



**CENTRE OF TESTING SERVICE
INTERNATIONAL**

OPERATE ACCORDING TO ISO/IEC 17025

TEST REPORT

RoHS 2011/65/EU

Test Report Number : CGZ3140305-00534-C-R1



CTS (Guangzhou) Testing Service Technology Co., Ltd.

A101, No.65, Zhuji Road, Tianhe District, Guangzhou, Guangdong, China

TEST REPORT

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1 General Information

1.1 Application Details

Name : Zhongshan Photon Lighting Factory
Address : No.37 Dongcheng Road Dongsheng Road Zhongshan City
Guangdong Province China
Contact : Sabrina Suen
Telephone : +86-0760-22828268
Fax : +86-0760-22828262
Mobile telephone : 13318282517
Email : photonlighting@163.com

1.2 Manufacturer & Buyer

Manufacturer name : Zhongshan Photon Lighting Factory
Address : No.37 Dongcheng Road Dongsheng Road Zhongshan City
Guangdong Province China
Contact : Sabrina Suen
Telephone : +86-0760-22828268
Fax : +86-0760-22828262
Mobile telephone : 13318282517
Email : photonlighting@163.com
Buyer name : /

1.3 Description of the Test Item

Sample name : Lighting Fixture
Model No. : PT-LED 323/12, PT-LED 324/18
PT-LED 329/9, PT-G9 247/6GD,
PT-G9 247/6CM, PT-G9 372/3GD,
PT-G9 372/3CM, PT-G9 371/9GD,
PT-G9 371/9CM, PT-G9 396/9 LED, PT-G9 396/4 LED
PT-LED 436/9, PT-LED 417/5, PT-LED 437/4, PT-LED 444/4,
PT-LED 444/5, PT-LED 425/3
Brand name : /
Condition of sample(s) : EFFECTIVE

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2 Test results

2.1 Sample Receiving Date

Mar. 17, 2014

2.2 Testing Period

Mar. 17, 2014 to Mar. 24, 2014

2.3 Test Requested

In accordance with the RoHS Directive 2011/65/EU Annex II.

2.4 Test Method

1. X-Ray Fluorescence Spectrometry method in reference to IEC 62321-3-1:2013.
2. Chemical test method

Test Item(s)	Test Method	Test Instrument
Lead (Pb)	With reference to IEC 62321-5:2013	ICP-AES
Cadmium (Cd)	With reference to IEC 62321-5:2013	ICP-AES
Mercury (Hg)	With reference to IEC 62321-4:2013	ICP-AES
Chromium VI (Cr VI)	With reference to IEC 62321:2008	UV-Vis
PBBs	With reference to IEC 62321:2008	GC-MS
PBDEs		

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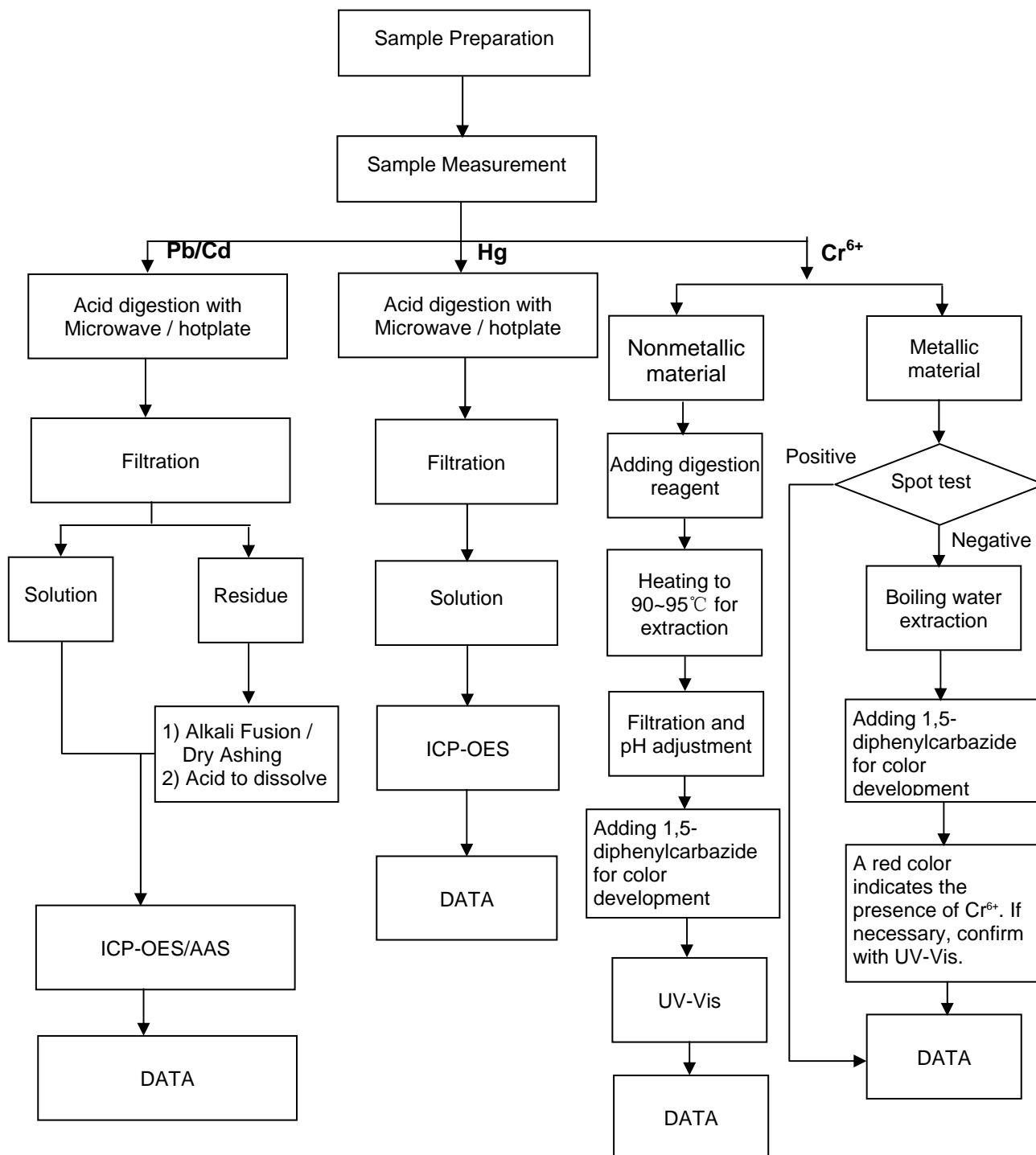
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2.5 Chemical Test Method Flow Chart



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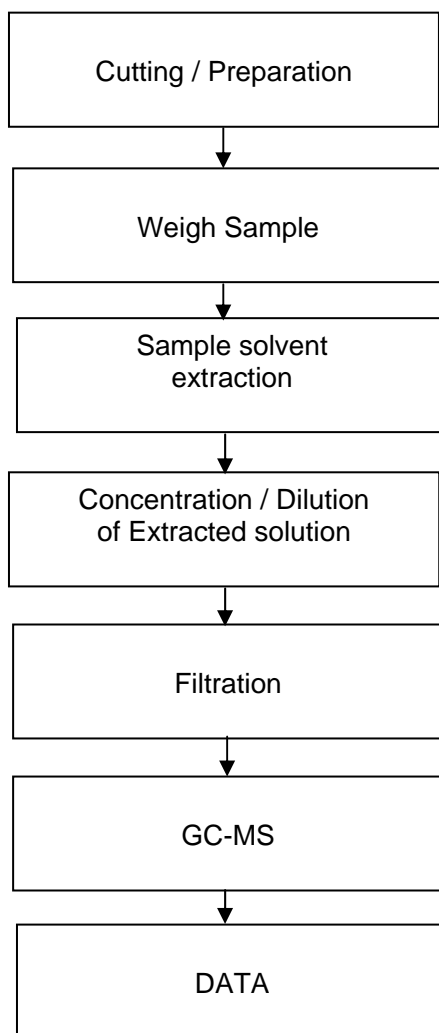
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PBBs / PBDEs



2.6 Conclusion

Based on the performed tests on submitted samples, the results of Lead, Cadmium, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

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2.7 Test Results

2.7.1 Test results of all parts by EDXRF and chemical confirmation

No.	Sample Description		Results					Chemical Confirmation Result (Unit=mg/kg)
			Pb	Cd	Hg	Cr	Br	
1	Silvery metal cover		P	P	P	P	/	
2	Silvery metal holder		P	P	P	X	/	CrVI=N.D.
3	Silvery metal screw		P	P	P	P	/	
4	Silvery metal gasket		P	P	P	P	/	
5	Silvery metal nut		P	P	P	P	/	
6	White plastic sheet		P	P	P	P	P	
7	LED	Yellow encapsulation material	P	P	P	P	P	
8		White plastic body	P	P	P	P	P	
9	Silvery metal frame		P	P	P	P	/	
10	Silvery metal fixing block		P	P	P	P	/	
11	Silvery metal screw with cap		P	P	P	P	/	
12	Wire	Blue cable jacket (thin)	P	P	P	P	P	
13		Brown cable jacket	P	P	P	P	P	
14		White cable knot	P	P	P	P	P	
15		Silvery wire	P	P	P	P	/	
16		Black jacket	P	P	P	P	P	
17		Black pyrocondensation tube	P	P	P	P	P	
18		White semitransparent plastic pipe	P	P	P	P	P	

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No.	Sample Description		Results					Chemical Confirmation Result (Unit=mg/kg)	
			Pb	Cd	Hg	Cr	Br		
19	Wire	Silvery metal sheet	P	P	P	P	/		
20		Black cable jacket	P	P	P	P	P		
21		Black soft rubber	P	P	P	P	P		
22		Golden metal wiring terminal	P	P	P	P	/		
23	White box	Silvery metal block	P	P	P	P	/		
24		Copper-colored metal block	X	P	P	P	/	Pb=1.2×10 ⁴ *	
25	White box with black printing 1	Blue plastic block	P	P	P	P	X	PBBs,PBDEs =N.D.	
26		White plastic cover	P	P	P	P	P		
27		Black ink	P	P	P	P	P		
28		White double-side adhesive tape	P	P	P	P	P		
29	PCB	Green PCB		P	P	P	P	P	
30		Solder tin		P	P	P	P	/	
31		Copper foil		P	P	P	P	/	
32		IC	Black body	P	P	P	P	P	
33			Pin	P	P	P	P	/	
34		Chip resistor		X	P	P	P	P	Pb=1.6×10 ³ △
35		Chip capacitor		P	P	P	P	P	
36		Chip audion		P	P	P	P	P	
37		wire holder1	Green plastic	P	P	P	P	P	
38			Silvery metal fixing block	P	P	P	P	/	

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No.	Sample Description			Results					Chemical Confirmation Result (Unit=mg/kg)
				Pb	Cd	Hg	Cr	Br	
39	PCB	wire holder1	Silvery metal wafer	P	P	P	X	/	CrVI=N.D.
40		Aluminum electrolytic capacitor	Blue plastic jacket with white printing	P	P	P	P	P	
41			Brown plastic jacket with white printing	P	P	P	P	P	
42			Silvery metal cover	P	P	P	P	/	
43			Black rubber end closure	P	P	P	P	P	
44			Pin	P	P	P	P	/	
45			Capacitor anode film	P	P	P	P	/	
46			Capacitor cathode film	P	P	P	P	/	
47			Paper film	P	P	P	P	P	
48		Rectifier diode	Black solid with silvery printing body	P	P	P	P	X	PBBs,PBDEs =N.D.
49			Pin	P	P	P	P	/	
50		Transformer	Enamelled wire	P	P	P	P	/	
51			Yellow adhesive tape	P	P	P	P	P	
52			Black metal winding column	P	P	P	P	/	
53			Transparent cable jacket	P	P	P	P	P	
54			Black plastic base	P	P	P	P	P	
55			Pin	P	P	P	P	/	
56		Three-terminal voltage regulator diode	Black body	P	P	P	P	X	PBBs,PBDEs =N.D.
57			Silvery metal	P	P	P	P	/	

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No.	Sample Description			Results					Chemical Confirmation Result (Unit=mg/kg)
				Pb	Cd	Hg	Cr	Br	
58	PCB	Three-terminal voltage regulator diode	Pin	P	P	P	P	/	
59			Black metal radiator piece	P	P	P	P	/	
60		Y capacitor	Blue body	P	P	P	P	P	
61			Pin	P	P	P	P	/	
62		Brown polyester capacitor	Brown encapsulation material	P	P	P	P	P	
63			Capacitor film	P	P	P	P	/	
64			Pin	P	P	P	P	/	
65		Yellow capacitance	Yellow plastic cover	P	P	P	P	X	PBBs,PBDEs =N.D.
66			Brown plastic cover	P	P	P	P	P	
67			Capacitor film	P	P	P	P	/	
68			Yellow encapsulation material	P	P	P	P	P	
69			Pin	P	P	P	P	/	
70		In-line inductance	Black soft plastic coat	P	P	P	P	P	
71			Enamelled wire	P	P	P	P	/	
72			Winding column	P	P	P	P	P	
73			Pin	P	P	P	P	/	
74		Inductance	Enamelled wire	P	P	P	P	/	
75			Winding column	P	P	P	P	P	
76			White glue	P	P	P	P	P	

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No.	Sample Description			Results					Chemical Confirmation Result (Unit=mg/kg)
				Pb	Cd	Hg	Cr	Br	
77	PCB	Color wheel resistor	Grey body	P	P	P	P	P	
78			Pin	P	P	P	P	/	
79		Color wheel inductance	Blue body	P	P	P	P	P	
80			Pin	P	P	P	P	/	
81	White box with black printing 2	wire holder	Red plastic	P	P	P	P	P	
82	Lamp	Glass lamp cover		P	P	P	P	P	
83		Filament		P	P	P	P	/	
84	Glass lamp-chimney			P	P	P	P	P	
85	Beige plastic base			P	P	P	P	P	
86	Transparent glass board			P	P	P	P	P	
87	White coating			P	P	P	P	P	
88	Wire	Transparent cable jacket		P	P	P	P	P	
89		Red transparent cable jacket		P	P	P	P	P	
90		White cable band		P	P	P	P	P	
91		Red cable jacket		P	P	P	P	P	
92		Deep red cable jacket		P	P	P	P	P	
93		Blue cable jacket (thick)		P	P	P	P	P	
94		Green cable jacket		P	P	P	P	P	
95		Black cable jacket		P	P	P	P	P	
96		Yellow / green striped cable jacket		P	P	P	P	P	

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No.	Sample Description		Results					Chemical Confirmation Result (Unit=mg/kg)
			Pb	Cd	Hg	Cr	Br	
97	LED	Transparent LED body	P	P	P	P	X	PBBs,PBDEs =N.D.
98		Pin	P	P	P	P	/	
99	Black box	Black plastic	P	P	P	P	P	
100	wire holder 2	White plastic	P	P	P	P	P	

Note : P = Below Limit (Pass)
 F = Over Limit (Fail)
 X = Inconclusive
 N.D. = not detected (less than MDL)
 1mg/kg=1ppm=0.0001%
 * According to the declaration from client, the source of lead in the sample could be from the copper alloy material. Lead as a copper alloy containing which is under 4% (40000ppm) is exempted from the requirement of RoHS Directive (Annex III,2011/65/EU).
 △ According to the declaration from client, the source of lead in the sample could be from the ceramic parts. Lead in electronic ceramic parts is exempted from the requirement of RoHS Directive (Annex III,2011/65/EU).

Remarks:

- (1) Results are obtained by EDXRF for primary screening, and further chemical testing is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013.

Element	Polymer Materials	Metallic Materials	Electronic Materials
Pb	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$
Cd	$P \leq 50 < X < 130 \leq F$	$P \leq 50 < X < 130 \leq F$	$X < 130 \leq F$
Hg	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 250 < X$	/	$P \leq 250 < X$

- (2) Chemical Confirmation Result acceptable Limit:

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Test items	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium (CrVI)	PBBs	PBDEs
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Acceptable Limit	1000	100	1000	1000	1000	1000

(3) The test results only apply to the materials requested by applicant.

Written by: *Amanda*

Inspected by: *Annie*

Approved by: *hyt*

End of Report



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3 Sample Reference Photo

PT-LED 323/12



PT-LED 324/18



PT-LED 329/9



PT-G9 247/6GD

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PT-G9 247/6CM



PT-G9 372/3GD



PT-G9 372/3CM



PT-G9 371/9GD

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PT-G9 371/9CM



PT-G9 396/9 LED



PT-G9 396/4 LED

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