

# TEST REPORT

Product name: 75W LED Moving Head  
Product model: M SPOT 75, M SPOT 50, M BEAM 50, M BEAM 75 ,  
M SPOT 90, M BEAM 90, M SPOT 120, M BEAM 120, M SPOT 150, M BEAM 150  
Trade Name: STS

Applicant: GUANG ZHOU STS LIGHTING EQUIPMENT CO.,LTD.  
Address: NO.251 Ting Shi North Road ChaoYang ShiJing Town BaiYun District GuangZhou China

Date of Sample Received: Jan. 28, 2014  
Testing Period: Jan. 28, 2014 ~ Feb. 12, 2014

Test Requested:	Conclusion:
(1): As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr6+), Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs) content in the submitted sample in accordance with Regulation IEC 62321:2008	PASS
(2): As specified by client, to determine the HBCDD content in the submitted samples in accordance with Regulation EPA 3540:1996	PASS
(3): As specified by client, to determine the DEHP、DBP、BBP content in the submitted sample in accordance with Regulation EN 14372:2004	PASS

Checked By: 

Date: 2014-02-12



Approved By: 

Date: 2014-02-12

**Test Method:**

(1) With reference to IEC 62321:2008

Testing item	Pretreatment method	Measuring instrument	MDL
Lead(Pb)	IEC 62321:2008	ICP-OES	2 mg/kg
Cadmium(Cd)	IEC 62321:2008	ICP-OES	2 mg/kg
Mercury(Hg)	IEC 62321:2008	ICP-OES	2 mg/kg
Chromium(Cr VI)	IEC 62321:2008	UV-Vis	2 mg/kg
PBBs/ PBDEs	IEC 62321:2008	GC-MS	5 mg/kg

(2) With reference to EPA 3540:1996

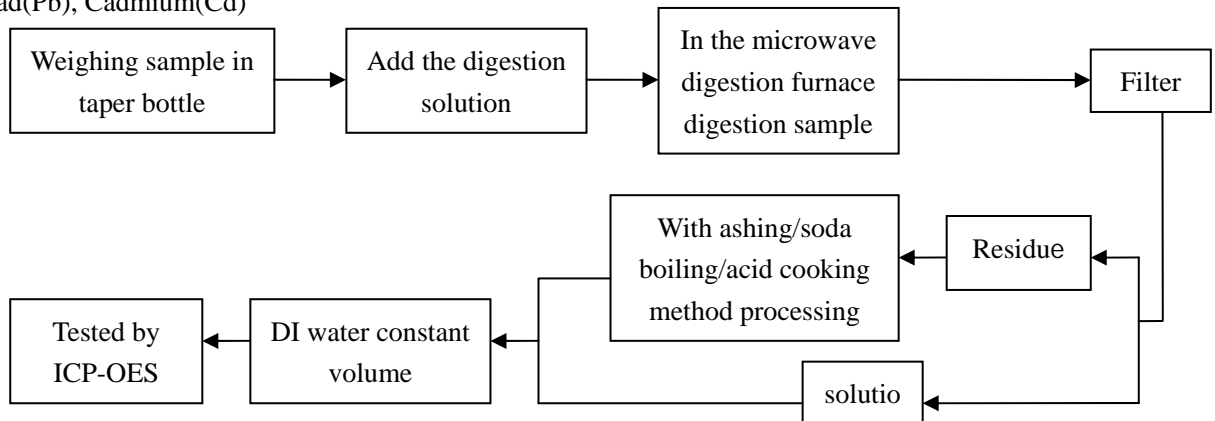
Testing item	Pretreatment method	Measuring instrument	MDL
HBCDD	EPA3540:1996	GC-MS	10 mg/kg

(3) With reference to EN 14372:2004

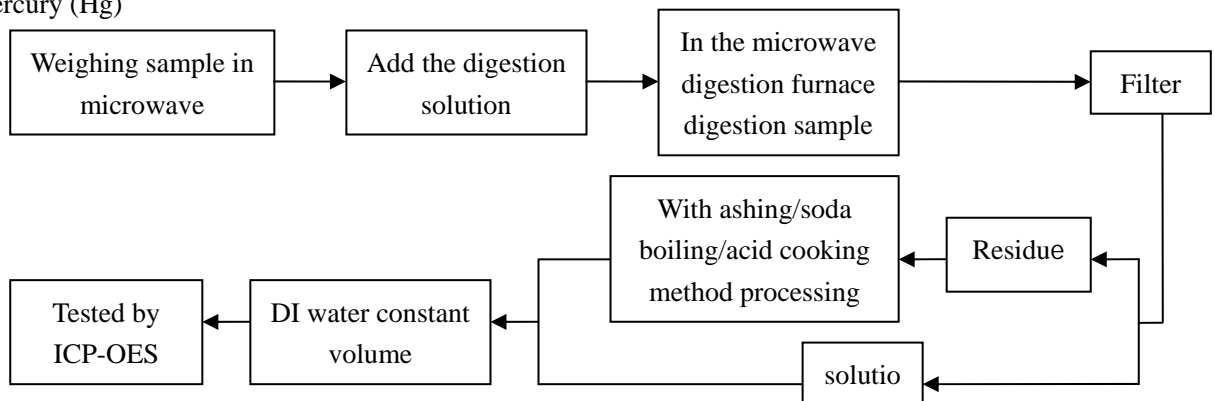
Testing item	Pretreatment method	Measuring instrument	MDL
DEHP, DBP, BBP	EN 14372:2004	GC-MS	0.003 mg/kg

**Test Flow:**

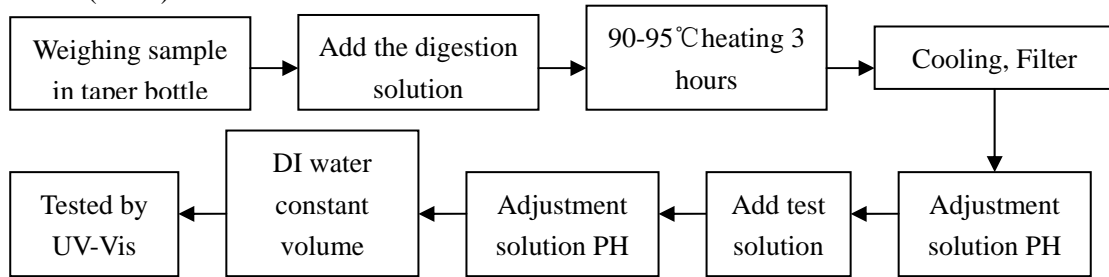
1. Lead(Pb), Cadmium(Cd)



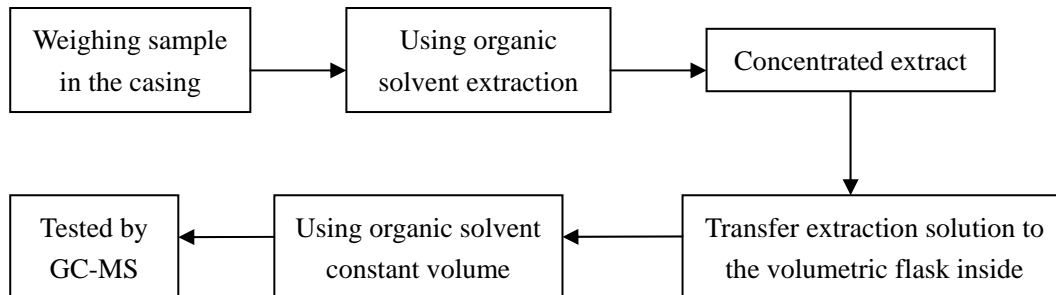
2. Mercury (Hg)



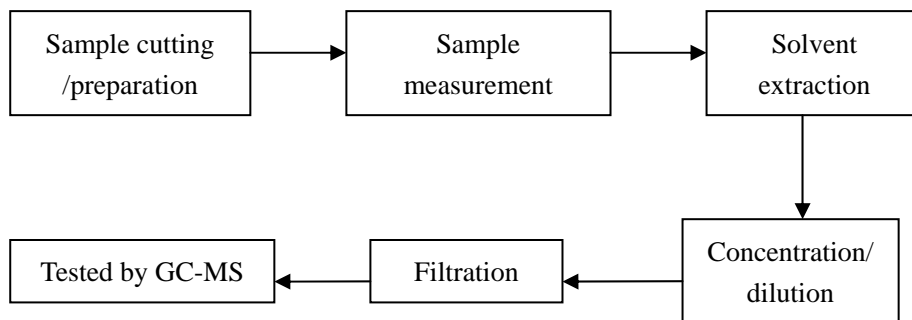
3. Chromium(Cr VI)



4. PBBs/ PBDEs



5. HBCDD/ DEHP/ BBP/ DBP



**Test Results:**

Testing Item	Unit	ROHS Limit	Result					
			1	2	3	4	5	6
Lead(Pb)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium(Cd)	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury(Hg)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(Cr VI)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBBs	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBDEs	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromocyclododecane (HBCDD)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzylbutyl Phthalate (BBP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

**Sample Description:**

- 1: Hardware
- 2: Plastic parts
- 3: Power line
- 4: Caron MALE
- 5: Caron female
- 6: Caron board

Testing Item	Unit	ROHS Limit	Result					
			7	8	9	10	11	12
Lead(Pb)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium(Cd)	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury(Hg)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(Cr VI)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBBs	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBDEs	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromocyclododecane (HBCDD)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzylbutyl Phthalate (BBP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Sample Description:

7: Male Power Block

8: Female Power

9: Insurance Block

10: Fans

11: Fans

12: Switching Power Supply

Testing Item	Unit	ROHS Limit	Result					
			13	14	15	16	17	18
Lead(Pb)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium(Cd)	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury(Hg)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(Cr VI)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBBs	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBDEs	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromocyclododecane (HBCDD)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzylbutyl Phthalate (BBP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

**Sample Description:**

- 13: Motherboard
- 14: Display board
- 15: Driver board
- 16: Lamp beads
- 17: Lens
- 18: Lens

Testing Item	Unit	ROHS Limit	Result					
			19	20	21	22	23	24
Lead(Pb)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium(Cd)	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury(Hg)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(Cr VI)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBBs	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBDEs	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Monobromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromocyclododecane (HBCDD)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzylbutyl Phthalate (BBP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	mg/kg	1000	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

**Sample Description:**

- 19: Gobo
- 20: Color film
- 21: Motor
- 22: Leather belt
- 23: Machine feet
- 24: Wire

Testing Item	Unit	ROHS Limit	Result					
			25	26	27	28	29	30
Lead(Pb)	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/
Cadmium(Cd)	mg/kg	100	N.D.	N.D.	N.D.	/	/	/
Mercury(Hg)	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/
Chromium(Cr VI)	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/
Sum of PBBs	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/
Monobromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Dibromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Tribromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Tetrabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Pentabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Hexabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Heptabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Octabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Nonabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Decabromobiphenyl	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Sum of PBDEs	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/
Monobromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Dibromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Tribromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Tetrabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Pentabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Hexabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Heptabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Octabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Nonabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Decabromodiphenyl ether	mg/kg	/	N.D.	N.D.	N.D.	/	/	/
Hexabromocyclododecane (HBCDD)	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/
Benzylbutyl Phthalate (BBP)	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/
Dibutyl Phthalate (DBP)	mg/kg	1000	N.D.	N.D.	N.D.	/	/	/

Sample Description:

25: Lable

26: Epoxy

27: Optical coupling



## Notes:

1mg/kg=1ppm = 0.0001%

N.D. = Not Detected (<MDL)

MDL = Method Detection Limit

/=Not Regulated

---=Not Applicable

## Breakdown of product

Sample photo: 1



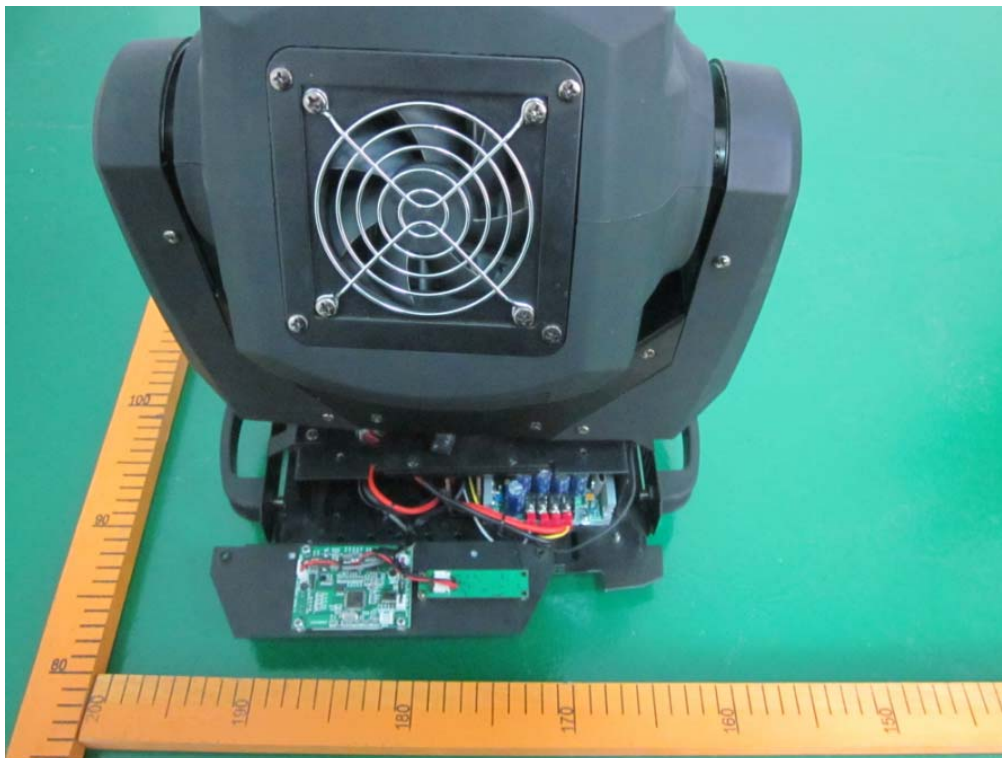
Sample photo: 2



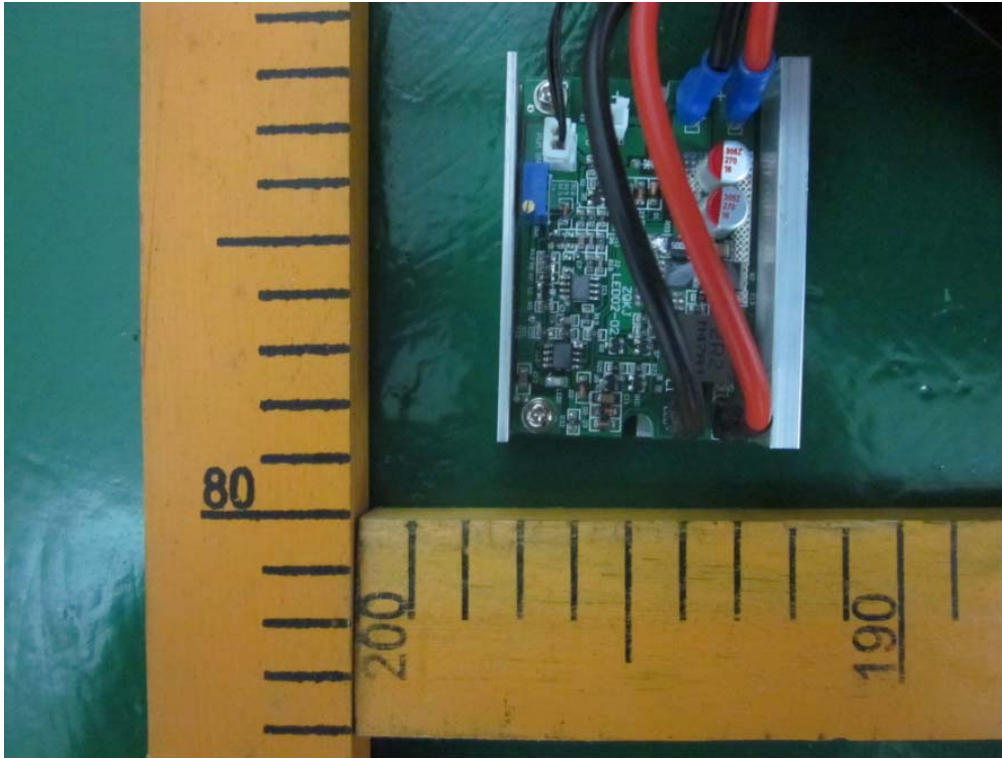
Sample photo: 3



Sample photo: 4



Sample photo: 5



Sample photo: 6

