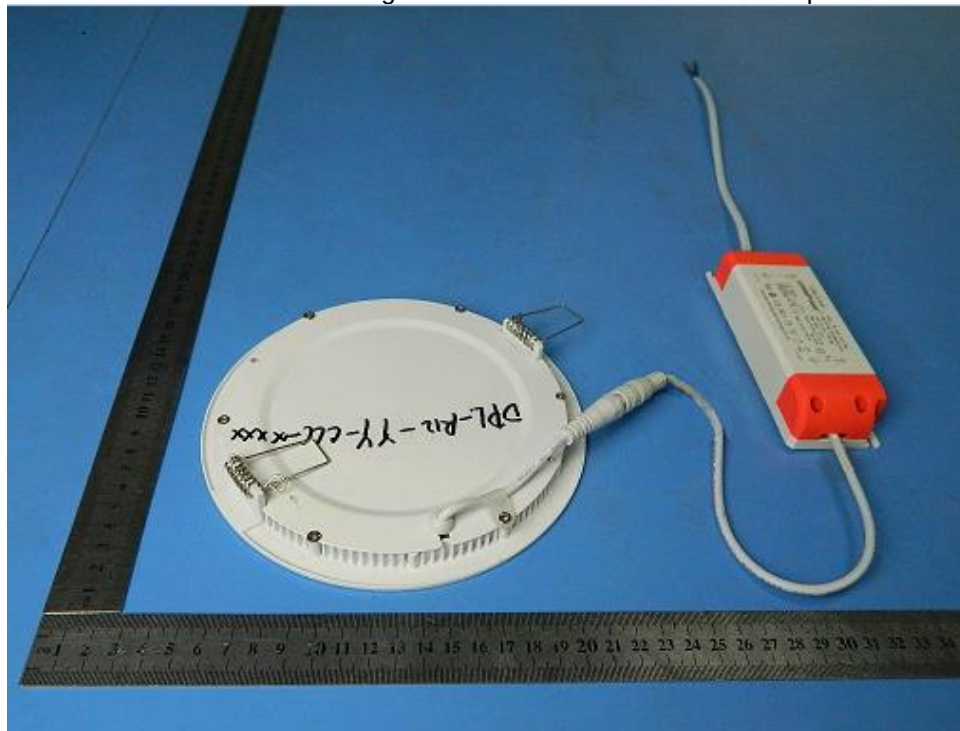


Figure 13: the back view of TLPD-R12-CW-2835



Figure 14: LED driver



Figure 15: output connector

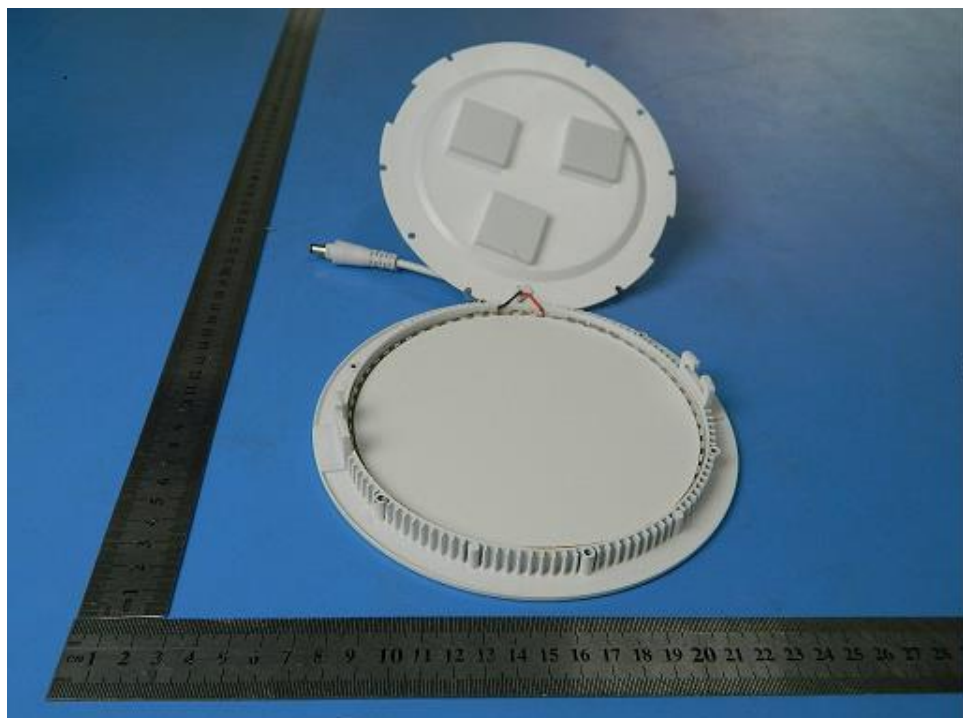


Figure 16: the inside view of TLPD-R12-CW-2835

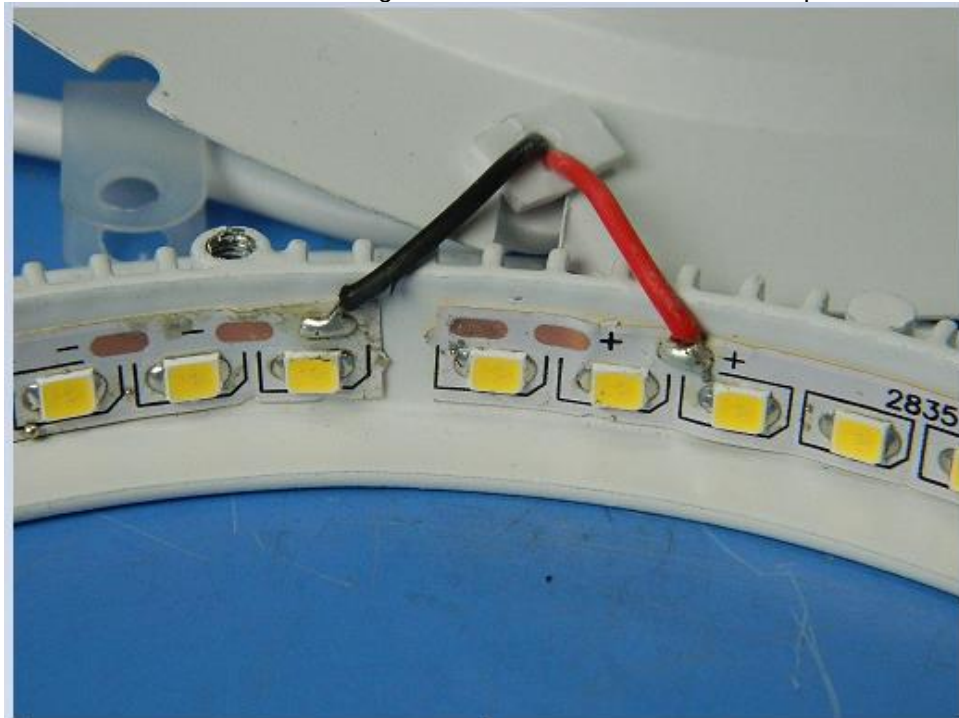


Figure 17: part of LED module

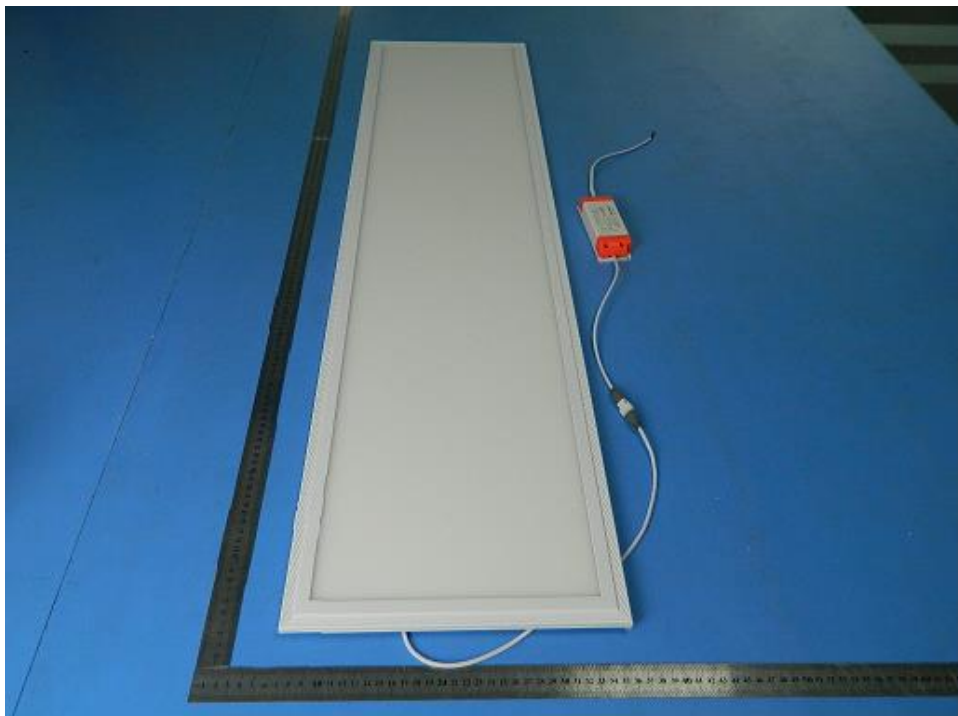


Figure 18: the whole view of TLP-30120-24-CW-2835

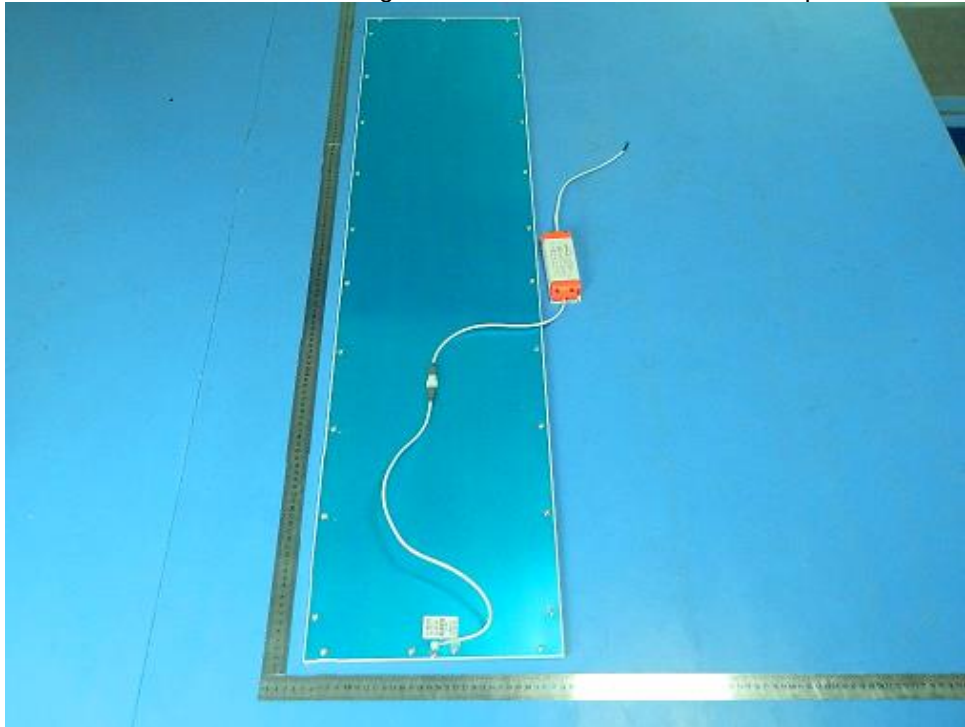


Figure 19: the back view of TLP-30120-24-CW-2835

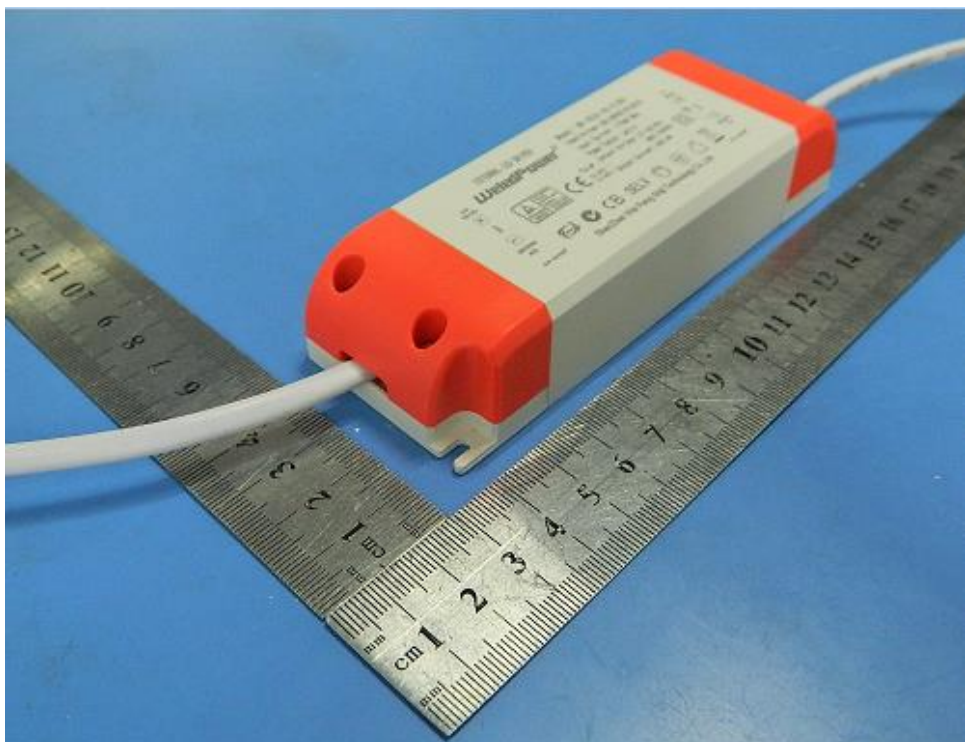


Figure 20: LED driver



Figure 21: output connector

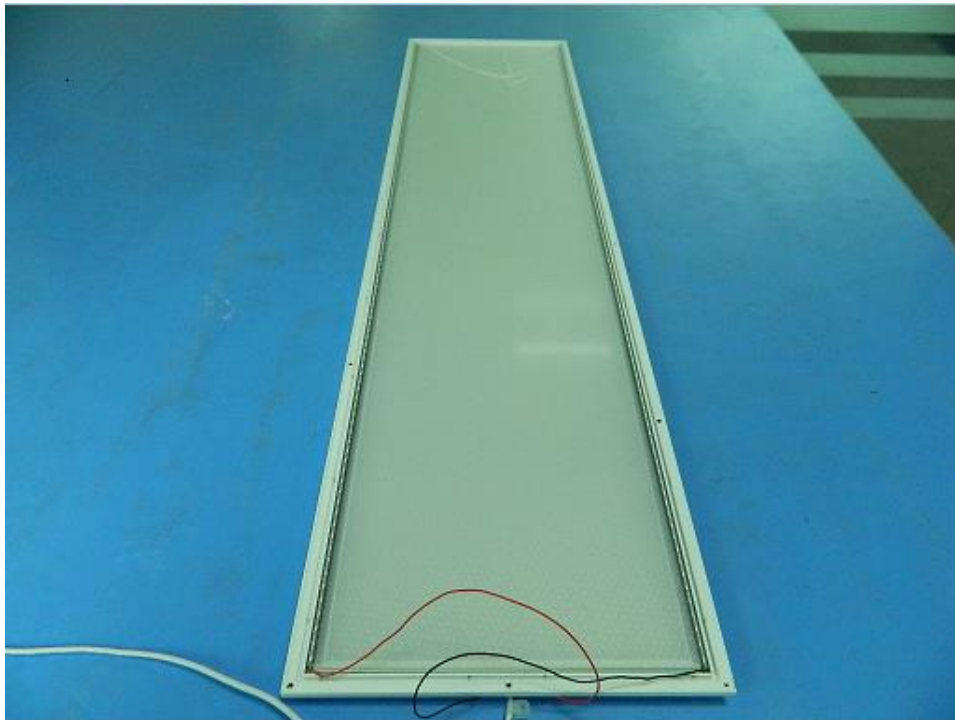


Figure 22: the inside view of TLP-30120-24-CW-2835



Figure 23: part of LED module



Figure 24: the whole view of TLPL-A-300-CW-2835



Figure 25: LED driver



Figure 26: output connector



Figure 27: the inside view of TLPL-A-300-CW-2835

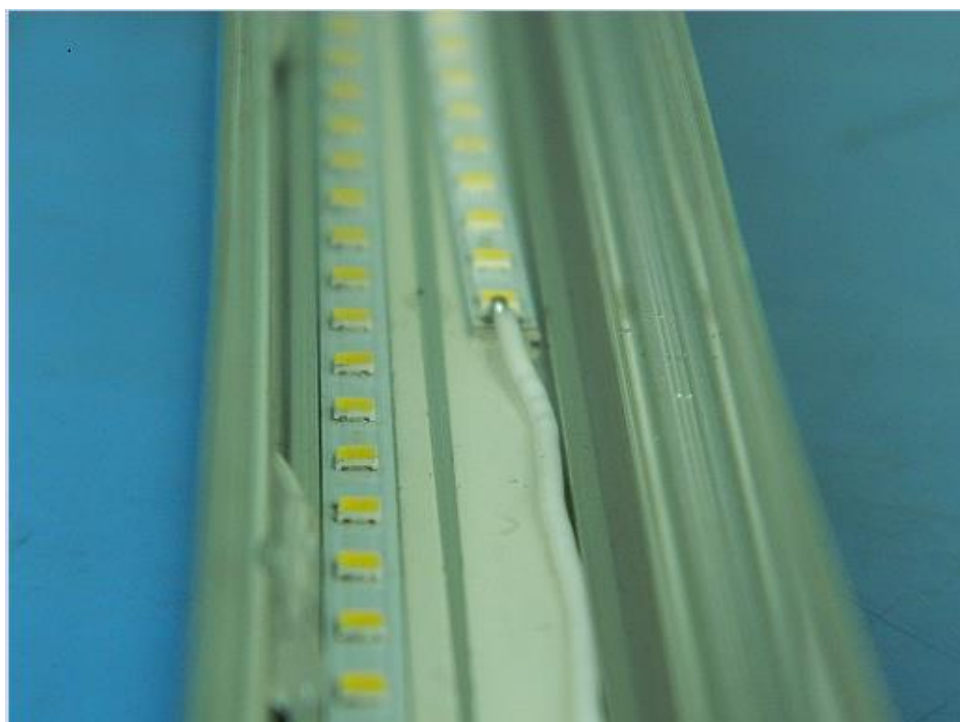


Figure 28: part of LED module