Test Report

Applicant: Hangzhou Holux Lighting Technology Co., Ltd

Contact information: No.47 Xiangyuan Road, Hangzhou China 310015

The following sample(s) was (were) submitted and identified by client as:

Sample Name	:	LED HIGH BAY
Model No.	:	HB-325-240W2 0-10VD
Series Model	:	Please refer to next page(s).
Trade mark	:	Holux
Received Date	:	Aug. 19, 2024
Testing Period	:	From Aug. 19, 2024 to Aug. 22, 2024
Test Request	:	Please refer to next page(s).
Test Result(s)	:	Please refer to next page(s).

Shen Zhen UONE Test Co., LTD.

Prepared by	Checked by	Approved by
Max	Thea	Hedy
Max Wu	Thea Ye	Hedy Xu

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Summary of Test Results (Tested parts are required partially by client):

TEST REQUEST	CONCLUSION
RoHS Directive 2011/65/EU and its subsequent amendments Directive (EU) 2015/863	
(1) To determine Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs) content by screening test and chemical test	**PASS**
(2) To determine Phthalates (DBP, BBP, DEHP, DIBP) content by chemical test	**PASS**

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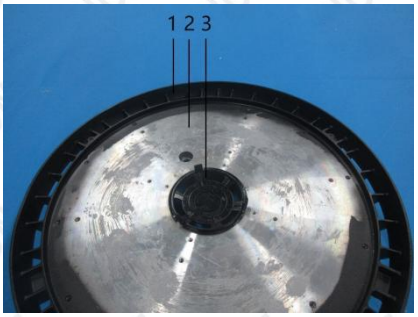
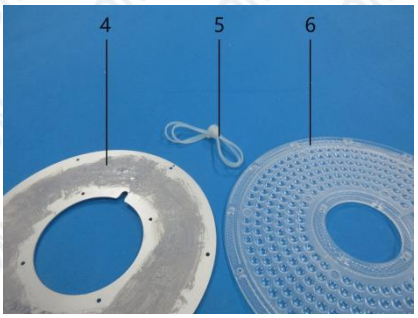
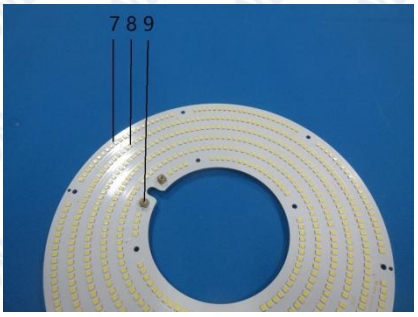
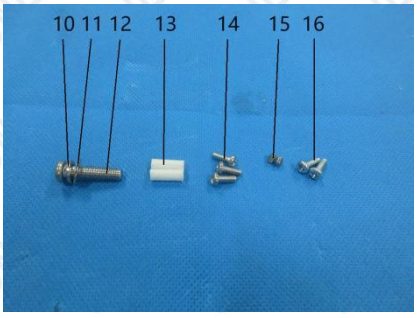
Series Model :
HB-246-80D2,HB-246-80W2,HB-246-80B2,HB-246-100W2 0-10V,HB-246-100D2,HB-246-100W2, HB-246-100B2,HB-246-100B2 0-10V,HB-266-120W2 0-10V,HB-266-120B2 0-10V,HB-266-120D2, HB-266-120W2,HB-266-120B2,HB-266-150W2 0-10V,HB-266-150B2 0-10V,HB-266-150D2,HB-266-150W2, HB-266-150B2,HB-300-200W2 0-10V,HB-300-200D2,HB-300-200W2,HB-300-200B2,HB-300-200B2 0-10V, HB-325-240W2 0-10V,HB-325-240D2,HB-325-240W2,HB-325-240B2,HB-325-240B2 0-10V, HB-266-150W2 0-10VC,HB-266-150B2 0-10VC,HB-325-240W2 0-10VC,HB-325-240B2 0-10VC, HB-266-150W2 0-10VD,HB-266-150B2 0-10VD,HB-325-240B2 0-10VD,HB-246-80W2 0-10V

Test Material List

Material No.	Description (Location)	Photo(s) of tested materials
1	Black coating	
2	Silvery metal with black coating	
3	Black plastic	
4	Grey magnet	
5	Translucent soft plastic	
6	Transparent plastic	
7	White MCPCB	
8	Yellow body(LED)	
9	Golden metal	
10	Silvery metal(gasket)	
11	Silvery metal(gasket)	
12	Silvery metal(screw)	
13	White fabric(sleeve)	
14	Silvery metal(screw)	
15	Silvery metal(nut)	
16	Silvery metal(screw)	

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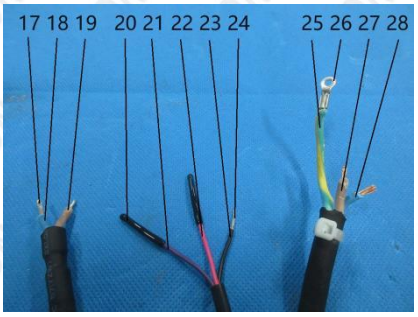
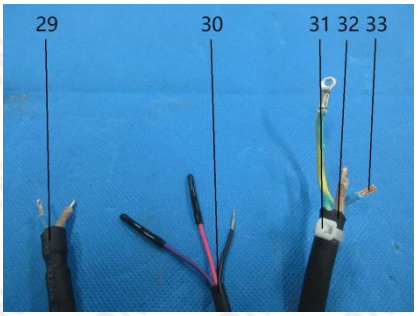
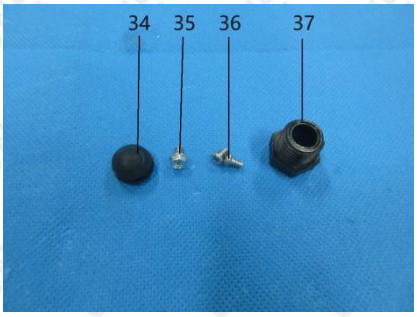
Material No.	Description (Location)	Photo(s) of tested materials
17	Silvery metal(solder)	
18	Blue soft plastic(wire jacket)	
19	Brown soft plastic(wire jacket)	
20	Black soft plastic	
21	Purple soft plastic(wire jacket)	
22	Pink soft plastic(wire jacket)	
23	Black soft plastic(wire jacket)	
24	Silvery metal(wire)	
25	Yellow and green soft plastic(wire jacket)	
26	Silvery metal	
27	Brown soft plastic(wire jacket)	
28	Blue soft plastic(wire jacket)	
29	Black soft plastic(cable jacket)	
30	Black soft plastic(cable jacket)	
31	White plastic	
32	Black soft plastic(cable jacket)	
33	Coppery metal(wire)	
34	Black soft plastic	
35	Silvery metal(screw)	
36	Silvery metal(screw)	
37	Black plastic	

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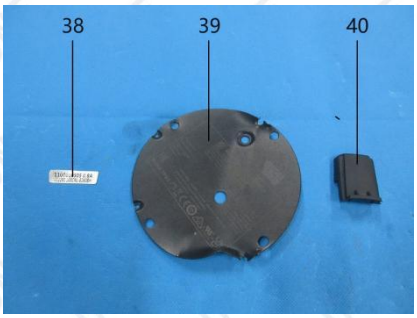
Material No.	Description (Location)	Photo(s) of tested materials
38	White plastic with black printing(label)	
39	Silvery metal with black coating(cover)	
40	Black plastic	

Test Result(s):

(1) Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs)

Test Method: IEC62321-3-1: 2013, IEC62321-4: 2013+A1:2017, IEC62321-5: 2013, IEC62321-6: 2015,IEC 62321-7-1:2015, IEC 62321-7-2: 2017, analyzed by EDXRF & ICP-OES & GC-MS & UV-Vis.

No.	EDXRF Result (1)					Chemical Result (2) (mg/kg)	Remark(3)	Conclusion
	Pb	Cd	Hg	Cr	Br			
1	BL	BL	BL	BL	BL	—	—	PASS
2	X	BL	BL	BL	NA	Pb: 401	—	PASS
3	BL	BL	BL	BL	BL	—	—	PASS
4	BL	BL	BL	BL	BL	—	—	PASS
5	BL	BL	BL	BL	BL	—	—	PASS
6	BL	BL	BL	BL	BL	—	—	PASS
7	BL	BL	BL	BL	NA	—	—	PASS
8	BL	BL	BL	BL	BL	—	—	PASS
9	OL	X	BL	BL	NA	Pb: 28030# Cd:24	Copper alloy	PASS
10	BL	BL	BL	BL	NA	—	—	PASS
11	BL	BL	BL	BL	NA	—	—	PASS
12	BL	BL	BL	BL	NA	—	—	PASS
13	BL	BL	BL	BL	BL	—	—	PASS
14	BL	BL	BL	BL	NA	—	—	PASS

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No.	EDXRF Result (1)					Chemical Result (2) (mg/kg)	Remark(3)	Conclusion
	Pb	Cd	Hg	Cr	Br			
15	BL	BL	BL	BL	NA	—	—	PASS
16	BL	BL	BL	BL	NA	—	—	PASS
17	BL	BL	BL	BL	NA	—	—	PASS
18	BL	BL	BL	BL	BL	—	—	PASS
19	BL	BL	BL	BL	BL	—	—	PASS
20	BL	BL	BL	BL	BL	—	—	PASS
21	BL	BL	BL	BL	BL	—	—	PASS
22	BL	BL	BL	BL	BL	—	—	PASS
23	BL	BL	BL	BL	BL	—	—	PASS
24	BL	BL	BL	BL	NA	—	—	PASS
25	BL	BL	BL	BL	BL	—	—	PASS
26	BL	BL	BL	BL	NA	—	—	PASS
27	BL	BL	BL	BL	BL	—	—	PASS
28	BL	BL	BL	BL	BL	—	—	PASS
29	BL	BL	BL	BL	BL	—	—	PASS
30	BL	BL	BL	BL	BL	—	—	PASS
31	BL	BL	BL	BL	BL	—	—	PASS
32	BL	BL	BL	BL	BL	—	—	PASS
33	BL	BL	BL	BL	NA	—	—	PASS
34	BL	BL	BL	BL	BL	—	—	PASS
35	BL	BL	BL	BL	NA	—	—	PASS
36	BL	BL	BL	BL	NA	—	—	PASS
37	BL	BL	BL	BL	BL	—	—	PASS
38	BL	BL	BL	BL	BL	—	—	PASS
39	BL	BL	BL	BL	NA	—	—	PASS
40	BL	BL	BL	BL	BL	—	—	PASS

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Remark:

(1) ①Results are obtained by EDXRF for primary screening, and further wet chemical testing by ICP-OES (for Cd, Pb, Hg), UV-VIS (for Cr(VI)) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if an inconclusive result was found (as "X" in below table) (unit: mg/kg).

②OL = Over Limit, BL = Below Limit, X = Inconclusive, NA = Not Applicable.

③The EDXRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

Element	Polymer	Metal	Composite Materials
Cd	BL ≤(70-3σ)< X <(130+3σ)≤ OL	BL ≤(70-3σ)< X <(130+3σ)≤ OL	LOD < X <(150+3σ)≤ OL
Pb	BL ≤(700-3σ)< X <(1300+3σ)≤ OL	BL ≤(700-3σ)< X <(1300+3σ)≤ OL	BL ≤(500-3σ)< X <(1500+3σ)≤ OL
Hg	BL ≤(700-3σ)< X <(1300+3σ)≤ OL	BL ≤(700-3σ)< X <(1300+3σ)≤ OL	BL ≤(500-3σ)< X <(1500+3σ)≤ OL
Br	BL ≤ (300-3σ)< X	NA	BL ≤ (250-3σ)< X
Cr	BL ≤ (700-3σ)< X	BL ≤ (700-3σ)< X	BL ≤ (500-3σ)< X

Units and limits in EU RoHS Directive 2011/65/EU:

Element	Pb	Cd	Hg	Cr(VI)	PBBs(single)	PBDEs(single)
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit	1000	100	1000	1000	1000	1000

(2) ① mg/kg = ppm = 0.0001%, N.D. = Not Detected (Less than MDL).

②Unit and MDL (Method detection limit) in wet chemical test.

Element	Pb	Cd	Hg	Cr(VI)	PBBs(single)	PBDEs(single)
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	2	2	2	8	5	5

③According to IEC 62321-7-1:2015, result on Cr(VI) for metal sample is shown as Positive/Negative. Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) coating.
Storage condition and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

④ According to IEC 62321-3-1:2013, this column represents the results of wet chem test.

(3) This column represents the exempted decoration of material or other related testing sample's information. According to the declaration from the client, Lead in specimen(s) is exempted by EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863 base on:

Copper alloy containing up to 4 % lead by weight.

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(2) Phthalates (DBP, BBP, DEHP, DIBP) content

Test Method: IEC 62321-8: 2017, analyzed by gas chromatographic- mass spectrometer (GC-MS).

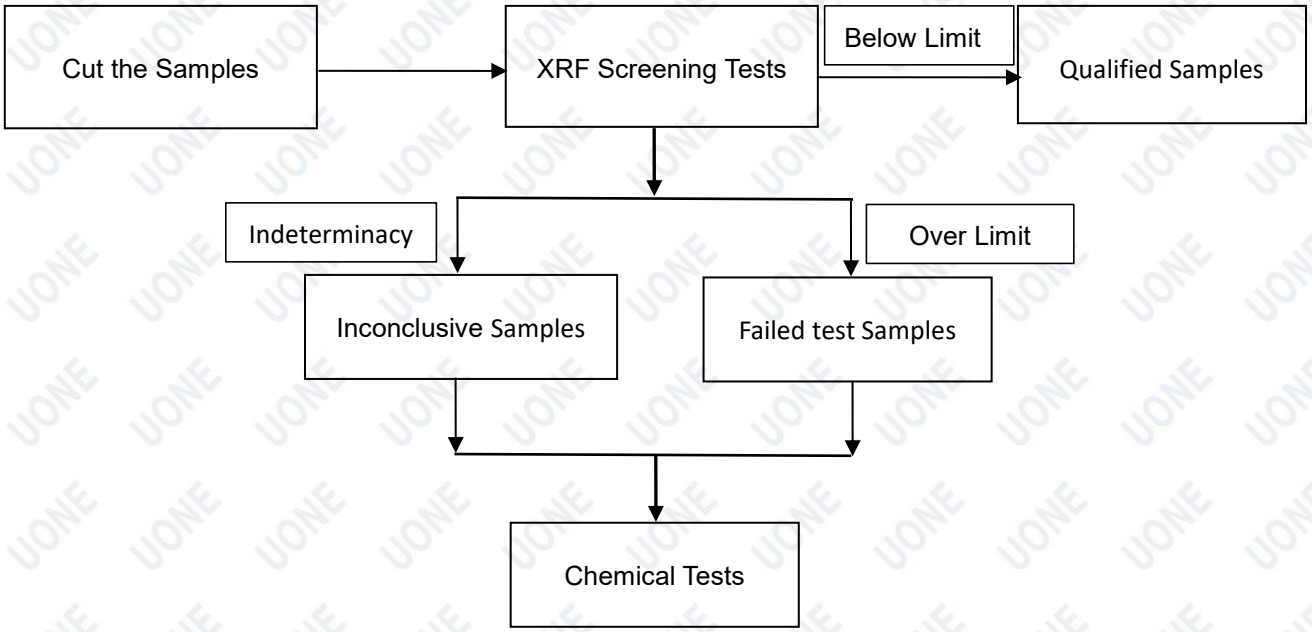
Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit (mg/kg)	1000	1000	1000	1000	
MDL (mg/kg)	20	20	20	20	
Material No.	Result (mg/kg)				
1	N.D.	N.D.	N.D.	N.D.	PASS
3	N.D.	N.D.	N.D.	N.D.	PASS
4	N.D.	N.D.	N.D.	N.D.	PASS
5	N.D.	N.D.	N.D.	N.D.	PASS
6	N.D.	N.D.	N.D.	N.D.	PASS
8	N.D.	N.D.	N.D.	N.D.	PASS
13	N.D.	N.D.	N.D.	N.D.	PASS
18	N.D.	N.D.	N.D.	N.D.	PASS
19	N.D.	N.D.	N.D.	N.D.	PASS
20	N.D.	N.D.	N.D.	N.D.	PASS
21	N.D.	N.D.	N.D.	N.D.	PASS
22	N.D.	N.D.	N.D.	N.D.	PASS
23	N.D.	N.D.	N.D.	N.D.	PASS
25	N.D.	N.D.	N.D.	N.D.	PASS
27	N.D.	N.D.	N.D.	N.D.	PASS
28	N.D.	N.D.	N.D.	N.D.	PASS
29	N.D.	N.D.	N.D.	N.D.	PASS
30	N.D.	N.D.	N.D.	N.D.	PASS
31	N.D.	N.D.	N.D.	N.D.	PASS
32	N.D.	N.D.	N.D.	N.D.	PASS
34	N.D.	N.D.	N.D.	N.D.	PASS

Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit (mg/kg)	1000	1000	1000	1000	
MDL (mg/kg)	20	20	20	20	
Material No.	Result (mg/kg)				
37	N.D.	N.D.	N.D.	N.D.	PASS
38	N.D.	N.D.	N.D.	N.D.	PASS
40	N.D.	N.D.	N.D.	N.D.	PASS

Note:
1. mg/kg = milligram per kilogram (ppm).
2. MDL= method detection limit.
3. N.D.=not detected(less than MDL).

Test Process Flow

1. XRF scan



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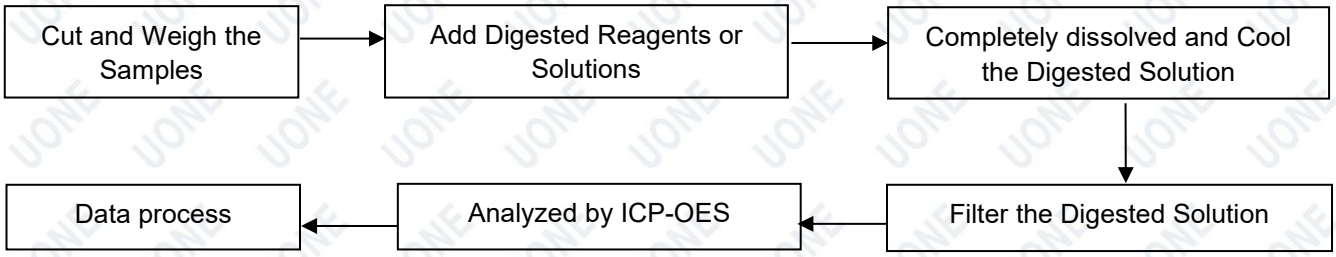
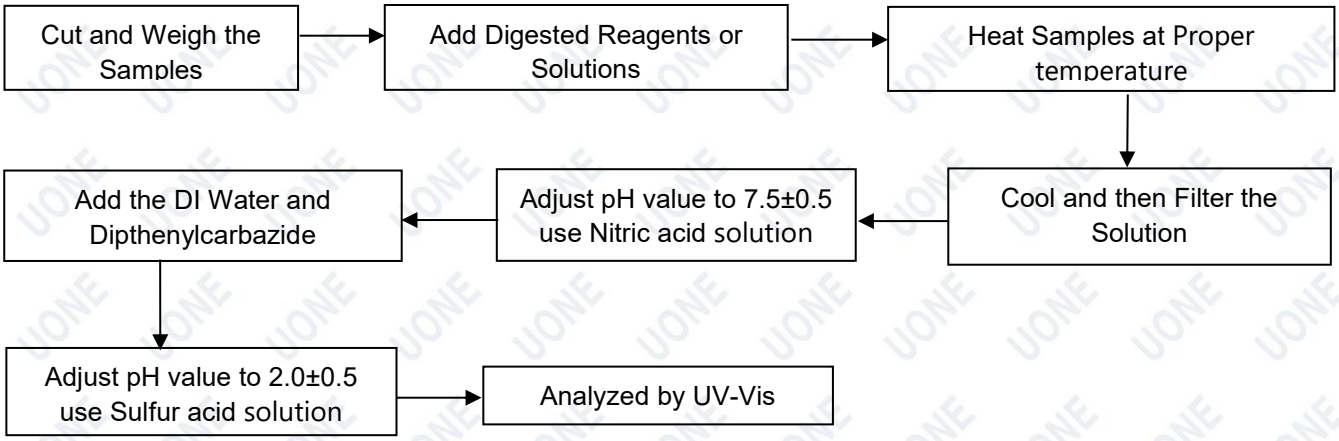
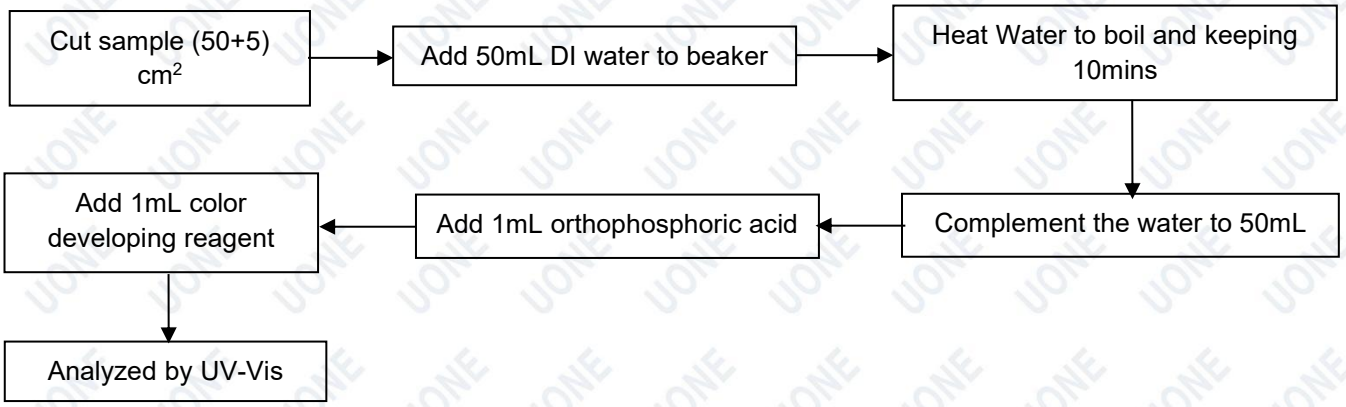
2. Lead, Cadmium, Mercury



3. Hexavalent Chromium (Non-metal)



Hexavalent Chromium (Metal)



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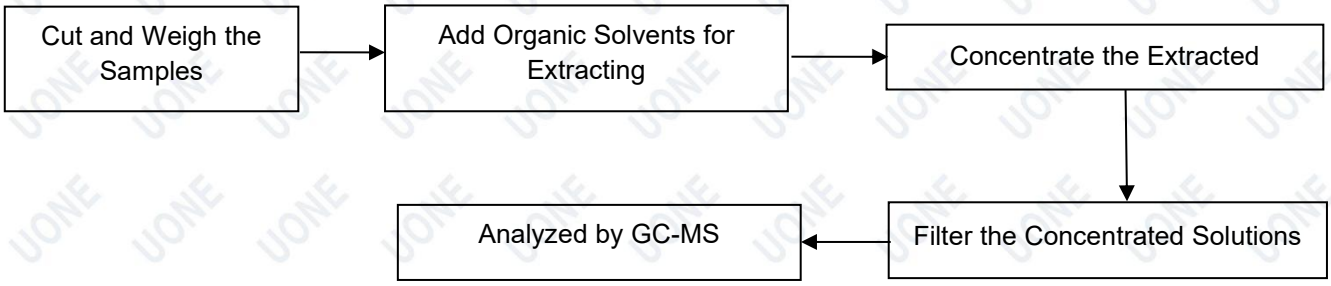
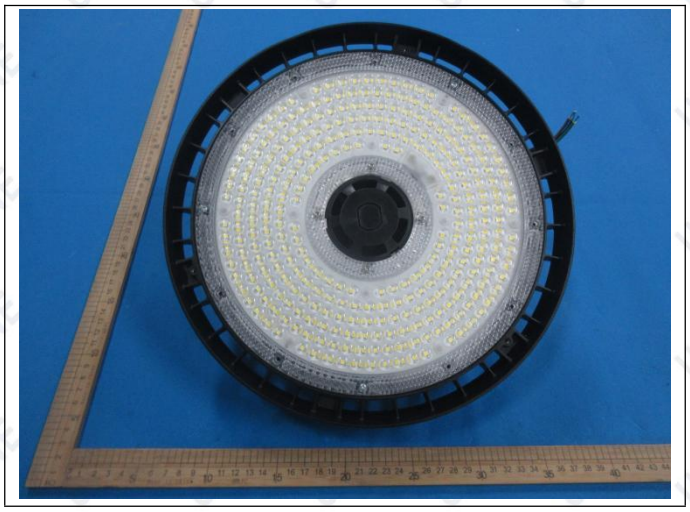
4. PBBs & PBDEs, Phthalates



Remark: The test result(s) is(are) copied from the test report No. U00901240819604E, dated Aug. 22, 2024.

Photo(s) of Sample:



End of Report

Statement

1. The information listed on the first page of this test report, except the date of receipt, test date, test result and test conclusion, is provided by the client. The client shall be responsible for the representativeness of sample and authenticity of materials, for which UONE shall bear no responsibilities.

2. The test conclusion of this report are only applicable to the test samples submitted for inspection, and the samples submitted for inspection are only kept for 30 days, and the company does not bear other joint and several liabilities other than the test results.

3. The test report shall take effect only with the seal of the company, and this report shall not be deleted or modified.

4. This report shall not be reproduced in whole or in part without the written authorization of the Company.

5. Objection should be issued in 15 days upon receiving the report, overdue opinion is inadmissible.

6. If the report is not stamped with the accreditation recognized seal, it will only be used for scientific research, education, and internal quality control activities, and is not used for the purpose of issuing supporting data to the society.