



**BUREAU
VERITAS**

TEST REPORT

LAB NO. : (6624)142-0360
DATE : June 12, 2024
PAGE : 1 OF 9

Applicant:

TAIZHOU RICHANGJING LIGHTING CO., LTD.

SHUANGZHAI VILLAGE, DOCHENG TOWN, LINHAI CITY, TAIZHOU, ZHEJIANG, CHINA

Date of Submission: 2024-5-21/2024-6-6
Test Period: 2024-5-21 to 2024-6-12
Sample Mode: Sample Presentation
BV EE Ref. No.: /

Sample Description:		Sample(s) received is(are) stated to be: LED Light	
Manufacturer:	/	Buyer:	/
Style No(s):	/	PO No.:	/
Country of Origin:	/	Country of Destination:	Oversea Country

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
Compliance Test - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments (EU) 2015/863	PASS

Note: Testing as sample submitted by client, this test report is only responsible for the conformity of the tested items. The client is responsible for the representative and authenticity of the submitted samples.

REMARK

If there are questions or concerns on this report, please contact the following persons:

General enquiry and invoicing

Mr. Speed Yu/ Ms. Cabell Chen
(021) 24166888*6832/6850

Speed.yu@bureauveritas.com/ Cabell.chen@bureauveritas.com

Technical enquiry

Mr. Gordon Yu/ Ken He
(021) 24166888*6852/6859

Gordon.yu@bureauveritas.com/ Kenny.he@bureauveritas.com

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CONSUMER PRODUCTS SERVICES DIVISION (SHANGHAI)

Laboratory Test Location:

No.368,Guangzhong Road, Zhuanqiao Town, Minhang, Shanghai

No.168,Guanghua Road, Zhuanqiao Town, Minhang, Shanghai

PREPARED BY :

Mike Shi

Connie Ye

Analytical Technical Specialist



Bureau Veritas
Consumer Products Services Division
(Shanghai)
No.168, Guanghua Road, Zhuanqiao Town,
Minhang, Shanghai, China.
Post Code: 201108
Tel: 86-21-24166888 Fax: 86-21-64890042
Email: bvcpsh_info@cn.bureauveritas.com
Http: www.bureauveritas.com/cps

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Photo of the Submitted Sample





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TEST RESULT

Compliance Test - Heavy Metals, Flame Retardants Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments

Test Method : See Appendix.

See Analytes and their corresponding Maximum Allowable Limit in Appendix

-			Result					
Parameter			Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs & PBDEs	Conclusion
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item	Description	Location	-	-	-	-	-	-
1	White plastic	Housing	ND	ND	ND	ND	ND	PASS
2	White fabric		ND	ND	ND	ND	ND	PASS
3	Transparent plastic		ND	ND	ND	ND	ND	PASS
4	Transparent plastic		ND	ND	ND	ND	ND	PASS
5	White plastic		ND	ND	ND	ND	ND	PASS
6	Silvery metal		ND	ND	ND	ND	NA	PASS
7	White plastic		ND	ND	ND	ND	ND	PASS
8	Green plastic		ND	ND	ND	ND	ND	PASS
9	Green plastic		ND	ND	ND	ND	ND	PASS
10	Coppery metal wire	Wire	ND	ND	ND	ND	NA	PASS
11	Silvery metal solder		ND	ND	ND	ND	NA	PASS
12	Silvery metal		ND	ND	ND	ND	NA	PASS
13	Green plastic wire jacket		ND	ND	ND	ND	ND	PASS
14	Transparent LED		ND	ND	ND	ND	ND*	PASS
15	White plastic		ND	ND	ND	ND	ND	PASS
16	Green plastic		ND	ND	ND	ND	ND	PASS
17	White plastic label with black printing		ND	ND	ND	ND	ND	PASS
18	Black plastic		ND	ND	ND	ND	ND	PASS
19	Green plastic		ND	ND	ND	ND	ND	PASS
20	White plastic		ND	ND	ND	ND	ND*	PASS
21	Silvery metal		ND	ND	ND	ND	NA	PASS
22	White plastic		ND	ND	ND	ND	ND	PASS
23	Transparent plastic		ND	ND	ND	ND	ND	PASS
24	White plastic		ND	ND	ND	ND	ND	PASS
25	Transparent plastic wire jacket R1		ND	ND	ND	ND	ND	PASS
26	Silvery metal wire		ND	ND	ND	ND	NA	PASS
27	White plastic		ND	ND	ND	ND	ND	PASS
28	White plastic		ND	ND	ND	ND	ND	PASS
29	Silvery metal solder		ND	ND	ND	ND	NA	PASS
30	Silvery metal		ND	ND	ND	Negative*	NA	PASS



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Note / Key :

ND = Not detected	">" = Greater than	"<" = Less than
NR = Not requested	mg/kg = milligram(s) per kilogram = ppm = part(s) per million	
Detection Limit: See Appendix.	NA = Not applicable	EX= Exempted

Remark :

- The testing approach is listed in table of Appendix.
- * denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.
- Only selected example(s) is (are) indicated on the photograph(s) in Comment.
- According to European Parliament and Council Directive 2011/65/EU, Article 5 "Adaptation of the Annexes to scientific and technical progress", exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.
- R1 = 2024-6-6 Second submission



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TEST RESULT

Compliance Test - Phthalate Test – (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : Reference to IEC 62321-8: 2017.

Maximum Allowable Limit : 0.1% (Each)

Parameter	CAS No.	Unit	MDL	Result		
				1+2+3+4+5+ 7+8+9	14+15+16+17 +18+20+22+ 24+28	13
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS

Parameter	CAS No.	Unit	MDL	Result		
				19	23	25 ^{R1}
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS

Parameter	CAS No.	Unit	MDL	Result	
				27	
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	
Conclusion	-	-	-	PASS	

Note: mg/kg= milligram per kilogram % = percentage 1 mg/kg = 0.0001%
MDL = Method Detection Limit ND = Not Detected (< MDL) “-” = Not Regulated

- R1 = 2024-6-6 Second submission



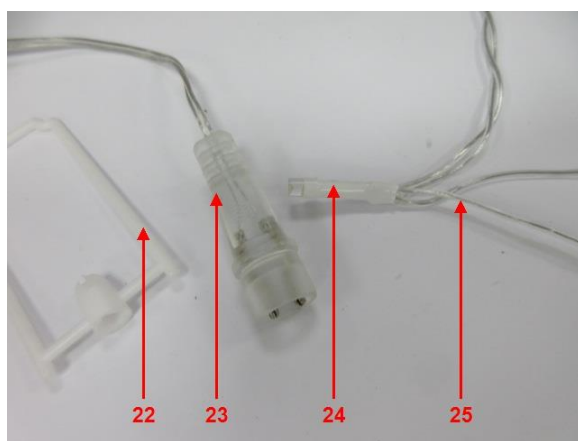
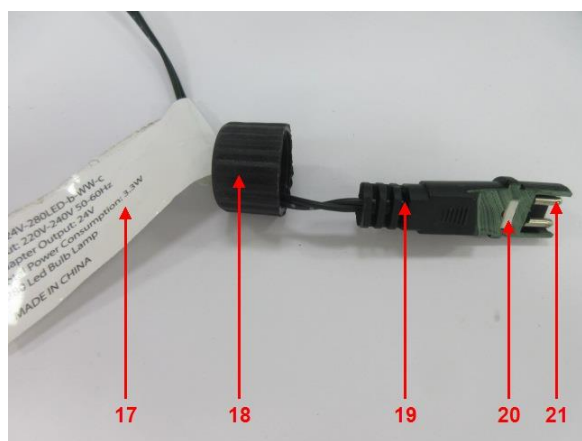
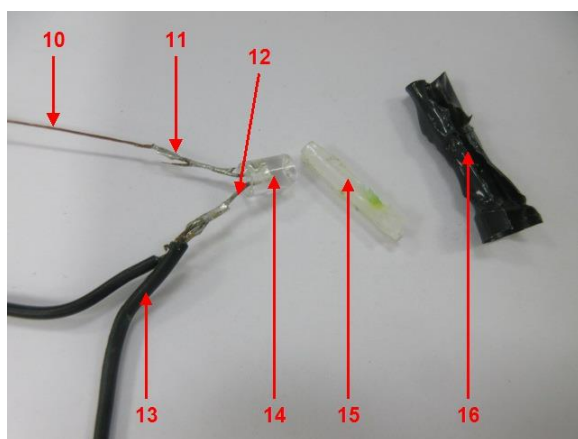
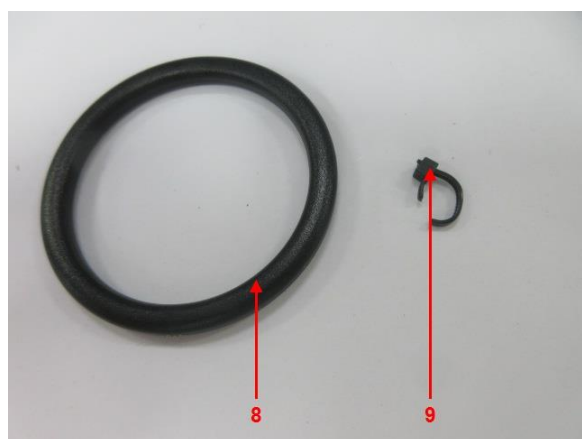
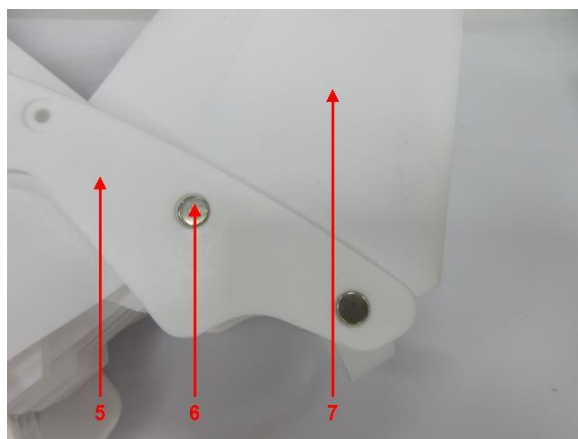
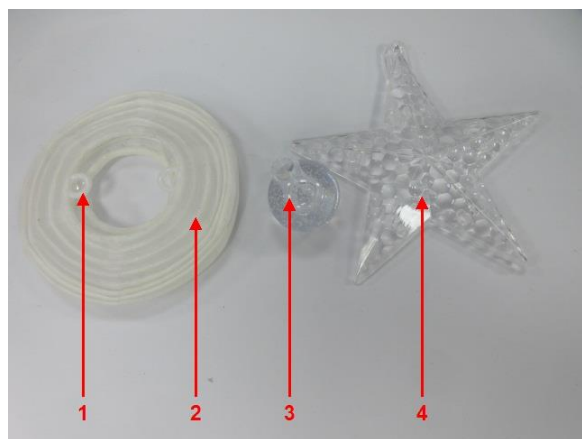
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Comment :

Photograph(s) [Compliance Test for European Parliament and Council Directive 2011/65/EU] :

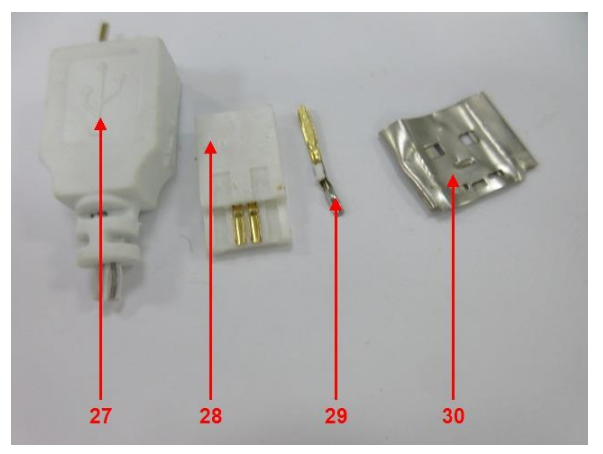
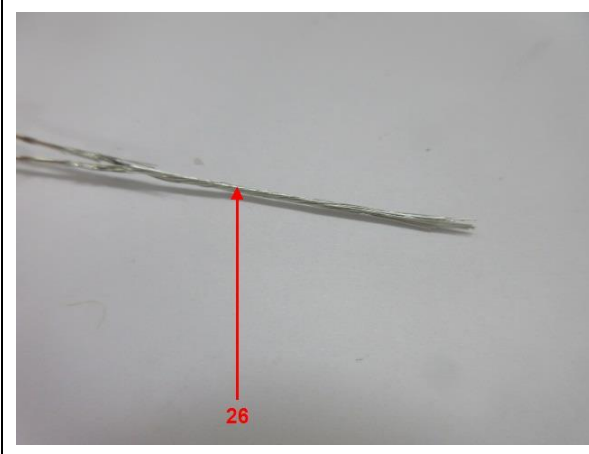
Photograph depicting Test Item(s)





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APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit [Compliance Test for European Parliament and Council Directive 2011/65/EU] :

No.	Name of Analyte(s)	Detection Limit (mg/kg)				Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF) ^[a]			Wet Chemistry	
		Plastic	Metallic / glass / ceramic	Others		
1	Lead (Pb)	100	200	200	10 ^[b]	1 000
2	Cadmium (Cd)	50	50	50	10 ^[b]	100
3	Mercury (Hg)	100	200	200	10 ^[c]	1 000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	3 ^[g, h] / 10 ^[d] / See ^[e, i]	1 000 / Negative ^[i]
6	Bromine (Br)	200	NA	200	NA	NA
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50 ^[f]	Sum 1 000
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50 ^[f]	Sum 1 000

NA = Not applicable IEC = International Electrotechnical Commission

[a] Test method with reference to International Standard IEC 62321-3-1: 2013.

[b] Test method with reference to International Standard IEC 62321-5: 2013.

[c] Test method with reference to International Standard IEC 62321-4: 2013+AMD1: 2017.

[d] Polymers and Electronics - Test method with reference to International Standard IEC 62321-7-2: 2017.

[e] Metal - Test method with reference to International Standard IEC 62321-7-1: 2015.

[f] Test method with reference to International Standard IEC 62321-6: 2015.

[g] Leather - Test method International Standard ISO 17075: 2017.

[h] Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075: 2017.

[i] Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1).

Testing Approach [Compliance Test for European Parliament and Council Directive 2011/65/EU] :

The testing approach was with reference to the following document(s).

- 1 International Standards IEC 62321-1: 2013 and IEC 62321-2: 2021
- 2 "RoHS Enforcement Guidance Document Version 1" by EU RoHS Enforcement Authorities Informal Network. (May 2006)
- 3 "RoHS Regulations - Government Guidance Notes" by United Kingdom Department for Business Innovation & Skills. (February 2011)
- 4 "Final Report to RoHS substances (Hg, Pb, Cr(VI), Cd, PBB and PBDE) in electrical and electronic equipment in Belgium" by Belgium Federal Public Service Health, Food Chain Safety and Environment. (November 2005)



Annex

The client declared that the materials used of below Styles are same as tested style.

RCJ-*-aLED-b-c-d-e-f

“*” stand for input voltage of lighting chain, from 3-31V.

“a” stand for quantity of LEDs, from 10 to 1000.

“b” stand for LED driver with control function, or blank means LED driver without control function.

“c” stand for color of LED, it can be “W”, “WW”, “G”, “B”, “PI”, “PU”, “Y”, “R”, “MC”
W=white, WW=Warm white, G=green, B=blue, PI=Pink, PU=Purple, Y=yellow, R=red, MC=multicolor.

“d” means the shape of the lighting chain ,it could be L, I, N, C;
L(Line), I(Icicle), N(net), C(Curtain).

“e” stand for lighting chain with decoration, or blank means without decoration.

Quantity of LEDs	Input voltage of lighting chain	Rated power
10-200	3-31V	0,6 W - 3,6 W
201-600	3-31V	1,2 W - 6 W
601-2000	3-31V	2,4 W - 9W

Remark:

Since the client was not able to provide the sample of additional Style, above additional Style(s) hasn't been tested, but only based on the guarantee letter provided by the client. Bureau Veritas-CPS takes no responsibility for any mistakes and the problems of product consistency caused by inaccurate and/or invalid information submitted by the client. The client will take the responsibility of all discrepancy and risk.