Verification of Conformity

Certificate No.: 19ZCTE1223005EC

Applicant	:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address	:	Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer	:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address	:	Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product		
Brand Name	:	**XINTONG**
Model No.	:	**SH3103:250W** **SH3101:30W, SH3101:40W, SH3101:50W, SH3101:60W, SH3101:70W, SH3101:80W, SH3102:100W, SH3102:120W, SH3102:150W, SH3103:180W, SH3103:200W, SH3103:240W**

Requirement	Applied Standards	Document Evidence	Result
EMC Directive	2014/30/EU Electromagnetic Compatibility	Test Report: 19ZCTE1223005ER	Conform
EMC Standards	EN 55015:2013/A1:2015 EN 61547:2009 EN 61000-3-2:2014 EN 61000-3-3:2013		

CE

Tomy Wu

Tomy Wu

Dec. 29, 2019

Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s).
Other relevant Directives have to be observed in case they are applicable.
This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market.
The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s).
It is recommended that the product bear the CE mark, the notified body number(s) as depicted to the right,only when all the essential requirements have been met, and has been filed with the European Commission. This certificate can be checked for validity at **www.renzhengjiance.com**

Shenzhen ZCT Technology Co., Ltd.
3/F.,Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street,Bao'an District, Shenzhen, Guangdong, China.
✆ : 400-669-6965 ✆ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : http://www.renzhengjiance.com.

EMC Test Report

CE

Product	:	LED ROAD AND AREA LUMINAIRES
Model Number	:	SH3103:250W SH3101:30W, SH3101:40W, SH3101:50W, SH3101:60W, SH3101:70W, SH3101:80W, SH3102:100W, SH3102:120W, SH3102:150W, SH3103:180W, SH3103:200W, SH3103:240W
Prepared for	:	Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address	:	Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Prepared By	:	Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address	:	Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China Tel : 400-669-6965 Fax : (86) 755-23702323
Report No.	:	19ZCTE1223005ER
Date of Test	:	Dec. 23, 2019-Dec. 30, 2019
Date of Rep.	:	Dec. 30, 2019

Prepared by(Engineer):

Reviewer(Quality Manager):

Approved & Authorized Signer(Manager):

Contents

1 Test Summary

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
EN 55015:2013/A1:2015	Conducted Emission	/	PASS	
	Magnetic Emission	/	PASS	
	Radiated Emission	/	PASS	
EN61000-3-2:2014	Harmonic Current Emission	Class C	PASS	
EN 61000-3-3:2013	Voltage Fluctuations & Flicker	------	PASS	
EMC Immunity				
Section EN 61547:2009	Test Item	Performance Criteria	Judgment	Remark
EN 61000-4-2:2009	Electrostatic Discharge	B	PASS	
EN 61000-4-3:2006/A2:2010	RF electromagnetic field	A	PASS	
EN 61000-4-4:2012	Fast transients	B	PASS	
EN 61000-4-5:2014	Surges	B	PASS	
EN 61000-4-6:2014/AC:2015	Injected Current	A	PASS	
EN 61000-4-8:2010	Power Frequency Magnetic Field	A	PASS	
EN 61000-4-11:2004	Volt. Interruptions Volt. Dips	B	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

(2) Voltage dip: 100% reduction – Performance Criteria **B**

Voltage dip: 30% reduction – Performance Criteria **C**

(3) For client's request and manual description, the test will not be executed.

1.1 Measurement Uncertainty

The report uncertainty of measurement **y ± U** , where expended uncertainty **U** is based on a standard uncertainty Multiplied by a coverage factor of **k=2** , providing a level of confidence of approximately 95% .

No.	Item	Frequency Range	U , Value
1	Power Line Conducted Emission	9KHz~30MHz	1.58 dB
2	MAGNETIC EMISSION MEASUREMENT	9KHz~30MHz	2.00 dB
3	Disturbance Power Emission (Conduction 1)	30MHz~300MHz	3.12 dB
4	Radiated Emission Test	30MHz~1GHz	3.40 dB
5	Radiated Emission Test	1GHz~18GHz	3.30 dB

2 Test Facility

Shenzhen ZCT Technology Co., Ltd.
3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.

2.1 Deviation from standard

None

2.2 Abnormalities from standard conditions

None

3 General Information

3.1 General Description of EUT

Manufacturer:	SHINE OPTO (SUZHOU) CO., LTD
Manufacturer Address:	No.10, HengWei Road, Beiqiao Town, Xiangcheng District, Suzhou, Jiangsu, China
EUT Name:	LED ROAD AND AREA LUMINAIRES
Test Model No:	SH3103:250W
Attached No.:	SH3101:30W, SH3101:40W, SH3101:50W, SH3101:60W, SH3101:70W, SH3101:80W, SH3102:100W, SH3102:120W, SH3102:150W, SH3103:180W, SH3103:200W, SH3103:240W
Brand Name:	N/A
Power Supply Range:	Input: AC 100-277V 50/60Hz 250W
Test Power Supply:	Input: AC 230V 50Hz 250W

3.1.1 EUT Test Mode

Mode 1	ON

4 Equipments List for All Test Items

No.	Equipment	Manufacturer	Model No.	S/N	Cal date
1	EMI Test Receiver	R&S	ESCI	100612	2019-05-31
2	EMI Test Receiver	R&S	ESPI	100067	2019-05-31
3	Amplifier	HP	8447D	1937A02415	2019-05-31
4	Single Power Conductor Module	FCC	FCC-LISN-5-50-1-01-CISPR25	07118	2019-05-31
5	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	9163-387	2019-05-31
6	Horn Antenna	SCHWARZBECK	BBHA9120A	B08000991-0021	2019-05-31
7	High Field Biconical Antenna	ELECTRO-METRICS	EM-6913	169	2019-05-31
8	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	818	2019-05-31
9	Remote Active Vertical Antenna	ELECTRO-METRICS	EM-6892	354	2019-05-31
10	Power Clamp	SCHWARZBECK	MDS-21	3898	2019-05-31
11	Single Power Conductor Module	FCC	FCC-LISN-5-50-1-01-CISPR25	07254	2019-05-31
12	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	D-69124	2019-05-31
13	Positioning Controller	C&C	CC-C-1F	MF7802155	2019-05-31
14	Electrostatic Discharge Simulator	TESEQ	NSG437	128	2019-05-31
15	Fast Transient Burst Generator	SCHAFFNER	MODULA6150	34587	2019-05-31
16	Fast Transient Noise Simulator	Noiseken	FNS-105AX	31438	2019-05-31
17	Capacitive Coupling Clamp	TESEQ	CDN8014	25115	2019-05-31
18	Color TV Pattern Genenator	PHILIPS	PM5418	TM209966	N/A
19	Power Frequency Magnetic Field Gene	EVERFINE	EMS61000-8K	608085	2019-05-31
20	Triple-Loop Antenna	EVERFINE	LLA-2	607035	2019-05-31
21	10dB attenuator	SCHWARZBECK	MTAIMP-136	R65.90.0009	2019-05-31
22	AC Power Source	California Instrumnets	5001ix-400-N0	HK53570	2019-05-31
23	Power Analyzer	California Instrumnets	PACS-1	X71719	2019-05-31

5 Emission Test Results

5.1 Mains Terminals Disturbance Voltage Measurement

POWER LINE CONDUCTED EMISSION(Frequency Range 9KHz-30MHz)

FREQUENCY (MHz)	(dBuV)	
	Quasi-peak	Average
0.009-0.05	110	--
0.05-0.15	90-80	--
0.15 -0.5	66 - 56 *	56- 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

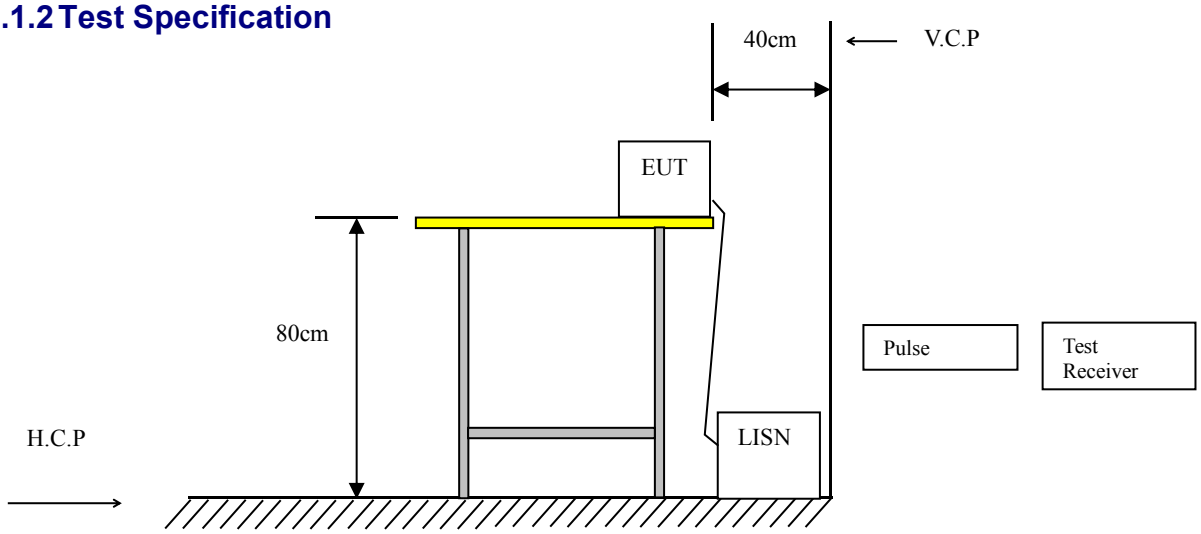
(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximized peak within 6dB of Average Limit

5.1.1 E.U.T. Operation

Temperature:	24◦C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

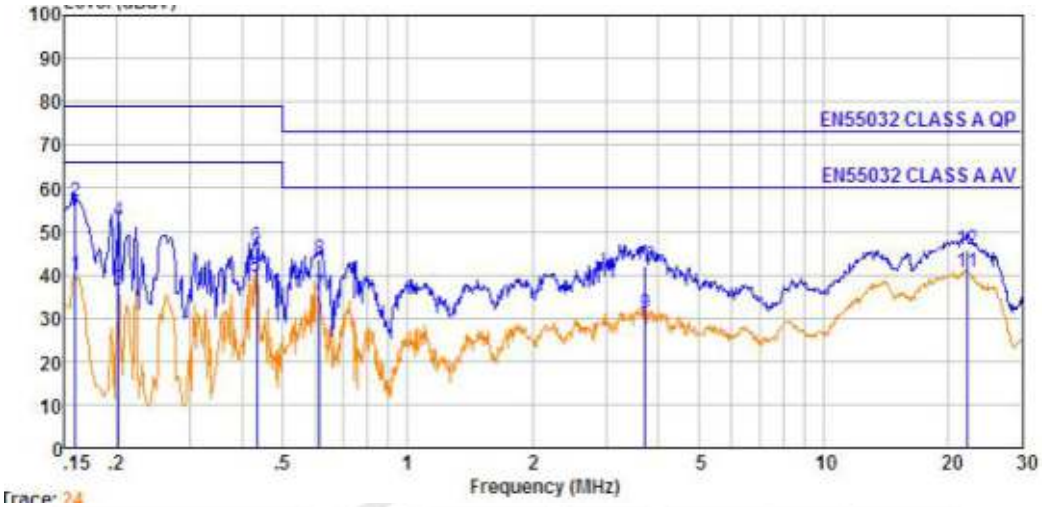
5.1.2 Test Specification



EUT was placed upon a wooden test table 0.8m above the horizontal metal reference plane and 0.4m from the vertical ground plane, and it was connected to an AMN. The closest distance between the boundary of the EUT and the surface of the AMN is 0.8m. All peripherals were connected to another AMN, and placed at a distance of 10cm from each other. A spectrum and receiver was connected to the RF output port of the AMN. Both average and quasi-peak value were detected.

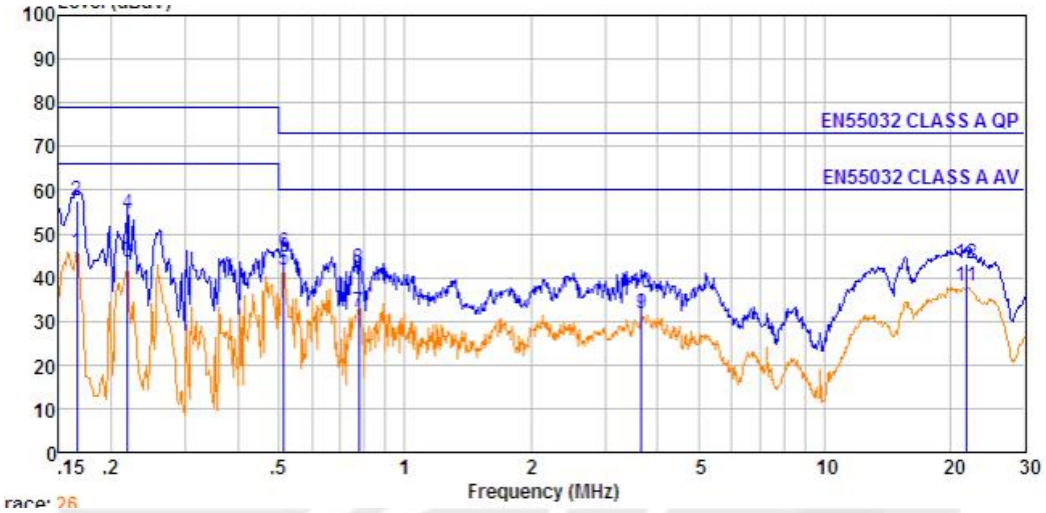
5.1.3 Measurement Data

EUT:	LED ROAD AND AREA L UMINAIRES	Model No.:	SH3103:250W
Temperature:	24 ℃	Relative Humidity:	55%
Probe:	L	Test Power:	AC 230V
Standard:	EN55015 Class B Conduction(QP)	Test Result:	Pass
Test Mode:	ON	Test By:	King



No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuV	Emission Level dBuV	Limit dBuV	Over Limit dB	Remark
1.	0.159	0.22	9.51	30.03	39.76	66.00	-26.24	Average
2.	0.159	0.22	9.51	47.05	56.78	79.00	-22.22	QP
3.	0.202	0.28	9.59	26.52	36.39	66.00	-29.61	Average
4.	0.202	0.28	9.59	42.56	52.43	79.00	-26.57	QP
5.	0.433	0.41	9.75	29.37	39.53	66.00	-26.47	Average
6.	0.433	0.41	9.75	36.39	46.55	79.00	-32.45	QP
7.	0.614	0.44	9.79	25.14	35.37	60.00	-24.63	Average
8.	0.614	0.44	9.79	33.18	43.41	73.00	-29.59	QP
9.	3.720	0.47	9.89	20.61	30.97	60.00	-29.03	Average
10.	3.720	0.47	9.89	31.62	41.98	73.00	-31.02	QP
11.	22.063	0.46	9.86	30.37	40.69	60.00	-19.31	Average
12.	22.063	0.46	9.86	35.30	45.62	73.00	-27.38	QP

EUT:	LED ROAD AND AREA L UMINAIRES	Model No.:	SH3103:250W
Temperature:	24 ℃	Relative Humidity:	55%
Probe:	N	Test Power:	AC 230V
Standard:	EN55015 Class B Conduction(QP)	Test Result:	Pass
Test Mode:	ON	Test By:	King



No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuV	Emission Level dBuV	Limit dBuV	Over Limit dB	Remark
1.	0.166	0.23	9.56	35.98	45.77	66.00	-20.23	Average
2.	0.166	0.23	9.56	47.91	57.70	79.00	-21.30	QP
3.	0.219	0.30	9.64	33.52	43.46	66.00	-22.54	Average
4.	0.219	0.30	9.64	44.50	54.44	79.00	-24.56	QP
5.	0.516	0.43	9.81	31.57	41.81	60.00	-18.19	Average
6.	0.516	0.43	9.81	35.48	45.72	73.00	-27.28	QP
7.	0.775	0.45	9.84	21.64	31.93	60.00	-28.07	Average
8.	0.775	0.45	9.84	31.67	41.96	73.00	-31.04	QP
9.	3.661	0.47	9.93	21.23	31.63	60.00	-28.37	Average
10.	3.661	0.47	9.93	26.20	36.60	73.00	-36.40	QP
11.	21.715	0.45	10.00	27.56	38.01	60.00	-21.99	Average
12.	21.715	0.45	10.00	32.58	43.03	73.00	-29.97	QP

5.2 MAGNETIC EMISSION MEASUREMENT

Frequency Range:	9kHz to 30MHz

Limits of Radiated Emission Measurement

Frequency	☒ 2m	☐ 3m	☒ 4m
	dB(μA)	dB(μA)	dB(μA)
9 KHz~ 70 KHz	88	81	75
70 KHz ~ 150 KHz	88 to 58(2)	81 to 51	75 to 45
150 KHz ~ 3 MHz(1)	58 to 22(2)	51 to 15	45 to 9
3 MHz ~ 30 MHz(1)	22	15 to 16	9 to 12

(1)The tighter limit applies at the band edges.
(2)The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

Detector:	Peak for pre-scan
	Quasi-Peak if maximum peak within 6dB of limit

5.2.1 E.U.T. Operation

Temperature:	24.1◦C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

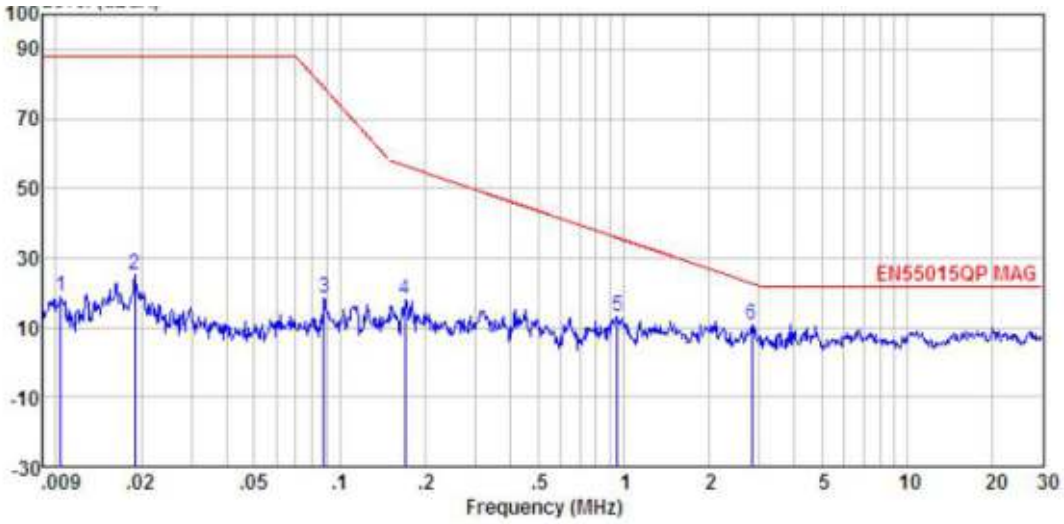
5.2.2 Test Specification

EUT was placed upon a wooden test table which was placed in the center of the test antenna, and operating in the mode as mentioned above. A receiver is used to detect the actual value of each frequency which need to be checked. All three field directions were measured in sequence.

5.2.3 Measurement Data

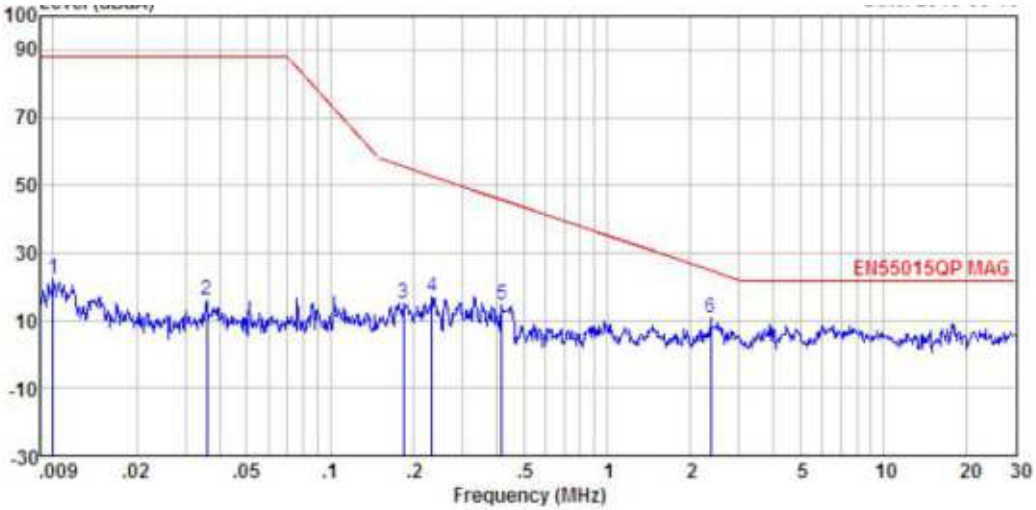
An initial pre-scan was performed using the receiver in peak detection mode. The EUT was measured by 3 antenna position and peak emissions from the EUT were detected within 6dB of the class B limit line. The following quasi-peak measurements were performed on the EUT.

EUT:	LED ROAD AND AREA LU MINAIRES	Model No.:	SH3103:250W
Temperature:	24.1 ℃	Relative Humidity:	55%
Probe:	L1	Test Power:	AC 230V
Standard:	EN55015 TRIPLE LOOP	Test Result:	Pass
Test Mode:	ON	Test By:	King



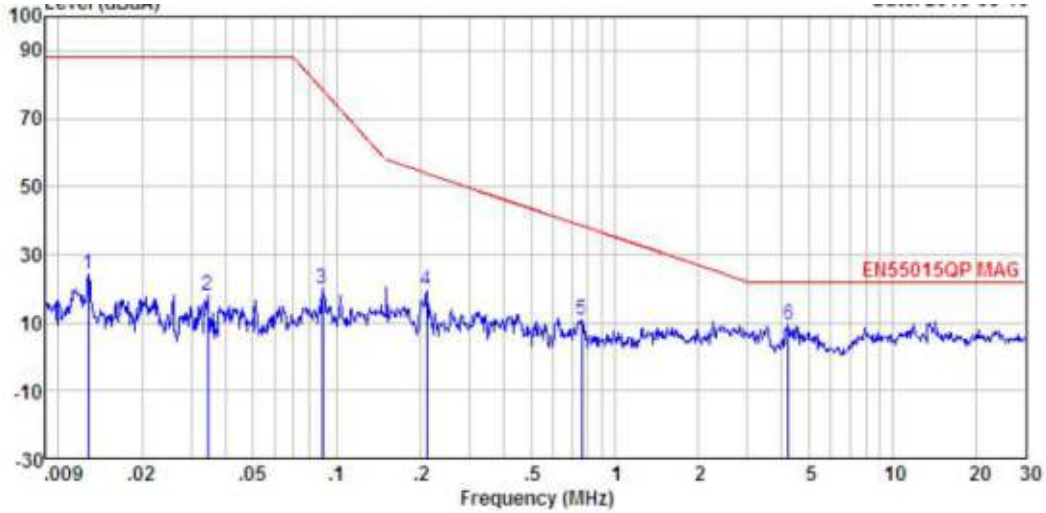
No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuA	Emission Level dBuA	Limit dBuA	Over Limit dB	Remark
1.	0.010	10.80	0.97	7.21	18.98	88.00	-69.02	QP
2.	0.019	10.75	0.97	13.60	25.32	88.00	-62.68	QP
3.	0.088	10.64	0.92	6.77	18.33	79.02	-60.69	QP
4.	0.170	10.60	0.90	6.45	17.95	56.52	-38.57	QP
5.	0.955	10.67	0.59	1.94	13.20	35.76	-22.56	QP
6.	2.831	10.71	0.73	-0.85	10.59	22.70	-12.11	QP

EUT:	LED ROAD AND AREA L UMINAIRES	Model No.:	SH3103:250W
Temperature:	24.1 ℃	Relative Humidity:	55%
Probe:	L2	Test Power:	AC 230V
Standard:	EN55015 TRIPLE LOOP	Test Result:	Pass
Test Mode:	ON	Test By:	King



No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuA	Emission Level dBuA	Limit dBuA	Over Limit dB	Remark
1.	0.010	10.80	0.97	10.60	22.37	88.00	-65.63	QP
2.	0.036	10.71	0.98	4.39	16.08	88.00	-71.92	QP
3.	0.184	10.61	0.92	3.40	14.93	55.55	-40.62	QP
4.	0.233	10.62	0.98	5.42	17.02	52.72	-35.70	QP
5.	0.417	10.64	0.94	2.84	14.42	45.70	-31.28	QP
6.	2.368	10.70	0.70	-0.82	10.58	24.84	-14.26	QP

EUT:	LED ROAD AND AREA L UMINAIRES	Model No.:	SH3103:250W
Temperature:	24.1 ℃	Relative Humidity:	55%
Probe:	L3	Test Power:	AC 230V
Standard:	EN55015 TRIPLE LOOP	Test Result:	Pass
Test Mode:	ON	Test By:	King



No.	Freq MHz	Cable Loss dB	AMN Factor dB	Receiver Reading dBuA	Emission Level dBuA	Limit dBuA	Over Limit dB	Remark
1.	0.013	10.78	0.97	12.29	24.04	88.00	-63.96	QP
2.	0.034	10.71	0.98	6.22	17.91	88.00	-70.09	QP
3.	0.089	10.64	0.92	8.31	19.87	78.70	-58.83	QP
4.	0.211	10.61	0.96	7.75	19.32	53.89	-34.57	QP
5.	0.761	10.66	0.73	-0.59	10.80	38.49	-27.69	QP
6.	4.213	10.73	0.85	-2.03	9.55	22.00	-12.45	QP

5.3 Radiated Emission Measurement

Limits of Radiated Emission Measurement (Below 1GHz)

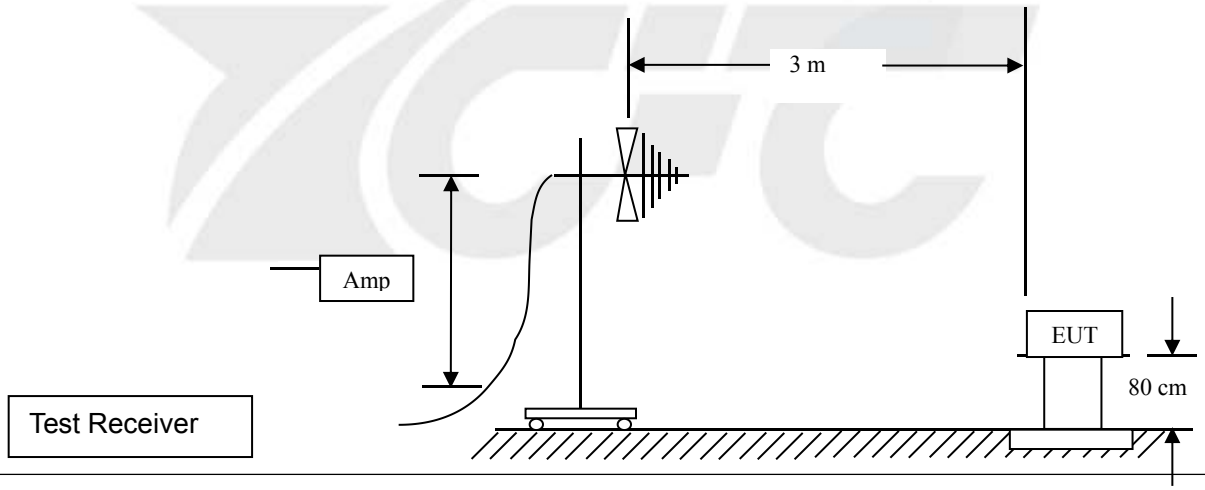
Frequency (MHz)	☐ Class A (10m)	☒ Class B (3m)
	Quasi-Peak dB(μV/m)	Quasi-Peak dB(μV/m)
30 ~ 230	40.0	40.0
230 ~ 300	47.0	47.0

Detector:	Peak for pre-scan (120kHz resolution bandwidth) Quasi-Peak if maximum peak within 6dB of limit

5.3.1 E.U.T. Operation

Temperature:	24.3°C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

5.3.2 Test Specification



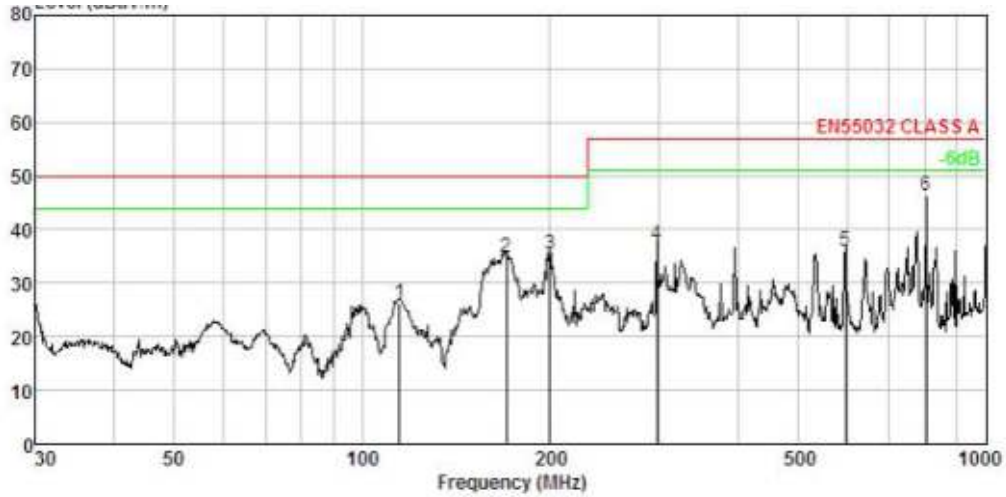
EUT was placed upon a wooden test table which was placed on the turn table 0.8m above the horizontal metal ground plane, and operating in the mode as mentioned above. A receiving antenna was placed 3m away from the EUT. During testing, turn around the turn table and move the antenna from 1m to 4m to find the maximum field-strength reading. All peripherals were placed at a distance of 10cm between each other. Both horizontal and vertical antenna polarities were tested.

5.3.3 Measurement Data

An initial pre-scan was performed in the 3m chamber using the spectrum analyzers in peak detection mode. The EUT was measured by Biology antenna with 2 orthogonal polarities and peak emissions from the EUT were detected within 6dB of the class B limit line.

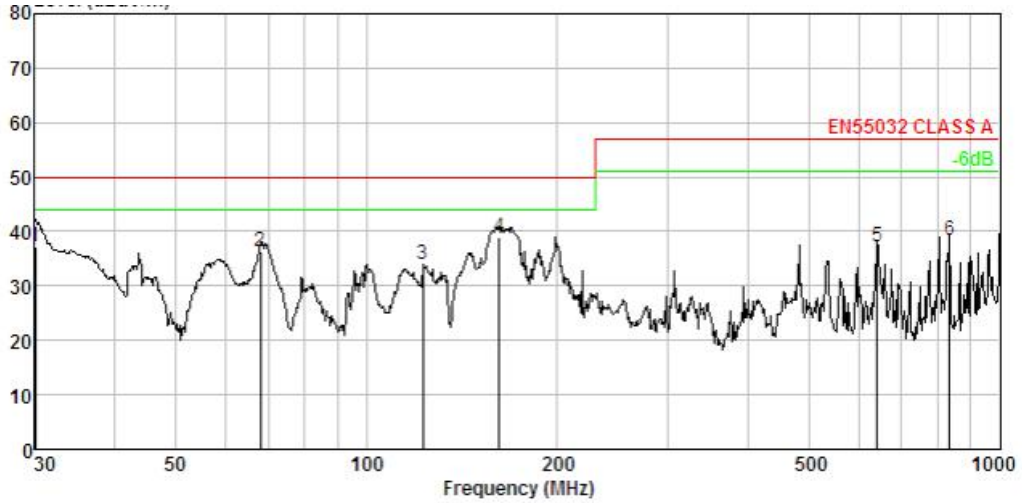
The following quasi-peak measurements were performed on the EUT.

EUT:	LED ROAD AND AREA LU MINAIRES	**Model No.:**	SH3103:250W
Temperature:	24.3℃	**Relative Humidity:**	55%
Distance:	3m	**Test Power:**	AC 230V
Polarization:	Horizontal	**Test Result:**	Pass
Standard:	(RE)EN55015 class B 3m	**Test By:**	King



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	114.917	2.27	11.55	42.78	30.44	26.16	50.00	-23.84	QP
2.	170.195	2.63	13.31	49.33	30.57	34.70	50.00	-15.30	QP
3.	199.986	2.77	10.38	52.94	30.63	35.46	50.00	-14.54	QP
4.	297.224	3.13	13.14	51.61	30.77	37.11	57.00	-19.89	QP
5.	595.133	3.76	19.03	44.12	31.01	35.90	57.00	-21.10	QP
6.	801.786	4.03	21.77	51.80	31.11	46.49	57.00	-10.51	QP

EUT:	LED ROAD AND AREA L UMINAIRES	Model No.:	SH3103:250W
Temperature:	24.3℃	Relative Humidity:	55%
Distance:	3m	Test Power:	AC 230V
Polarization:	Vertical	Test Result:	Pass
Standard:	(RE)EN55015 class B 3m	Test By:	King



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Preamp Factor dB	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	30.000	1.06	13.24	53.00	29.97	37.33	50.00	-12.67	QP
2.	68.151	1.80	10.66	53.99	30.26	36.19	50.00	-13.81	QP
3.	122.834	2.33	12.20	49.95	30.46	34.02	50.00	-15.98	QP
4.	162.041	2.58	13.76	53.20	30.56	38.98	50.00	-11.02	QP
5.	640.611	3.83	19.45	45.05	31.04	37.29	57.00	-19.71	QP
6.	833.317	4.06	21.97	43.60	31.13	38.50	57.00	-18.50	QP

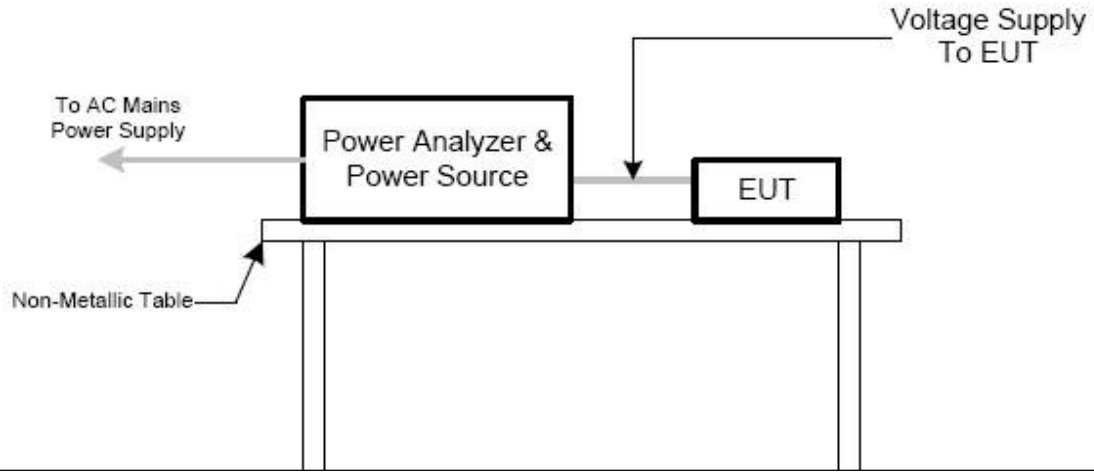
5.4 Harmonics

Frequency Range:	100Hz to 2kHz
Test Requirement:	EN 61000-3-2

5.4.1 E.U.T. Operation

Temperature:	24.5°C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

5.4.2 Test specification



EUT operated in the mode as mentioned above, and connected to Harmonic/Flicker measuring equipment which was connected to an AC power source. Measurement was performed after EUT operating in static state for 10 seconds. Each order harmonics found to meet the relevant limits.

5.4.3 Measurement Data

PASS

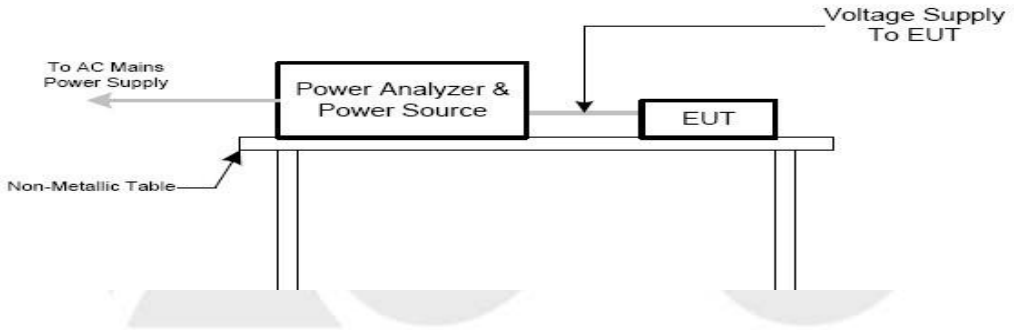
5.5 Voltage changes, voltage fluctuations and flicker

Test Requirement:	EN 61000-3-3

5.5.1 E.U.T. Operation

Temperature:	24.5◦C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

5.5.2 Test specification



EUT was operated in the mode as mentioned above, and connected to Harmonic/Flicker measuring equipment which was connected to an AC power source.

5.5.3 Measurement Data

PASS

6 Immunity Test Results

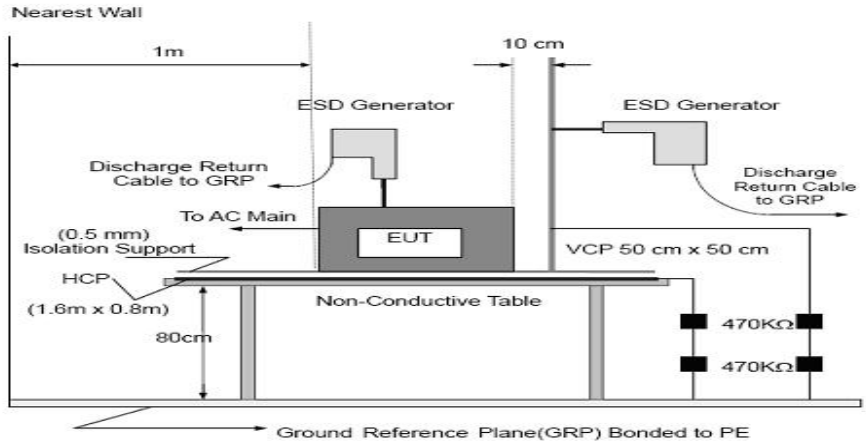
6.1 Electrostatic discharge immunity test

Acceptable Performance Criterion:	B	
Discharge Impedance:	330 Ω / 150 pF	
Discharge Voltage:	Air Discharge:	±8 kV
	Contact Discharge:	±4 kV
	VCP, HCP:	±4 kV
Polarity:	Positive & Negative	
Minimum discharge Interval:	1 second	

6.1.1 E.U.T. Operation

Temperature:	24.1°C	Humidity:	56% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

6.1.2 Test specification



EUT was operated in the mode as mentioned above. Both contact and air discharge was executed. Contact discharge to the conductive surfaces and to coupling planes; air discharge at insulating surfaces. Each test point shall be subjected to 10 discharges at least (For each voltage and polarity).

6.1.3 Measurement Data

Test Record

Electrostatic Discharge Test Results

EUT：LED ROAD AND AREA LUMINAIRES

M/N: SH3103:250W

Test Voltage：Input: AC 230V

Test Date：Dec. 23, 2019

☐ IEC61000-4-2
☒ EN61000-4-2
☐ other:

Test Result：☒ Pass ☐ Fail

Temp：24.1 °C Humi：56 %

Atmospheric Pressure：101 Kpa

Operating Mode	ON
Discharge times	Contact discharge: minimum 10 times (+/-respectively) at each point, Air discharge: minimum 10 times (+/- respectively) at each point.

Discharge Mode	Air Discharge								Contact Discharge								Performance Criterion	Result
Test level (kV)	4		8		10		15		2		4		6		8			
Test Location	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-		
HCP											A	A					B	Pass
VCP											A	A						Pass
Gap			B	B														Pass
Shell			B	B														Pass
Screw											B	B						Pass

Note： “**P**” means Pass , Horizontal Coupling Plane(**HCP**) and Vertical Coupling plane(**VCP**).

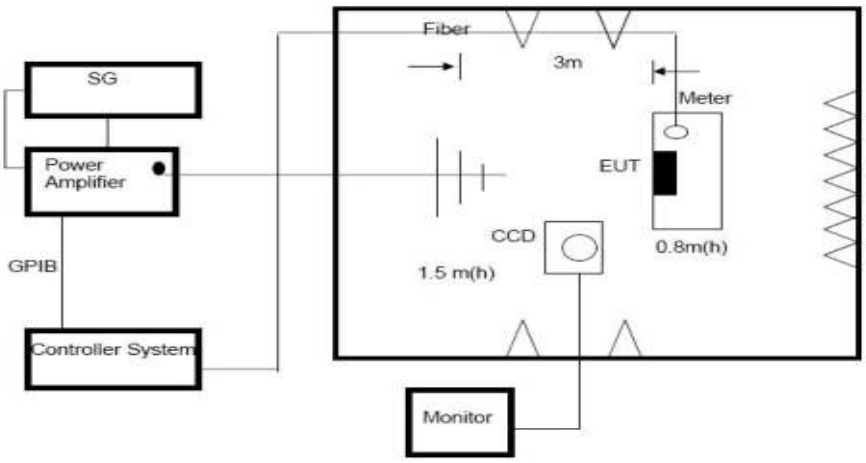
6.2 RF field strength immunity test

Acceptable Performance Criterion:	A
Test Level	3 V/m
Test Distance	3 m
Frequency Range	80MHz~1000MHz
Polarity:	Horizontal & Vertical

6.2.1 E.U.T. Operation

Temperature:	24.2°C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

6.2.2 Test specification



Test was executed in a fully Anechoic chamber. An antenna was used to transmit interference signal. EUT was placed upon a wooden table above the reference ground 0.8m, and was positioned so that the four sides of the EUT shall be exposed to the electromagnetic field in a sequence. In each position the performance of the EUT was investigated. A camera was used to monitor the loss of function or degradation of performance of the EUT.

6.2.3 Measurement Data

Test Record

Radiated Frequency Field Strength Susceptibility Results				
EUT：LED ROAD AND AREA LUMINAIRES M/N：SH3103:250W Test Voltage：Input: AC 230V			Test Date：Dec. 24, 2019 Test Result：☒ Pass ☐ Fail Temp：24.2 °C Humi：55 % Atmospheric Pressure：101 Kpa	☐ IEC61000-4-3 ☒ EN61000-4-3 ☐ other:
Test Port	Input Port			
Operating Mode	Mode 1			
Test Level	3 V/m(r.m.s) (unmodulated)		Criterion	
Frequency Range(MHz)	Antenna polarity	Modulation	EUT position	Result
80~1000	Horizontal	1KHz, 80% AM	Front	Pass
			Rear	Pass
			Left	Pass
			Right	Pass
80~1000	Vertical	1KHz, 80% AM	Front	Pass
			Rear	Pass
			Left	Pass
			Right	Pass

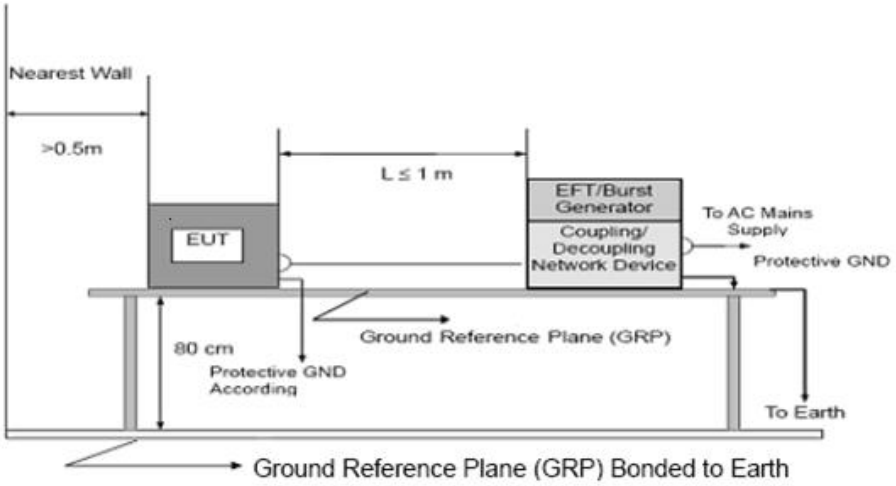
6.3 Electrical fast transient/burst immunity test

Acceptable Performance Criterion:	B
Test Level:	0.5, 1.0, kV on AC Line
Repetition Frequency:	5 kHz
Burst Duration:	300 ms
Test Duration:	1 minutes for each level & polarity

6.3.1 E.U.T. Operation

Temperature:	24.5°C	Humidity:	54% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

6.3.2 Test specification



EUT was placed on a metal ground reference plane and was insulated from it by a wooden support which is 0.1m thick. The ground reference plane is connected to the protective earth. The test generator and the coupling/decoupling network were placed directly on, and bonded to the ground reference plane.

6.3.3 Measurement Data

Mode	(	X	) AC Power Line	(		) DC Power Line	(		) Signal/Control Line

Test Level	1KV		0.5KV		0.5KV	
Port(s)	Polarity	Results	Polarity	Results	Polarity	Results
Line (L)	P	A	P		P	
	N	A	N		N	
Neutral (N)	P	A	P		P	
	N	A	N		N	
Line + Neutral (L+N)	P	A	P		P	
	N	A	N		N	
Ground (PE)	P	A	P		P	
	N	A	N		N	
Line + Ground (L+PE)	P	A	P		P	
	N	A	N		N	
Neutral + Ground (N+PE)	P	A	P		P	
	N	A	N		N	
Line + Neutral+ Ground(L+N+PE)	P	A	P		P	
	N	A	N		N	
Signal/Control Line	P		P		P	
	N		N		N	
Criteria	**B**		**B**		**B**	
Result	**A**		**N/A**		**N/A**	
Judgment	**PASS**		**N/A**		**N/A**	

Note:

1) P/N denotes the Positive/Negative polarity of the output voltage.

2) N/A - denotes test is not applicable in this test report

3) Criteria A: There was no change operated with initial operating during the test.

4) Criteria B: The EUT function loss during the test, but self-recoverable after the test.

5) Criteria C: The system shut down during the test.

6.4 Surge immunity test

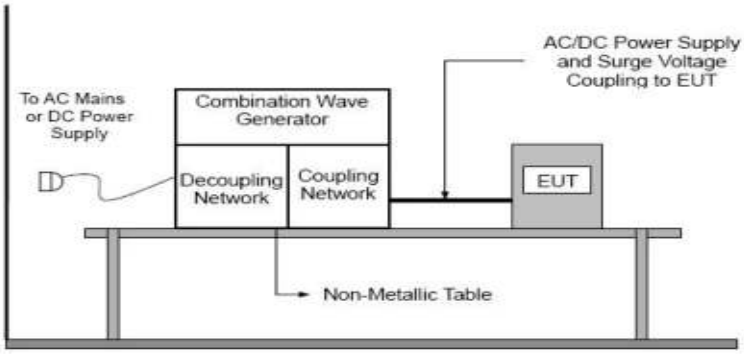
Acceptable Performance Criterion:	B
Test Level:	0.5, 1kV Line to Neutral

	0.5, 1, 2kV Line, Neutral to Earth
Polarity:	Positive & Negative
Generator source impedance:	2 Ω & 12 Ω
Trigger Mode:	Internal
No. of surges:	5 positive & 5 negative at 90°, 270°.

6.4.1 E.U.T. Operation

Temperature:	24.2°C	Humidity:	56% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

6.4.2 Test specification



EUT was placed on a wooden table which is 0.8m above the ground and operated in the mode as mentioned above. The power cord between the EUT and the coupling/decoupling network was bundled so as to make it less than 2 m in length.

6.4.3 Measurement Data

Wave Form / EUT Ports Tested	1.2/50(8/20)Ti/Th us						Criteria	Judgment
	Polarity	Phase	Voltage					
			0.5kV	1kV	1.5kV	2kV		
L - N	+/-	0°					B	PASS
	+/-	90°	A					
	+/-	180°						
	+/-	270°	A					
L - PE	+/-	0°					B	PASS
	+/-	90°	A					
	+/-	180°						
	+/-	270°	A					
N - PE	+/-	0°					B	PASS
	+/-	90°	A					
	+/-	180°						
	+/-	270°	A					
Signal Line (N/A)	+/-	0°					N/A	N/A
	+/-	90°						
	+/-	180°						
	+/-	270°						

Note:

1) +/- denotes the Positive/Negative polarity of the output voltage.
2) Polarity and Numbers of Impulses：5 Pst / Ngt at each tested mode
3) N/A - denotes test is not applicable in this Test Report
4) All voltages of the lower levels shall be satisfied

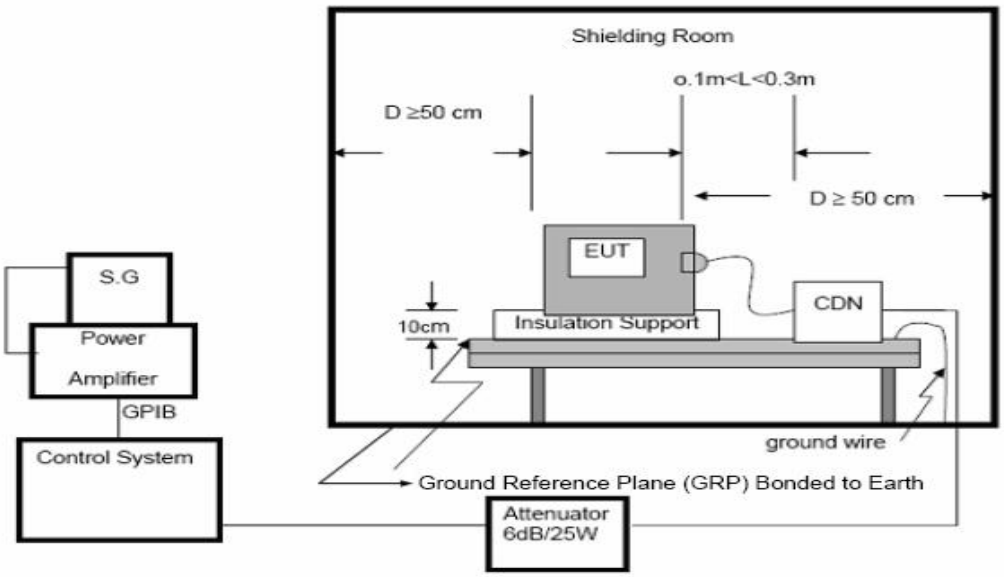
6.5 Conducted disturbance immunity Test

Acceptable Performance Criterion:	A
Test Level	3 V
Frequency Range	0.150MHz~80MHz

6.5.1 E.U.T. Operation

Temperature:	24.2◦C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

6.5.2 Test specification



The equipment to be tested was placed on an insulating support of 0,1m height above a ground reference Plane. The minimum distance between the EUT and all other conductive structures, except the ground reference plane is more than 0.5m. All relevant cables were provided with the appropriate coupling and decoupling devices at a distance between 0.1m and 0.3m from the projected geometry of the EUT.

6.5.3 Measurement Data

Test Ports (Mode)	Freq. Range MHz)	Field Strength	Perform. Criteria	Results	Judgment
Input/ Output AC. Power Port	0.15 ---80	3V(rms) AM Modulated 1000Hz, 80%	**A**	**A**	**PASS**
Input/ Output DC. Power Port	0.15 --- 80		**A**	**N/A**	**N/A**
Signal Line (N/A)	0.15 --- 80		**A**	**N/A**	**N/A**

Note:

1) N/A - denotes test is not applicable in this Test Report.

6.6 Power frequency magnetic field immunity test

Acceptable Performance Criterion:	A
Test Level:	1 A/m
Coil Orientation:	X & Y & Z
Test Duration:	5 Minutes for each orientation

6.6.1 E.U.T. Operation

Operating Environment:

Temperature:	24◦C	Humidity:	56% RH	Atmospheric Pressure:	101	Kpa
EUT Operation:	Normal					

6.6.2 Test specification

The equipment is configured and connected to satisfy its functional requirements. It was placed on the ground reference plane with the interposition of a 0.1 m thickness wooden support and was placed in the center of the induction coil. All cables (include power cord and signal line) were exposed to the magnetic field for at least 1m of their length.

6.6.3 Measurement Data

Test Record

Power Frequency Magnetic Field Immunity Test Results	
EUT：LED ROAD AND AREA LUMINAIRES	Test Date: Dec. 24, 2019
M/N：SH3103:250W	Test Result: ■ Pass □ Fail
Test Voltage：Input: AC 230V	Temp: 24 ℃ , Humi: 56 %
	Atmospheric Pressure: 101 Kpa

Operating Mode	Normal			
Test Level	Test Duration	Coil Orientation	Criterion	Result
1 A/m	5 minus	X	A	Pass
1 A/m	5 minus	Y	A	Pass
1 A/m	5 minus	Z	A	Pass

Notes: None

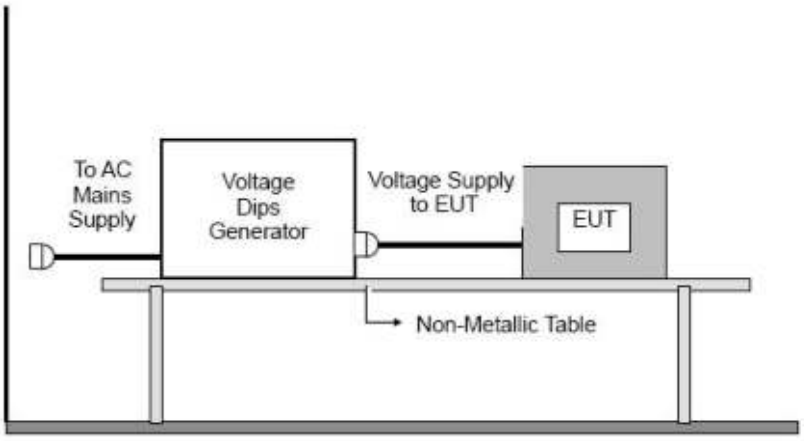
6.7 Voltage dips and interruptions immunity test

Acceptable Performance Criterion:	B & C
Test Level:	＜5% of U_T (Supply Voltage) for 0.5 and 250 Periods
	70 % of U_T (Supply Voltage) for 25 Periods
No. of Dips / Interruptions:	3 per Level

6.7.1 E.U.T. Operation

Temperature:	24°C	Humidity:	56% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1			The Worst Mode:	Mode 1	

6.7.2 Test specification



EUT connected to the test generator with the shortest power supply cable as specified by the EUT manufacturer. The rated voltage of the EUT was used as the basis for voltage test level specification. After each group of tests, a full functional check was performed.

6.7.3 Measurement Data

Voltage Reduction	Periods	Perform Criteria	Results	Judgment
Voltage dip ＞95%	0.5	B	A	PASS
Voltage dip 30%	25	C	A	PASS

7 APPENDIX-Photographs of EUT Constructional Details

Photo 1

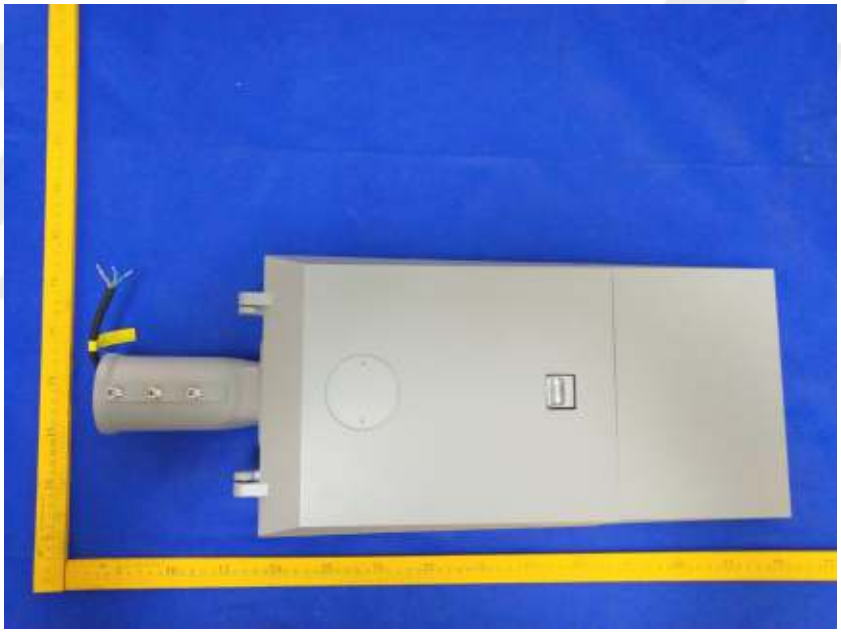


Photo 2

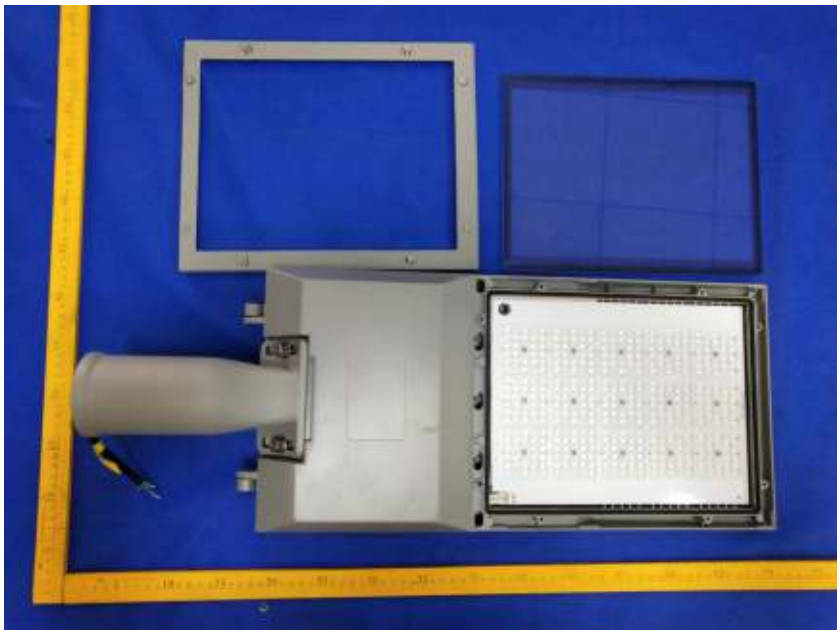


Photo 3

Photo 4

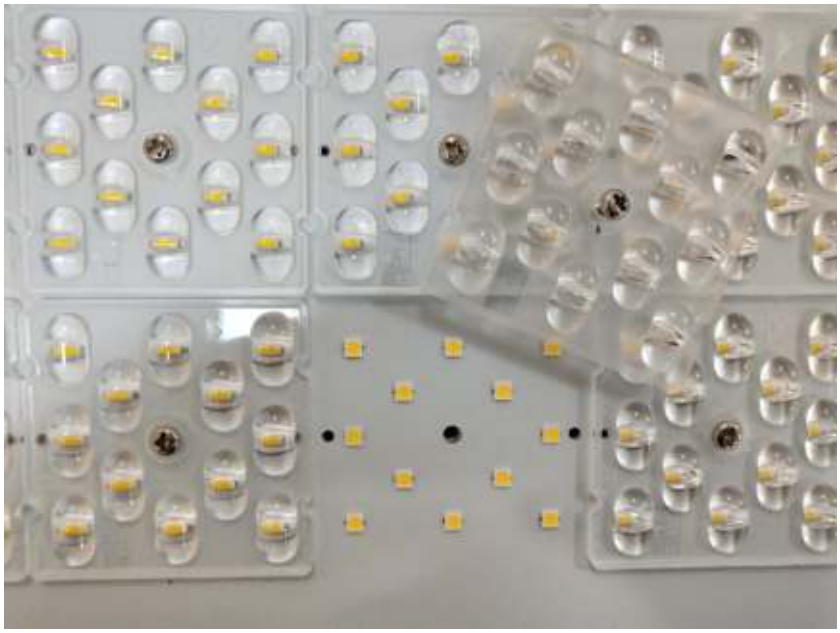


Photo 5

Photo 6

******End of Report******

LED ROAD AND AREA LUMINAIRES

IK09 TEST REPORT

Report No.: **19ZCTS1223001TR**

Trade Name: **XINTONG**

Model Number: **SH3103:250W**

Prepared for: Yangzhou Xintong Transport Equipment Group Co., Ltd.

Address: Add:Yangzhou Xintong Transport Equipment Group Co., Ltd. , Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China

Test Date: 2019-12-13 to 2019-12-23

Date of Report : 2019-12-24

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Prepared by: Sandy chen **Reviewed by:** Mage Li **Approved by:**

Shenzhen ZCT Technology Co., Ltd.
www.renzhengjiance.com.
Add: 3/F.,Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street,Bao'an District, Shenzhen, Guangdong, China.
Tel: 400-669-6965 **Tel:** 86-755-23702323 **Email:** admin@renzhengjiance.com

TEST REPORT

IEC 62262:2002

Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

Testing Laboratory Name	: Shenzhen ZCT Technology Co.,Ltd.
Address	: 3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
Testing location	: Shenzhen ZCT Technology Co.,Ltd.
Applicant's Name	**: Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address	:Add:Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer …… ……	**:Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address …… ……	:Add:Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Standard.....	: IK09 (IEC 62262:2002)
Test Result ……..:	Pass After the test, there is no damage appearance on the sample.
Procedure deviation	: N/A
Non-standard test method	: N/A
Type of test object ……..	: LED ROAD AND AREA LUMINAIRES
Trademark ……..:	**XINTONG**
Model/type reference ……..:	SH3103:250W SH3101:30W,SH3101:40W,SH3101:50W,SH3101:60W,SH3101:80W SH3102:100W,SH3102:120W,SH3102:150W, SH3103:180W,SH3103:200W,SH3101 70W，SH3103 240W
Description ……..:	Normal

Shenzhen ZCT Technology Co., Ltd.
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Tel: 400-669-6965 Tel: 86-755-23702323 Email: admin@renzhengjiance.com

Test : IK09

Ambient temperature 25℃ Relative Humidity 65％RH

1 Testing Equipment:

Description	Model	No.	Calibration
Falling ball inpact tester	SH3103:250W	/	December 24, 2019

2 Test remark & notest:

(1) Place the sample on the ground, drop the falling-ball which weight is 5Kg to impact the surface of the sample from a hight of 400 mm, the impact energy is 20 J.
(2) Impact 5 points on the mirror surface of the sample each for once.
(3) Check the sample after the test.

.

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Tel: 400-669-6965 Tel: 86-755-23702323 Email: admin@renzhengjiance.com

ANNEX : Photo-documentation

Fig.1

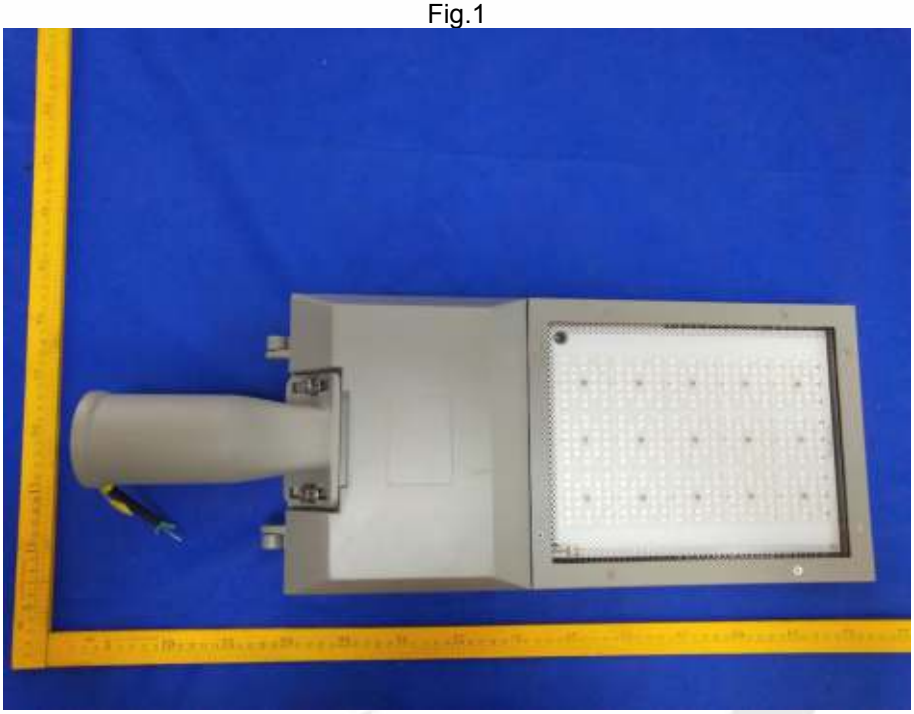
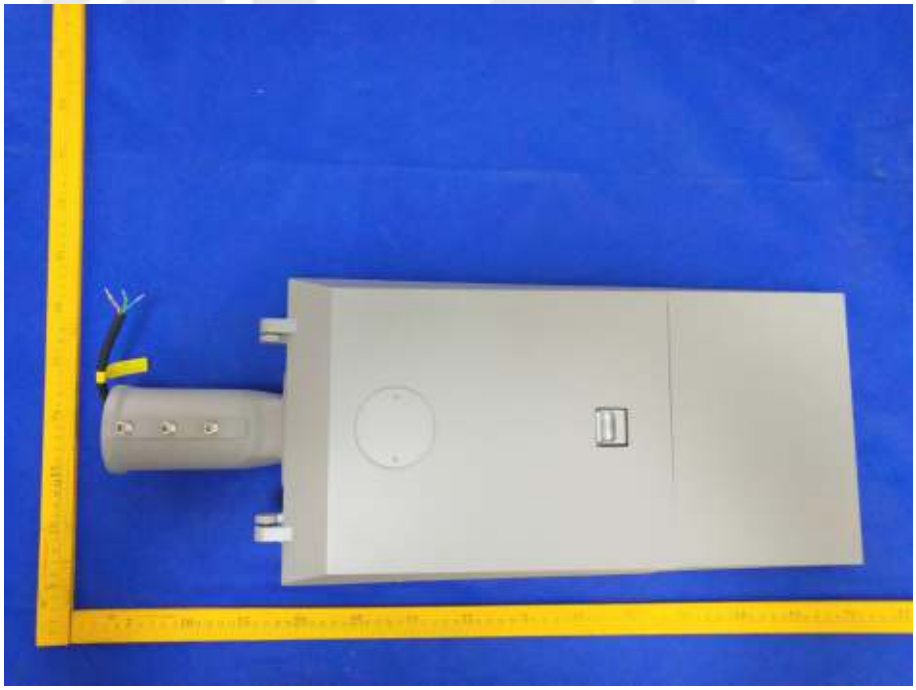


Fig.2



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Tel: 400-669-6965 **Tel:** 86-755-23702323 **Email:** admin@renzhengjiance.com

Fig.3

Fig.4

======End of Report======

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Tel: 400-669-6965 Tel: 86-755-23702323 Email: admin@renzhengjiance.com

Verification of Conformity

Certificate No.: 19ZCTS1223003LC

Applicant	:	YANGZHOU XINTONG TRANSPORT EQUIPMENT GROUP CO., LTD.
Address	:	Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer	:	YANGZHOU XINTONG TRANSPORT EQUIPMENT GROUP CO., LTD.
Address	:	Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product	:	**LED ROAD AND AREA LUMINAIRES**
Brand Name	:	**XINTONG**
Ratings	:	Input:100-277VAC 50/60Hz 250W
Model No.	:	**SH3103:250W** SH3101:30W,SH3101:40W,SH3101:50W,SH3101:60W,SH3101:80W SH3102:100W,SH3102:120W,SH3102:150W,SH3103:180W,SH3103:200W, SH3101 70W，SH3103 240W

Requirement	Applied Standards	Document Evidence	Result
LVD Directive	2014/35/EU Low Voltage	Test Report: 19ZCTS1223003LR	Conform
LVD Standards	EN 60529:1991+AC:2016-12		

IP66

Tomy Wu

Tomy Wu

December 25, 2019

Remark: This Certification of Conformity has been issued on a voluntary basis. ZCT confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s).
Other relevant Directives have to be observed in case they are applicable.
This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market.
The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s).
This certificate can be checked for validity at **www.renzhengjiance.com**

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3/F.,Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street,Bao'an District, Shenzhen, Guangdong, China.
✆ : 400-669-6965 ✆ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : http://www.renzhengjiance.com.

IP66 TEST REPORT

Applicant	:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address	:	Add: Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer	:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address	:	Add: Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product Name	:	**LED ROAD AND AREA LUMINAIRES**
Trade Mark	:	XINTONG
Model No.	:	**SH3103:250W** SH3101:30W,SH3101:40W,SH3101:50W,SH3101:60W,SH3101:80W SH3102:100W,SH3102:120W,SH3102:150W,SH3103:180W,SH3103:200W SH3101 70W，SH3103 240W
Ratings	:	Input:100-277VAC 50/60Hz 250W
Standard	:	Degrees Of Protection Provided By Enclosures EN 60529:1991+AC:2016-12
Date of Receiver	:	December 17,2019
Date of Test	:	December 18,2019. to December 23,2019
Date of Issue	:	December 24,2019
Test Report Form No	:	19ZCTS1223003LR
Test Result	:	Pass *

This Test Report is Issued Under the Authority of :

Compiled by.....:Sandy Chen

Reviewer by.....:Mage Li

Approved by.....:Tomy Wu

*Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of Shenzhen ZCT Technology Co.,Ltd. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Copy of marking plate: (Representative)

LED ROAD AND AREA LUMINAIRES XINTONG
Input:100-277VAC 50/60Hz 250W
Model:SH3103:250W

CE  **IP66**

Yangzhou Xintong Transport Equipment Group Co., Ltd. made in china.

Note:

- Marking label was sticked on rear external enclosure. Rating label for other models is same above, except the model name.

- The above marking are the minimum requirements required by the safety standard. For the final production sample, the marking which do not give rise to misunderstanding may be add.

- The CE marking and WEEE symbol should be at least 5.0mm and 7.0mm respectively in height.

- The instruction sheet and marking should be translated to the language where the product will be sold.

Test item particulars	
Equipment mobility	: ☐ movable ☐ hand-held ☐ transportable ☒ stationary ☐ fixed ☐ direct plug-in ☐ for building-in
Connection to the mains	: ☐ pluggable-equipment ☐ type A ☐ type B ☒ permanent connection ☐ considered in the final system.
Operating condition	: ☒ continuous ☐ short-time ☐ intermittent
Over voltage category	: ☐ OVC I ☒ OVC II ☐ OVCIII ☐ OVC IV
Mains supply tolerance (%)	277Vac (±10%)
Tested for IT power systems	: ☐ Yes ☒ No
IT testing, phase-phase voltage (V)	: N/A
Class of equipment	: ☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Mass of equipment (kg)	: N/A
Pollution degree	: ☒ PD 2 ☐ PD3
IP protection class	: IP66
Possible test case verdicts	
- test case does not apply to the test object	: N(.A.)
- test object does meet the requirement	: P(ass)
- test object does not meet the requirement	: F(ail)

General remarks

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

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

“(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.

General product information:

- The equipment was general designed for using with information technology equipment.

- General remarks：
- This report shall not be reproduced except in full without the written approval of the testing laboratory.
- The test results presented in this report relate only to the item(s) tested.
- "(see Annex #)" refers to an annex appended to the report.
- Clause numbers between brackets refer to clauses in EN 60529
- Throughout this report a comma is used as the decimal separator.

EN 60529			
Cl.	Requirement – Test	Result	Verdict
5	**Degrees of protection against access to hazardous parts and against solid foreign objects indicated by the first characteristic numeral**		P
	The designation with a first characteristic numeral implies that conditions stated in both 5.1 and 5.2 are met.		P
	- the enclosure provides protection of persons against access to hazardous parts by preventing or limiting the ingress of a part of the human body or an object held by a person; and simultaneously		P
	- the enclosure provides protection of equipment against the ingress of solid foreign objects.		P
	the tests establishing compliance with any one of the lower degrees of protection need not necessarily be carried out provided that these tests would obviously be met if applied.		P
5.1	Protection against access to hazardous parts		P
5.2	Protection against access solid foreign objects		P
	First characteristic numeral is 0 Non-protected	IP 6X	N
	First characteristic numeral is 1 Brief description: Protected against solid foreign objects of 50 rnrn Φ and greater Definition: The object probe, sphere of 50 rnrn Φ, shall not fully penetrate	IP 6X	N
	First characteristic numeral is 2 Brief description: Protected against solid foreign objects of 12.5 rnrn Φ and greater Definition: The object probe, sphere of 12,5 rnrn Φ, shall not fully penetrate	IP 6X	N
	First characteristic numeral is 3 Brief description: Protected against solid foreign objects of 2.5 rnrn Φ and greater Definition: The object probe, sphere of 2,5 rnrn Φ, shall not penetrate at all ')	IP 6X	N
	First characteristic numeral is 4 Brief description: Protected against solid foreign objects of 1.0 rnrn Φ and greater Definition: The object probe of 1,0 rnrn Φ, shall not penetrate at ail I)	IP 6X	N
	First characteristic numeral is 5 Brief description: Dust-protected Definition: Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety	IP 6X	N
	First characteristic numeral is 6 Brief description: Dust-tight Definition: No ingress of dust	IP 6X	P

EN 60529			
Cl.	Requirement – Test	Result	Verdict
6	**Degrees of protetion against ingress of water indicated by the second characteristic numeral**		P
	The second characteristic numeral indicates the degree of protection provided by enclosures with respect to harmful effects on the equipment due to the ingress of water.		P
	The tests for the second characteristic numeral are carried out with fresh water. The actual protection may not be satisfactory if cleaning operations with high pressure andlor solvents are used.		P
	Second characteristic numeral is 0 Non-protected	IP X6	N
	Second characteristic numeral is 1 Brief description: Protected against vertically falling water drops Definition: Vertically falling drops shall have no harmful effects	IP X6	N
	Second characteristic numeral is 2 Brief description: Protected against vertically falling water drops when enclosure tilted up to 15” Definition: Vertically falling drops shall have no harmful effects when the enclosure is tilted at any angle up to 15” on either side of the vertical	IP X6	N
	Second characteristic numeral is 3 Brief description:Protected against spraying water Definition: Water sprayed at an angle up to 60” on either side of the vertical shall have no harmful effects	IP X6	N
	Second characteristic numeral is 4 Brief description: Protected against splashing water Definition: Water splashed against the enclosure from any direction shall have no harmful effects	IP X6	N
	Second characteristic numeral is 5 Brief description: Protected against water jets Definition: Water projected in jets against the enclosure from any direction shall have no harmful effects	IP X6	N
	Second characteristic numeral is 6 Brief description: Protected against powerful water jets Definition: Water projected in powerful jets against the enclosure from any direction shall have no harmful effects	IP X6	P
	Second characteristic numeral is 7 Brief description: Protected against the effects of temporary immersion in water Definition: Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed in water under standardized conditions of pressure and time	IP X6	N

EN 60529			
Cl.	Requirement – Test	Result	Verdict
	Second characteristic numeral is 8 Brief description: Protected against the effects of temporary immersion in water Definition: ingress of water in quantities causing harmful effects shall not be possible when the enclosure is continuously immersed in water under conditions which shall be agreed between manufacturer and user but which are more severe than for numeral 7	IP X6	N
10	**Marking**		P
	The requirements for marking shall be specified in the relevant product standard. Where appropriate, such a standard should also specify the method of marking which is to be used when - one part of an enclosure has a different degree of protection to that of another part of the same enclosure; - the mounting position has an influence on the degree of protection; -the maximum immersion depth and time are indicated.		P
11	**General requirements for tests**		P
11.1	Atmospheric conditions for water or dust Tests: Temperature range: Relative humidity: 25% to 75% Air pressure: 15 "C to 35 "C 86 kPa to 106 kPa (860 mbar to 1 060 mbar).		P
11.2	Test samples The tests specified in this standard are type tests.		P
12	**Tests for protection against access to hazardous parts indicated by the first characteristic numeral**		P
12.1	Access probes Access probes to test the protection of persons against access to hazardous parts	IP6X	P

EN 60529			
Cl.	Requirement – Test	Result	Verdict
12.2	Test conditions For tests on low-voltage equipment, a low-voltage supply (of not less than 40 V and not more than 50 V) in series with a suitable lamp should be connected between the probe and the hazardous parts inside the enclosure. Hazardous live parts covered only with varnish or paint, or protected by oxidation or by a similar process, are covered by a metal foil electrically connected to those parts which are normally live in operation. The signal-circuit method should also be applied to the hazardous moving parts of high-voltage equipment. Internal moving parts may be operated slowly, where this is possible.	IP6X	P
12.3	Acceptance conditions:The protection is satisfactory if adequate clearance is kept between the access probe and hazardous parts.	IP6X	P
12.3.1	For low-voltage equipment (rated voltages not exceeding 1 000 V a.c. and I 500 V d.c.) The access probe shall not touch hazardous live parts.	IP6X	P
12.3.2	For high-voltage equipment (rated voltages exceeding 1 000 V a.c. and 1 500 V d.c.) When the access probe is placed in the most unfavourable position(s), the equipment shall be capable of withstanding the dielectric tests as specified in the relevant product standard applicable to the equipment.		N
12.3.3	For equipment with hazardous mechanical parts: The access probe shall not touch hazardous mechanical parts.		N
13	**Tests for protection against solid foreign objects indicated by the first characteristic numeral**		P
13.1& 13.2	Test means & Test conditions Test means and the main test conditions are given		P
	For the first characteristic numeral 0: No test required		N
	For the first characteristic numeral 1: Rigid sphere without handle or guard 50^{+05} mm diameter 50N+-10%		N
	For the first characteristic numeral 2: Rigid sphere without handle or guard 12.5^{+05} mm diameter 30N+-10%		N
	For the first characteristic numeral 3: Rigid steel rod $2,5^{+05}$ mm diameter with edges free from burrs 3N+-10%		N

EN 60529			
Cl.	Requirement – Test	Result	Verdict
	For the first characteristic numeral 4: Rigid steel rod 1.0^{+05} mm diameter with edges free from burrs 1N+-10%		N
	For the first characteristic numeral 5: Dust chamber figure 2, with or without underpressure		N
	For the first characteristic numeral 6: Dust chamber figure 2, with under- Dressure	IP6X	P
13.3	Acceptance conditions for first characteristic numerals 1,2,3,4 The protection is satisfactory if the full diameter of the probe specified in Table VII does not pass through any opening.		N
13.4	Dust test for first characteristic numerals 5 and 6 The test is nade using a dust chamber incorporating the basic principles shown in figure 2 whereby the powder circulation pump may be replaced by other means suitable to maintain the talcum powder in suspension in a closed test chamber.the talcum powder used shall be able to pass through a square-meshed sleve the nominal wire diameter of which is 50 um and the nominal width of a gap bettween wires 75um.the amount of talcum powder to be used is 2 kg per cubic metre of the test chamber volume. It shall not have been used for more than 20 tests.	IP 6X	P
14	Tests for protection against water indicated by the second characteristic numeral		P
14.1 & 14.2	Test means & Test conditions Test means and the main test conditions are given		P
	For the first characteristic numeral 0: No test required		P
	For the second characteristic numeral 1: To test for compliance with IPX1, the sample is rotatedon the turntable at 1 rpm and 100 mm eccentricity (thedistance between the turntable's axis and the test sample'scentral axis) under water dripping at a rate of 1 mm/minfor 10 minutes.		P
	For the second characteristic numeral 2: For IPX2 testing, the sample is tilted at15° under water dripping at a rate of 3 mm/min for a totalof 10 minutes, 2.5 minutes in each of four positions of tilt.		N
	For the second characteristic numeral 3: For IPX3, the sample is positioned under oscillating spray tubes rotating at ±60° from the vertical for 5 minutes. Theoscillation rate is two cycles of 120° in 4 seconds.The flow rate depends upon the tube size, which in turn is dependent upon the sample size. Each surface of the enclosure within the spray arch is to be tested for 1 min/m2	IP X6	N
	For the second characteristic numeral 4: For IPX4,	IP X6	N

EN 60529			
Cl.	Requirement – Test	Result	Verdict
	the sample is positioned under oscillating spray tubes rotating at nearly±180° from the vertical for 10 minutes. The oscillation rate is two cycles of about360° in 12 seconds. Each surface of the enclosure within the spray arch is to be tested for 1 min/m2, with no less than 5 minutes of total test timeThe flow rate again depends upon the tube size, which is itselfdependent upon the sample size.		
	For the second characteristic numeral 5: To test for compliance with IPX5, the sample issubjected to water jetting from a nozzle with a6.3-mm-diameter opening at a flow rate of 12.5L/min. Each surface of the enclosure is to be testedfor 1 minute at a distance from the jet nozzle of2.5–3.0 m.	IP X6	N
	For the second characteristic numeral 6: To test for compliance with IPX6, the sample issubjected to water jetting from a nozzle with a 12.5-mm-diameter opening at a flow rate of 100L/min.Each surface of the enclosure is to be tested for 1 minute at a distance from the jet nozzle of 2.5–3.0 m. -minimum test duration: 3 min	IP X6	P
	For the second characteristic numeral 7: For IPX7 testing, thesample is submerged for 30 minutes. The lowest pointof the enclosure should be 1000 mm below thesurface of the water, and the highest point at least 150mm below the surface.	IP X6	N
	For the second characteristic numeral 8: For IPX8, the test time andsubmersion depth are according to the manufacturer'sspecifications and must be marked on the product (forexample, "submersible for up to 1 hour at a depth upto 2 meters").	IP X6	N
14.3	Acceptance conditions After testing in accordance with the appropriate requirements of 14.2.1 to 14.2.8 the enclosure shall be inspected for ingress of water. It is the responsibility of the relevant Technical Committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test, if any. In general, if any water has entered, it shall not: -be sufficient to interfere with the correct operation of the equipment or impair safety; - deposit on insulation parts where it could lead to tracking along the creepage distances; - reach live parts or windings not designed to operate when wet;- accumulate near the cable end or enter the cable if any.If the enclosure is provided with drain-holes, itshould be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment.For enclosures without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts.	No damage	P

ANNEX A: Test Photos

Photo 1

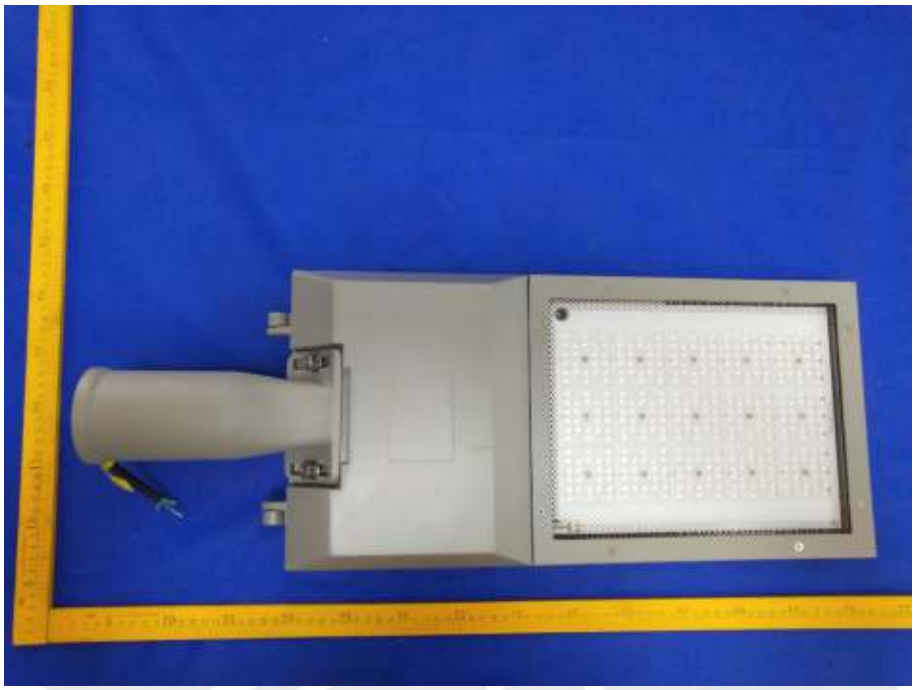


Photo 2

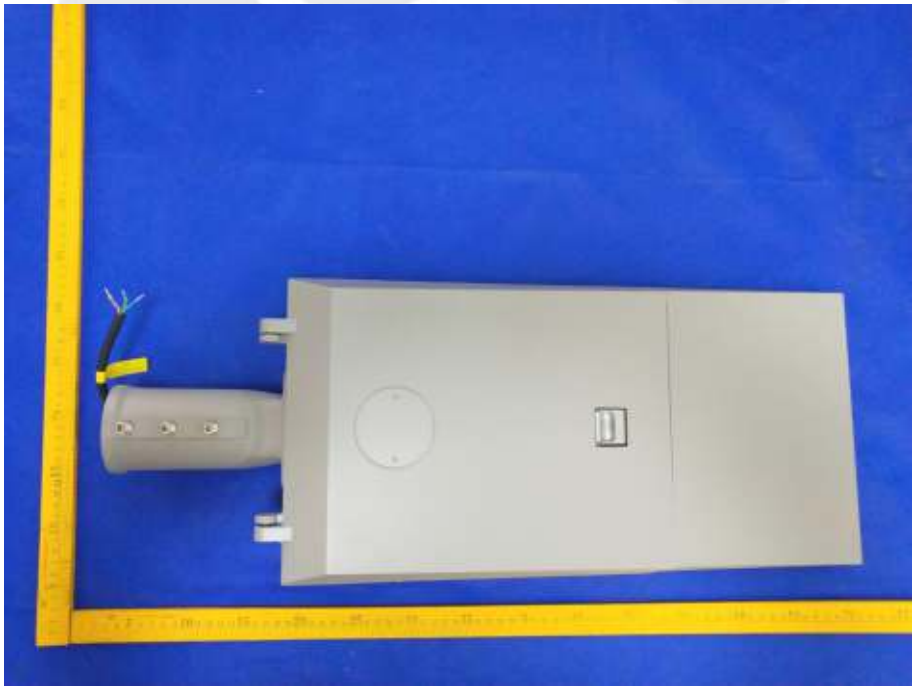
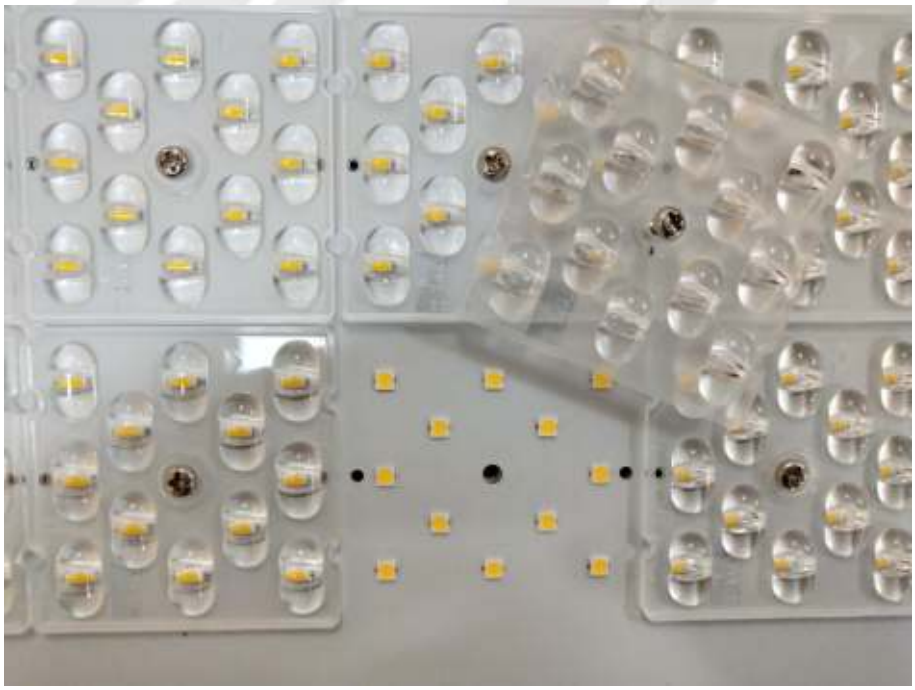


Photo 3

Photo 4



********** End of report **********

Verification of Conformity

Certificate No.: 19ZCTS1223002LC

Applicant	:	YANGZHOU XINTONG TRANSPORT EQUIPMENT GROUP CO., LTD.
Address	:	Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer	:	YANGZHOU XINTONG TRANSPORT EQUIPMENT GROUP CO., LTD.
Address	:	Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product	:	**LED ROAD AND AREA LUMINAIRES**
Trademark	:	**XINTONG**
Ratings	:	**Input:**100-277Vac 50/60Hz 250W
Model.	:	**SH3103:250W** SH3101:30W,SH3101:40W,SH3101:50W,SH3101:60W,SH3101:80W SH3102:100W,SH3102:120W,SH3102:150W,SH3103:180W,SH3103:200W, SH3101 70W、SH3103 240W

The submitted sample of the above equipment has been tested and found to comply with the following European Directive:

Low Voltage Directive - 2014/35/EU

The standard(s) used for showing compliance with the essential requirements:

Applicable Standard(s)	Test Report(s) Number
EN 60598-2-3:2003+A1:2011 **EN 60598-1:2015+AC:2016** **EN 62031:2008+A2:2015**	**19ZCTS1223002LR**

This certificate is part of the full test report(s) and should be read in conjunction with it.This certificate is based on an evaluation of one sample of above mentioned product. It does not imply assessment of the production of the product.Without the written approval of Shenzhen ZCT Technology Co., Ltd. this certificate is not permitted to be reproduced, except in full.It is not permitted to use the test lab's logo. The CE marking may only be used if allthe relevant and effective European Directives are applicable.

CE

Tomy Wu

Tomy Wu
Manager
Date:December 25, 2019

Shenzhen ZCT Technology Co., Ltd.
3/F.,Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street,Bao'an District, Shenzhen, Guangdong, China.
✆ : 400-669-6965 ✆ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : http://www.renzhengjiance.com.

TEST REPORT
EN 60598-2-3
Luminaires
Part 2-3: Particular requirements - Luminaires for road and street lighting
EN 62031
LED modules for general lighting –Safety specifications

Report Number.....:	19ZCTS1223002LR
Date of issue.....:	2019-12-24
Total number of pages.....	38 pages
Applicant's name.....:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address.....:	Add: Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Test specification:	
Standard..... :	EN 60598-2-3:2003+A1:2011 used in conjunction with EN 60598-1:2015+AC:2016 EN 62031:2008+A2:2015
Test procedure.....:	LVD
Non-standard test method……..:	N/A
Test Report Form No.....:	IEC60598_2_3K
Test Report Form(s) Originator..... :	Intertek Semko AB
Master TRF.....:	2016-09

Test item description.....:	LED ROAD AND AREA LUMINAIRES
Trade Mark.....:	**XINTONG**
Manufacturer.....:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address.....:	Add: Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Model/Type reference.....:	**SH3103:250W** SH3101:30W,SH3101:40W,SH3101:50W,SH3101:60W,SH3101:80W SH3102:100W,SH3102:120W,SH3102:150W, SH3103:180W,SH3103:200W,SH3101 70W，SH3103 240W
Ratings..... :	Input: 100-277Vac 50/60Hz 250W

Testing procedure and testing location:	
☒ **Testing Laboratory:**	Shenzhen ZCT Technology Co., Ltd.
Testing location/ address..... :	3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
☐ **Associated Laboratory:**	
Testing location/ address..... :	
Tested by (name + signature)..... :	**Sandy Chen**
Reviewer by (+ signature)..... :	**Mage Li**
Approved by (+ signature)..... :	**Tomy Wu**
☐ Testing procedure: TMP	N/A
Testing location/ address..... :	
Tested by (name + signature)..... :	
Approved by (+ signature)..... :	
☐ Testing procedure: WMT	N/A
Testing location/ address..... :	
Tested by (name + signature)..... :	
Witnessed by (+ signature)..... :	
Approved by (+ signature)..... :	
☐ Testing procedure: SMT	N/A
Testing location/ address..... :	
Tested by (name + signature)..... :	
Approved by (+ signature)..... :	
Supervised by (+ signature)..... :	

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

-Appendix 1: For European group national difference.(2 pages)

-Appendix 2: Photo attachment. (4 pages)

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
1, The luminaire passed clause test according to standard EN 60598-1 and EN 60598-2-3 as below: Clause 3.5: Marking Clause 3.6: Construction Clause 3.7: Creepage distances and clearances Clause 3.8: Provision for earthing Clause 3.10: External and internal wiring Clause 3.11: Protection against electric shock Clause 3.12: Endurance tests and thermal tests Clause 3.13: Resistance to dust, solid objects and moisture Clause 3.14: Insulation resistance and electric strength	Shenzhen ZCT Technology Co., Ltd. 3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.

Summary of compliance with National Differences:

1.National difference of European Group

☒ The product fulfils the requirements of **EN 60598-2-3:2003+A1:2011 used in conjunction with EN 60598-1:2015+AC:2016 and EN 62031:2008+A2:2015**

Copy of marking plate:

LED ROAD AND AREA LUMINAIRES **XINTONG**

Model:SH3103:250W

Input:100-277Vac 50/60Hz 250W

IP66

Yangzhou Xintong Transport Equipment Group Co., Ltd.

made in china.

Test item particulars.....:	LED ROAD AND AREA LUMINAIRES
Classification of installation and use..... :	Fixed installation and outdoor use
Supply Connection..... :	Power cord
.....:	
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item..... :	2019-12-06
Date (s) of performance of tests.....:	2019-12-09 to 2019-12-23

General remarks:

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 testing laboratory.
"(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

Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.

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

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

☐ Yes
☒ Not applicable

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

Name and address of factory (ies) ..... : Yangzhou Xintong Transport Equipment Group Co., Ltd.

:Add:Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China

General product information:

1,The series model **SH3103:250W** are LED ROAD AND AREA LUMINAIRES.

2,The LED ROAD AND AREA LUMINAIRES SH3103:250W,SH3101:30W,SH3101:40W,SH3101:50W,SH3101:60W,SH3101:80W,SH3102:100W,SH3102:120W,SH3102:150W,SH3103:180W,SH3103:200W,SH3101 70W，SH3103 240W are Fixed installation and outdoor use.

EN 60598-2-3			
Clause	Requirement + Test	Result – Remark	Verdict
3.2 (0)	**GENERAL TEST REQUIREMENTS**		**P**
3.2 (0.1)	Information for luminaire design considered	Standard Yes ☒ No ☐	—
3.2 (0.3)	More sections applicable.....:	Yes ☐ No ☒	—
3.4 (2)	**CLASSIFICATION**		**P**
3.4 (2.2)	Type of protection .....:	Class I	—
3.4 (2.3)	Degree of protection.....:	IP66	—
3.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces.....:	Yes ☒ No ☐	—
3.4 (2.5)	Luminaire for normal use .....:	Yes ☒ No ☐	—
	Luminaire for rough service .....:	Yes ☐ No ☒	—
3.4 (-)	Modes of installation of road or street lighting		—
	a) on a pipe	Yes ☐ No ☐	—
	b) on a mast arm	Yes ☒ No ☐	—
	c) on a post top	Yes ☐ No ☐	—
	d) on span or suspension wires	Yes ☐ No ☐	—
	e) on a wall	Yes ☐ No ☐	—
3.5 (3)	**MARKING**		**P**
3.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
3.5 (3.3)	Additional information		P
	Language of instructions	English	P
3.5 (3.3.1)	Combination luminaires	Not Combination luminaires	N/A
3.5 (3.3.2)	Nominal frequency in Hz	50/60 Hz	P
3.5 (3.3.3)	Operating temperature	25℃	P
3.5 (3.3.4)	Symbol or warning notice		N/A
3.5 (3.3.5)	Wiring diagram		N/A
3.5 (3.3.6)	Special conditions		N/A
3.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
3.5 (3.3.8)	Limitation for semi-luminaires		N/A
3.5 (3.3.9)	Power factor and supply current	PF > 0.9	P
3.5 (3.3.10)	Suitability for use indoors		N/A

EN 60598-2-3			
Clause	Requirement + Test	Result – Remark	Verdict
3.5 (3.3.11)	Luminaires with remote control		N/A
3.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
3.5 (3.3.13)	Specifications of protective shields		N/A
3.5 (3.3.14)	Symbol for nature of supply		P
3.5 (3.3.15)	Rated current of socket outlet		N/A
3.5 (3.3.16)	Rough service luminaire		N/A
3.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
3.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
3.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
3.5 (3.3.20)	Provided with information if not intended to be mounted within arms reach		N/A
3.5 (3.4)	Test with water	15s	P
	Test with hexane	15s	P
	Legible after test		P
	Label attached		P
3.5 (3.5)	Additional necessary marking		P
	a) Operation position		P
	b) Weight and dimensions		P
	c) Maximum protected area		P
	d) Range of mounting heights		N/A
	e) the range of cross-sectional areas of suspension wires		P
	f)Suitability for indoor use		N/A
	g)dimensions of the compartment		N/A
	h) the torque setting		P
	i)method for protection		P

3.6 (4)	**CONSTRUCTION**		**P**
3.6.1	Protection against ingress of moisture IPX3 or IP X5 respectively		P
	For column-integrated luminaires, door opening included,IP classification shall be as flow:		N/A
	1)parts below 2.5m:IP3X(see IEC60364-7-714)		N/A

EN 60598-2-3			
Clause	Requirement + Test	Result – Remark	Verdict
	2)parts above 2.5m:IP2X(when the external part is open-sided, the IP classification of glazing shall be 5X		N/A
3.6.2	Span Wire		N/A
3.6.3	Withstand wind speeds 150km/h		N/A
	Fixing		N/A
	Sufficient strength(test by 3.6.3.1)		N/A
	Wind-force test(not for tunnel luminaires)		N/A
3.6.3.1	Static load test		N/A
	Constant evenly distributed load		N/A
3.6.4	Single lampholder		N/A
	Adjustable lampholders or optical parts		N/A
3.6.5	Risk of injury caused by breaking glass		P
	installed below 5m(no additional requirements)		P
	Tunnel luminaries(3.6.5.1 test)		N/A
	Installed above 5m, glass covers shall be:		N/A
	a)fractures into small pieces (according 3.6.5.1)		N/A
	b)having a high impact shock resistance (according3. 6.5.2)		N/A
	c)protected(test by inspection)		N/A
3.6.6	Adequate space for The connection compartment of column-integrated luminaires		N/A
	-- the luminaire terminals;		N/A
	-- the protective devices		N/A
	-- the termination and looping of electricity supply cables		N/A
	-- the connection box(if any)		N/A
	Corrosion-resistant material or suitably protected against corrosion.		N/A
3.6.7	For column-integrated luminaires, Load calculation and verification of structural design by testing, comply with ISO standards, otherwise regional or national standards.(EN40, JIL 1003, ANSI C136)		N/A
3.6.8	The door of column-integrated luminaire shall be treated against corrosion in accordance with the treatment applied to the column-integrated luminaire.		N/A
	Test specified in 4.18 of Part 1		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	the opening of the door Only Authorized persons can be opened.		N/A
	Type test on sample of the door(pendulum hammer, the vertical fall, spring-operated impact test; 5Nm 3 times for impact energy)		N/A
	Blows the largest side when the door has several facets.		N/A
	After the test, the sample no damage		N/A
	-- the locking device shall still be operational		N/A
	-- no visible cracks shall be present on the sample		N/A
	-- the level of IP protection shall not be reduced(See 3.6.1)		N/A
3.6.9	For column-integrated luminaires:		N/A
	-- cable not less than 50mm x 150mm		N/A
	-- cable path not less than 50mm, shall be free from obstruction, sharp edges, burrs, flashes.		N/A
3.6 (4.2)	Components replaceable without difficulty		N/A
3.6 (4.3)	Wireways smooth and free from sharp edges		P
3.6 (4.4)	Lampholders		N/A
3.6 (4.4.1)	Integral lampholder		N/A
3.6 (4.4.2)	Wiring connection		N/A
3.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
3.6 (4.4.4)	Positioning		N/A
	- pressure test (N) ..... :		N/A
	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) .....:		N/A
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
3.6 (4.4.5)	Peak pulse voltage		N/A
3.6 (4.4.6)	Centre contact		N/A
3.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
3.6 (4.4.8)	Lamp connectors		N/A
3.6 (4.4.9)	Caps and bases correctly used		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
3.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
3.6 (4.6)	Terminal blocks		N/A
	Tails		N/A
	Unsecured blocks		N/A
3.6 (4.7)	Terminals and supply connections		P
3.6 (4.7.1)	Contact to metal parts		N/A
3.6 (4.7.2)	Test 8 mm live conductor		N/A
	Test 8 mm earth conductor		N/A
3.6 (4.7.3)	Terminals for supply conductors		P
3.6 (4.7.3.1)	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
3.6 (4.7.4)	Terminals other than supply connection		P
3.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
3.6 (4.7.6)	Multi-pole plug		N/A
	- test at 30 N		N/A
3.6 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with 61058-1 for electronic switches		N/A
3.6 (4.9)	Insulating lining and sleeves		P
3.6 (4.9.1)	Retainement		P
	Method of fixing.....:		P
3.6 (4.9.2)	Insulated linings and sleeves		P
	Resistant to a temperature > 20 °C to the wire temperature or		P

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Clause	Requirement + Test	Result – Remark	Verdict
	a) & c) Insulation resistance and electric strength		N/A
	b) Ageing test. Temperature (°C).....:		N/A
3.6 (4.10)	Insulation of Class II luminaires		N/A
3.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
3.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
3.6 (4.10.3)	Retainment of insulation:		N/A
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
3.6 (4.11)	Electrical connections		P
3.6 (4.11.1)	Contact pressure		P
3.6 (4.11.2)	Screws:		P
	- self-tapping screws		P
	- thread- cutting screws		N/A
3.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
3.6 (4.11.4)	Material of current-carrying parts		P
3.6 (4.11.5)	No contact to wood or mounting surface		P
3.6 (4.11.6)	Electro-mechanical contact systems		N/A
3.6 (4.12)	Mechanical connections and glands		P
3.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part.....:	Fix enclosure screw: 3.95mm, 1.2Nm	P
	Torque test: torque (Nm); part.....:	Fix lamp bead transparent cover screw:2.90mm,0.5Nm	P
	Torque test: torque (Nm); part.....:		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
3.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		P
3.6 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm)..... :		N/A
	- lampholder; torque (Nm)..... :		N/A
	- push-button switches; torque 0,8 Nm.....:		N/A
3.6 (4.12.5)	Screwed glands; force (Nm)..... :		P
3.6 (4.13)	Mechanical strength		P
3.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm)..... :	Glass Cover:0.5Nm	P
	- other parts; energy (Nm)..... :	Enclosure:0.7Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
3.6 (4.13.3)	Straight test finger		P
3.6 (4.13.4)	Rough service luminaires		N/A
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
3.6 (4.13.6)	Tumbling barrel		N/A
3.6 (4.14)	Suspensions and adjusting devices		P
3.6 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		P
	C) bracket arm; bending moment (Nm)..... :		P
	D) load track- mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) ..... :		N/A
	Metal rod. diameter (mm) .....:		N/A
	Fixed luminaire or independent control gear without fixing devices		N/A
3.6 (4.14.2)	Load to flexible cables		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	Mass (kg) ..... :		N/A
	Stress in conductors (N/mm²) ..... :		N/A
	Mass (kg) of semi-luminaire ..... :		N/A
	Bending moment (Nm) of semi-luminaire ..... :		N/A
3.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles..... :	45 times	N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
3.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
3.6 (4.14.5)	Guide pulleys		N/A
3.6 (4.14.6)	Strain on socket-outlets		N/A
3.6 (4.15)	Flammable materials:		N/A
	- glow- wire test 650 °C	Metal enclosure used	N/A
	- spacing ≥ 30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		N/A
	- thermal protection		N/A
	- electronic circuits exempted		N/A
3.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
3.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear	Electronic lamp controlgear is exempt from the requirements of this clause	N/A
3.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
3.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
3.6 (4.16.3)	Design to satisfy the test of 12.6	(see 12.6)	N/A
3.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
3.6 (4.18)	Resistance to corrosion:		P
3.6 (4.18.1)	- rust- resistance		P
3.6 (4.18.2)	- season cracking in copper		P
3.6 (4.18.3)	- corrosion of aluminium		P
3.6 (4.19)	Ignitors compatible with ballast		N/A
3.6 (4.20)	Rough service vibration		N/A
3.6 (4.21)	Protective shield:		N/A
3.6 (4.21.1)	Shield fitted		N/A
	Shield of glass if tungsten halogen lamps		N/A
3.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
3.6 (4.21.3)	No direct path		N/A
3.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment		N/A
3.6 (4.22)	Attachments to lamps		N/A
3.6 (4.23)	Semi-luminaires comply Class II		N/A
3.6 (4.24)	Photobiological hazards		P
3.6 (4.24)	UV radiation for tungsten halogen lamps and metal halide lamps (Annex P)		N/A
3.6 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
3.6 (4.24.2)	Retinal blue light hazard		P
	Class of risk group assessed according to IEC/TR 62778 :		P
	RG0 or RG1	RG0	P
	Luminaires with Ethr :		P
	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
3.6 (4.25)	No sharp point or edges		P

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Clause	Requirement + Test	Result – Remark	Verdict
3.6 (4.26)	Short-circuit protection:		N/A
3.6 (4.26.1)	Uninsulated accessible SELV parts		N/A
3.6 (4.26.2)	Short-circuit test		N/A
3.6 (4.26.3)	Test chain according to Figure 29		N/A
3.6 (4.27)	Terminal blocks with integrated screwless earthing contacts tested 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
3.6.1 (-)	At least IPX3 if for outdoor use	IP66	P
3.6.2 (-)	Lampholder brackets and lamp supports		N/A
3.6.3 (-)	Adjusting means		N/A
3.6.4 (-)	Controlling components		P
3.6.5 (-)	Fixing device		P
	Wind force test		P
3.6.6 (-)	Locking of angular adjustment		P
3.6.7 (-)	Vibration resistance		P
3.6.8 (-)	Glass cover	120 > 60 pieces	P

3.7 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Working voltage (V).....:	AC100-277V	—
	Voltage form	Sinusoidal ☒ Non-sinusoidal ☐	—
	PTI	< 600 ☒ > 600 ☐	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II ☐ Category III ☐	—
	Rated pulse voltage (kV).....:	<2.5kV	—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm).....:	Cr.>2.5mm, Cl.>1.5mm	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....:	Cr.>2.5mm, Cl.>1.5mm	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm).....:		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm)..... :		N/A
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....:	Cr.>2.5mm, Cl.>1.5mm	P
3.8 (7)	**PROVISION FOR EARTHING**		**P**
3.8 (7.2.1 + 7.2.3)	Accessible metal parts		P
	Metal parts in contact with supporting surface		P
	Resistance < 0,5 Ω.....:	0.041Ω	P
	Self-tapping screws used		N/A
	Thread-forming screws		P
	Thread-forming screw used in a grove		N/A
	Earth makes contact first		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
3.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		P
3.8 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
3.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
3.8 (7.2.6)	Earth terminal adjacent to mains terminals		P
3.8 (7.2.7)	Electrolytic corrosion of the earth terminal		P
3.8 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
3.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
3.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P
3.8.1	Fixed part of the terminal can not rotated when the clamping part is moved(test specified in Section 14 and 15 of Part 1)		N/A
3.9 (14)	**SCREW TERMINALS**		N/A
	Separately approved; component list	(see Annex 1)	N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	Part of the luminaire	(see Annex 3)	N/A
3.9 (15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		**N/A**
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 4)	N/A
3.10 (5)	**EXTERNAL AND INTERNAL WIRING**		**P**
3.10 (5.2)	Supply connection and external wiring		P
3.10 (5.2.1)	Means of connection.....:	Power cord	P
3.10 (5.2.2)	Type of cable.....:	H05RN-F	P
	Nominal cross-sectional area (mm²)..... :	3*1.0mm^2	P
	Cables equal to IEC 60227 or IEC 60245	IEC 60245	P
3.10 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
3.10 (5.2.5)	Type Z not connected to screws		P
3.10 (5.2.6)	Cable entries:		P
	- suitable for introduction		P
	- adequate degree of protection		P
3.10 (5.2.7)	Cable entries through rigid material have rounded edges		P
3.10 (5.2.8)	Insulating bushings:		P
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		P
3.10 (5.2.9)	Locking of screwed bushings		N/A
3.10 (5.2.10)	Cord anchorage:		P
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P
3.10 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	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
3.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
3.10 (5.2.10.3)	Tests:		P
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)..... :	60N	P
	- torque test: torque (Nm)..... :	0.15Nm	P
	- displacement ≤ 2 mm	0.6mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
3.10 (5.2.11)	External wiring passing into luminaire		N/A
3.10 (5.2.12)	Looping- in terminals		N/A
3.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		P
3.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
3.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Appliance couplers of class II type		N/A
3.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
3.10 (5.2.18)	Used plug in accordance with		N/A
	- IEC 60083		N/A
	- other standard		N/A
3.10 (5.3)	Internal wiring		P
3.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		N/A
	- not delivered/ mounting instruction		N/A
	- factory assembled		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	- socket outlet loaded (A)..... :		N/A
	- temperatures.....:	(see Annex 2)	N/A
	Green- yellow for earth only		P
3.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N/A
	Cross-sectional area (mm²)..... :		N/A
	Insulation thickness		N/A
	Extra insulation added where necessary		N/A
3.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		N/A
	Adequate cross-sectional area and insulation thickness		N/A
3.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
3.10 (5.3.1.4)	Conductors without insulation		N/A
3.10 (5.3.1.5)	SELV current-carrying parts		P
3.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
3.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
3.10 (5.3.3)	Insulating bushings:		N/A
	- suitable fixed		P
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		P
3.10 (5.3.4)	Joints and junctions effectively insulated		P
3.10 (5.3.5)	Strain on internal wiring		N/A
3.10 (5.3.6)	Wire carriers		N/A
3.10 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
3.10.1	Cord anchorage		P
	If without the cord anchorage, 5 of IEC 60598-1, but with a pull of 60N and a torque of 0.25Nm.		N/A

3.11 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		**P**
3.11 (8.2.1)	Live parts not accessible		P

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Clause	Requirement + Test	Result – Remark	Verdict
	Basic insulated parts not used on the outer surface without appropriate protection		P
	Basic insulated parts not accessible with standard test finger on portable and adjustable luminaires		N/A
	Basic insulated parts not accessible with Ø 50 mm probe from outside, within arms reach, on wall-mounted luminaires		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A
	Basic insulation only accessible under lamp or starter replacement		N/A
	Protection in any position		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
3.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
3.11 (8.2.3.a)	Class II luminaire:		N/A
	- basic insulated metal parts not accessible during starter or lamp replacement		N/A
	- basic insulation not accessible other than during starter or lamp replacement		N/A
	- glass protective shields not used as supplementary insulation		N/A
3.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
3.11 (8.2.3.c)	Class III luminaires with exposed SELV parts:		N/A
	Ordinary luminaire:		N/A
	- touch current .....:		N/A
	- no-load voltage.....:		N/A
	Other than ordinary luminaire:		N/A
	- nominal voltage .....:		N/A
3.11 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
3.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
3.11 (8.2.6)	Covers reliably secured		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
3.11 (8.2.7)	Discharging of capacitors ≥ 0,5 μF	1S 8V	P
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A
3.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		**P**
3.12 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 5.13		—
5.12 (12.3)	Endurance test:		P
	- mounting- position..... :	On the black board	—
	- test temperature (°C)..... :	50°C	—
	- total duration (h)..... :	240h	—
	- supply voltage: Un factor; calculated voltage (V) ..... :	277V*1.1=304.7V	—
	- lamp used :	LED	—
3.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
3.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
3.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P
3.12 (12.6)	Thermal test (faiLED ROAD AND AREA LUMINAIRES control gear condition):		N/A
3.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A) ..... :		—
	- case of abnormal conditions..... :		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un .:		—
	- measured mounting surface temperature (°C) at 1,1 Un..... :		N/A
	- calculated mounting surface temperature (°C) ..:		N/A
	- track- mounted luminaires		N/A
3.12 (12.6.2)	Temperature sensing control		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
	- 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
3.12 (12.7)	Thermal test (faiLED ROAD AND AREA LUMINAIRES control gear in plastic luminaires):		N/A
3.12 (12.7.1)	Luminaire without temperature sensing control		N/A
3.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70W		N/A
	Test method 12.7.1.1 or Annex W .....:		—
	Test according to 12.7.1.1:		N/A
	- case of abnormal conditions		—
	- Ballast failure at supply voltage (V) .....:		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un..:		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un..... :		—
	- calculated temperature of fixing point/exposed part (°C).....:		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C)..... :		N/A
	- part tested; temperature (°C)..... :		N/A
3.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		N/A
	- case of abnormal conditions		—
	- measured winding temperature (°C): at 1,1 Un..:		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un..... :		—
	- calculated temperature of fixing point/exposed part (°C).....:		—
	Ball-pressure test:		N/A

EN 60598-2-3			
Clause	Requirement + Test	Result – Remark	Verdict
	- part tested; temperature (°C)..... :		N/A
	- part tested; temperature (°C)..... :		N/A
3.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
3.12 (12.7.2)	Luminaire with temperature sensing control		N/A
	- thermal link	Yes ☐ No ☐	—
	- manual reset cut-out	Yes ☐ No ☐	—
	- auto reset cut-out	Yes ☐ No ☐	—
	- case of abnormal conditions		—
	- highest measured temperature of fixing point/exposed part (°C):.....:		—
	Ball-pressure test:		N/A
	- part tested; temperature (°C)..... :		N/A
	- part tested; temperature (°C)..... :		N/A
3.12.1 (-)	Temperature reduction if for outdoor use only		P
3.12.2	IP classification greater than IP20shall be subjected to the relevant tests		P
3.12.3	Glass covers shall be used within the thermal limits. Thermal limits shall include the MIN and Max temperature and the MAX. Δt on the glass.		P

3.13 (9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		**P**
3.13 (-)	If IP > IP 20 the order of the test specified in clause 5.12		—
3.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP66	—
	- mounting position during test.....:	On the black board	—
	- fixing screws tightened; torque (Nm).....:		—
	- tests according to clauses.....:	Clauses 9.2.2 and 9.2.7	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		P
	b) no talcum in dust- tight luminaire		P
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		N/A

EN 60598-2-3			
Clause	Requirement + Test	Result – Remark	Verdict
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		P
	e) no water in watertight luminaire		P
	f) no contact with live parts (IP 2X)		N/A
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A
	g) no trace of water on part of lamp requiring protection from splashing water		P
	h) no damage of protective shield or glass envelope		P
3.13 (9.3)	Humidity test 48 h	25°C, 95%RH	P
3.13.1	IP classification greater than IP20(specified in section 9 of IEC 60598-1 and section in 3.12 of this section of IEC 60598-2		P
3.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
3.14 (10.2.1)	Insulation resistance test		P
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø ..... :		—
	Insulation resistance (MΩ)		—
	SELV:		P
	- between current-carrying parts of different polarity..... :	>2 MΩ	P
	- between current-carrying parts and mounting surface..... :	>2 MΩ	P
	- between current-carrying parts and metal parts of the luminaire..... :	>2 MΩ	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..... :	>2 MΩ	P
	- between live parts and mounting surface..... :	>2MΩ	P
	- between live parts and metal parts..... :	>2MΩ	P
	- between live parts of different polarity through action of a switch..... :		N/A

EN 60598-2-3			
Clause	Requirement + Test	Result – Remark	Verdict
	- 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
3.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V):		P
	SELV:		P
	- between current-carrying parts of different polarity..... :	500V	P
	- between current-carrying parts and mounting surface..... :	500V	P
	- between current-carrying parts and metal parts of the luminaire..... :	500V	P
	- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts..... :		N/A
	- Insulation bushings as described in Section 5 ... :		N/A
	Other than SELV:		P
	- between live parts of different polarity..... :	1554V	P
	- between live parts and mounting surface..... :	1554V	P
	- between live parts and metal parts..... :	1554V	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
3.14 (10.3)	Touch current or protective conductor current (mA)..... :	Protective conductor current:0.031mA	P

3.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		**P**
3.15 (13.2.1)	Ball-pressure test:		P
	- part tested; temperature (°C)..... :	Lamp bead transparent cover：75℃,1.0mm	P
	- part tested; temperature (°C)..... :	Pacifierer:75℃,0.9mm	P

EN 60598-2-3			
Clause	Requirement + Test	Result – Remark	Verdict
3.15 (13.3.1)	Needle flame test (10 s):		P
	- part tested..... :	Pacifierer ;	P
	- part tested..... :		N/A
3.15 (13.3.2)	Glow- wire test (650°C):		P
	- part tested..... :	Lamp bead transparent cover	P
	- part tested..... :		N/A
3.15 (13.4.1)	Tracking test:		N/A
	- part tested..... :		N/A

	ANNEX 1: components	P

TABLE: Critical components information

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard&Mark(s) of conformity1)
LED controller	Inventronics	ZH-HLB-250H	Input：AC100-240V Max：277V 50/60Hz；PF≥0.95 Output：250W max,DC 28-42V,2.0-3.2A	CB:SGPSB-LE-01662 ENEC:U6 079136 0254
LED lamp	Lumileds	LUXEON 3030 2D	120mA,6v	LM80：L130-2780003000W21
PWB	Wenzhou Ruihao Electronice	RHPCB	V-0,105℃	UL E339059
lightning arrester	Xiamen SET Electronics Co., Ltd	SD10C277LM	320VAC 10KA/15KA IP66	UL：VZCA2.E322662
breaker	Ningbo Jinwei Electric Technology Co., Ltd.	JN004	AC 400V MAX16A	TUV：R50392691
Screwless terminal block	WAGO Kontakttechnik GmbH&Co.KG	260	450V,24A 85℃	VDE:40033303
gasket between main enclosure	PurEco LED AG	silicone rubber	105℃	test with appliance
Terminal block	Jiangxi Gaochao INDUSTRIAL CO.,LTD	PA12 PA12DS,830, 830WP	500Vac,24A 110℃,Max.6.0mm²	VDE 40025351
Internal wire	Changzhou Anyte Wire&Cable Co	H05V-K	300/500V	TUV:B120781444002
Waterproof connector	Yueqing Fanke Electric Co., Ltd.	PG9	IP68	CE:CLZJ1203260982
metal enclosure	PurEco LED AG	aluminium alloy		test with appliance

	ANNEX 2: temperature measurements, thermal tests of Section 12	P

	Type reference.....:	See page 1	—
	Lamp used.....:	LED	—
	Lamp control gear used.....:	Built-in LED controlgear	—
	Mounting position of luminaire.....:	LED module	—
	Supply wattage (W).....:	250W	—
	Supply current (A)..... :		—
	Calculated power factor.....:	0.988	—
	Table: measured temperatures corrected for ta = 25°C:		P
	- abnormal operating mode.....:	Short-circuit output of LED Controlgear	—
	- test 1: rated voltage..... :	—	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	1.06×277V=293.62V	—
	- 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..... :	1.1×240V=304.7V	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	—	—

temperature (°C) of part	Clause 12.4 – normal				Clause 12.5 – abnormal	
	test 1	test 2	test 3	limit	test 4	limit
Power cord	—	51.6	—	90	—	—
PCB	—	49.9	—	130	—	—
Lamp bead transparent cover		56.9		90		
Internal Line		51.3		90		
Pacifierer		54.4		90		
Mounting surface	—	43.1	—	90	47.8	130
Lighting object(0.1 m)	—	41.2	—	90	—	—
Ambient		24.9		25		
Remark: Short-circuit output of the controlgear, the unit have not output the temperature is very low.						

	ANNEX 3: screw terminals (part of the luminaire)	**N/A**

(14)	**SCREW TERMINALS**		N/A
(14.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm²).....:		N/A
(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

	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
(15.5.1)	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
(15.6)	Electrical tests		
	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
(15.7)	Terminals external wiring		N/A
	Terminal size and rating		N/A

(15.8.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) .....:									N/A
	Pull test pin or tab terminals (4 samples); pull (N) .....:									N/A
(15.9)	Contact resistance test									N/A
	Voltage drop (mV) after 1 h									N/A
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	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)										
	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)										
	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)										
	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)										

EN 62031			
Clause	Requirement + Test	Result – Remark	Verdict

12 (12)	**ELECTRIC STRENGTH**		**P**
	Immediately after clause 11 electric strength test for 1 min		P
	Basic insulation for SELV, test voltage 500 V		N/A
	Working voltage 50 V, test voltage 500 V		N/A
	Working voltage > 50 V 1000 V, test voltage (V):		P
	Basic insulation, 2U + 1000 V		P
	Supplementary insulation, 2U + 1000 V		P
	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
13 (14)	**FAULT CONDITIONS**		**P**
- (14)	When operated under fault conditions the controlgear:		P
	- does not emit flames or molten material		P
	- does not produce flammable gases		P
	- protection against accidental contact not impaired		P
	Thermally protected controlgear does not exceed the marked temperature value		N/A
	Fault conditions: capacitors, resistors or inductors without proof of compliance with relevant specifications have been short-circuited or disconnected	(see appended table)	N/A
- (14.1)	Short-circuit of creepage distances and clearances if less than specified in clause 16 in Part 1 (except between live parts and accessible metal parts)	(see appended table)	N/A
	Creepage distances on printed boards less than specified in clause 16 in Part 1 provided with coating according to IEC 60664- 3		N/A
- (14.2)	Short-circuit or interruption of semiconductor devices	(see appended table)	P
- (14.3)	Short-circuit across insulation consisting of lacquer, enamel or textile	(see appended table)	P
- (14.4)	Short-circuit across electrolytic capacitors	(see appended table)	N/A
- (14.5)	After the tests has been carried out on three samples:		P
	The insulation resistance 1 M :	>1,5 M	P
	No flammable gases		
	No accessible parts have become live		P

EN 62031			
Clause	Requirement + Test	Result – Remark	Verdict
	During the tests, a five-layer tissue paper, where the test specimen is wrapped, does not ignite		P
- (14.6)	Relevant fault condition tests with high-power supply		
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
15	CONSTRUCTION		P
	Wood, cotton, silk, paper and similar fibrous material not used as insulation		P

14	TABLE: tests of fault conditions	P
Part	Simulated fault	Hazard
LED	Short-circuit; the LED not working	NO

Appendix 1: European National Differences

ATTACHMENT TO TEST REPORT IEC 60598-2-3 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Luminaires Part 2: Particular requirements: Section Three – Luminaires for road and street lighting	
Differences according.....:	EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015+AC:2016
Annex Form No.....:	EU_GD_IEC_60598_2_3I
Annex Form Originator.....:	IMQ S.p.A.
Master Annex Form.....:	2016-04

	CENELEC COMMON MODIFICATIONS (EN)		P
3.5 (3)	**MARKING**		**P**
3.5 (3.3.101)	Adequate warning on the package		P
3.6 (4)	**CONSTRUCTION**		**P**
3.6 (4.11.6)	Electro-mechanical contact systems		P
3.10 (5)	**EXTERNAL AND INTERNAL WIRING**		**P**
3.10 (5.2.1)	Connecting leads		P
	- without a means for connection to the supply		P
	- terminal block specified		P
	- 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
3.10 (5.2.2)	Cables equal to HD21 S2 or HD22 S2		P
3.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		**P**
3.12 (12.4.2c)	Thermal test (normal operation)		P
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		**P**
(3.3)	DK: power supply cord with label		N/A
	IT: warning label on Class 0 luminaire		N/A
(4.5.1)	DK: socket- outlets		N/A
(5.2.1)	CY, DK, FI, SE, GB: type of plug		N/A

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		P
(4 & 5)	FR: Shuttered socket-outlets 10/16A		P
(13.3)	FR: Glow-wire test 850°C alt. 750°C for luminaires in premises open to public or 960°C for luminaires in emergency exits		P
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N/A

Appendix 2:
Photo Documentation

Photo 1

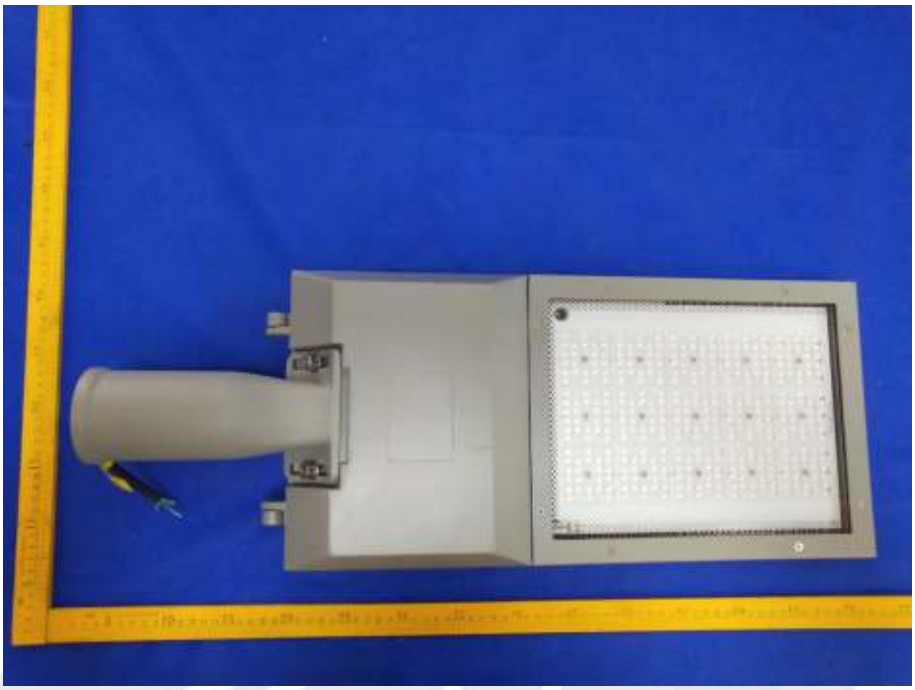


Photo 2

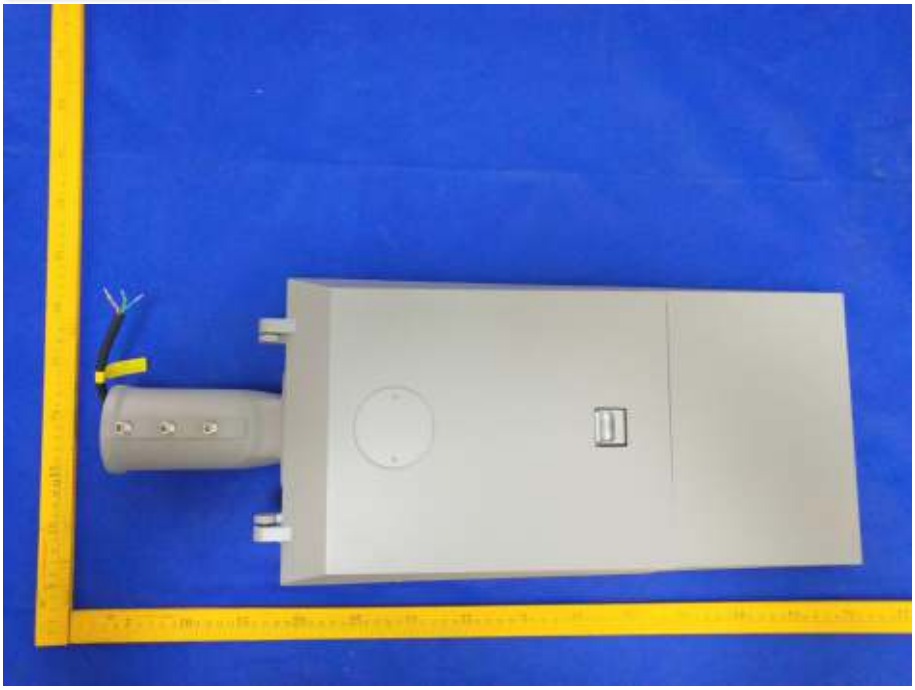


Photo 3

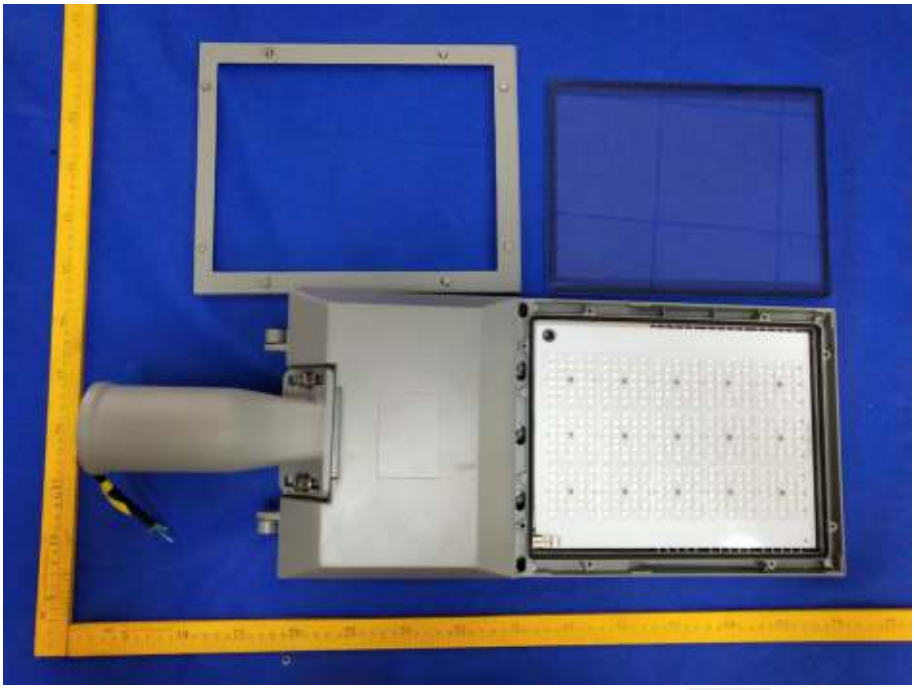


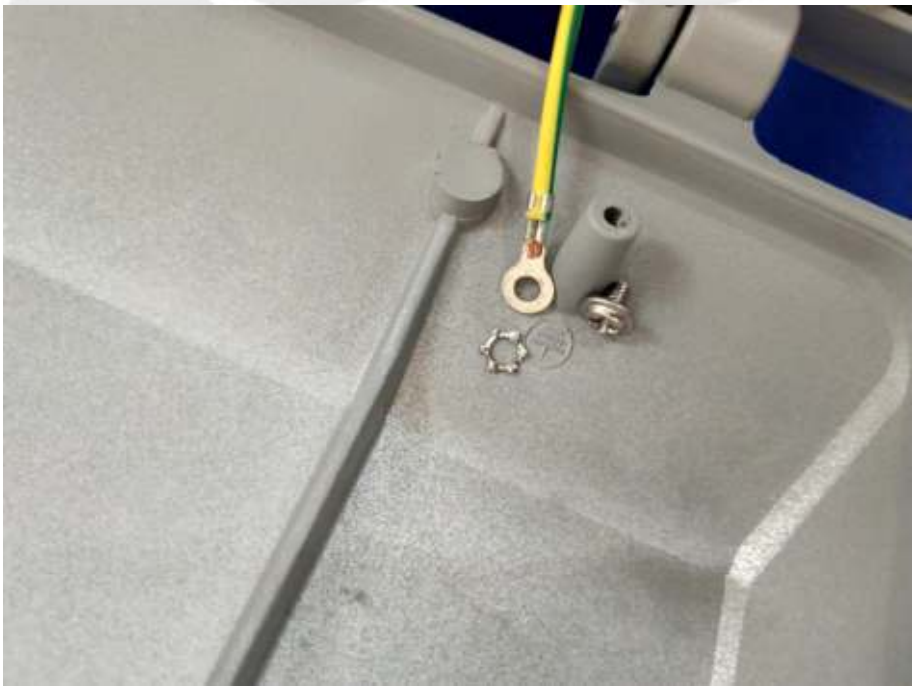
Photo 4

Photo 5

Photo 6

Photo 7

Photo 8



======End of Report======

Verification of Conformity

Certificate No.: 19ZCTC1223002RC

Applicant	:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address	:	Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer	:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address	:	Yangzhou Xintong Transport Equipment Group Co., Ltd., Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product	:	**LED ROAD AND AREA LUMINAIRES**
Brand Name	:	**XINTONG**
Model No.	:	**SH3103:250W SH3101:30W, SH3101:40W, SH3101:50W, SH3101:60W, SH3101:70W, SH3101:80W, SH3102:100W, SH3102:120W, SH3102:150W, SH3103:180W, SH3103:200W, SH3103:240W**

Requirement	Applied Standards	Document Evidence	Result
RoHS Directive	2011/65/EU 2015/863	Test Report: 19ZCTC1223002RR	Conform
RoHS Standards	IEC 62321:2013		

RoHS

Jack Yang

Jack Yang
Dec. 25, 2019

Remark: The Certificate of compliance is based on a test procedure or an evaluation of the above-mentioned product.This is to certify that the above-mentioned product is in compliance with the RoHS Directive (2011/65/EU) and its subsequent amendments EU No. (2015/863) of the European parliament on the Restriction of the use of certain Hazardous Substances [Lead (Pb); Mercury (Hg); cadmium (Cd); Hexavalent chromium (Cr); polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs); Hexabromocyclododecane (HBCDD); Bis-(2-ethylhecyl) Phthalate (DEHP); Benzylbutyl Phthalate (BBP); Dibutyl Phthalate (DBP)] in Electrical and Electronic equipment.This certificate can be checked for validity at **www.renzhengjiance.com**

Shenzhen ZCT Technology Co., Ltd.
3/F.,Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street,Bao'an District, Shenzhen, Guangdong, China.
✆ : 400-669-6965 ✆ : 86-755-23702323, ✉ : admin@renzhengjiance.com, 🌐 : http://www.renzhengjiance.com.

RoHS Test Report

Applicant	: Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address	: Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer	: Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address	: Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China

The following sample(s) was /were submitted and identified on behalf of the clients as:

Sample Name	:	LED ROAD AND AREA LUMINAIRES
Trade Mark	:	N/A
Model Number	:	SH3103:250W SH3101:30W, SH3101:40W, SH3101:50W, SH3101:60W, SH3101:70W, SH3101:80W, SH3102:100W, SH3102:120W, SH3102:150W, SH3103:180W, SH3103:200W, SH3103:240W
Sample Received Date	:	Dec 23, 2019
Testing Period	:	Dec 24, 2019-Dec 25, 2019
Test Requested	:	Selected test (s) in the selected parts as requested by client with the RoHS Directive 2011/65/EU and its subsequent amendments EU No. 2015/863
Test Method	:	Please refer to next page(s).
Test Result	:	Please refer to next page(s).

Prepared by: _____
Engineer

Reviewer: _____
Supervisor

Approved & Authorized Signer: _____
Jack Yang / Manager

RoHS Test Report

Sample Description：

No.	Description	Name
1	PCB	PCB
2	IC	IC
3	LED	LED
4	Tin	Tin
5	Screw	Screw
6	Capacitor	Capacitor
7	Resistor	Resistor
8	Aluminum electrolytic capacitor	Aluminum electrolytic capacitor
9	Electrolytic capacitor	Electrolytic capacitor
10	Transistor	Transistor
11	Plastic	Plastic
12	Diode	Diode
13	Metal	Metal
14	Electroniccomponent	Electroniccomponent
15	Coating	Coating
16	Switching Mode Power Supply	Switching Mode Power Supply
17	Power cord	Power cord

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Test Result (No. 1):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000

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Test Result (No. 2):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000

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Test Result (No. 3):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000

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Test Result (No. 4):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000

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Test Result (No. 5):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000

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Test Result (No. 6):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.D.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000

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Test Result (No. 7):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 8):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 9):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 10):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 11):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 12):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 13):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 14):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 15):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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Test Result (No. 16):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

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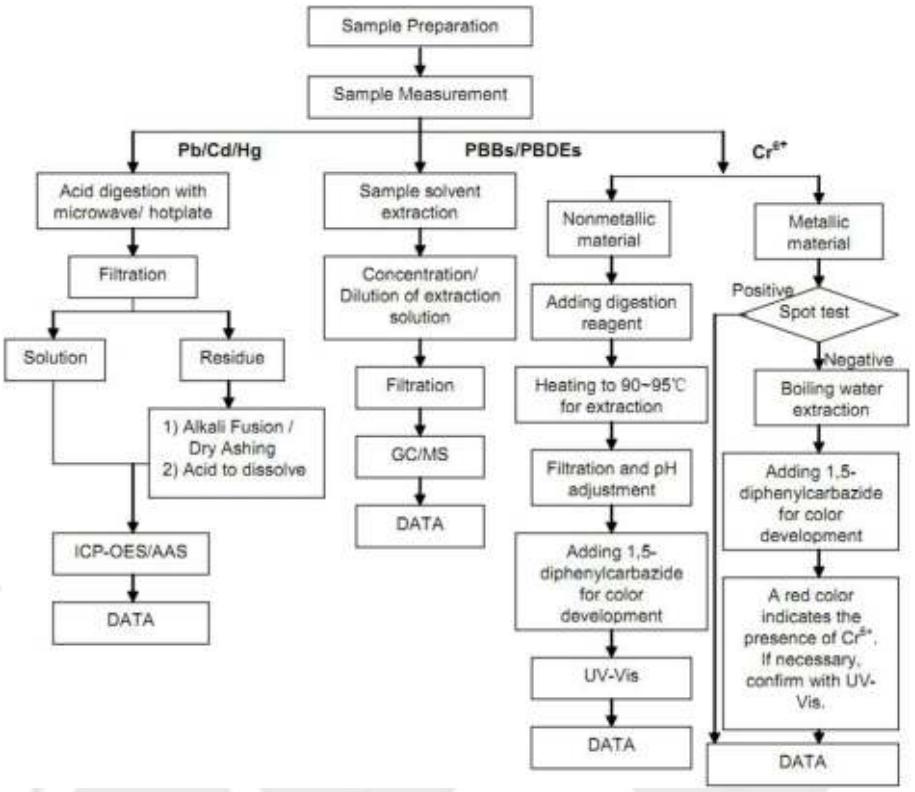
Test Result (No. 17):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chrormium(CrVI)	mg/kg	IEC 62321:2013, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2013, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2013, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000

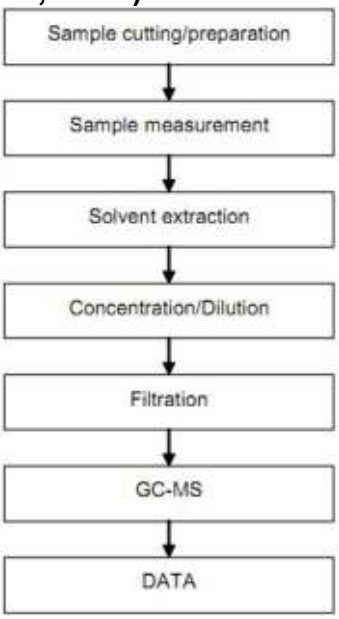
Note: 1. mg/kg= ppm
2. N.D.= Not Detected(<MDL)
3. MDL = Method Detection Limit
4. -- = No Testing

RoHS Test Report

Testing Flow Chart (Pb, Cd, Hg, Cr^{6+}, PBB_S, $PBDE_S$):



Testing Flow Chart (DEHP, DBP, BBP, DIBP):



RoHS Test Report

Photo of Sample:

Photo 1

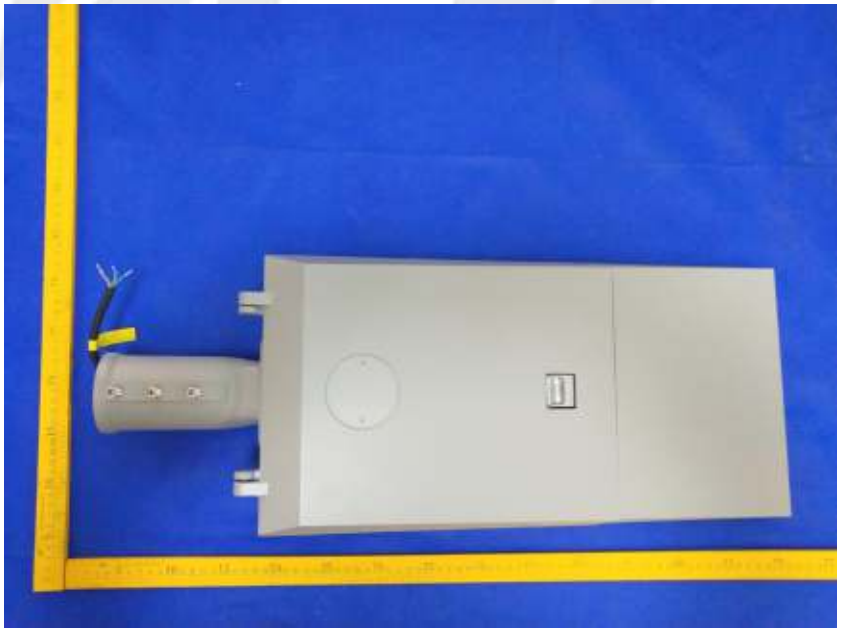


Photo 2

RoHS Test Report

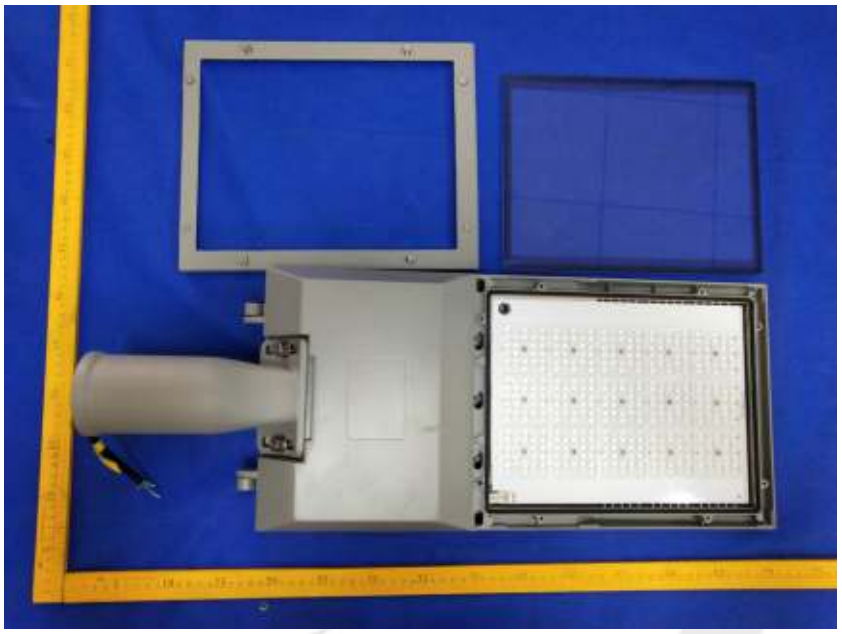


Photo 3

Photo 4

RoHS Test Report

Photo 5

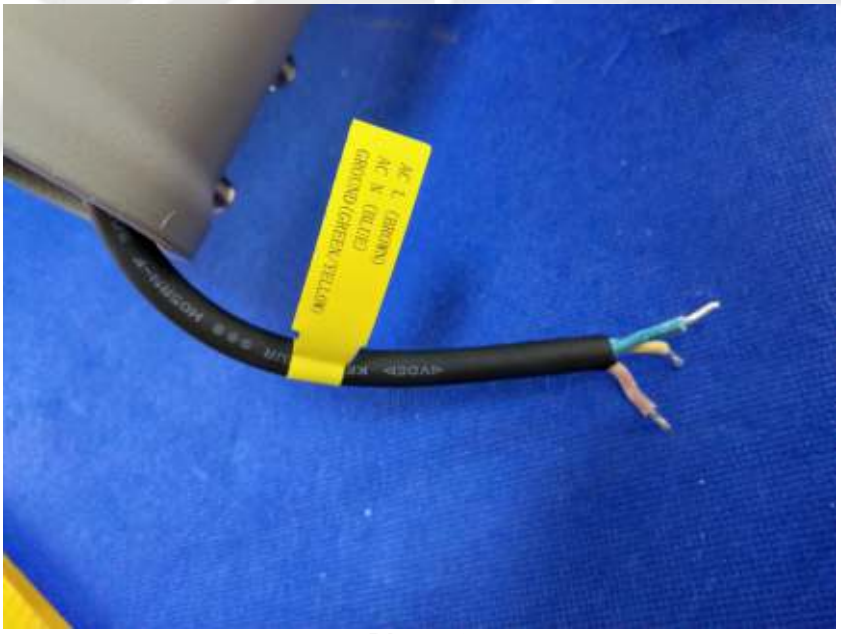


Photo 6

***** End of Report*****

TEST REPORT for
NSS Test according to EN ISO 9227: 2012:
Corrosion tests in artificial atmospheres – Salt spray tests

Report Reference No.....:	19ZCTS1223002TR
Tested by (printed name and signature.....:	**Sandy Chen**
Reviewer by(printed name and signature.....:	**Mage Li**
Approved by (printed name and signature).....:	**Tomy Wu**
Date of issue.....:	2019-12-24
Total number of pages.....:	6 pages
Testing Laboratory Name.....:	Shenzhen ZCT Technology Co., Ltd.
Address.....:	3/F., Building 5, Hongsheng Industrial Zone, Bao'an Road, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China.
Applicant.....:	**Yangzhou Xintong Transport Equipment Group Co., Ltd.**
Address.....:	Add: Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer.....:	Same as applicant
Test item description.....:	**LED ROAD AND AREA LUMINAIRES**
Trade Mark.....:	**XINTONG**
Model/Type reference.....:	**SH3103:250W** SH3101:30W,SH3101:40W,SH3101:50W,SH3101:60W,SH3101:80W,SH3102:100W,SH3102:120W,SH3102:150W, SH3103:180W,SH3103:200W,SH3101 70W，SH3103 240W
Material.....:	Metal coated with gray paint, metal screw and metal rivet
Test sample.....:	LED ROAD AND AREA LUMINAIRES

General remarks:

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 testing laboratory.
- test conditions does meet the requirement.....……..:P (Pass)
- test conditions does not meet the requirement……..:F (Fail)

Testing Date:

Date of receipt of test item……: 2019-08-01
Date (s) of performance of tests……: 2019-08-02 to 2019-12-24

Testing requirement:

1. Preparation of the sodium chloride solution:

Dissolve a sufficient mass of sodium chloride in distilled or deionized water with a conductivity not higher than20 μS/cm at 25 °C ±2 °C to produce a concentration of 50 g/l ±1g/l. The sodium chloride concentration ofthe sprayed solution collected shall be 50 g/l ±1 g/l.

2. **Test specimenspre-treatment:**

Before testing, the specimens shall be cleaned carefully with a hydrocarbon solvent, but not include the use of any abrasives or solvents which may attack the surface of the specimens

3. NSS test requirement for this standard:

Adjust the pH of the salt solution (3.1) so that the pH of the sprayed solution collected within the test cabinet is 6,5 to 7,2 at 25 °C ±2 °C. Check the pH using electrometric measurement or in routine checks, with a short-range pH paper, which can be read in increments or 0,3 pH units or less. Make any necessarycorrection by adding hydrochloric acid, sodium hydroxide or sodium bicarbonate solution of analytical grade.

Possible changes in pH may result from loss of carbon dioxide from the solution when it is sprayed. Such changes may be avoided by reducing the carbon dioxide content of the solution by, for example, heating it to a temperature above 35 °C before it is placed in the apparatus, or by making the solution using freshly boiledwater.

Description of Testing conditions:		P
Sample placed	At an angle15°to 25°.to the vertical.	P
Temperature of test cabinet	35 °C ±2 °C	P
Concentration of sodiumchloride (collected solution)	50 g/l ±1g/l	P
Average collection rate for ahorizontal collecting area of80 cm2	1,5 ml/h ±0,5 ml/h	P
pH (collected solution)	6,5 to 7,2 for Neutral salt spray(NSS)	P
Duration of tests	3000 hours (according to the requirements of applicant)	P

Treatment of specimens after test:	P
At the end of the test period, remove the test specimens from the cabinet and allow them to dry for 0,5 h to 1 hbefore rinsing, in order to reduce the risk of removing corrosion products. Before they are examined, carefullyremove the residues of spray solution from their surfaces. A suitable method is to rinse or dip the Testspecimens gently in clean running water, at a temperature not exceeding 40 °C, and then to dry themimmediately in a stream of air, at an overpressure not exceeding 200 kPa and at a distance of approximately300 mm.	P

Test results:	
1) Original appearancefor testing specimens	See appendix photos
2) Preparation of the testing specimens	--Using a clean soft brush to Clean the specimens with an hydrocarbon --After cleaning, rinse the reference specimens with fresh solvent and then dry them.
3) The time when appeared rust	1. Metal rivet 2. Metal screw (Observed the test result of sample after 3000h test)
4) The frequency and number of specimen location permutations	One sample used
5) Appearance after the test	See appendix photos
Note: After the testing, There were a little of rust on the test specimens.	

Degree of rusting was evaluated with reference to ISO 10289: 1999

Partof Sample	Degree of Rusting
Metal coated with gray paint	10
Metal screw	5
Metal rivet	3

Degree of Rusting	Area of Defects (%)
10	No defects
9	0 < A <0.1
8	0.1 < A <0.25
7	0.25 < A < 0.5
6	0.5 < A < 1.0
5	1.0 < A < 2.5
4	2.5 < A < 5.0
3	5.0 < A < 10
2	10 < A < 25
1	25 < A < 50
0	50 < A

Appendix for photos:

Photo 1

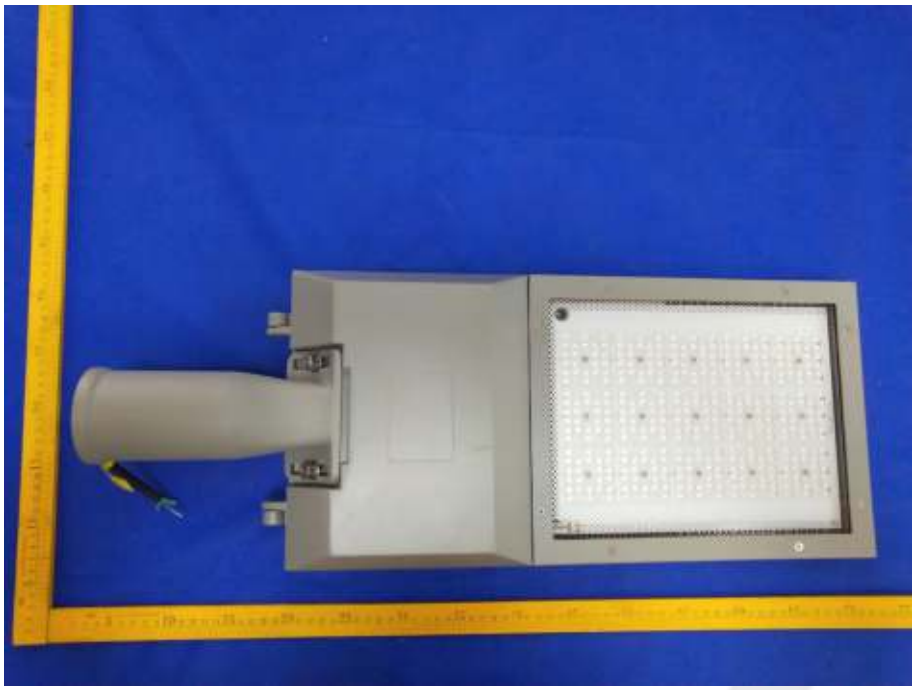


Photo 2

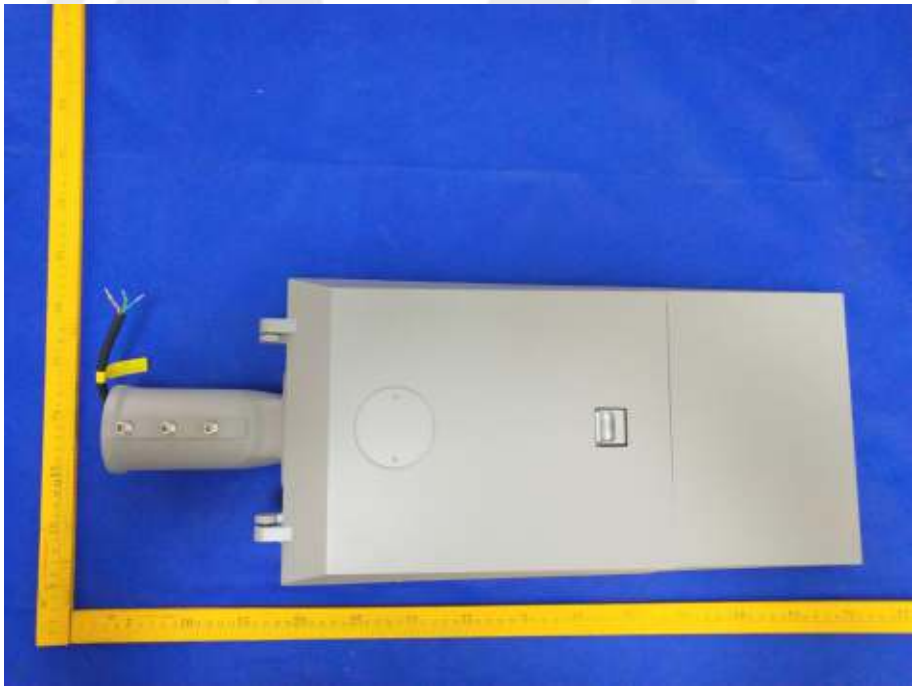
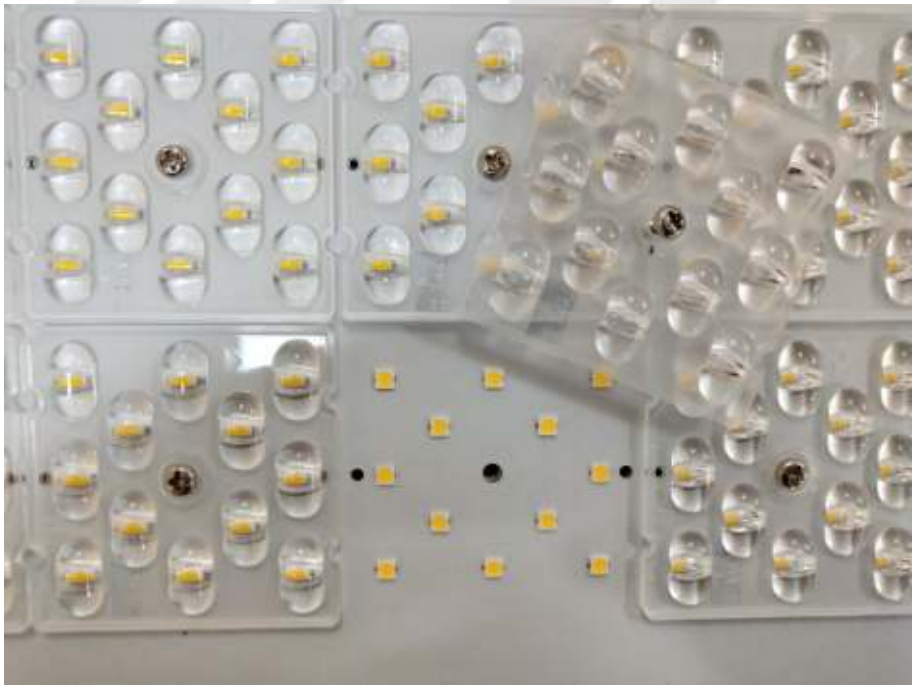


Photo 3

Photo 4



----------End report----------

Vibration Test Report

Application provider：	Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address：	Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Manufacturer：	Yangzhou Xintong Transport Equipment Group Co., Ltd.
Address：	Guoji Industrial Zone, Songqiao Town, Gaoyou City, Yangzhou City, Jiangsu Province, China
Product name：	LED ROAD AND AREA LUMINAIRES
Mark：	XINTONG
Product model：	SH3103:250W SH3101:30W,SH3101:40W,SH3101:50W,SH3101:60W,SH3101:80W SH3102:100W,SH3102:120W,SH3102:150W,SH3103:180W,SH3103:200W SH3101 70W，SH3103 240W
Testing company：	Shenzhen ZCT Technology Co., Ltd.
Address：	3F, 5th Building, Hongsheng Industrial Zone, No.4336 Bao'an Road, Bao'an District, Shenzhen, China.
Report date：	December 25, 2019
Report number：	19ZCTS1223003TR

Prepared by : Sandy chen

Reviewer : Mage Li

Approved & Authorized Signer : Tony Liu

According to the standard：	IEC60068-2-6:2007, IEC60068-2-64:2008
Test condition：	

Vibration test conditions	Test result determination
1.frequency of oscillation10-55Hz	P
2.Sweep rate does not exceed1oct/min	P
3.Shaking table amplitude1.5mm	P
4.Tests were carried out in 3 directions of the sample.	P
5.Total test time for 8 hours	P
6.Indoor temperature 28.6 degrees Celsius. Humidity 73%RH	P

Equipment use：	Vibration testing machine
Testing environment：	room temperature：25.6℃；humidity ：65%RH。
atmospheric pressure：	86 kPa--106 kPa(860mbar-1060mbar)
Final conclusion：	Vibration test qualified.

Sample name:	LED ROAD AND AREA LUMINAIRES	model:	SH3103:250W

Sample delivery date:	December 20, 2019	Completion date:	December 25, 2019

PHOTOGRAPHS OF SAMPLE AS RECEIVED

Photo 1

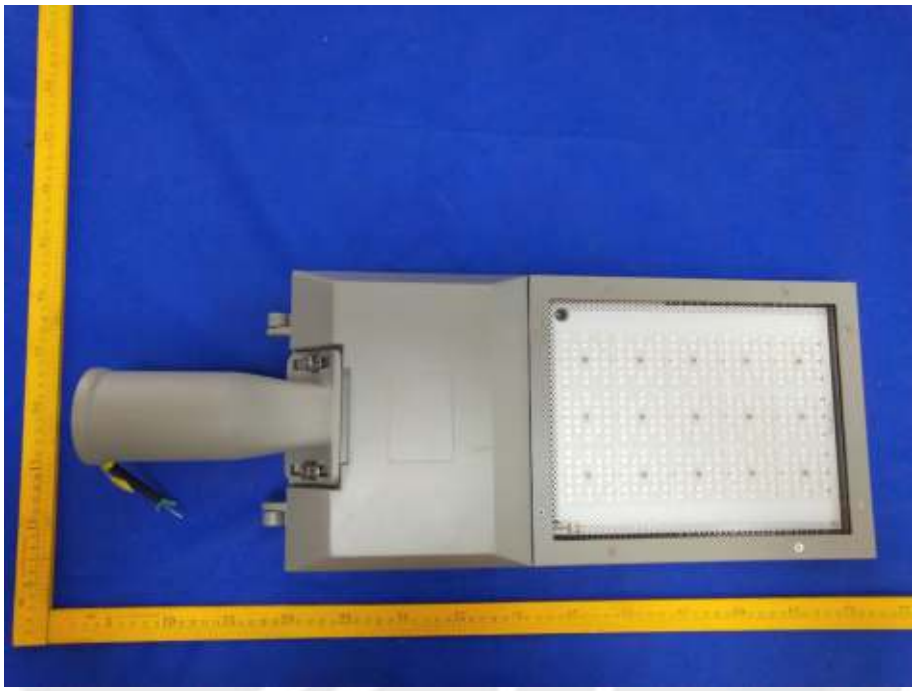


Photo 2

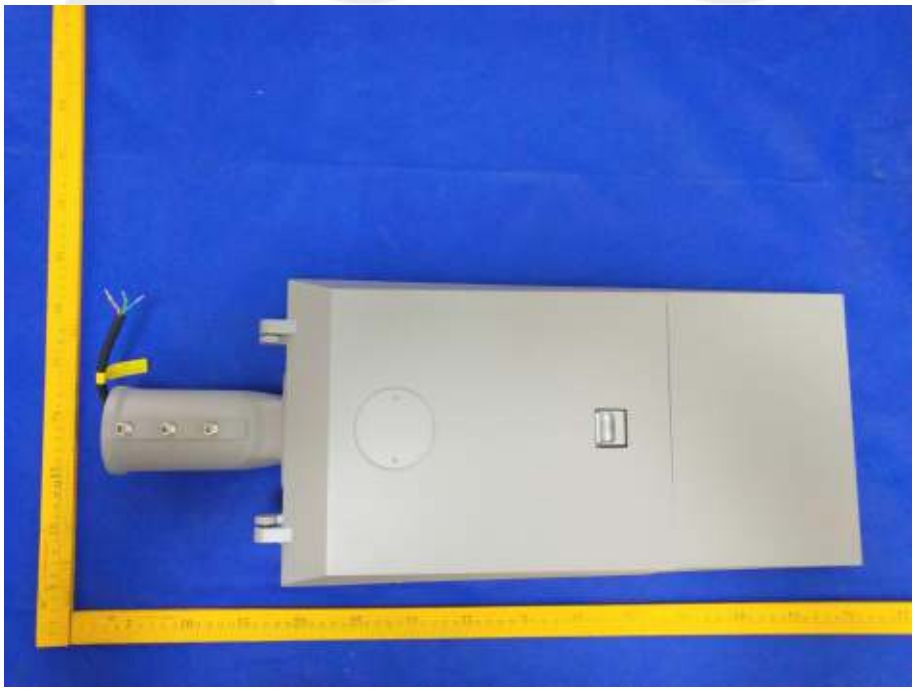


Photo 3

Photo 4

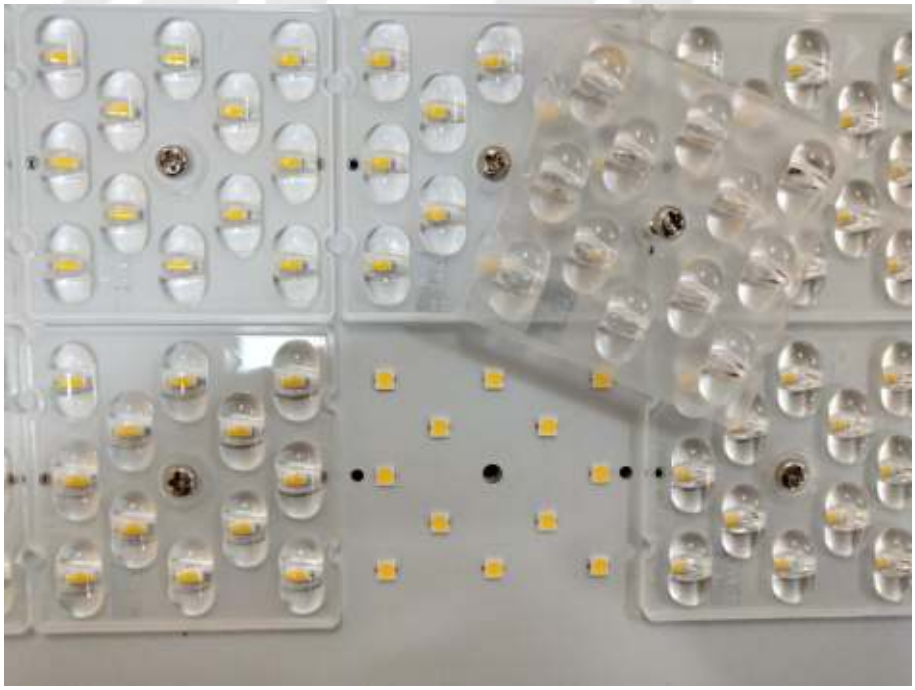


Photo 5

※※※※※ **END OF REPORT** ※※※※※