



LM-79-08 TEST REPORT

Applied for SASO-2927

Kunde: <i>Client:</i>	AOK Industrial Company Limited
Adresse: <i>Address:</i>	Building 1, Shengzuozhi Technology Industrial Park, Shajing Street, Shenzhen City, Guangdong, P.R. China
Hersteller: <i>Manufacturer:</i>	AOK Industrial Company Limited
Adresse: <i>Address:</i>	Building 1, Shengzuozhi Technology Industrial Park, Shajing Street, Shenzhen City, Guangdong, P.R. China
Name der Marke: <i>Brand Name:</i>	AOK
Beschreibung des Produkts: <i>Product Description:</i>	LED STREET LIGHT
Modelle: <i>Models:</i>	AOK-150WiL02-NV-L3-00-40
Bewertung: <i>Rating:</i>	AC120-277V, 50/60Hz, 150W, 1560mA
Verfahren: <i>Method:</i>	SASO 2927: 2019:Energy efficiency functionality and labelling requirements for lighting products – Part 3: Street lighting LM-79-08: Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products
Prüfergebnis*: <i>Test result*:</i>	

Datum der Prüfung: <i>Date of Test:</i>	Datum der Emission: <i>Date of Issue:</i>	Klassifizierung: <i>Classification:</i>	Gegenstand der Prüfung: <i>Test item:</i>
2021-06-16--2021-06-21	2021-09-03	Commission Test	IES LM-79-08

Prüflabor (Testlabor) / Testing Laboratory:
Shenzhen Southern LCS Compliance Testing Laboratory Ltd.

Test von/Prepare by: <i>Seth Cai</i> Seth Cai/ Project Engineer	Check von/Check by: <i>Ian Luo</i> Ian Luo/ Director	Genehmigt von/Approved by: <i>Jesse Liu</i> Jesse Liu/ Manager *
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Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.

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1. Test Method

Test Item.....:	Integrating Sphere Test
Ambient Condition	25.1°C
Stabilization time(h):	0.5h
Orientation(burning position) of SSL product during test	down
Test Method	<p>The sample was tested according to the LM-79-2008.</p> <p>The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.</p>
Test Item.....:	Goniophotometer Test
Ambient Condition.....:	25.1°C
Total operated time of the product for measurements including stabilization..... (h):	1.0h
Orientation(burning position) of SSL product during test	down
Test Method.....:	<p>The sample was tested according to the LM-79-2008.</p> <p>Photometric parameters were measured using a type C goniophotometer and software. The sample reference plane was located at the center of the sample goniometer at a test distance of 26m from the detectors. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals.</p>



2. Test equipment list

Manufacturer	Description	Equipment ID	Model	Calibration Date	Calibration Due Date
EVERFINE	Full-field Speed Goniophotometer	SLCS-S-112	GO-R5000	2020/07/02	2021/07/01
EVERFINE	Digital Power Meter	SLCS-S-103	PF2010	2020/06/24	2021/06/23
EVERFINE	AC Testing Power Source	SLCS-S-115	DPS1060	2020/06/24	2021/06/23
EVERFINE	Total Spectral Radiant Flux Standard Lamp	SLCS-S-143	D908S	2020/07/02	2021/07/01
SENSING	2 Meter Integrating Sphere	SLCS-S-038	SPR-3000	2020/07/02	2021/07/01
YOKOGAWA	Digital Power Meter	SLCS-S-058	WT310	2020/06/24	2021/06/23
ALL POWER ELECTRONIC	AC Testing Power Source	SLCS-S-111	APW-105N	2020/06/24	2021/06/23
SENSING	Standard Lamp	SLCS-S-118	S11010017	2020/07/02	2021/07/01



3. Integrating Sphere Test Results

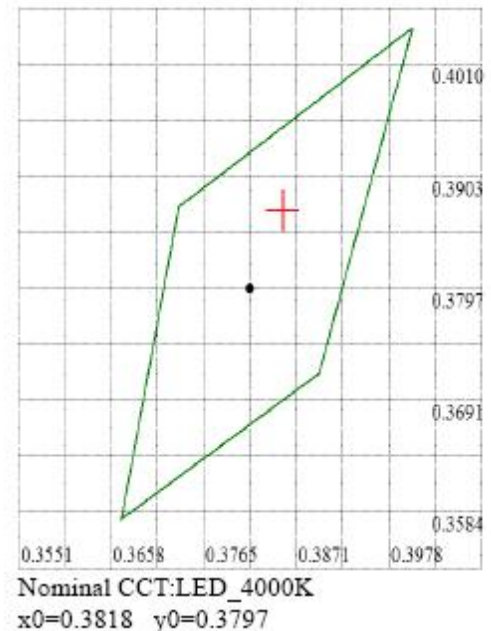
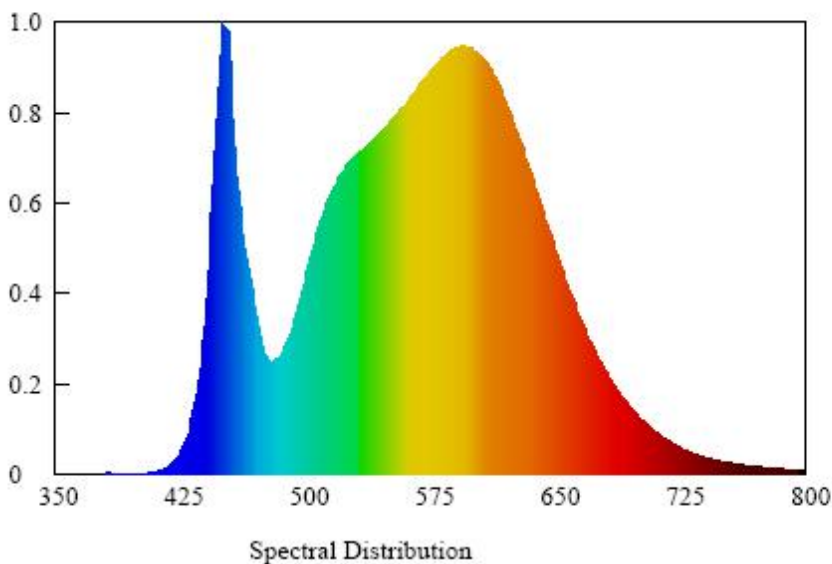
4.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	120.05	60	1.2574	0.9990	150.80

Test type	CCT (K)	CRI	Luminous flux (lm)	Luminous efficacy(lm/W)
Output	3941	82.8	21882.56	145.1

4.2 Spectrum

Spectroradiometric Parameters



Chromaticity Coordinates: $x=0.3856$ $y=0.3871$ $u'=0.2244$ $v'=0.5068$

Correlated Color Temperature: 3941 K

Colour Fidelity Index: $R_f=82$

Luminous Flux: 21882.56 lm

Chromaticity Difference: +0.00332Duv

Color Ratio: $K_r=37.9\%$ $K_g=52.8\%$ $K_b=9.3\%$

Bandwidth: 17.3nm

Photosynthetically Active Radiation(PAR): 66.20W

Rendering Index: $R_a=82.8$

$R_1=81$ $R_2=88$ $R_3=95$ $R_4=82$ $R_5=80$ $R_6=84$ $R_7=87$ $R_8=65$

$R_9=9$ $R_{10}=72$ $R_{11}=81$ $R_{12}=57$ $R_{13}=84$ $R_{14}=97$ $R_{15}=75$ $R_e=76$

Dominant Wavelength: 576.0 nm(E)

Gamut Index: $R_g=94$

Purity: 0.3189

Peak Wavelength: 450.0 nm

Radiant Flux: 67.752 W

Photosynthetic Photon Flux(PPF): 313.26 μ mol/s



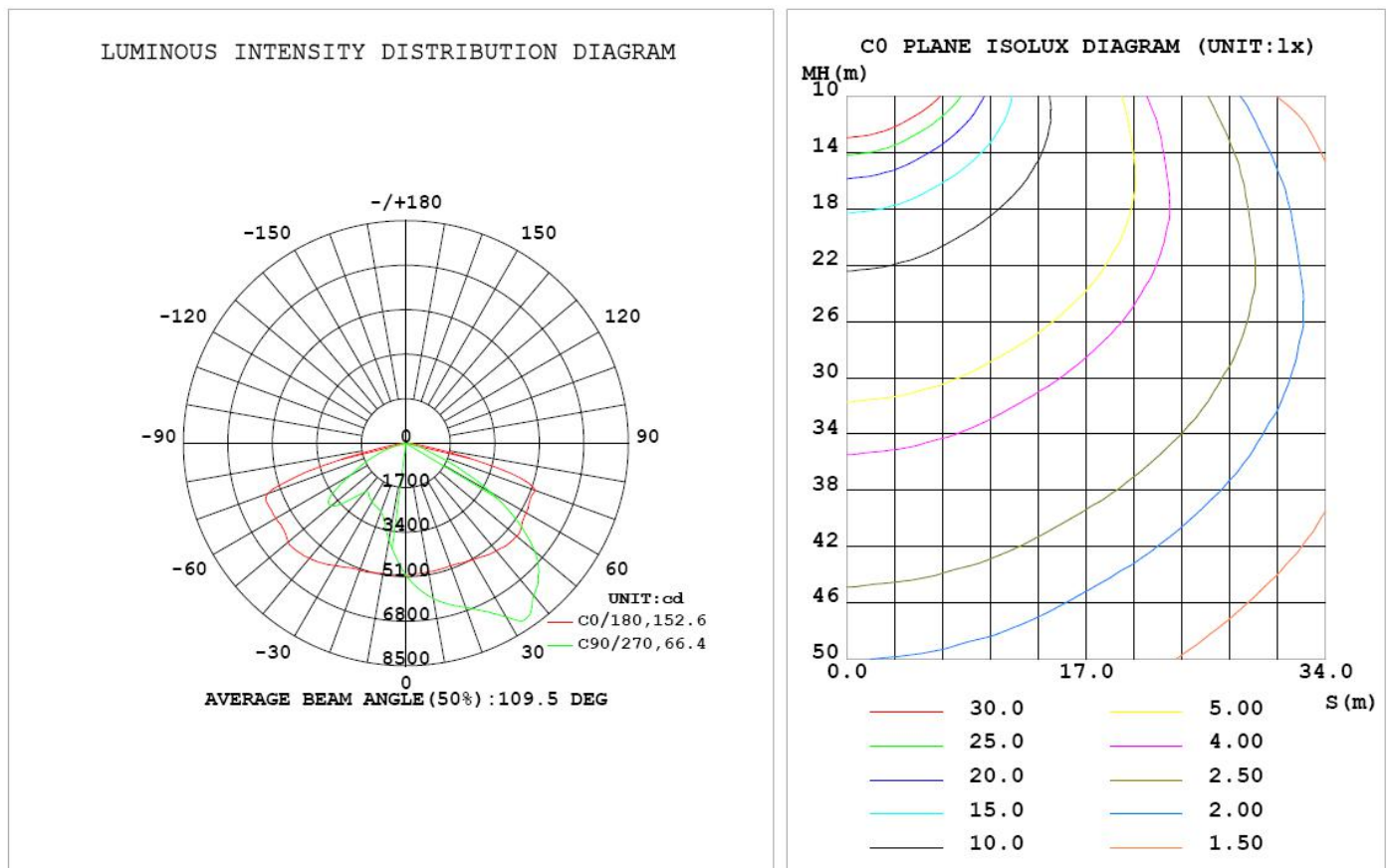
4. Goniophotometer Test results

5.1 Test Data

Test type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	119.95	60	1.2629	0.9996	150.89

Test type	Total Flux (lm)	Luminous efficacy(lm/W)	I _{max} (cd)	Spacing Criteria (0~180°)	Spacing Criteria (90~270°)
Output	22005.10	145.84	8493	1.71	0.64

5.2 Luminous Intensity Distribution Diagram and C0 Plane Isolux Diagram (Unit : lx)



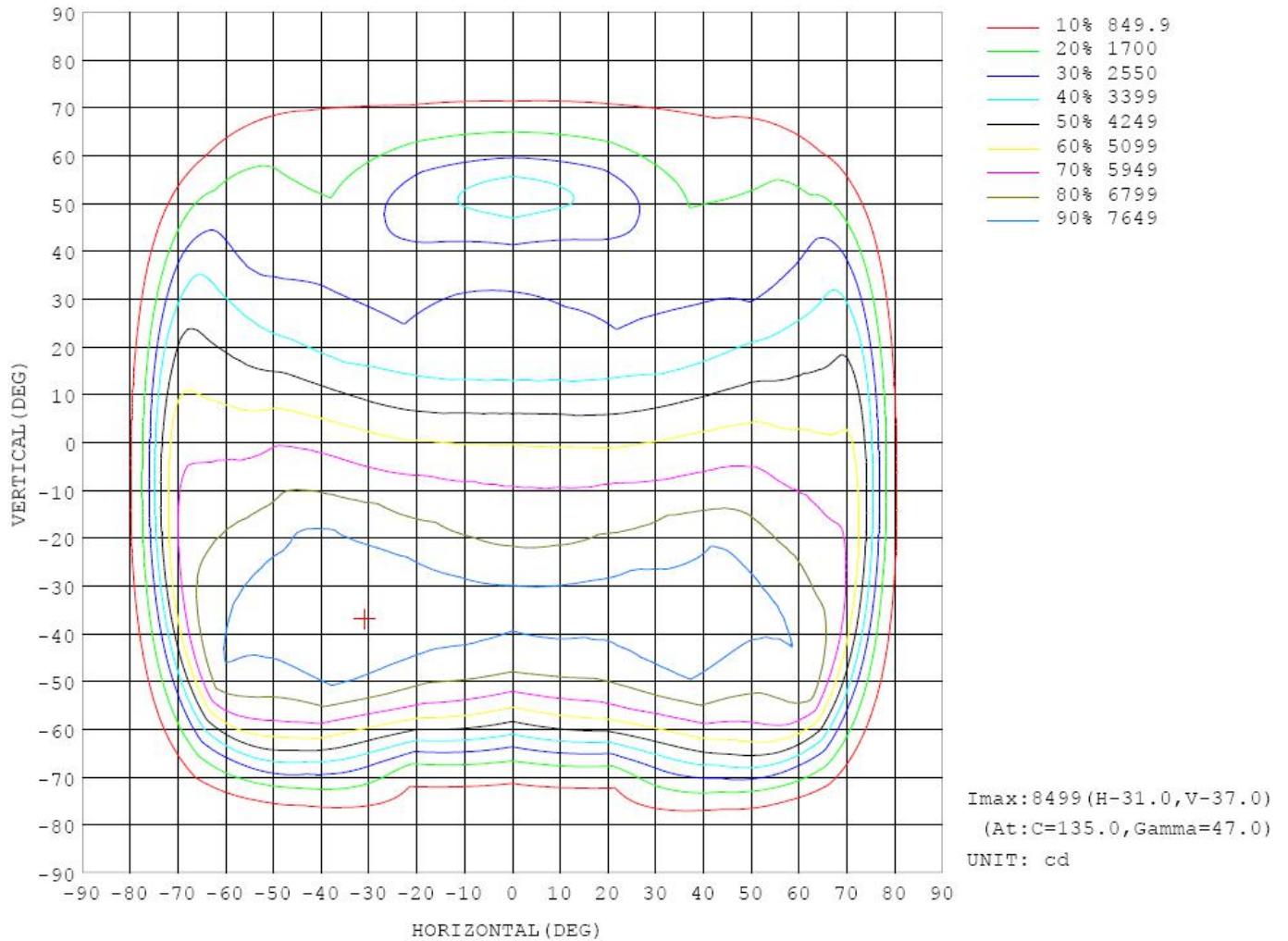


5.3 Zonal Flux Diagram

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	4987	5743	6014	5840	5061	4097	3746	4088	0- 10	476.0	476.0	2.16, 2.16
20	4982	6384	6660	6572	5165	3247	2783	3205	10- 20	1388	1864	8.47, 8.47
30	5134	7084	7657	7415	5399	2652	2584	2609	20- 30	2292	4156	18.9, 18.9
40	5363	7946	7596	8372	5742	2307	2422	2239	30- 40	3272	7427	33.8, 33.8
50	5521	8155	6433	8442	5881	2023	3715	1902	40- 50	4082	11509	52.3, 52.3
60	5314	7485	3734	7659	5733	1714	2462	1625	50- 60	4428	15937	72.4, 72.4
70	5247	4917	973.9	4843	5623	1252	1007	1096	60- 70	3748	19685	89.5, 89.5
80	935.6	990.7	271.8	834.6	791.6	403.1	90.52	368.9	70- 80	2053	21739	98.8, 98.8
90	13.94	18.17	7.630	12.87	12.55	6.075	2.045	7.949	80- 90	212.2	21951	99.8, 99.8
100	8.804	5.083	2.239	3.254	9.100	9.081	2.551	8.357	90-100	7.679	21959	99.8, 99.8
110	8.482	3.615	2.770	2.836	11.03	13.55	6.698	13.23	100-110	7.310	21966	99.8, 99.8
120	8.895	3.792	4.461	2.798	11.02	15.92	10.93	16.39	110-120	8.645	21974	99.9, 99.9
130	9.020	4.690	5.773	3.633	8.499	11.61	12.26	14.14	120-130	8.015	21982	99.9, 99.9
140	10.02	6.150	6.245	4.322	8.173	10.46	12.94	13.34	130-140	6.737	21989	99.9, 99.9
150	11.52	8.379	7.152	6.799	9.257	11.92	13.47	13.92	140-150	6.053	21995	100, 100
160	12.31	10.23	8.848	8.732	11.72	13.24	14.77	14.45	150-160	5.101	22000	100, 100
170	13.57	12.83	11.15	11.12	12.65	13.84	14.70	14.80	160-170	3.457	22004	100, 100
180	14.73	14.61	13.92	13.21	14.80	14.22	14.39	13.36	170-180	1.291	22005	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



5.4 Isocandela Diagram





5.5 Luminous Distribution Intensity Data

Table--1		UNIT: cd																	
C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	5041	5041	5041	5041	5041	5041	5041	5041	5041	5041	5041	5041	5041	5041	5041	5041			
5	5006	5240	5409	5534	5576	5553	5458	5284	5044	4802	4574	4436	4375	4423	4566	4782			
10	4987	5437	5743	5943	6014	5982	5840	5520	5061	4537	4097	3841	3746	3838	4088	4497			
15	4993	5639	6062	6300	6370	6365	6208	5793	5108	4286	3664	3275	3140	3256	3643	4223			
20	4982	5881	6384	6604	6660	6699	6572	6076	5165	4038	3247	2873	2783	2835	3205	3970			
25	5048	6150	6690	6946	7087	7078	6957	6400	5241	3825	2881	2711	2672	2660	2839	3742			
30	5134	6432	7084	7453	7657	7624	7415	6753	5399	3642	2652	2618	2584	2552	2609	3541			
35	5255	6769	7548	8061	8113	8205	8004	7146	5582	3494	2478	2488	2456	2429	2429	3347			
40	5363	7161	7946	7950	7596	8042	8372	7572	5742	3340	2307	2336	2422	2284	2239	3158			
45	5477	7569	8109	7488	7149	7671	8472	7989	5846	3181	2133	2636	3073	2585	2041	2977			
50	5521	7811	8155	7023	6433	7167	8442	8013	5881	3004	2023	3169	3715	3197	1902	2802			
55	5405	7800	7984	6236	5214	6338	8252	8054	5717	2771	1916	3074	3507	3173	1824	2588			
60	5314	7798	7485	5041	3734	4962	7659	8063	5733	2605	1714	2333	2462	2378	1625	2390			
65	5224	7744	6462	3221	2165	3079	6490	7976	5761	2475	1469	1667	1693	1665	1360	2223			
70	5247	7621	4917	1474	974	1322	4843	7630	5623	2267	1252	1060	1007	1073	1096	2049			
75	3556	6329	2854	728	564	705	2601	5555	3184	1410	861	543	463	556	762	1401			
80	936	2331	991	354	272	339	835	1826	792	433	403	167	90.5	164	369	527			
85	165	335	193	106	81.5	99.4	184	297	140	90.6	78.8	23.8	4.00	23.9	85.6	120			
90	13.9	22.0	18.2	9.86	7.63	7.57	12.9	18.9	12.5	10.2	6.07	2.70	2.04	2.62	7.95	13.0			
95	9.26	11.1	8.10	3.39	2.29	2.54	5.42	9.95	9.22	10.7	7.00	2.62	2.04	2.62	6.42	11.1			
100	8.80	7.03	5.08	2.88	2.24	2.41	3.25	6.06	9.10	12.5	9.08	3.87	2.55	3.63	8.36	12.3			
105	8.54	5.32	3.85	2.96	2.38	2.44	2.85	4.73	9.95	13.9	11.3	6.25	4.39	5.85	10.8	14.3			
110	8.48	4.93	3.62	3.04	2.77	2.55	2.84	4.64	11.0	15.7	13.5	8.71	6.70	8.48	13.2	16.5			
115	8.87	4.93	3.61	3.77	3.77	2.69	2.82	4.68	11.1	16.1	15.5	10.7	9.16	10.5	15.5	17.2			
120	8.89	5.01	3.79	3.85	4.46	3.00	2.80	4.71	11.0	15.6	15.9	11.3	10.9	12.1	16.4	17.2			
125	8.92	5.05	3.84	4.85	5.30	3.69	2.86	5.04	9.02	14.0	12.9	11.6	11.9	12.3	15.4	15.9			
130	9.02	5.16	4.69	5.47	5.77	4.08	3.63	5.31	8.50	11.6	11.6	10.9	12.3	12.1	14.1	13.9			
135	9.10	6.09	5.07	6.19	6.03	4.39	3.83	5.42	8.23	9.86	10.9	11.8	12.6	12.1	13.8	12.5			
140	10.0	7.39	6.15	6.39	6.24	5.15	4.32	6.58	8.17	9.85	10.5	12.4	12.9	12.5	13.3	12.4			
145	11.3	8.17	7.22	6.93	6.38	6.00	5.41	7.36	8.41	9.93	10.8	13.5	13.1	14.0	13.6	12.5			
150	11.5	9.24	8.38	7.78	7.15	6.54	6.80	7.82	9.26	10.5	11.9	13.9	13.5	14.6	13.9	13.1			
155	11.9	10.3	9.46	8.55	7.69	7.31	7.96	8.66	10.5	11.2	13.1	13.9	14.5	14.6	14.2	13.5			
160	12.3	11.2	10.2	9.78	8.85	8.39	8.73	9.14	11.7	11.8	13.2	14.0	14.8	14.7	14.5	13.6			
165	13.0	11.7	11.3	11.2	9.85	9.16	9.81	9.99	12.3	12.3	13.4	14.4	14.8	14.7	14.7	13.7			
170	13.6	12.9	12.8	12.3	11.2	10.4	11.1	11.2	12.6	12.8	13.8	14.5	14.7	14.8	14.8	13.8			
175	14.7	13.9	14.0	13.5	12.8	11.9	12.3	12.4	14.5	14.5	14.3	14.9	14.6	14.7	14.6	13.7			
180	14.7	14.5	14.6	14.3	13.9	13.5	13.2	12.7	14.8	14.7	14.2	14.9	14.4	14.0	13.4	13.6			



5. Photo of sample

Photo document



**Revision History**

Revision	Issue Date	Revision Content	Revised By
V1.1	2021/09/03	Modify the Client 、 Manufacturer 、 Model and Trademark	Seth Cai

Remark: This report is based on the report No. LCS200722067BS. This report is invalid without the original report.

----- End of test report -----