



**TEST REPORT**  
**IEC 62031**  
**LED modules for general lighting –**  
**Safety specifications**

**Report Number**.....: LCSB03224001S

**Date of issue**.....: April 12, 2024

**Total number of pages**.....: 59 pages

**Name of Testing Laboratory**

**preparing the Report**.....: **Shenzhen Southern LCS Compliance Testing Laboratory Ltd.**

**Applicant's name**.....: **SHENZHEN LEDYI LIGHTING CO., LTD.**

**Address**.....: 8th Floor, Skyworth Digital Building, Songbai Road, Shiyan,  
Bao'an District, Shenzhen, China, 518108

**Test specification:**

**Standard**.....: IEC 62031:2018

**Test procedure**.....: CE-LVD

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

**Test Report Form No**.....: IEC62031F

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

**Master TRF**.....: 2018-06-14

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<b>Test item description</b> .....:	LED Strip	
<b>Trade Mark</b> .....:	LEDYi	
<b>Manufacturer</b> .....:	SHENZHEN LEDYI LIGHTING CO., LTD.	
<b>Address</b> .....:	8th Floor, Skyworth Digital Building, Songbai Road, Shiyan, Bao'an District, Shenzhen, China, 518108	
<b>Model/Type reference</b> .....:	See model list on page 5	
<b>Ratings</b> .....:	See model list on page 5	
<input checked="" type="checkbox"/> <b>Testing Laboratory:</b>		
<b>Testing location/ address</b> .....:	Shenzhen Southern LCS Compliance Testing Laboratory Ltd. 101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China	
<b>Tested by</b> .....:	Eli Yang (Engineer)	<i>Eli Yang</i>
<b>Check by</b> .....:	Torres He (Director)	<i>Torres He</i>
<b>Approved by</b> .....:	Jesse Liu (Manager)	<i>Jesse Liu</i>
<b>List of Attachments (including a total number of pages in each attachment):</b>		
Attachment No. 1: Report IEC TR 62778.		
Attachment No. 2: Photo documentation.		
<b>Summary of testing:</b>		
<b>Tests performed (name of test and test clause):</b>	<b>Testing location:</b>	
IEC 62031:2018	Shenzhen Southern LCS Compliance Testing Laboratory Ltd.	
IEC TR 62778:2014	101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China	
<b>Summary of compliance with National Differences:</b>		
<b>List of countries addressed</b>		
European Group differences		
<input checked="" type="checkbox"/> The product fulfils the requirements of		
EN IEC 62031:2020+A11:2021;		





**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.**

**Not applicable**





<b>Test item particulars</b> ..... :									
<b>Classification of installation and use</b> ..... :	LED modules								
<b>Supply Connection</b> ..... :	Lead wire								
..... :	--								
<b>Possible test case verdicts:</b>									
- 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)								
<b>Testing</b> ..... :									
<b>Date of receipt of test item</b> ..... :	2024-03-22								
<b>Date (s) of performance of tests</b> ..... :	2024-03-22 ~ 2024-04-11								
<b>General remarks:</b>									
<p>"(See Enclosure #)" refers to additional information appended to the report.          "(See appended table)" refers to a table appended to the report.          Clause numbers with "*" were not within the scope of CNAS recognition.          Clause numbers between brackets refer to clauses in IEC 61347-1.          The general information of applicant and manufacturer (such as the name and address), product name, model/type reference, trademark and other similar information contained in this report are all provided by the applicant, the laboratory is not responsible for verifying its authenticity.</p> <p><b>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</b></p> <p style="text-align: center;">Modified Information</p> <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>LCSB03224001S</td> <td>/</td> <td>Original Version</td> </tr> </tbody> </table>		Version	Report No.	Revision Date	Summary	V1.0	LCSB03224001S	/	Original Version
Version	Report No.	Revision Date	Summary						
V1.0	LCSB03224001S	/	Original Version						
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1-1:</b>									
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..... :	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>Not applicable</b>								
<b>When differences exist; they shall be identified in the General product information section.</b>									
<b>Name and address of factory (ies)</b> ..... :	Same as manufacturer								



**General product information:**

- All models are identical except model name, PCB width, power, lamp bead model.
- Unless otherwise specified, the models LY480-S3528W-W24 were chosen as representative model to perform all test, LY840-COBRGBTW-W24, LY80-S3030W-W24, LY120-S2835TW-W24, LY96-S5050RGBW-W24, LY364-S2010TW-W24, LY224-S3014TW-W24 and LY300-S2216W-W24 was chosen to perform partial test.

**Model list:**

Model	Voltage(V)	Power(W/M)	LED/M	PCB width	LED type
LY120-S2010W-W24	24	9.6	120	8mm	2010
LY108-S2010W-W24	24	5	108	2mm	2010
LY240-S2010W-W24	24	8	240	3mm	2010
LY240-S2010W-W24	24	10	240	4mm	2010
LY280-S2010W-W24	24	19.2	280	10mm	2010
LY420-S2010W-W24	24	20	420	10mm	2010
LY560-S2010W-W24	24	20	560	10mm	2010
LY700-S2010W-W24	24	20	700	10mm	2010
LY720-S2010W-W24	24	20	720	10mm	2010
<b>LY364-S2010TW-W24</b>	24	20	364	10mm	2010
LY240-S2010TW-W24	24	10	240	10mm	2010
LY480-COBW-W12	12	15	480	10mm	COB
LY480-COBW-W24	24	15	480	10mm	COB
LY576-COBTW-W24	24	15	576	10mm	COB
LY840-COBRGB-W24	24	15	840	10mm	COB
LY840-COBRGBW-W24	24	16	840	12mm	COB
<b>LY840-COBRGBTW-W24</b>	24	16	840	12mm	COB
<b>LY80-S3030W-W24</b>	24	9.6	80	10mm	3030
LY60-S2835W-W24	24	12	60	8mm	2835
LY60-S2835W-W12	12	12	60	8mm	2835
LY70-S2835W-W24	24	12	70	10mm	2835



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LY84-S2835W-W12	12	16.8	84	10mm	2835
LY84-S2835W-W24	24	16.8	84	10mm	2835
LY98-S2835W-W24	24	16.8	98	8mm	2835
LY120-S2835W-W24	24	24	120	10mm	2835
LY120-S2835W-W12	12	24	120	10mm	2835
LY140-S2835W-W24	24	24	140	10mm	2835
LY144-S2835W-W24	24	28.8	144	15mm	2835
LY168-S2835W-W24	24	30	168	20mm	2835
LY180-S2835W-W24	24	24	180	10mm	2835
LY240-S2835W-W24	24	24	240	10mm	2835
LY240-S2835W-W12	12	24	240	10mm	2835
LY112-S2835TW-W24	24	19.2	112	10mm	2835
<b>LY120-S2835TW-W24</b>	24	24	120	10mm	2835
LY60-S5050W-W24	24	14.4	60	10mm	5050
LY60-S5050W-W12	12	14.4	60	10mm	5050
LY96-S5050W-W24	24	23.04	96	12mm	5050
LY120-S5050W-W24	24	28.8	120	20mm	5050
LY60-S5050RGB-W24	24	14.4	60	10mm	5050
LY60-S5050RGB-W12	12	14.4	60	10mm	5050
LY72-S5050RGB-W24	24	17.28	72	10mm	5050
LY96-S5050RGB-W24	24	23	96	12mm	5050
LY60-S5050RGBW-W24	24	19.2	60	12mm	5050
LY60-S5050RGBW-W12	12	19.2	60	12mm	5050
LY72-S5050RGBW-W24	24	23	72	12mm	5050
LY84-S5050RGBW-W24	24	26.8	84	12mm	5050
<b>LY96-S5050RGBW-W24</b>	24	30.6	96	12mm	5050



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LY120-S3528W-W24	24	9.6	120	8mm	3528
LY120-S3528W-W12	12	9.6	120	8mm	3528
LY180-S3528W-W24	24	14.4	180	10mm	3528
LY240-S3528W-W24	24	19.2	240	10mm	3528
LY240-S3528W-W12	12	19.2	240	10mm	3528
LY360-S3528W-W24	24	28.8	360	20mm	3528
LY360-S3528W-W12	12	28.8	360	20mm	3528
<b>LY480-S3528W-W24</b>	24	38.4	480	28mm	3528
LY120-S3014W-W24	24	14.4	120	8mm	3014
LY120-3014W-W12	12	14.4	120	8mm	3014
LY156-S3014W-W24	24	15.6	156	8mm	3014
LY156-3014W-W12	12	15.6	156	8mm	3014
LY204-S3014W-W24	24	20.4	204	8mm	3014
LY204-3014W-W12	12	20.4	204	8mm	3014
LY240-S3014W-W24	24	24	240	10mm	3014
LY240-3014W-W12	12	24	240	10mm	3014
<b>LY224-S3014TW-W24</b>	24	24	224	10mm	3014
LY120-S2216W-W24	24	9.6	120	10mm	2216
LY180-S2216W-W24	24	14.4	180	10mm	2216
LY240-S2216W-W24	24	19.2	240	10mm	2216
<b>LY300-S2216W-W24</b>	24	20	300	10mm	2216
LY420-S2216W-W24	24	19.2	420	10mm	2216
demonstration of the type: LYX1-X2X3-X4 X1 denote LED Qty of 1 meter, can be 30, 48, 60, 72, 84, 96, 98, 112, 120, 140, 144, 240, 360, 420, 480, 560, 700, 720 X2 denote LED chip type, can be S3030, S2835, S3528, S3014, S5050, S2216, S2010, COB X3 denote light color, can be WW, W, TW, R, G, B, Y, O, P, IB, RGB, RGBW, RGBTW X4 denote voltage, can be W12, W24					





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

<b>4</b>	<b>GENERAL REQUIREMENTS</b>		<b>P</b>
4.2	Classification		<b>P</b>
	Built-in module .....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Independent module.....	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	—
	Integral module .....	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	—
4.6	Independent modules comply with requirements in IEC 60598-1:2020		N/A
4.8	Modules with integrated controlgear providing SELV comply with requirements according to IEC 61347-1:2015/AMD1:2017 clause L.5 to L.11.		(see Annex 1) N/A

<b>6</b>	<b>MARKING</b>		<b>N/A</b>
<b>6.2</b>	<b>Contents of marking for built-in and for independent LED modules</b>		<b>N/A</b>
	a) mark of origin		N/A
	b) model number, type reference		N/A
	c1) constant voltage module; rated supply voltage and supply frequency		N/A
	c2) constant current module; rated supply current and supply frequency		N/A
	d) rated power		N/A
	e) indication of connections, wiring diagram		N/A
	f) value of $t_c$ and place on the module		N/A
	g) $E_{thr}$ if required		N/A
	h) symbol for built-in modules		N/A
	i) heat transfer temperature $t_d$		N/A
	j) power for heat-conduction $P_d$		N/A
	k) working voltage for insulation		N/A
<b>6.3</b>	<b>Location of marking for built-in LED modules</b>		<b>N/A</b>
	- marking of a) and b) in 6.2 on the modules		N/A
	- marking of other applicable items in 6.2 on the modules or in data sheet, leaflet or website		N/A
<b>6.4</b>	<b>Location of marking for independent LED modules</b>		<b>N/A</b>
	- marking of a), b), c) and f) in 6.2 on the modules		N/A







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Clause	Requirement + Test	Result - Remark	Verdict
	- marking of other applicable items in 6.2 on the modules or in data sheet, leaflet or website		N/A
<b>6.5</b>	<b>Marking of integral LED modules</b>		<b>N/A</b>
	- information in 6.2 a) to g) in data sheet, leaflet or website		N/A
<b>6.6</b>	<b>Durable and legibility of marking</b>		<b>N/A</b>
	- marking on the LED module legible after test with water		N/A
	- marking not on the LED module legible		N/A
<b>7</b>	<b>TERMINALS</b>		<b>N/A</b>
<b>7.1</b>	<b>Integral terminals</b>		<b>N/A</b>
	Screw terminals comply with section 14 of IEC 60598-1	(see Annex 3)	N/A
	Screwless terminals comply with section 15 of IEC 60598-1	(see Annex 4)	N/A
<b>7.2</b>	<b>Terminals other than integral terminals</b>		<b>N/A</b>
	Separately approved; component list	(see Annex 2)	N/A
	Ratings suit the conditions		N/A
	Satisfy additional relevant requirements of this standard		N/A
<b>8 (9)</b>	<b>EARTHING</b>		<b>N/A</b>
<b>- (9.1)</b>	<b>Provisions for protective earthing</b>		<b>N/A</b>
	Terminal complying with clause 8		N/A
	Locked against loosening and not possible to loosen by hand		N/A
	Not possible to loosen clamping means unintentionally on screwless terminals		N/A
	Earthing via means of fixing		N/A
	Earthing terminal only used for the earthing of the control gear		N/A
	All parts of material minimizing the danger of electrolytic corrosion		N/A
	Made of brass or equivalent material		N/A
	Contact surface bare metal		N/A
	Test according 7.2.3 of IEC 60598-1		N/A





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict
- (9.2)	<b>Provision for functional earthing</b>		<b>N/A</b>
	Comply with clause 8 and 9.1		N/A
	Functional earth insulated from live parts by double or reinforced insulation		N/A
- (9.3)	<b>Lamp controlgear with conductors for protective earthing by tracks on printed circuit board</b>		<b>N/A</b>
	Test with a current of 25 A between earthing terminal and each of the accessible metal parts; measured resistance ( $\Omega$ ) at $\geq 10$ A according 7.2.3 of IEC 60598-1: $< 0,5 \Omega$ .....		N/A
- (9.4)	<b>Earthing of built-in lamp controlgear</b>		<b>N/A</b>
	Earth by means of fixing to earthed metal of luminaire in compliance of 7.2 of IEC 60598-1		N/A
	Earthing terminal only for earthing the built-in controlgear		N/A
- (9.5)	<b>Earthing via independent controlgear</b>		<b>N/A</b>
- (9.5.1)	Earth connection to other equipment		N/A
	Looping or through connection, conductor min. 1,5 mm <sup>2</sup> and of copper or equivalent		N/A
	Protective earthing wires in line with 5.3.1.1 and clause 7		N/A
- (9.5.2)	Earthing of the lamp compartments powered via the independent lamp controlgear		N/A
	Test with a current of 25 A between input and output earth terminals; measured resistance ( $\Omega$ ) between earthing terminal and each of the accessible metal parts at $\geq 10$ A according 7.2.3 of IEC 60598-1: $< 0,5 \Omega$ .....		N/A
	Output earthing terminal marked as in 7.1 t) of IEC 61347-1		N/A

<b>9 (10)</b>	<b>PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS</b>		<b>P</b>
- (10.1)	Controlgear protected against accidental contact with live parts	Assessed together with end product	P
- (A2)	Voltage measured with 50 k $\Omega$	(see Annex A)	P
- (A3)	Voltage $> 35$ V peak or $> 60$ V d.c. or protective impedance device	(see Annex A)	N/A
- (10.1)	Lacquer or enamel not used for protection or insulation		N/A





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

<b>10 (11)</b>	<b>MOISTURE RESISTANCE AND INSULATION</b>		<b>P</b>
	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (MΩ):		P
	For basic insulation ≥ 2 MΩ .....	+/-: 100 MΩ, limit: 1 MΩ, test with d.c. 100 V	P
	For double or reinforced insulation ≥ 4 MΩ .....		N/A





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	Between primary and secondary circuits in controlgear providing SELV, values in Annex L in IEC 61347-1		N/A

11 (12)	ELECTRIC STRENGTH		P
	Immediately after clause 11 electric strength test for 1 min		P
	Basic insulation for SELV, test voltage 500 V	+/-: 500V, no breakdown	P
	Working voltage ≤ 50 V, test voltage 500 V		N/A
	Working voltage > 50 V ≤ 1000 V, test voltage (V):		N/A
	Basic insulation, 2U + 1000 V		N/A
	Supplementary insulation, 2U + 1000 V		N/A
	Double or reinforced insulation, 4U + 2000 V		N/A
	No flashover or breakdown		P
	Solid or thin sheet insulation for double or reinforced insulation fulfil the requirements in Annex N in IEC 61347-1		N/A

12 (14)	FAULT CONDITIONS		P
- (14.1)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	P
- (14.2)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (after any reduction in 14.2 - 14.5)	(see appended table)	N/A
- (14.3)	Short-circuit or interruption of semiconductor devices	(see appended table)	N/A
- (14.4)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	N/A
- (14.5)	Short-circuit across electrolytic capacitors	(see appended table)	N/A
	Short-circuit or interruption of SPDs	(see appended table)	N/A
- (14.6)	After the tests has been carried out on three samples:		P



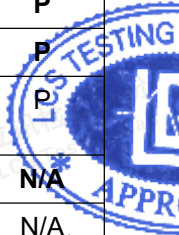
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	The insulation resistance $\geq 1 \text{ M}\Omega$ .....	> 100 M $\Omega$	P
	No flammable gases		P
	No accessible parts have become live		N/A
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.7)	Relevant fault condition tests with high-power a.c. supply and in turn to a d.c. supply		—
<b>12.2</b>	<b>Overpower condition</b>		<b>P</b>
	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

<b>14 (15)</b>	<b>CONSTRUCTION</b>		<b>P</b>
- (15.1)	<b>Wood, cotton, silk, paper and similar fibrous material</b>		<b>P</b>
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P
- (15.2)	<b>Printed circuits</b>		<b>N/A</b>
	Printed circuits used as internal connections complies with clause 14		N/A

<b>15 (16)</b>	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		<b>N/A</b>
- (16.1)	<b>General</b>		<b>N/A</b>
	Creepage distances and clearances according to 16.2 and 16.3		N/A
	Controlgears providing SELV comply with additional requirements in Annex L		N/A
	Insulating lining of metallic enclosures		N/A
	Controlgear protected against pollution comply with Annex P		N/A
- (16.2)	<b>Creepage distances</b>		<b>N/A</b>
- (16.2.2)	Minimum creepage distances for working voltages		N/A
	Creepage distances according to Table 7	(see appended table)	N/A
- (16.2.3)	Creepage distances for working voltages with frequencies above 30 kHz		N/A





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Clause	Requirement + Test	Result - Remark	Verdict
	Creepage distances according to Table 8	(see appended table)	N/A
<b>- (16.3)</b>	<b>Clearances</b>		<b>N/A</b>
- (16.3.2)	Clearances for working voltages		N/A
	Clearances distances according to Table 9	(see appended table)	N/A
- (16.3.3)	Clearances for ignition voltages and working voltages with higher frequencies		N/A
	Clearances distances for basic or supplementary insulation according to Table 10		N/A
	Clearances distances for reinforced insulation according to Table 11		N/A

<b>16 (17)</b>	<b>SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS</b>		<b>P</b>
	Screws, current-carrying parts and connections in compliance with IEC 60598-1 (clause numbers between parentheses refer to IEC 60598-1)		—
<b>(4.11)</b>	<b>Electrical connections</b>		<b>P</b>
(4.11.1)	Contact pressure		P
(4.11.2)	Screws:		N/A
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
(4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
(4.11.4)	Material of current-carrying parts		P
(4.11.5)	No contact to wood or mounting surface		P
(4.11.6)	Electro-mechanical contact systems		N/A
<b>(4.12)</b>	<b>Mechanical connections and glands</b>		<b>N/A</b>
(4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
	Torque test: torque (Nm); part.....:		N/A
(4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A
(4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm).....:		N/A
	- lampholder; torque (Nm).....:		N/A





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	- push-button switches; torque 0,8 Nm..... :		N/A
(4.12.5)	Screwed glands; force (Nm)..... :		N/A
<b>17 (18)</b>	<b>RESISTANCE TO HEAT, FIRE AND TRACKING</b>		<b>P</b>
- (18.1)	Ball-pressure test ..... :	See Test Table 17 (18.1)	P
- (18.2)	Test of printed boards ..... :	See Test Table 17 (18.2)	N/A
- (18.3)	Glow-wire test (650°C) ..... :	See Test Table 17 (18.3)	P
- (18.4)	Needle-flame test (10 s) ..... :	See Test Table 17 (18.4)	P
- (18.5)	Proof tracking test ..... :	See Test Table 17 (18.5)	N/A
<b>18</b>	<b>RESISTANCE TO CORROSION</b>		<b>P</b>
	Comply with requirements according 4.18 of IEC 60598-1		P
<b>20</b>	<b>HEAT MANAGEMENT</b>		<b>P</b>
<b>20.1</b>	<b>General</b>		<b>P</b>
	Fulfil clause 20 if replaceable LED module and when heat conducting thermal interface is needed.		P
<b>20.2</b>	<b>Thermal interface material</b>		<b>P</b>
	Thermal interface material delivered with the module if necessary		P
<b>20.3</b>	<b>Heat protection</b>		<b>N/A</b>
	Not impair safety when operated under poor heat-conduction conditions according Annex D		N/A
<b>22</b>	<b>PHOTOBIOLOGICAL SAFETY</b>		<b>P</b>
<b>22.1</b>	<b>UV radiation</b>		<b>N/A</b>
	Luminous radiation not exceed 2mW/klm		N/A
<b>22.2</b>	<b>Blue light hazard</b>		<b>P</b>
	Assessed according to IEC TR 62778	RG1	P
<b>22.3</b>	<b>Infrared radiation</b>		<b>N/A</b>
	Requirements for infrared radiation when required		N/A





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

<b>A</b>	<b>ANNEX A - TESTS</b>		<b>P</b>
	All tests performed in accordance with the advice given in Annex H of IEC 61347-1, if applicable		P

<b>12 (14)</b>	<b>TABLE: tests of fault conditions</b>		<b>P</b>
<b>Part</b>	<b>Simulated fault</b>		<b>Hazard</b>
LED module (+&-)	Short circuit, Shut down, unrecoverable, no flame, no flammable gas, no molten parts, no damage.		No







IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

<b>15 (16)</b>	<b>TABLE: clearance and creepage distance measurements (mm)</b> No values are specified for working voltages below 60 V d.c. as the test voltage 500V of electric strength is considered sufficient.	<b>N/A</b>
----------------	---	------------

**Applicable part of IEC 61347-1 Table 7 – 11\***

Distances	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:							
Working voltage (V)..... :							—
Frequency if applicable (kHz)..... :							—
PTI..... :					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :							—
Pulse voltage if applicable (kV) ..... :							—
Supplementary information:							
Distance 2:							
Working voltage (V)..... :							—
Frequency if applicable (kHz)..... :							—
PTI..... :					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :							—
Pulse voltage if applicable (kV) ..... :							—
Supplementary information:							
Distance 3:							
Working voltage (V)..... :							—
Frequency if applicable (kHz)..... :							—
PTI..... :					< 600 <input type="checkbox"/> ≥ 600 <input type="checkbox"/>		—
Peak value of the working voltage $\hat{U}_{out}$ if applicable (kV) ..... :							—
Pulse voltage if applicable (kV) ..... :							—
Supplementary information:							

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



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IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

<b>17 (18.1)</b>	<b>TABLE: Ball Pressure Test of Thermoplastics</b>			
<b>Allowed impression diameter (mm) .....</b>		2	—	
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
LED cover	SEE ANNEX 1	75	1.4	
Supplementary information:				

<b>17 (18.2)</b>	<b>TABLE: Test of printed boards</b>				<b>N/A</b>
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (s)	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict
--	--	--	--	--	--
Supplementary information:					

<b>17 (18.3)</b>	<b>TABLE: Glow-wire test</b>					<b>P</b>
<b>Glow wire temperature .....</b>		650°C			—	
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	
LED cover	SEE ANNEX 1	0	0	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).....:					--	
Supplementary information:						

<b>17 (18.4)</b>	<b>TABLE: Needle-flame test</b>					<b>P</b>
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (s)	Ignition of specified layer Yes/No	Duration of burning (s)	Verdict	
LED cover	SEE ANNEX 1	10s	No	0s	P	
Supplementary information:						

<b>17 (18.5)</b>	<b>TABLE: Proof tracking test</b>				<b>N/A</b>
------------------	-----------------------------------	--	--	--	------------



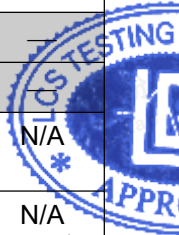
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IEC 62031					
Clause	Requirement + Test			Result - Remark	Verdict
Test voltage PTI ..... : 175 V					—
Object/ Part No./ Material	Manufacturer/ trademark		Withstand 50 drops without failure on three places or on three specimens		Verdict
--	--		--	--	--
Supplementary information:					

(A)	<b>ANNEX A - TEST TO ESTABLISH WHETHER A CONDUCTIVE PART IS A LIVE PART WHICH MAY CAUSE AN ELECTRIC SHOCK</b>	<b>N/A</b>
-----	---	------------

ANNEX 1	LED MODULES WITH INTEGRAL CONTROLGEAR PROVIDING SELV	N/A
(L.5)	<b>Protection against electric shock</b>	N/A
	Comply with 9.2 of IEC 61558-1	N/A
(L.6)	<b>Heating</b>	N/A
	No excessive temperatures in normal use	N/A
	Value if capacitor tc marked .....	—
	Winding insulation classified as Class .....	—
	Comply with tests of clause 14 of IEC 61558-1 with adjustments	N/A
(L.7)	<b>Short-circuit and overload protection</b>	N/A
	Comply with tests of clause 15 of IEC 61558-1 with adjustments	N/A
(L.8)	<b>Insulation resistance and electric strength</b>	N/A
(L.8.1)	Conditioned 48 h between 91 % and 95 %	N/A
(L.8.2)	<b>Insulation resistance</b>	N/A
	Between input- and output circuits not less than 5 MΩ .....	N/A
	Between metal parts of class II convertors which are separated from live parts by basic insulation only and the body not less than 5 MΩ .....	N/A
	Between metal foil in contact with the inner and outer surfaces of enclosures of insulating material not less than 2 MΩ .....	N/A
(L.8.3)	<b>Electric strength</b>	N/A
	1) Between live parts of input circuits and live parts of output circuits .....	N/A





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict
	2) Over basic or supplementary insulation between:		N/A
	a) live parts having different polarity .....		N/A
	b) live parts and body if intended to be connected to protective earth .....		N/A
	c) accessible metal parts and a metal rod of the same diameter as the flexible cable or cord .....		N/A
	d) live parts and an intermediate metal part .....		N/A
	e) intermediate metal parts and the body .....		N/A
	f) each input circuit and all other input circuits .....		N/A
	3) Over reinforced insulation between the body and live parts .....		N/A
<b>(L.9)</b>	<b>Construction</b>		N/A
(L.9.1)	Transformer comply with 19.12 of IEC 61558-1 and 19 of IEC 61558-2-6		N/A
	HF transformer comply with 19 of IEC 61558-2-16		N/A
<b>(L.10)</b>	<b>Components</b>		N/A
	Protective devices comply with 20.6 – 20.11 of IEC 61558-1		N/A
<b>(L.11)</b>	<b>Creepage distances, clearances and distances through insulation</b>		N/A
	Creepage distances and clearances not less than in Clause 16		N/A
	Distance through insulation according Table L.5 in IEC 61347-1		N/A
	1) Basic distance through insulation		N/A
	Required distance (mm) .....		—
	Measured (mm) .....		N/A
	Supplementary information		—
	2) Supplementary distance through insulation		N/A
	Required distance (mm) .....		—
	Measured (mm) .....		N/A
	Supplementary information		—
	3) Reinforced distance through insulation		N/A
	Required distance (mm) .....		—
	Measured (mm) .....		N/A
	Supplementary information		—





IEC 62031			
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 <sup>1)</sup>	
For LY480-S3528W-W24							
Lead wire	B	SHENZHEN XINSUN ELECTRIC CO LTD	2468	80 deg C, 300 Vac, 32-16 AWG	--	UL E365619	
LED PCB	C	HUNAN FOUNDERSOON EST ELECTRONIC TECHNOLOGY CO LTD	FZD01	V-0, 105° C	--	UL E348119	
LED	B	ShenZhen Liang an Photoelectricity TechnologyCo., Ltd	3528	3V,30mA,0.1W	IEC TR 62778 EN 62031	Tested with appliance	
For LY840-COBRGBTW-W24							
Lead wire	B	SHENZHEN XINSUN ELECTRIC CO LTD	2468	24AWG,300V,80 °C,30cm,PVC	--	UL E365619	
LED PCB	C	HUNAN FOUNDERSOON EST ELECTRONIC TECHNOLOGY CO LTD	FZD01	V-0, 105° C	--	UL E348119	
LED	B	SHENZHEN SHINESKY OPTOELECTRONICS CO.,LTD	SK-ST20Q840V24 -Crgbcw	24V,660mA,16W	IEC TR 62778 EN 62031	Tested with appliance	
For LY80-S3030W-W24							
Lead wire	C	SHENZHEN XINSUN ELECTRIC CO LTD	2468	24AWG,300V,80 °C,30cm,PVC	--	UL E365619	
LED PCB	C	HUNAN FOUNDERSOON EST ELECTRONIC TECHNOLOGY CO LTD	FZD01	V-0, 105° C	--	UL E348119	





IEC 62031						
Clause	Requirement + Test			Result - Remark		Verdict
LED	C	Lumileds	3030	6V,240mA,1.5W	IEC TR 62778 EN 62031	Tested with appliance
LED cover	C	NAN YA PLASTICS (HUI ZHOU) CORP LTD	5420G(N)(f1)	V-0,130° C	--	UL E235269
For LY120-S2835TW-W24						
Lead wire	B	SHENZHEN XINSUN ELECTRIC CO LTD	2468	24AWG,300V,80 °C,30cm,PVC	--	UL E365619
LED PCB	C	HUNAN FOUNDERSOON EST ELECTRONIC TECHNOLOGY CO LTD	FZD01	V-0, 105° C	--	UL E348119
LED	B	Shenzhen jingrui photoelectric Co.,Ltd	2835	3V,60mA,0.2W	IEC TR 62778 EN 62031	Tested with appliance
For LY96-S5050RGBW-W24						
Lead wire	B	SHENZHEN XINSUN ELECTRIC CO LTD	2468	24AWG,300V,80 °C,30cm,PVC	--	UL E365619
LED PCB	C	HUNAN FOUNDERSOON EST ELECTRONIC TECHNOLOGY CO LTD	FZD01	V-0, 105° C	--	UL E348119
LED	B	SHENZHEN QIZHI OPTOELECRONI CS CO.,LTD	5050RGBW	3V,30mAx4,0.25 W	IEC TR 62778 EN 62031	Tested with appliance
For LY364-S2010TW-W24						
Lead wire	B	SHENZHEN XINSUN ELECTRIC CO LTD	2468	24AWG,300V,80 °C,30cm,PVC	--	UL E365619
LED PCB	C	HUNAN FOUNDERSOON EST ELECTRONIC TECHNOLOGY CO LTD	FZD01	V-0, 105° C	--	UL E348119





IEC 62031						
Clause	Requirement + Test			Result - Remark		Verdict
LED	B	SHENZHEN QIZHI OPTOELECRONICS CO.,LTD	2010	3V,30mA,0.1W	IEC TR 62778 EN 62031	Tested with appliance
For LY224-S3014TW-W24						
Lead wire	B	SHENZHEN XINSUN ELECTRIC CO LTD	2468	24AWG,300V,80 °C,30cm,PVC	--	UL E365619
LED PCB	C	HUNAN FOUNDERSOON EST ELECTRONIC TECHNOLOGY CO LTD	FZD01	V-0, 105° C	--	UL E348119
LED	B	ShenZhen Liang an Photoelectricity TechnologyCo., Ltd	3014	3V,30mA,0.1W	IEC TR 62778 EN 62031	Tested with appliance
For LY300-S2216W-W24						
Lead wire	B	SHENZHEN XINSUN ELECTRIC CO LTD	2468	24AWG,300V,80 °C,30cm,PVC	--	UL E365619
LED PCB	C	HUNAN FOUNDERSOON EST ELECTRONIC TECHNOLOGY CO LTD	FZD01	V-0, 105° C	--	UL E348119
LED	B	SHENZHEN QIZHI OPTOELECRONICS CO.,LTD	2219	3V,40mA,0.12W	IEC TR 62778 EN 62031	Tested with appliance
Supplementary information:						
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.						
The codes above have the following meaning:						
A - The component is replaceable with another one, also certified, with equivalent characteristics						
B - The component is replaceable if authorised by the test house						
C - Integrated component tested together with the appliance						
D - Alternative component						





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P		
	Type reference.....:	LY364-S2010TW-W24		—		
	Lamp used.....:	LED module		—		
	Lamp control gear used.....:	--		—		
	Mounting position of luminaire.....:	See product manual		—		
	Supply wattage (W).....:	--		—		
	Supply current (A).....:	--		—		
	Calculated power factor.....:	--		—		
	Table: measured temperatures corrected for ta = 25 °C:			P		
	- abnormal operating mode.....:			—		
	- test 1: rated voltage.....:			—		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,1*24VDC		—		
	- 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	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Lead wire	--	30,6	--	80	--	--
LED PCB	--	48,5	--	105	--	--
Mounting surface	--	36,0	--	90	--	--
Ambient	--	25,0	--	--	--	--
Supplementary information:						





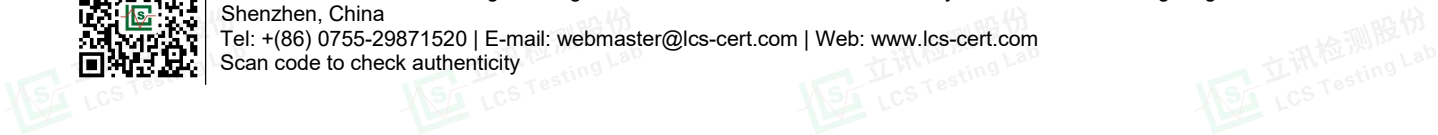


IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference.....:	LY840-COBRGBTW-W24	—
	Lamp used.....:	LED module	—
	Lamp control gear used.....:	--	—
	Mounting position of luminaire.....:	See product manual	—
	Supply wattage (W).....:	--	—
	Supply current (A).....:	--	—
	Calculated power factor.....:	--	—
	Table: measured temperatures corrected for ta = 25 °C:		P
	- abnormal operating mode.....:		—
	- test 1: rated voltage.....:		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,1*24VDC	—
	- 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	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Lead wire	--	28,2	--	80	--	--
LED PCB	--	44,7	--	105	--	--
Mounting surface	--	32,4	--	90	--	--
Ambient	--	25,0	--	--	--	--
Supplementary information:						





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P		
	Type reference.....:	LY80-S3030W-W24		—		
	Lamp used.....:	LED module		—		
	Lamp control gear used.....:	--		—		
	Mounting position of luminaire.....:	See product manual		—		
	Supply wattage (W).....:	--		—		
	Supply current (A).....:	--		—		
	Calculated power factor.....:	--		—		
	Table: measured temperatures corrected for ta = 25 °C:			P		
	- abnormal operating mode.....:			—		
	- test 1: rated voltage.....:			—		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,1*24VDC		—		
	- 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	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Lead wire	--	29,1	--	90	--	--
LED PCB	--	41,4	--	130	--	--
LED cover	--	38,8	--	130	--	--
Mounting surface	--	31,9	--	90	--	--
Ambient	--	25,0	--	--	--	--
Supplementary information:						





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P		
	Type reference.....:	LY120-S2835TW-W24		—		
	Lamp used.....:	LED module		—		
	Lamp control gear used.....:	--		—		
	Mounting position of luminaire.....:	See product manual		—		
	Supply wattage (W).....:	--		—		
	Supply current (A).....:	--		—		
	Calculated power factor.....:	--		—		
	Table: measured temperatures corrected for ta = 25 °C:			P		
	- abnormal operating mode.....:			—		
	- test 1: rated voltage.....:			—		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,1*24VDC		—		
	- 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	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Lead wire	--	33,1	--	80	--	--
LED PCB	--	49,8	--	105	--	--
Mounting surface	--	37,2	--	90	--	--
Ambient	--	25,0	--	--	--	--
Supplementary information:						





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P		
	Type reference.....:	LY96-S5050RGBW-W24		—		
	Lamp used.....:	LED module		—		
	Lamp control gear used.....:	--		—		
	Mounting position of luminaire.....:	See product manual		—		
	Supply wattage (W).....:	--		—		
	Supply current (A).....:	--		—		
	Calculated power factor.....:	--		—		
	Table: measured temperatures corrected for ta = 25 °C:			P		
	- abnormal operating mode.....:			—		
	- test 1: rated voltage.....:			—		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,1*24VDC		—		
	- 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	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Lead wire	--	36,5	--	80	--	--
LED PCB	--	57,3	--	105	--	--
Mounting surface	--	40,8	--	90	--	--
Ambient	--	25,0	--	--	--	--
Supplementary information:						





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P		
	Type reference.....:	LY480-S3528W-W24		—		
	Lamp used.....:	LED module		—		
	Lamp control gear used.....:	--		—		
	Mounting position of luminaire.....:	See product manual		—		
	Supply wattage (W).....:	--		—		
	Supply current (A).....:	--		—		
	Calculated power factor.....:	--		—		
	Table: measured temperatures corrected for ta = 25 °C:			P		
	- abnormal operating mode.....:			—		
	- test 1: rated voltage.....:			—		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,1*24VDC		—		
	- 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	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Lead wire	--	35,3	--	80	--	--
LED PCB	--	58,7	--	105	--	--
Mounting surface	--	43,2	--	90	--	--
Ambient	--	25,0	--	--	--	--
Supplementary information:						





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12			P		
	Type reference.....:	LY224-S3014TW-W24		—		
	Lamp used.....:	LED module		—		
	Lamp control gear used.....:	--		—		
	Mounting position of luminaire.....:	See product manual		—		
	Supply wattage (W).....:	--		—		
	Supply current (A).....:	--		—		
	Calculated power factor.....:	--		—		
	Table: measured temperatures corrected for ta = 25 °C:			P		
	- abnormal operating mode.....:			—		
	- test 1: rated voltage.....:			—		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,1*24VDC		—		
	- 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	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Lead wire	--	33,6	--	80	--	--
LED PCB	--	56,2	--	105	--	--
Mounting surface	--	40,8	--	90	--	--
Ambient	--	25,0	--	--	--	--
Supplementary information:						





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		P
	Type reference.....:	LY300-S2216W-W24	—
	Lamp used.....:	LED module	—
	Lamp control gear used.....:	--	—
	Mounting position of luminaire.....:	See product manual	—
	Supply wattage (W).....:	--	—
	Supply current (A).....:	--	—
	Calculated power factor.....:	--	—
	Table: measured temperatures corrected for ta = 25 °C:		P
	- abnormal operating mode.....:		—
	- test 1: rated voltage.....:		—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	1,1*24VDC	—
	- 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	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Lead wire	--	34,4	--	80	--	--
LED PCB	--	57,6	--	105	--	--
Mounting surface	--	42,4	--	90	--	--
Ambient	--	25,0	--	--	--	--
Supplementary information:						





IEC 62031			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ANNEX 3</b>	<b>Screw terminals (part of the luminaire)</b>		N/A
<b>(14)</b>	<b>SCREW TERMINALS</b>		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 <sup>2</sup> )..... :		—
(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 62031			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ANNEX 4</b>	<b>Screwless terminals (part of the luminaire)</b>		N/A
<b>(15)</b>	<b>SCREWLESS TERMINALS</b>		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
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples)..... :		N/A
(15.5.1.2)	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 62031			
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

<b>(15.6.3.1)</b> <b>(15.6.3.2)</b>	<b>TABLE: Contact resistance test / Heating tests</b>										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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Clause	Requirement + Test	Result - Remark	Verdict

	<b>Spectroradiometric measurement (IEC TR 62778:2014)</b>		--
	<b>Measurement performed on:</b>	<b>Luminaire</b>	--
	<b>Model number.....</b>	LY364-S2010TW-W24	--
	<b>Test voltage (V).....</b>	DC 24V	--
	<b>Test current (mA).....</b>	--	--
	<b>Test frequency (Hz).....</b>	--	--
	<b>Ambient, t (°C).....</b>	25.3	--
	<b>Measurement distance.....</b>	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	<b>Source size .....</b>	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : .... mm	--
	<b>Field of view .....</b>	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--

Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	7214	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	144	<input type="checkbox"/> RG0: <100 <input checked="" type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	1.804e+000	--
Luminance	L	cd/m <sup>2</sup>	1.565e+005	--
Illuminance	E	lx	1957	--

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Clause	Requirement + Test	Result - Remark	Verdict

	<b>Spectroradiometric measurement (IEC TR 62778:2014)</b>		--
	<b>Measurement performed on:</b>	<b>Luminaire</b>	--
	<b>Model number.....</b>	LY840-COBRGBTW-W24	--
	<b>Test voltage (V).....</b>	DC 24V	--
	<b>Test current (mA).....</b>	--	--
	<b>Test frequency (Hz).....</b>	--	--
	<b>Ambient, t (°C).....</b>	25.3	--
	<b>Measurement distance.....</b>	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	<b>Source size .....</b>	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : .... mm	--
	<b>Field of view .....</b>	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--

Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	6338	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	17	<input checked="" type="checkbox"/> RG0: <100 <input type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	2.852e-001	--
Luminance	L	cd/m <sup>2</sup>	2.136e+004	--
Illuminance	E	lx	367	--

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Clause	Requirement + Test	Result - Remark	Verdict

	<b>Spectroradiometric measurement (IEC TR 62778:2014)</b>		--
	<b>Measurement performed on:</b>	<b>Luminaire</b>	--
	<b>Model number.....</b>	LY80-S3030W-W24	--
	<b>Test voltage (V).....</b>	DC 24V	--
	<b>Test current (mA).....</b>	--	--
	<b>Test frequency (Hz).....</b>	--	--
	<b>Ambient, t (°C).....</b>	25.3	--
	<b>Measurement distance.....</b>	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	<b>Source size .....</b>	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : .... mm	--
	<b>Field of view .....</b>	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--

Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	6085	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	378	<input type="checkbox"/> RG0: <100 <input checked="" type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	1.689e+000	--
Luminance	L	cd/m <sup>2</sup>	4.903e+005	--
Illuminance	E	lx	2190	--
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Clause	Requirement + Test	Result - Remark	Verdict

	<b>Spectroradiometric measurement (IEC TR 62778:2014)</b>		--
	<b>Measurement performed on:</b>	<b>Luminaire</b>	--
	<b>Model number.....</b>	LY120-S2835TW-W24	--
	<b>Test voltage (V).....</b>	DC 24V	--
	<b>Test current (mA).....</b>	--	--
	<b>Test frequency (Hz).....</b>	--	--
	<b>Ambient, t (°C).....</b>	25.3	--
	<b>Measurement distance.....</b>	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	<b>Source size .....</b>	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : .... mm	--
	<b>Field of view .....</b>	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--

Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	6683	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	33	<input checked="" type="checkbox"/> RG0: <100 <input type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	1.950e+000	--
Luminance	L	cd/m <sup>2</sup>	3.760e+004	--
Illuminance	E	lx	2247	--

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IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	<b>Spectroradiometric measurement (IEC TR 62778:2014)</b>		--
	<b>Measurement performed on:</b>	<b>Luminaire</b>	--
	<b>Model number.....</b>	LY96-S5050RGBW-W24	--
	<b>Test voltage (V).....</b>	DC 24V	--
	<b>Test current (mA).....</b>	--	--
	<b>Test frequency (Hz).....</b>	--	--
	<b>Ambient, t (°C).....</b>	25.3	--
	<b>Measurement distance.....</b>	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	<b>Source size .....</b>	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : .... mm	--
	<b>Field of view .....</b>	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--

Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	6567	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	36	<input checked="" type="checkbox"/> RG0: <100 <input type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	9.192e-001	--
Luminance	L	cd/m <sup>2</sup>	3.954e+004	--
Illuminance	E	lx	1017	--

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# Attachment No.1

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

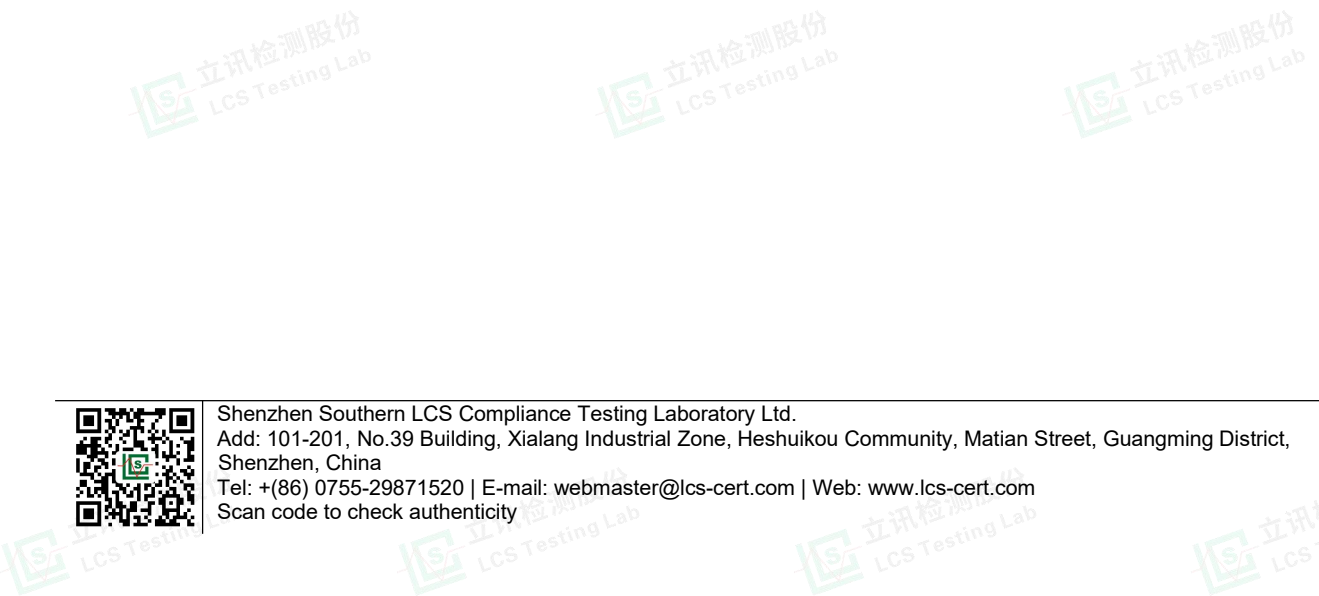
	<b>Spectroradiometric measurement (IEC TR 62778:2014)</b>		--
	<b>Measurement performed on:</b>	<b>Luminaire</b>	--
	<b>Model number.....</b>	LY480-S3528W-W24	--
	<b>Test voltage (V).....</b>	DC 24V	--
	<b>Test current (mA).....</b>	--	--
	<b>Test frequency (Hz).....</b>	--	--
	<b>Ambient, t (°C).....</b>	25.3	--
	<b>Measurement distance.....</b>	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	<b>Source size .....</b>	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : .... mm	--
	<b>Field of view .....</b>	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--

Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	6893	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	105	<input type="checkbox"/> RG0: <100 <input checked="" type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	6.731e+000	--
Luminance	L	cd/m <sup>2</sup>	1.133e+005	--
Illuminance	E	lx	7277	--

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IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	<b>Spectroradiometric measurement (IEC TR 62778:2014)</b>		--
	<b>Measurement performed on:</b>	<b>Luminaire</b>	--
	<b>Model number.....</b>	LY224-S3014TW-W24	--
	<b>Test voltage (V).....</b>	DC 24V	--
	<b>Test current (mA).....</b>	--	--
	<b>Test frequency (Hz).....</b>	--	--
	<b>Ambient, t (°C).....</b>	25.3	--
	<b>Measurement distance.....</b>	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	<b>Source size .....</b>	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : .... mm	--
	<b>Field of view .....</b>	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--

Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	6661	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	112	<input type="checkbox"/> RG0: <100 <input checked="" type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	2.236e+000	--
Luminance	L	cd/m <sup>2</sup>	1.260e+005	--
Illuminance	E	lx	2517	--

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IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	<b>Spectroradiometric measurement (IEC TR 62778:2014)</b>		--
	<b>Measurement performed on:</b>	<b>Luminaire</b>	--
	<b>Model number.....</b>	LY300-S2216W-W24	--
	<b>Test voltage (V).....</b>	DC 24V	--
	<b>Test current (mA).....</b>	--	--
	<b>Test frequency (Hz).....</b>	--	--
	<b>Ambient, t (°C).....</b>	25.3	--
	<b>Measurement distance.....</b>	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	--
	<b>Source size .....</b>	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small : .... mm	--
	<b>Field of view .....</b>	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	--

Item	Symbol	Units	Result	Risk Group
Correlated colour temperature	CCT	K	6913	--
x/y colour coordinates	--	--	--	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	264	<input type="checkbox"/> RG0: <100 <input checked="" type="checkbox"/> RG1: <10000 <input type="checkbox"/> RG2: <4000000
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	2.869e+000	--
Luminance	L	cd/m <sup>2</sup>	3.075e+005	--
Illuminance	E	lx	3345	--

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# Attachment No.2

## Photo Documentation

Model: LY364-S2010TW-W24

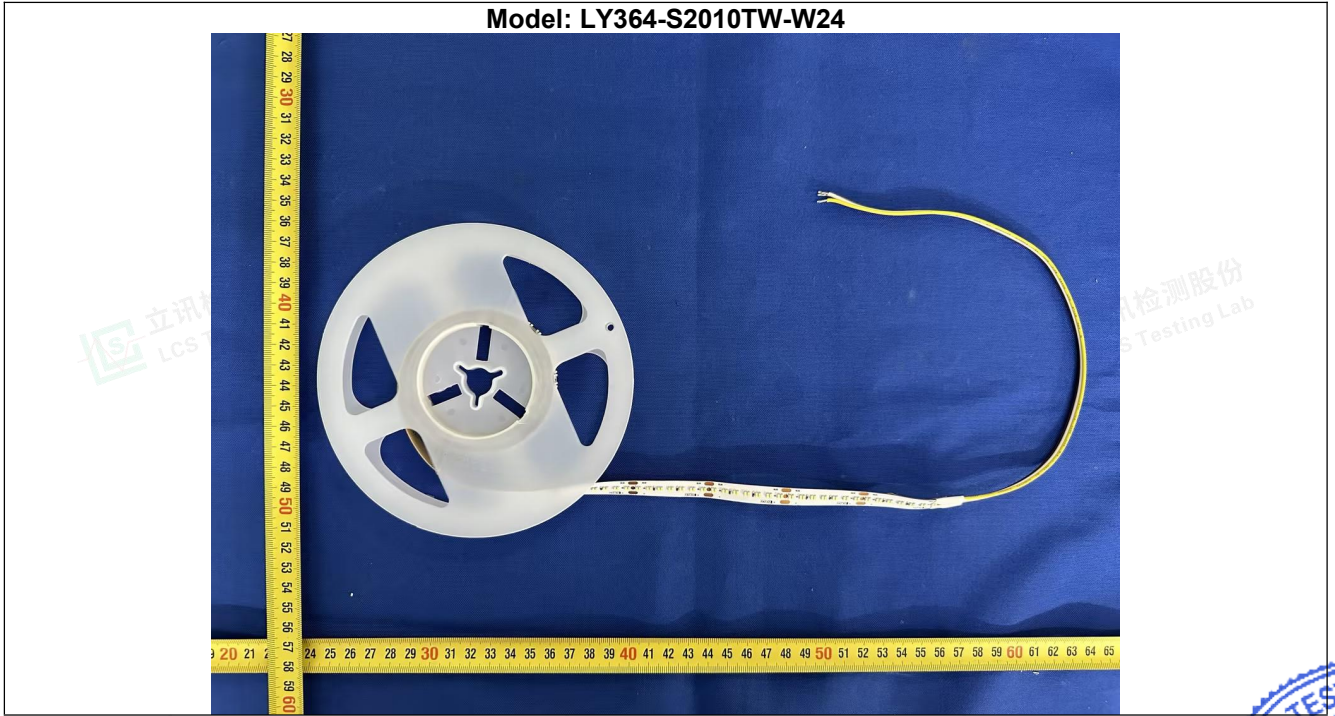


Photo 1

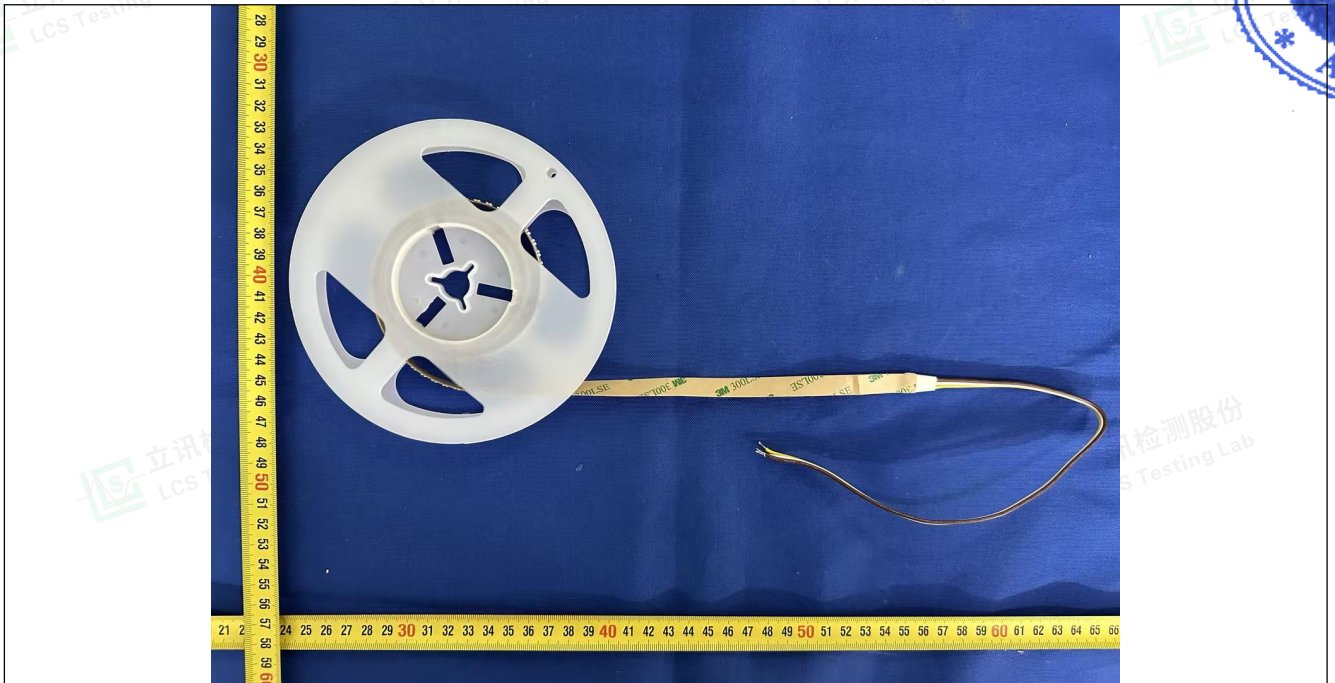


Photo 2



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## Photo Documentation

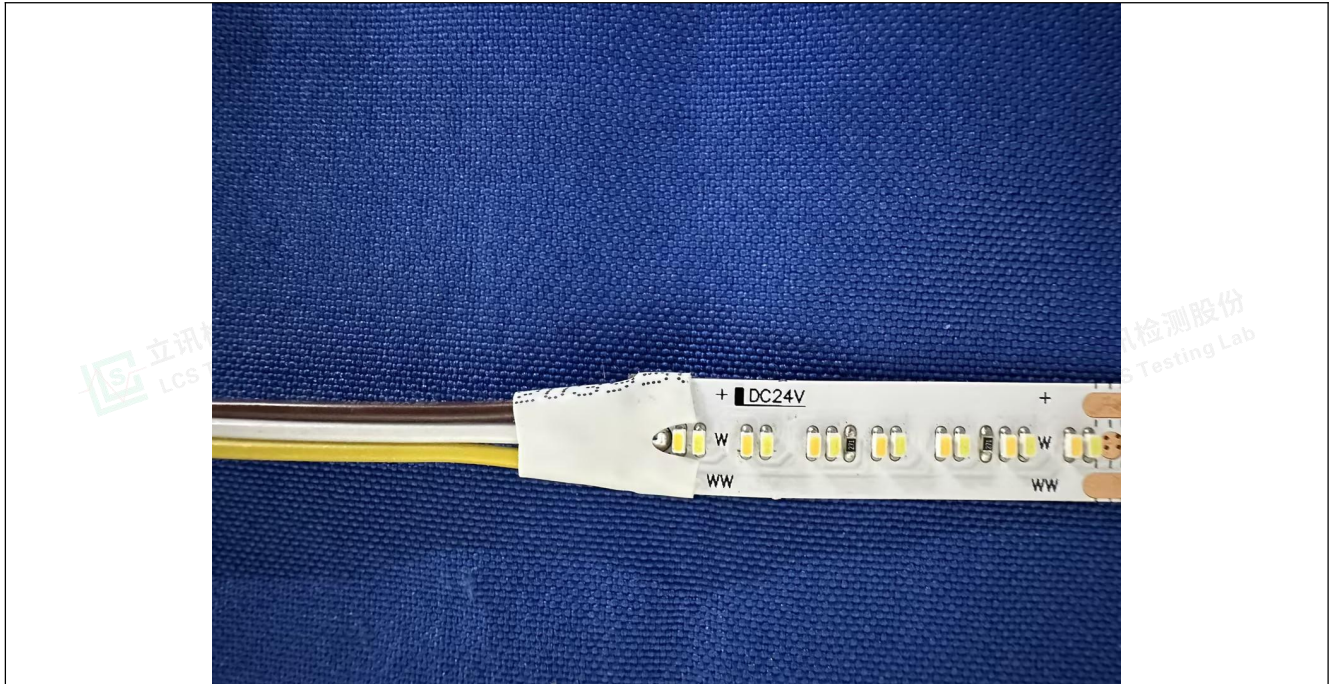


Photo 3



Photo 4





# Attachment No.2

## Photo Documentation

Model: LY840-COBRGBTW-W24

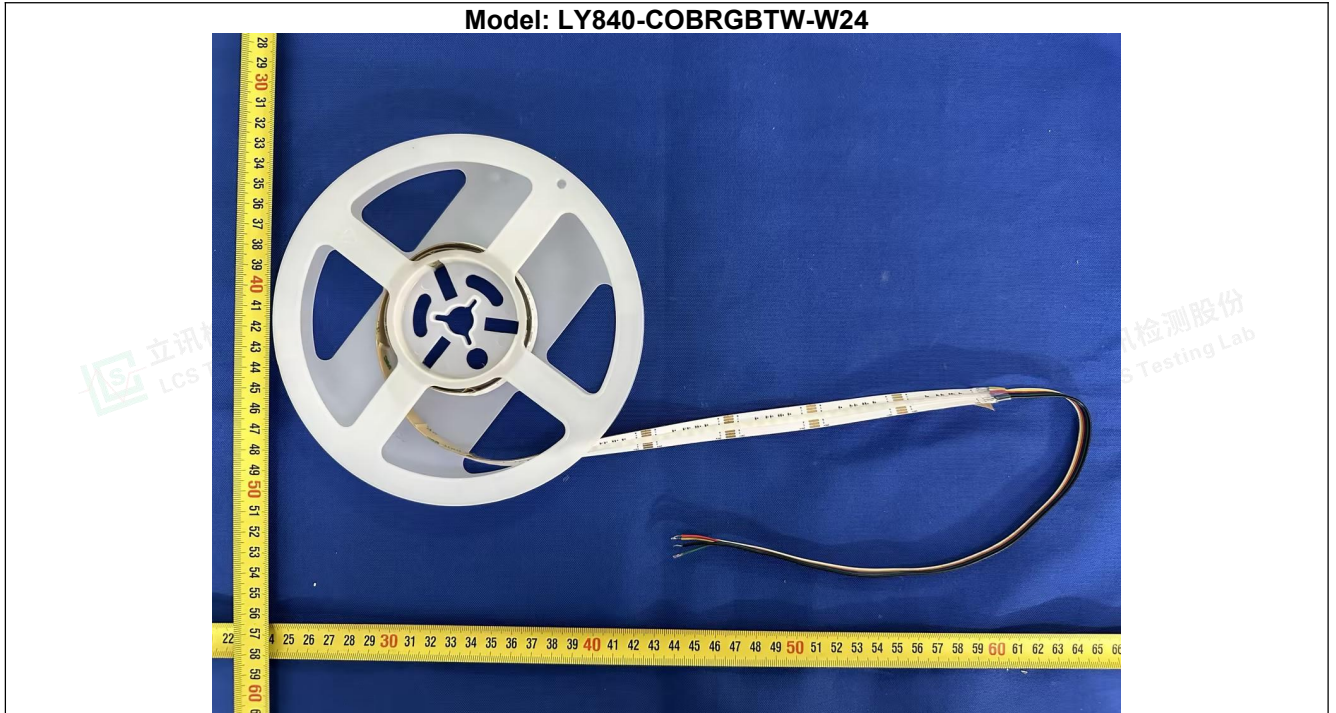


Photo 5

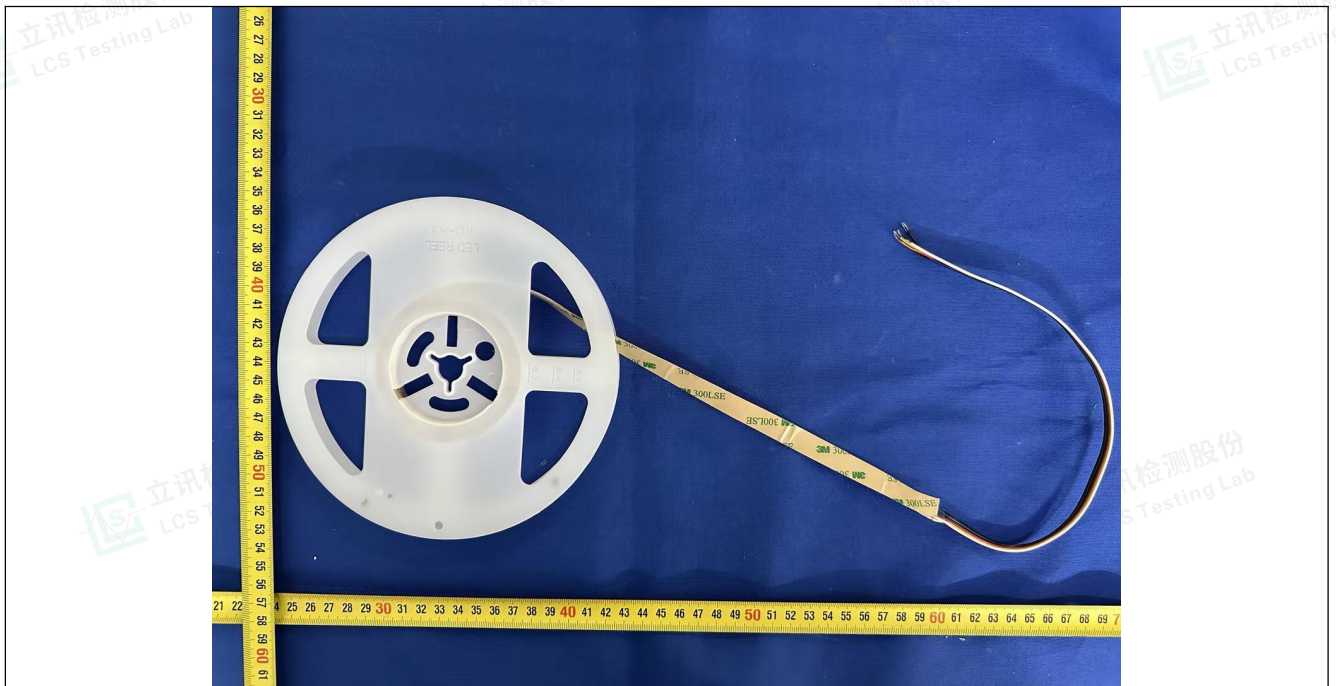


Photo 6



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## Photo Documentation

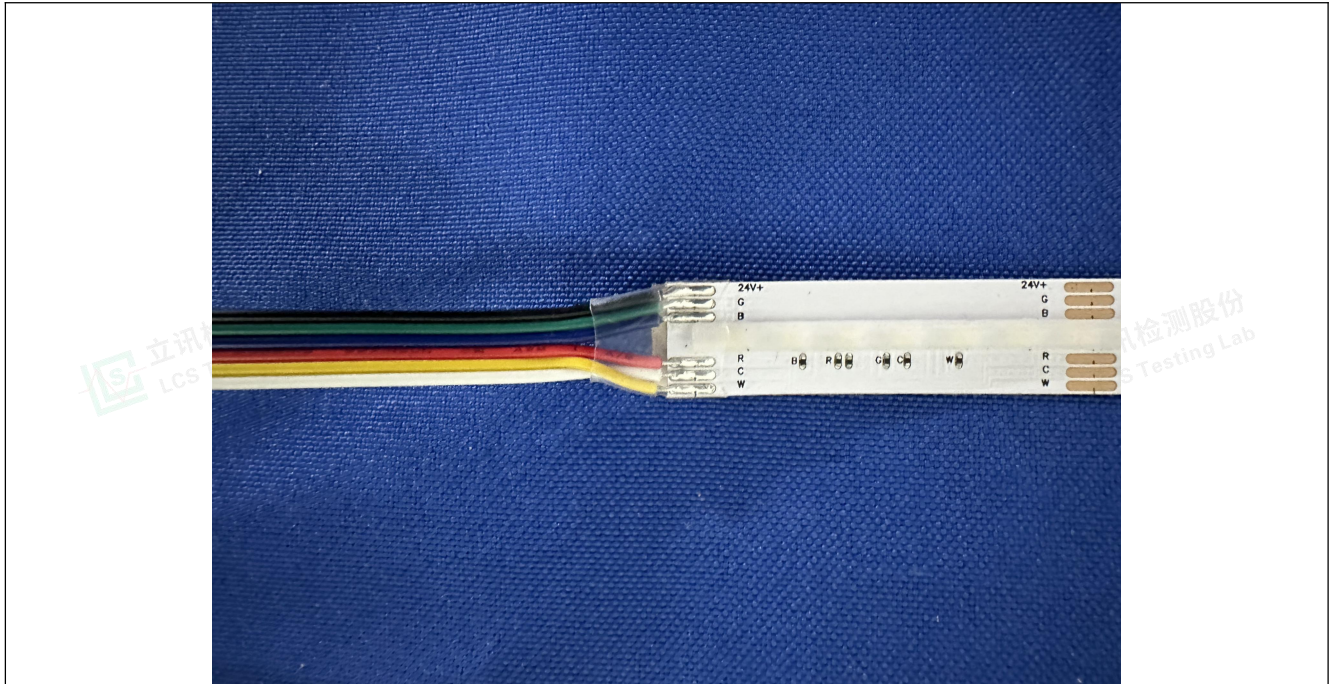


Photo 7



Photo 8





# Attachment No.2

## Photo Documentation

Model: LY80-S3030W-W24



Photo 9

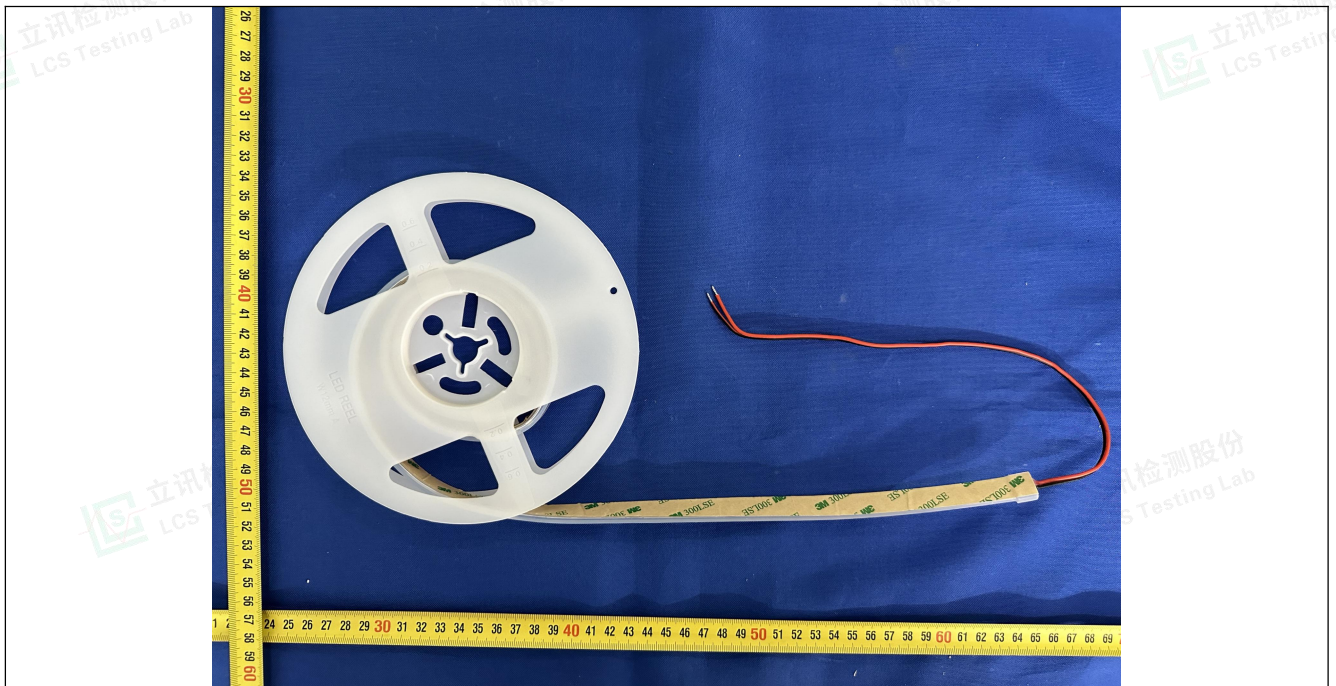


Photo 10



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Attachment No.2

Photo Documentation



Photo 11

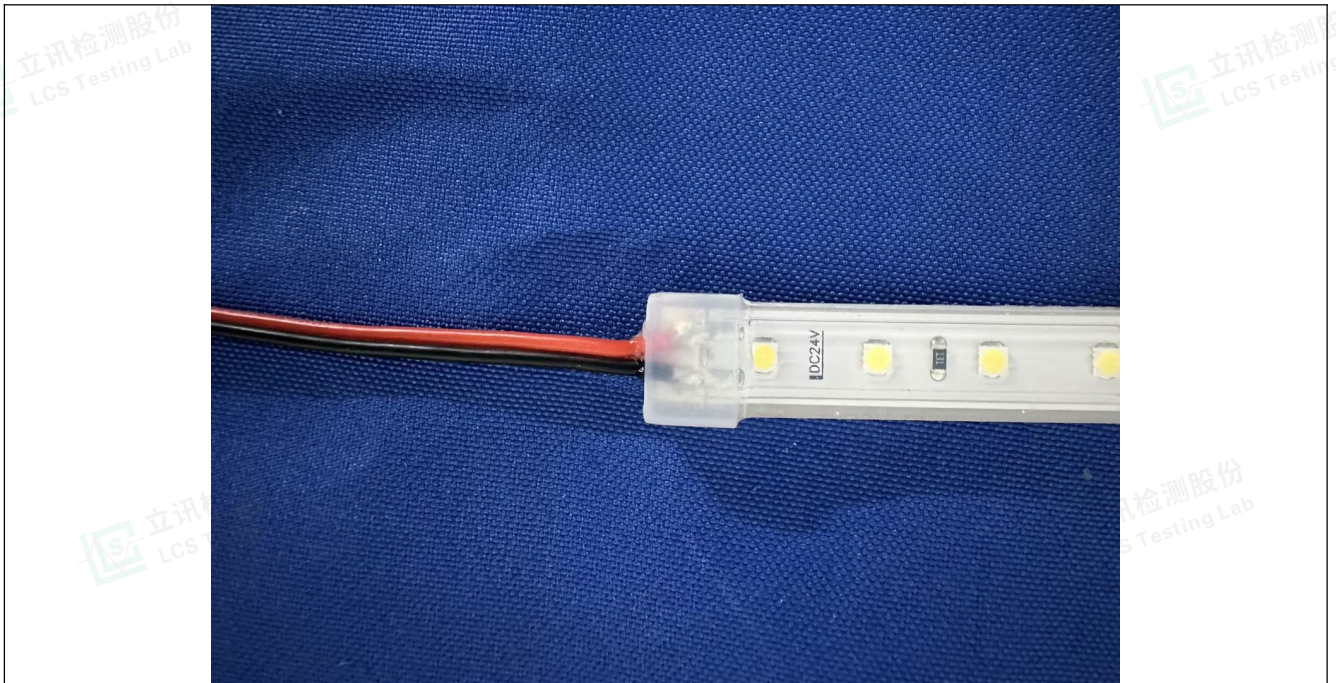


Photo 12







# Attachment No.2

## Photo Documentation



Photo 13

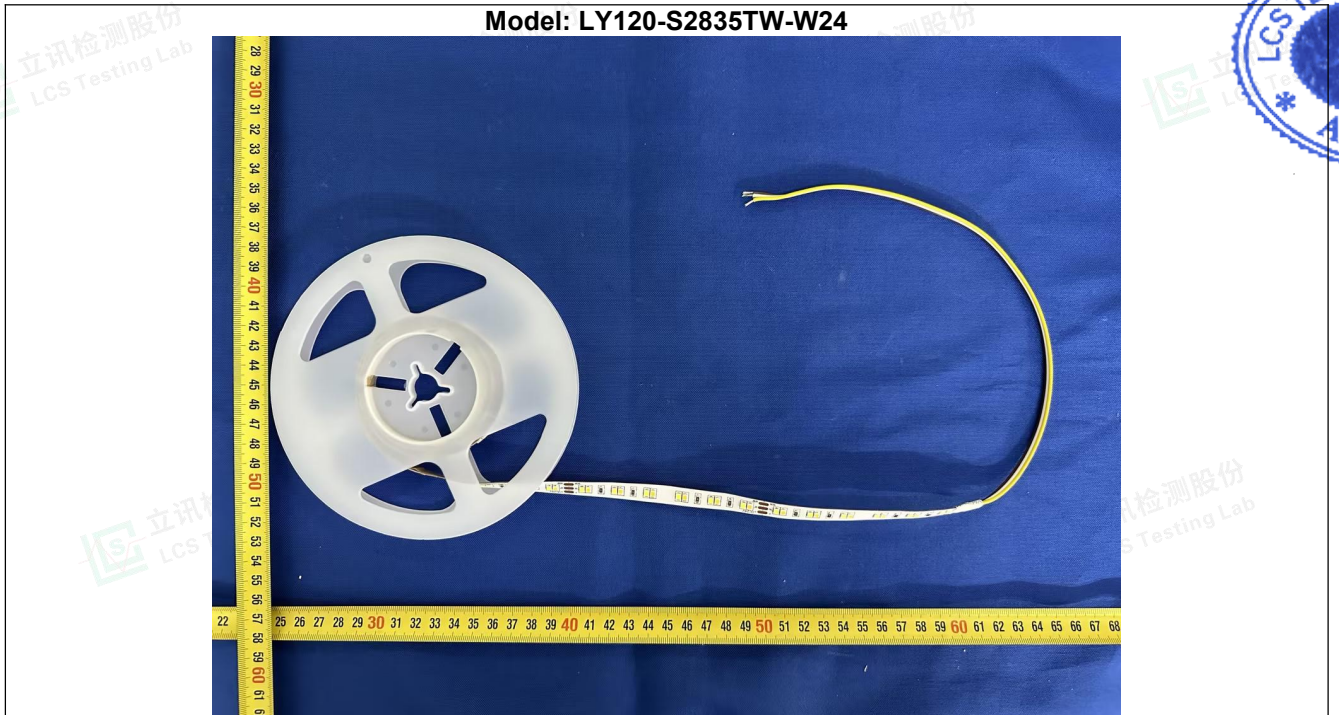


Photo 14



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## Photo Documentation

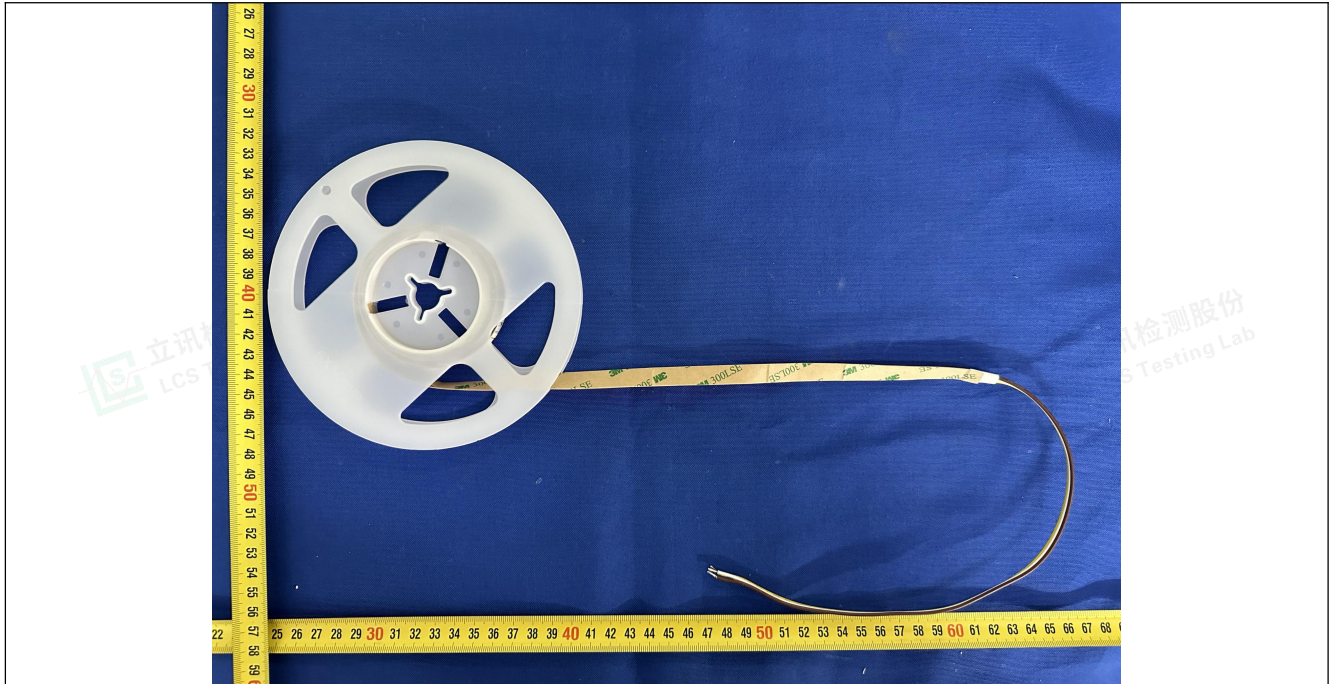


Photo 15

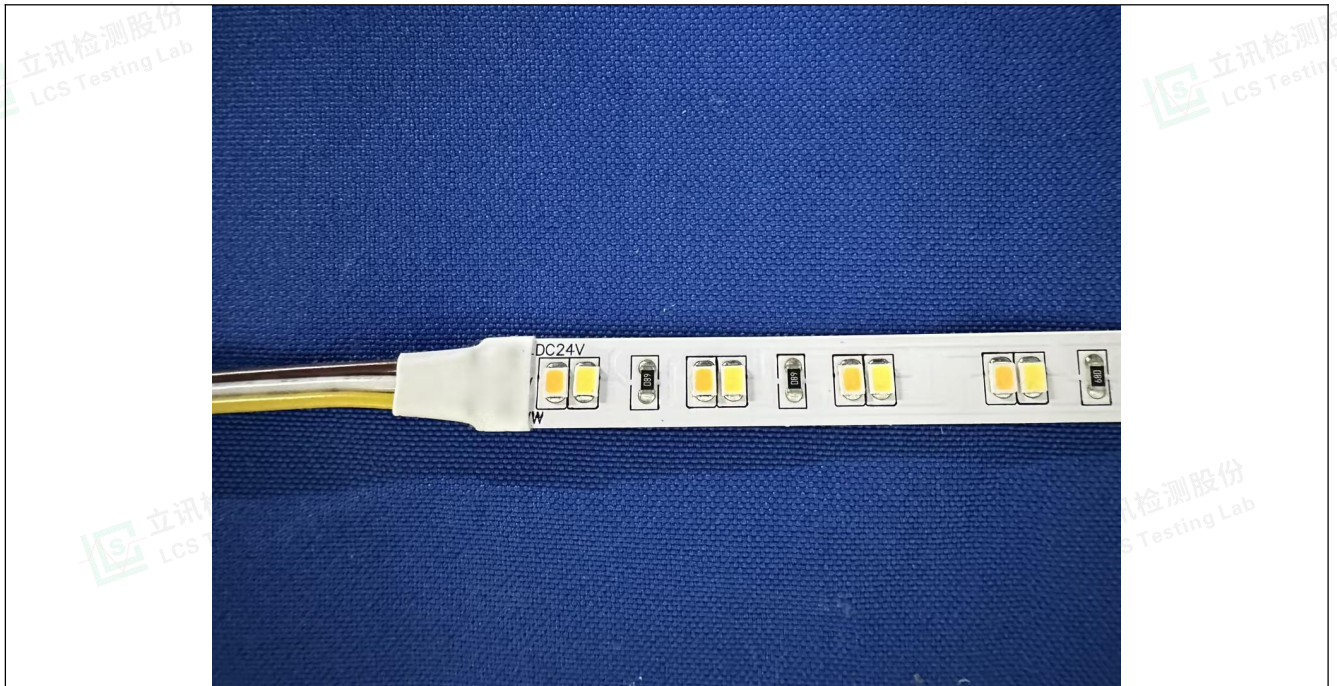


Photo 16





# Attachment No.2

## Photo Documentation

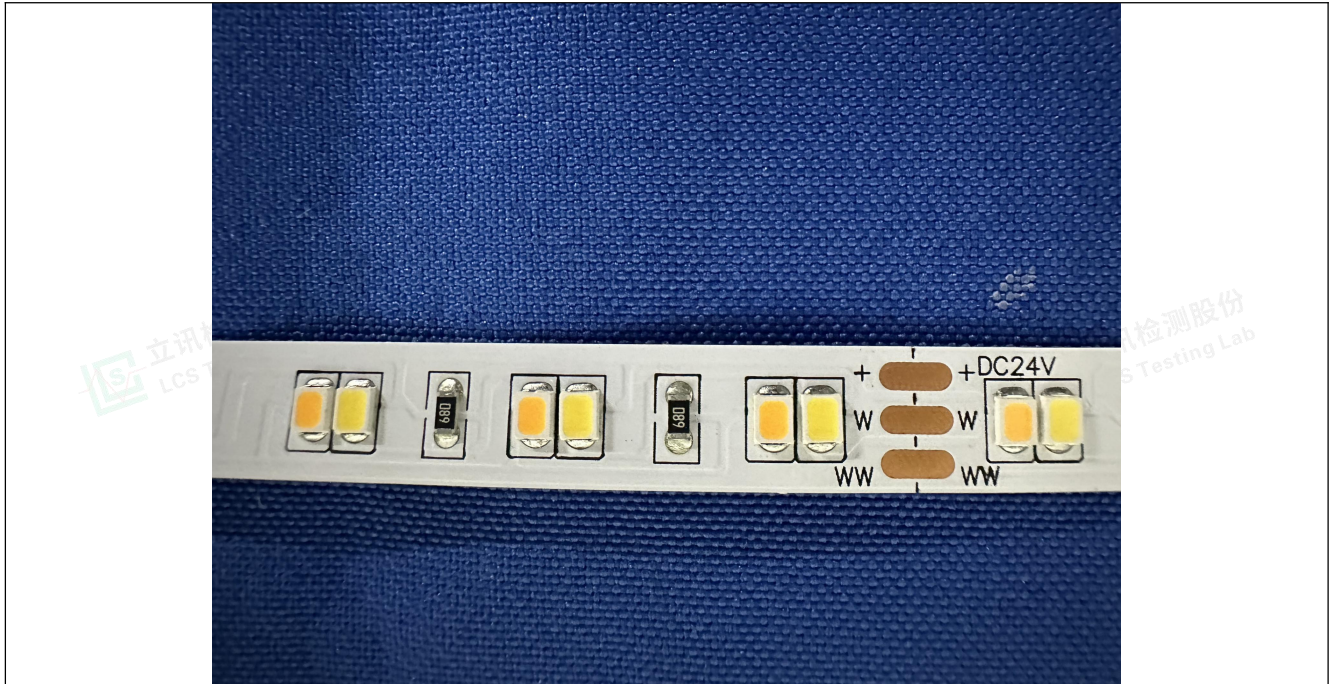


Photo 17

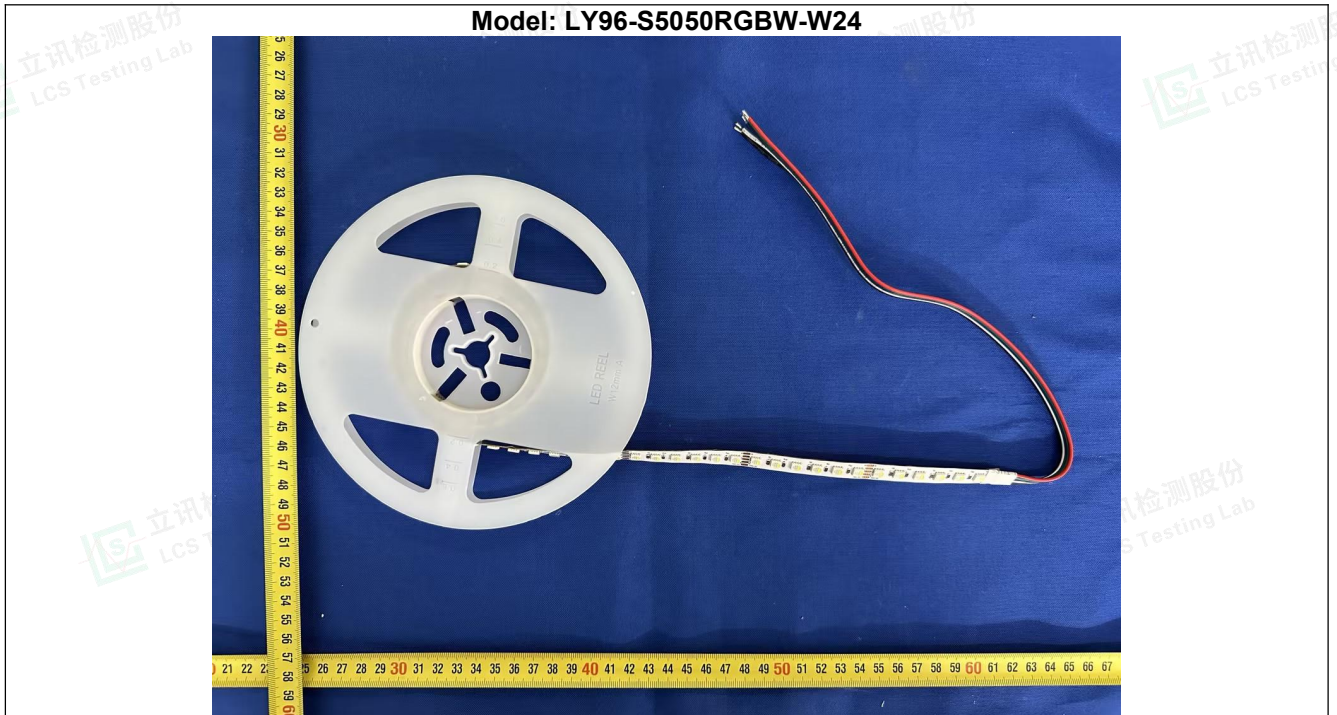


Photo 18



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## Photo Documentation

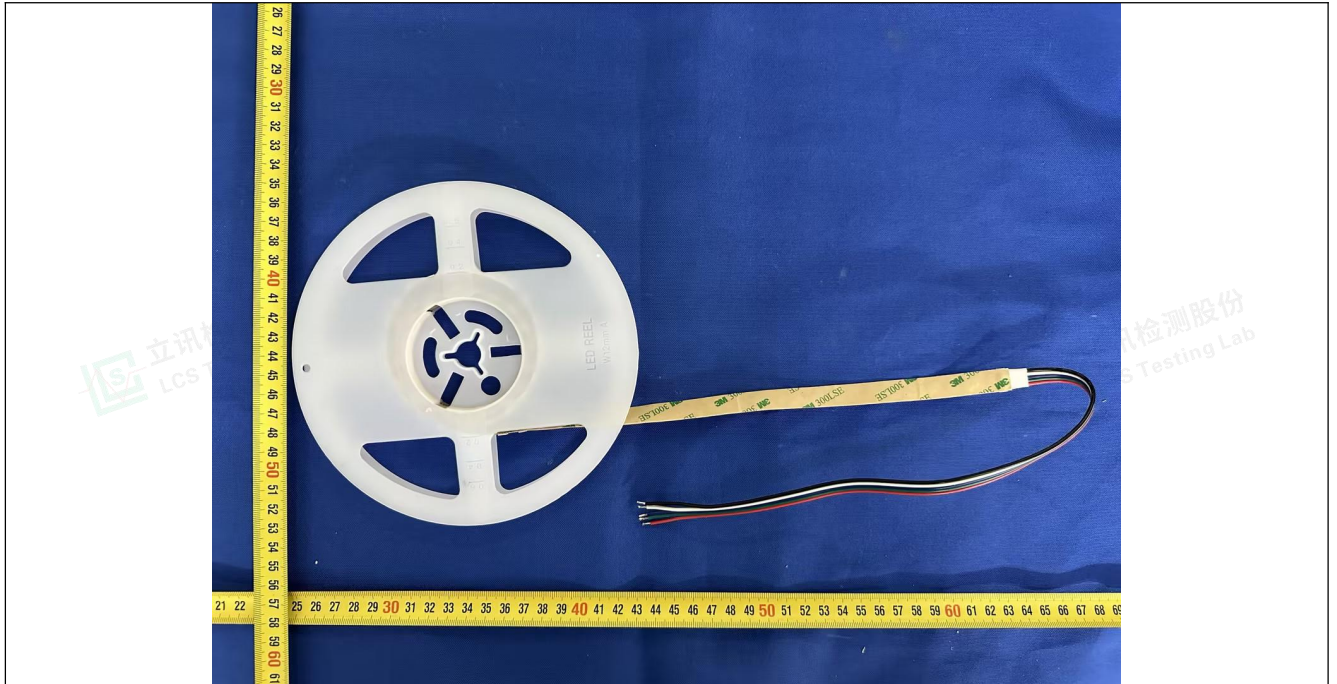


Photo 19



Photo 20



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## Photo Documentation



Photo 21

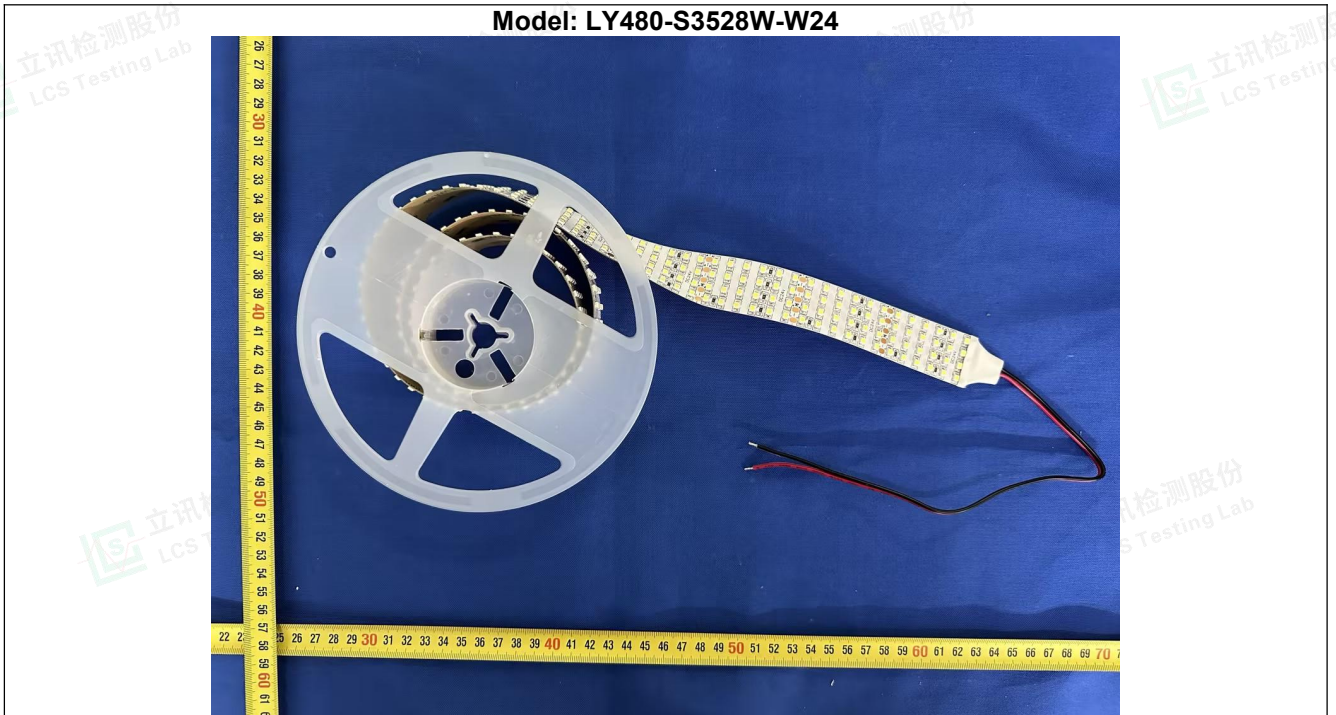


Photo 22



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## Photo Documentation

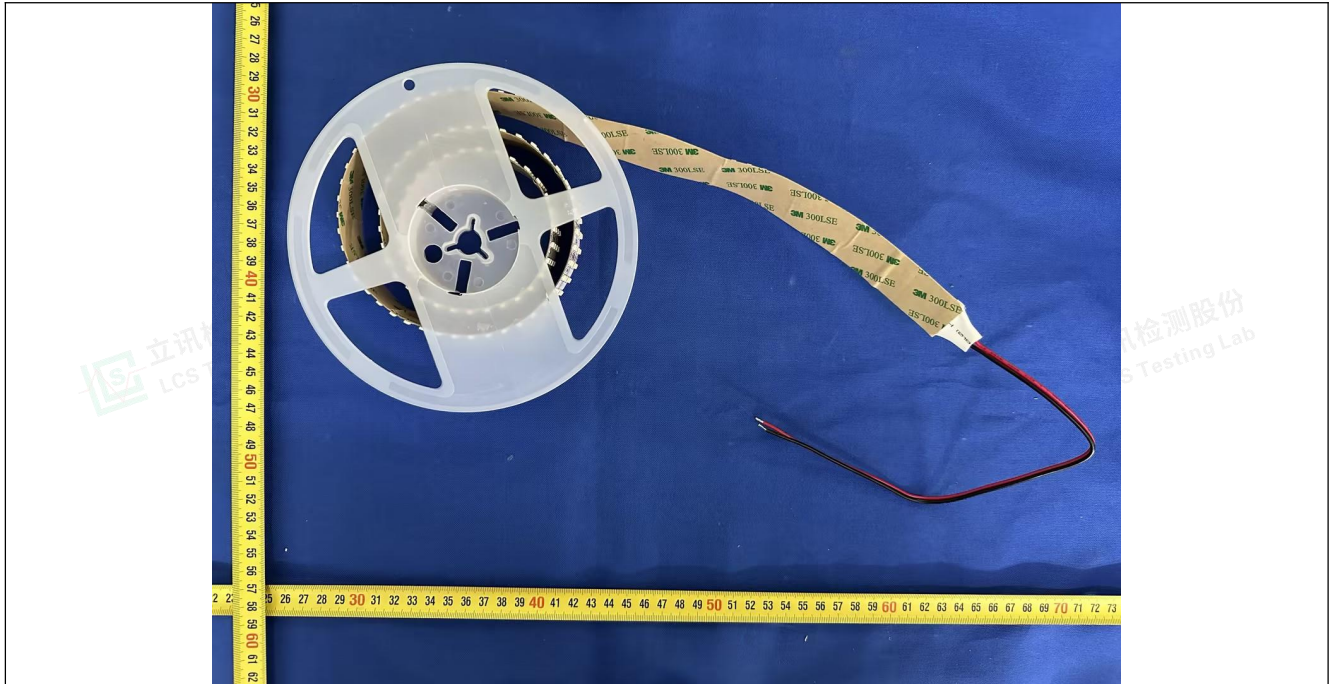


Photo 23

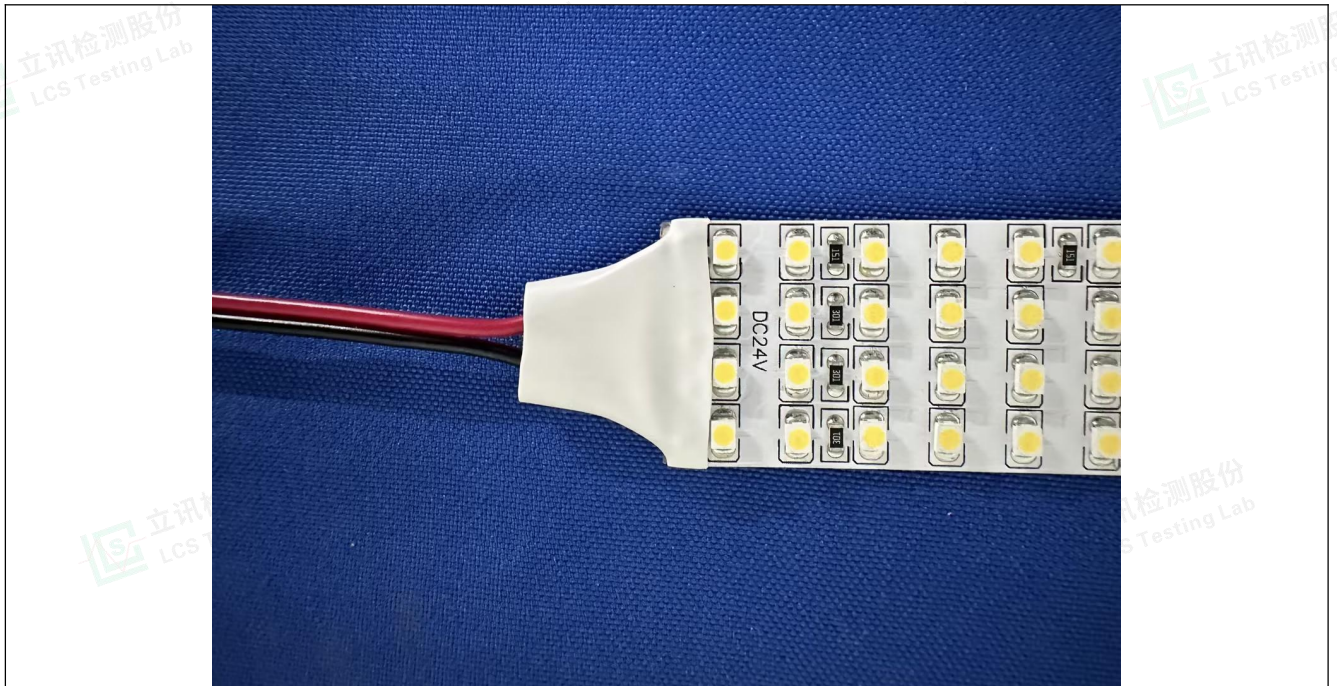


Photo 24





Attachment No.2

Photo Documentation



Photo 25

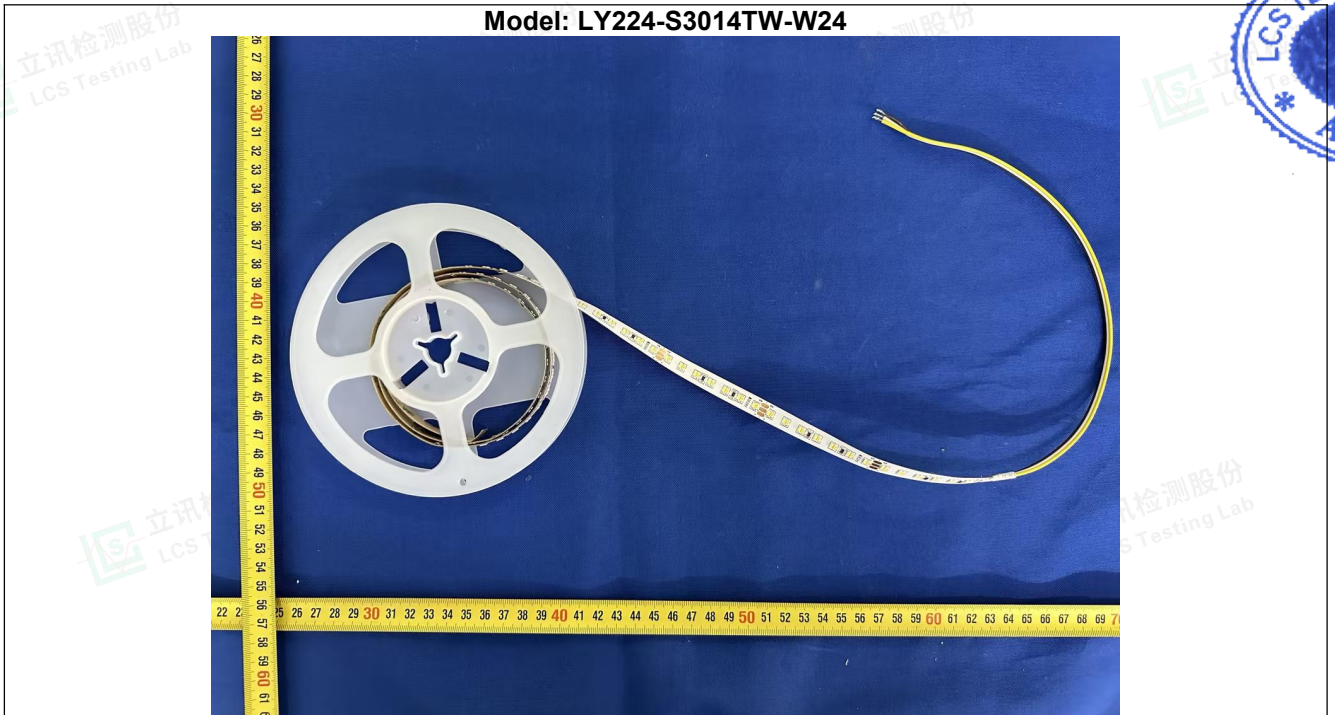


Photo 26



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## Photo Documentation

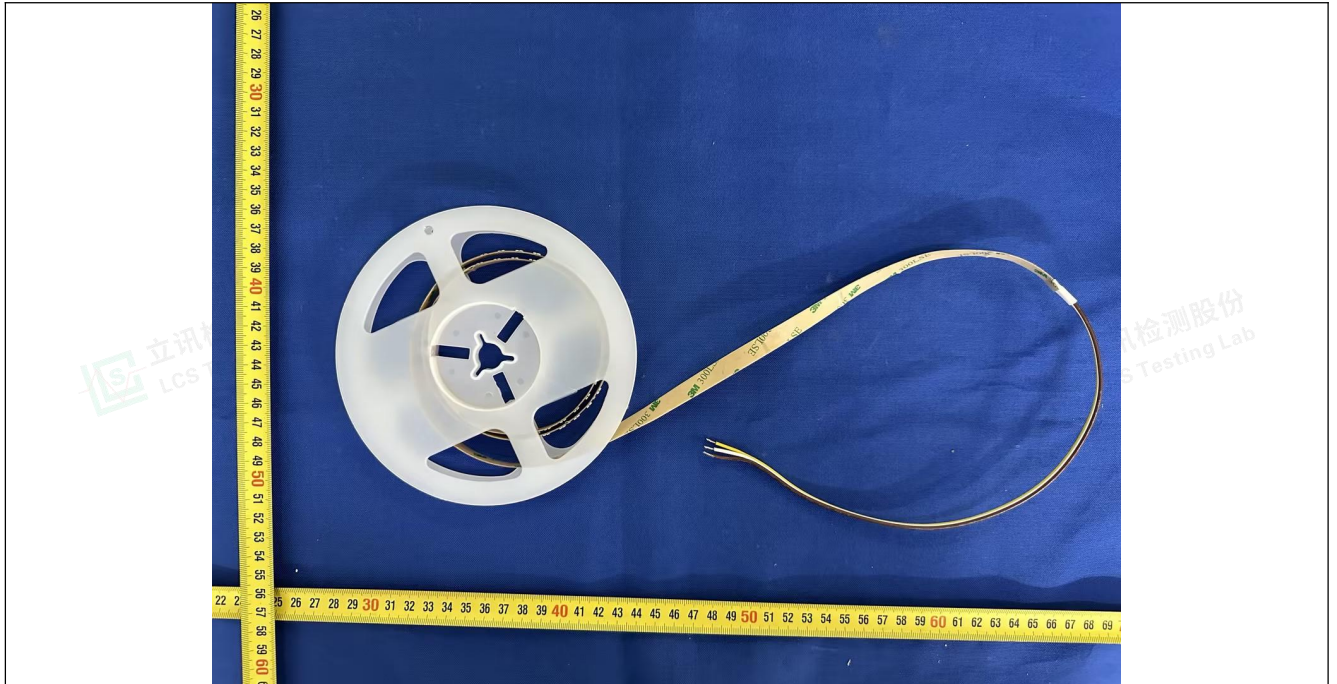


Photo 27



Photo 28



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## Photo Documentation

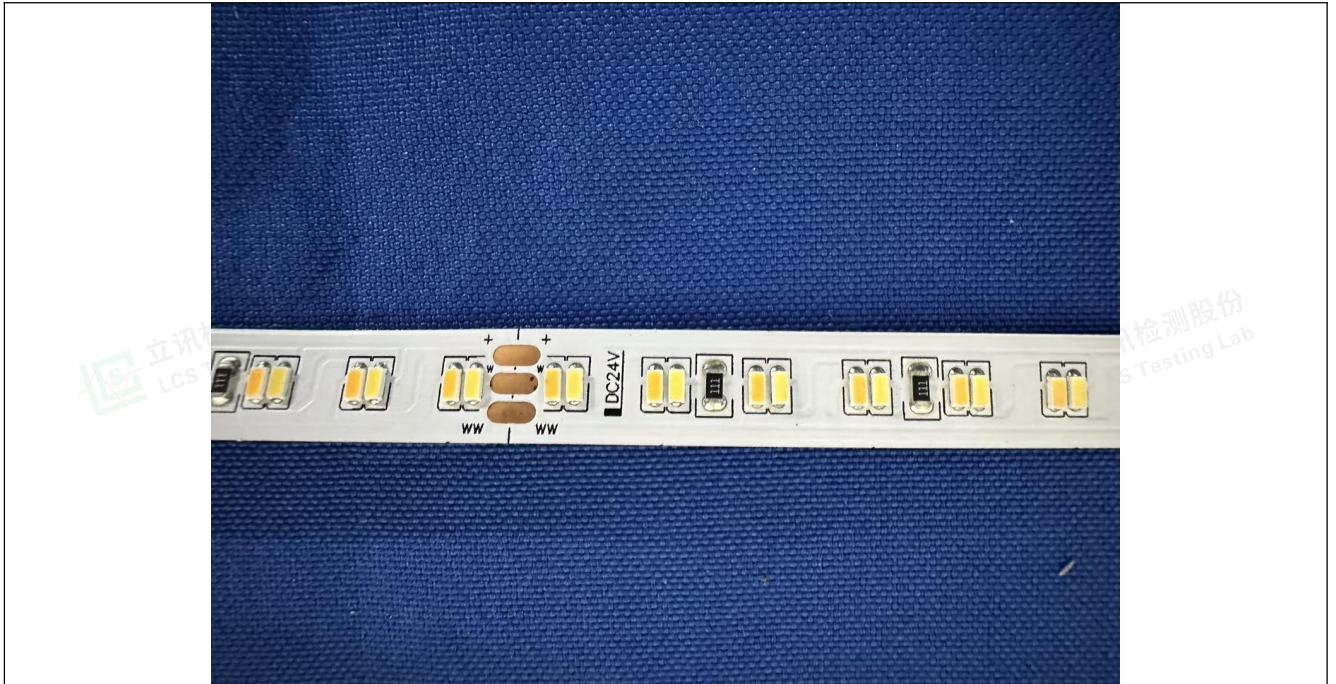


Photo 29

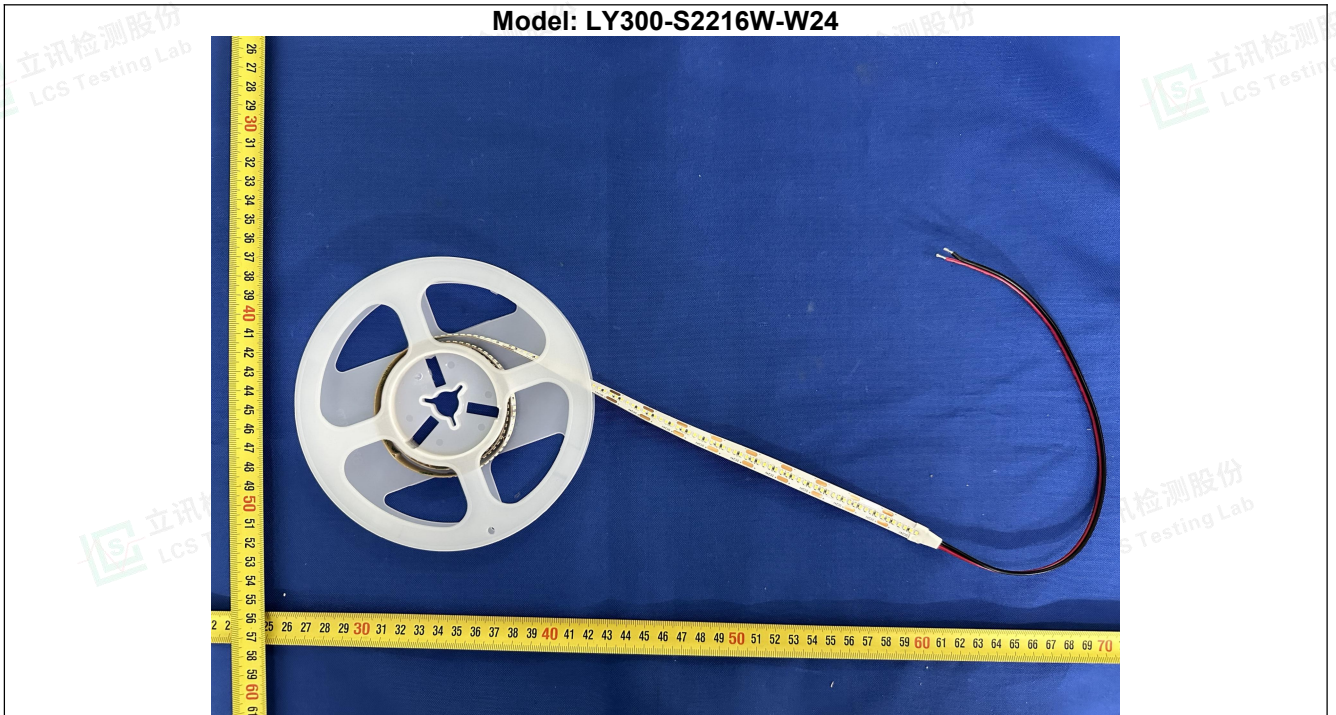


Photo 30



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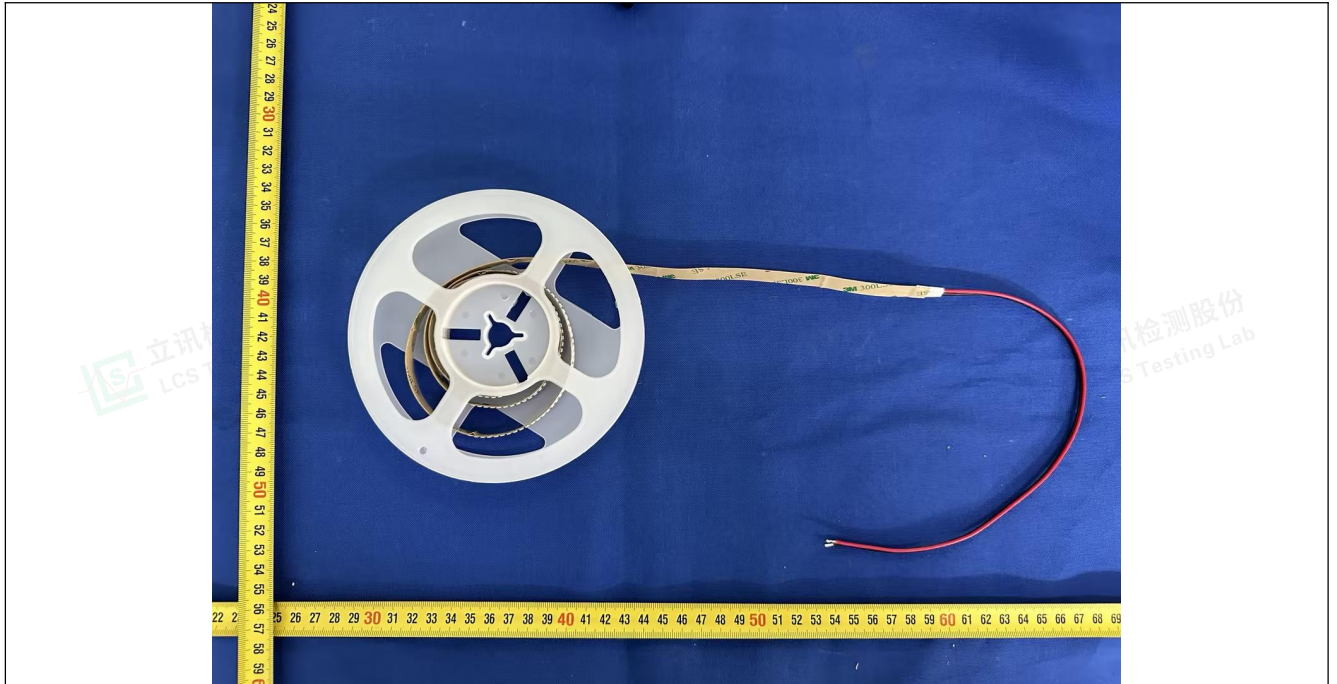


Photo 31

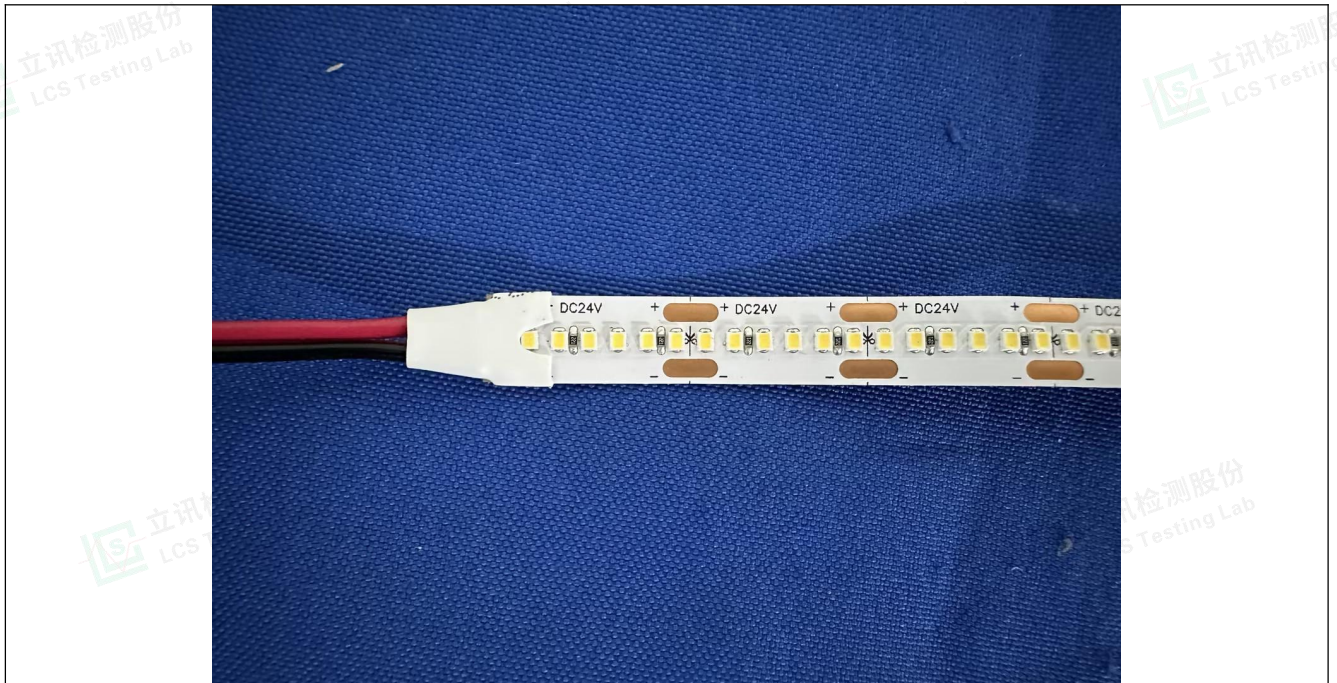


Photo 32





## Attachment No.2

### Photo Documentation



Photo 33

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



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