




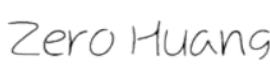

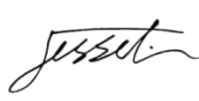
TEST REPORT

Of IES LM-79-08

Kunde: <i>Client:</i>	AOK Industrial Company Limited
Adresse: <i>Address:</i>	East Suite (2/F, Plant 4, St George's Science and Technology Industrial Park) 3/F, Building 1, St George's Science and Technology Industrial Park North Side of Xinyu Road, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China
Hersteller: <i>Manufacturer:</i>	AOK Industrial Company Limited
Adresse: <i>Address:</i>	East Suite (2/F, Plant 4, St George's Science and Technology Industrial Park) 3/F, Building 1, St George's Science and Technology Industrial Park North Side of Xinyu Road, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China
Name der Marke: <i>Brand Name:</i>	
Beschreibung des Produkts: <i>Product Description:</i>	SOLAR STREET LIGHT
Modelle: <i>Models:</i>	AOK-15WsE-DC-S5-00-4070-T3-A
Bewertung: <i>Rating:</i>	Input: DC12V, 15W(Whole light) DC24V, 15W, 4000K(Light board)
Verfahren: <i>Method:</i>	IES LM-79-08: Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products
Prüfergebnis*: <i>Test result*:</i>	Pass

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>
2021-11-22	2021-11-27	Commission Test	IES LM-79-08

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

Compiled von/Compiled by:	Check von/Check by:	Genehmigt von/Approved by:
		
Zero Huang/ Project Engineer	Ian Luo/ Director	Jesse Liu/ Manager

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.

Remark: The duplication of this report or parts of it and its use for advertising purposes is only allowed with permission of the testing laboratory. This report contains the result of examination of the product sample submitted by the appliance. A general statement concerning the quality of the products from the series manufacturer cannot be derived therefore.



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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	: The sample was tested according to the IES LM-79-2008. 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.
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.....	: The sample was tested according to the IES LM-79-2008. 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.



2. Product Information

Product description.....:	SOLAR STREET LIGHT
Model Number.....:	AOK-15WsE-DC-S5-00-4070-T3-A
Rated Inputs.....:	Input: DC12V(Whole light) DC24V(Light board)
Rated Power.....:	15W
Declared CCT.....:	4000K
LED Manufacturer.....:	Seoul Semiconductor Co.,LTD
LED Model.....:	STW7L8PA
LED Package, Array or Module.....:	N/A
Forward current of the LED chip.....:	570mA
Date of Receipt Samples.....:	November 03, 2021
Quantity of Receipt Samples.....:	1 unit

3. Test equipment list

Manufacturer	Description	Equipment ID	Model	Calibration Date	Calibration Due Date
EVERFINE	Full-field Speed Goniophotometer	SLCS-S-112	GO-R5000	2021/06/21	2022/06/20
EVERFINE	Digital Power Meter	SLCS-S-103	PF2010	2021/06/21	2022/06/20
EVERFINE	AC Testing Power Source	SLCS-S-115	DPS1060	2021/06/21	2022/06/20
EVERFINE	Total Spectral Radiant Flux Standard Lamp	SLCS-S-143	D908S	2021/07/02	2022/07/01
SENSING	2 Meter Integrating Sphere	SLCS-S-038	SPR-3000	2021/06/21	2022/06/20
YOKOGAWA	Digital Power Meter	SLCS-S-058	WT310	2021/06/21	2022/06/20
ALL POWER ELECTRONIC	AC Testing Power Source	SLCS-S-111	APW-105N	2021/06/21	2022/06/20
SENSING	Standard Lamp	SLCS-S-118	S11010017	2021/07/02	2022/07/01



4. Integrating Sphere Test Results

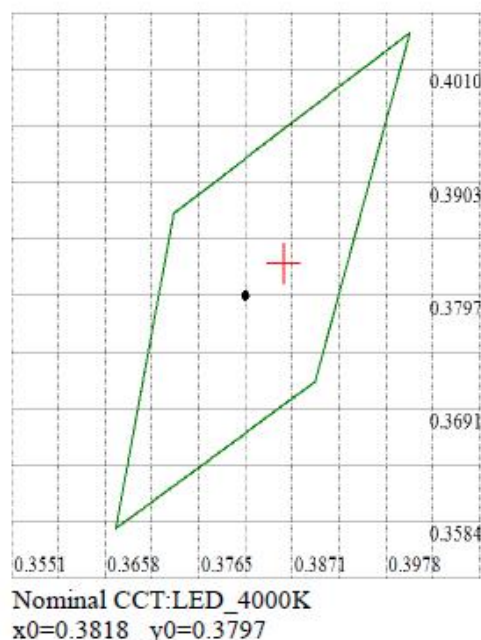
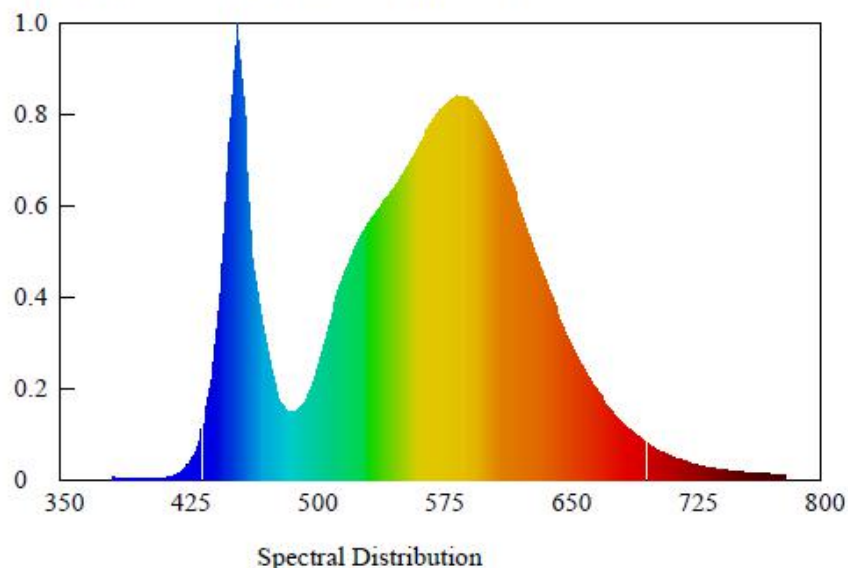
4.1 Test Data

Test type	Voltage (V DC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	21.34	-	0.7027	1.0000	15.00

Test type	CCT (K)	CRI	Duv	Luminous flux (lm)	Luminous efficacy(lm/W)
Output	3891	73.7	+0.00112	2950.50	196.7

4.2 Spectrum

Spectroradiometric Parameters



Chromaticity Coordinates: $x=0.3862$ $y=0.3827$ $u'=0.2265$ $v'=0.505$

Correlated Color Temperature: 3891 K

Colour Fidelity Index: $R_f=72$

Luminous Flux: 2950.50 lm

Chromaticity Difference: +0.00112Duv

Color Ratio: $K_r=38.5\%$ $K_g=54.1\%$ $K_b=7.4\%$

Bandwidth: 13.8nm

Photosynthetically Active Radiation(PAR): 6.47W

Rendering Index: $R_a=73.7$

$R_1=70$ $R_2=83$ $R_3=92$ $R_4=69$ $R_5=69$ $R_6=75$ $R_7=81$ $R_8=49$

$R_9=-31$ $R_{10}=60$ $R_{11}=64$ $R_{12}=42$ $R_{13}=74$ $R_{14}=95$ $R_{15}=64$ $R_e=64$

Dominant Wavelength: 577.0 nm(E)

Gamut Index: $R_g=90$

Purity: 0.3079

Peak Wavelength: 455.0 nm

Radiant Flux: 6.581 W

Photosynthetic Photon Flux(PPF):30.46 μ mol/s



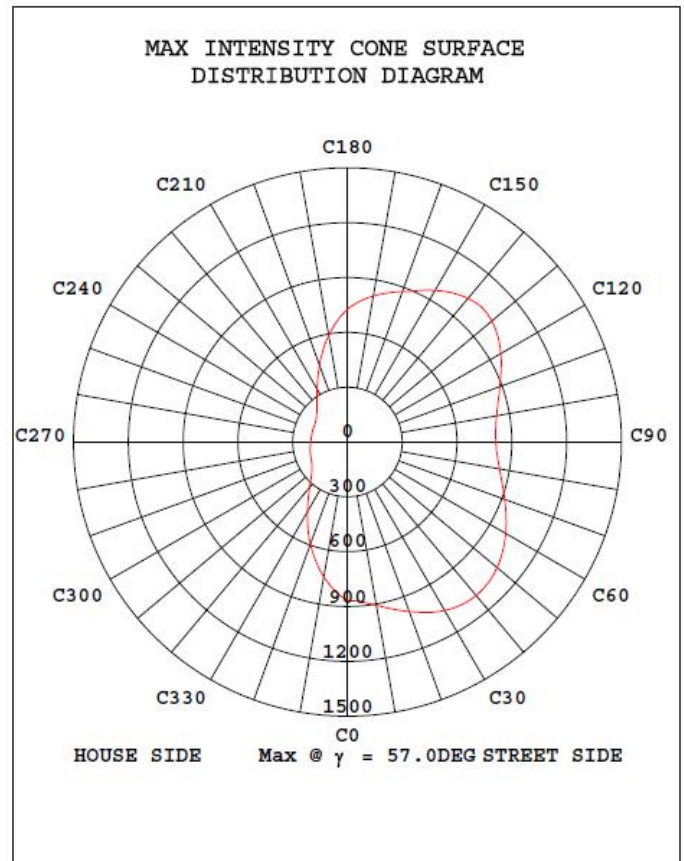
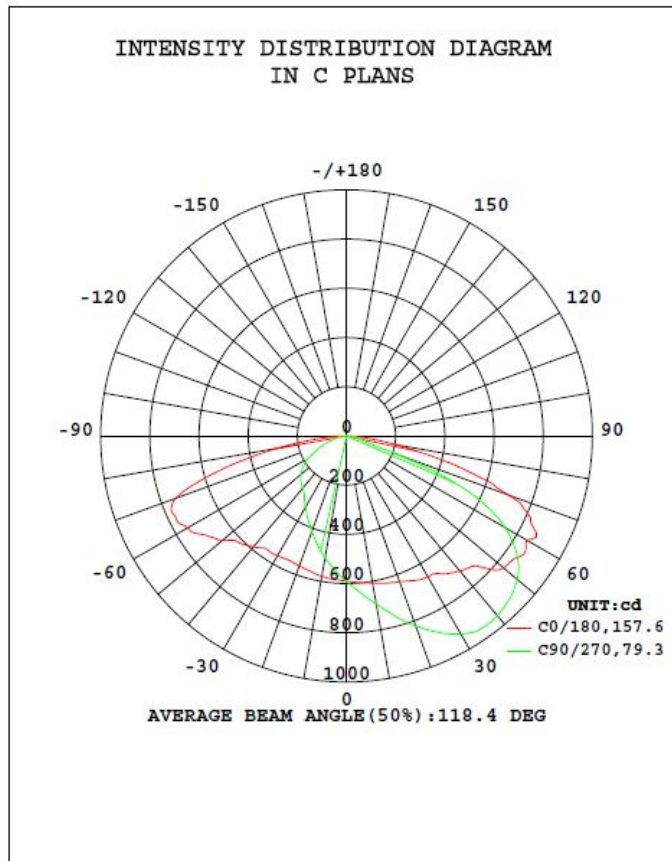
5. Goniophotometer Test results

5.1 Test Data

Test type	Voltage (V DC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	21.25	-	0.7055	1.000	14.99

Test type	Total Flux (lm)	Luminous efficacy(lm/W)	ZL (0~90°)	ZL (80~90°)
Output	2951.06	196.86	99.6%	1.7%

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





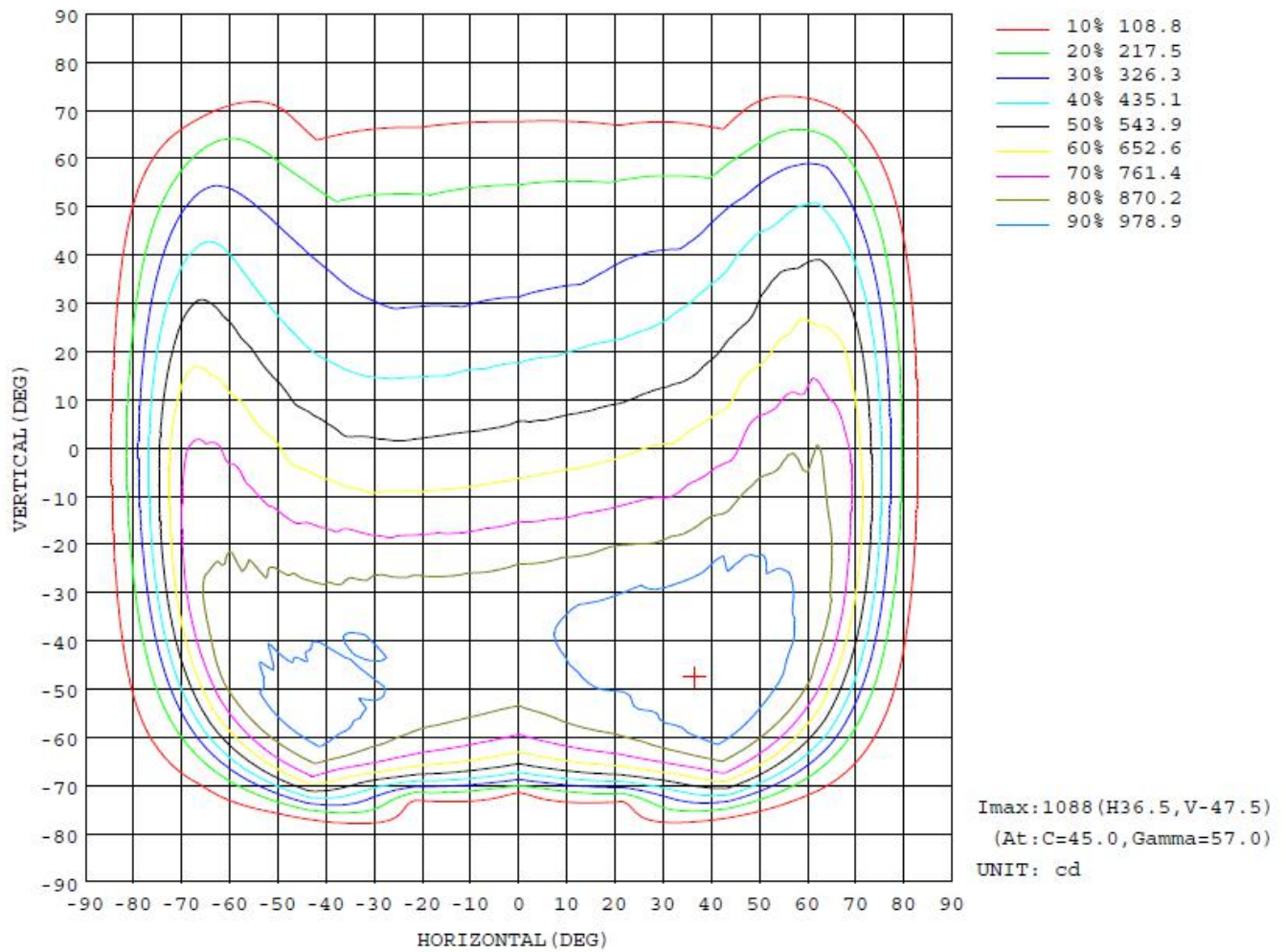
5.3 Zonal Flux Diagram

y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	lum, lamp
10	607.7	674.4	694.2	647.7	579.6	514.0	503.5	533.7	0- 10	56.51	56.51	1.91, 1.91
20	629.7	773.3	820.5	720.3	562.1	441.2	413.2	484.9	10- 20	170.0	226.5	7.67, 7.67
30	661.2	899.6	929.9	823.2	562.3	372.3	334.7	436.4	20- 30	285.2	511.7	17.3, 17.3
40	716.8	993.1	954.1	920.6	588.1	315.0	276.5	387.3	30- 40	398.6	910.3	30.8, 30.8
50	835.0	1052	906.3	1003	659.6	273.8	242.0	332.7	40- 50	504.6	1415	47.9, 47.9
60	846.5	1061	746.2	1036	745.7	219.4	177.6	260.9	50- 60	583.0	1998	67.7, 67.7
70	697.5	948.4	215.9	959.0	740.8	117.7	91.88	145.0	60- 70	576.5	2574	87.2, 87.2
80	205.4	134.9	40.47	151.0	285.2	35.80	36.21	40.58	70- 80	316.0	2890	97.9, 97.9
90	10.57	23.17	8.252	23.26	5.209	5.084	8.112	7.343	80- 90	49.11	2940	99.6, 99.6
100	1.859	2.267	2.768	2.965	1.452	1.779	1.784	1.843	90-100	4.017	2944	99.7, 99.7
110	0.7262	1.051	1.954	1.282	1.452	1.779	1.465	1.843	100-110	1.844	2945	99.8, 99.8
120	0.5648	2.749	1.142	2.484	1.452	1.616	1.465	1.520	110-120	1.472	2947	99.9, 99.9
130	1.210	1.940	0.6512	1.687	1.452	1.132	1.140	1.362	120-130	1.279	2948	99.9, 99.9
140	1.452	1.052	0.5698	1.202	1.452	1.296	1.221	1.523	130-140	1.023	2949	99.9, 99.9
150	1.775	0.9702	0.4070	1.202	1.452	1.617	1.302	1.362	140-150	0.8145	2950	100, 100
160	1.694	0.9702	0.4070	1.202	1.452	1.455	1.302	1.122	150-160	0.5792	2951	100, 100
170	1.291	0.9702	0.4070	1.202	1.533	1.375	1.302	1.122	160-170	0.3327	2951	100, 100
180	1.372	1.290	1.140	1.202	1.533	1.211	0.8936	1.042	170-180	0.1129	2951	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	591	591	591	591	591	591	591	591	591	591	591	591	591	591	591	591			
5	598	618	631	639	638	631	619	601	585	564	551	544	548	551	561	579			
10	608	644	674	692	694	676	648	614	580	539	514	500	503	512	534	569			
15	619	672	722	749	757	728	681	627	569	514	478	457	458	475	509	558			
20	630	708	773	813	821	785	720	644	562	490	441	416	413	438	485	551			
25	648	744	837	878	880	841	767	669	557	467	405	376	372	403	463	542			
30	661	783	900	939	930	893	823	689	562	447	372	336	335	366	436	538			
35	685	824	964	982	956	932	864	730	563	434	342	300	300	333	411	525			
40	717	886	993	1001	954	950	921	774	588	423	315	274	276	306	387	519			
45	748	951	1047	1002	938	954	939	816	615	415	293	258	263	285	362	528			
50	835	982	1052	994	906	934	1003	848	660	415	274	240	242	262	333	539			
55	857	1013	1077	942	846	922	1024	905	702	417	250	215	214	231	298	545			
60	846	1029	1061	895	746	870	1036	929	746	416	219	182	178	194	261	558			
65	826	983	1053	767	569	761	1037	967	769	409	175	135	129	143	211	521			
70	698	888	948	488	216	483	959	917	741	385	118	92.6	91.9	95.4	145	483			
75	455	593	644	86.2	63.8	76.3	687	643	523	320	67.8	56.7	60.4	60.5	81.0	379			
80	205	179	135	57.6	40.5	54.5	151	211	285	164	35.8	33.8	36.2	36.0	40.6	192			
85	59.1	44.4	51.3	31.7	22.2	31.3	56.0	45.2	97.1	33.3	14.5	16.6	17.4	18.7	17.6	53.5			
90	10.6	12.0	23.2	13.4	8.25	12.9	23.3	10.1	5.21	5.50	5.08	7.15	8.11	8.47	7.34	8.35			
95	2.46	3.88	3.88	2.28	1.30	2.49	3.05	4.02	1.53	1.53	1.38	2.03	2.92	2.83	1.84	1.69			
100	1.86	2.50	2.27	2.04	2.77	2.02	2.96	3.05	1.45	1.69	1.78	1.55	1.78	1.94	1.84	1.53			
105	1.13	2.09	1.13	1.87	2.28	1.54	1.87	3.05	1.45	1.53	1.78	1.55	1.30	1.54	1.84	1.53			
110	0.73	0.65	1.05	1.87	1.95	1.54	1.28	1.06	1.45	1.53	1.78	1.47	1.47	1.54	1.84	1.53			
115	0.56	0.64	2.75	1.87	1.39	1.05	2.56	0.80	1.45	1.53	1.78	1.47	1.47	1.54	1.76	1.53			
120	0.56	0.88	2.75	1.71	1.14	1.86	2.48	0.96	1.45	1.53	1.62	1.47	1.47	1.46	1.52	1.53			
125	1.13	0.88	2.19	1.63	1.06	1.37	2.33	0.89	1.45	1.53	1.38	1.38	1.30	1.37	1.36	1.53			
130	1.21	1.05	1.94	1.63	0.65	1.45	1.69	1.13	1.45	1.53	1.13	1.38	1.14	1.05	1.36	1.53			
135	1.37	1.12	1.54	1.63	0.57	1.45	1.52	1.13	1.45	1.53	1.13	1.38	1.14	1.13	1.36	1.53			
140	1.45	1.20	1.05	1.30	0.57	1.21	1.20	1.29	1.45	1.61	1.30	1.38	1.22	1.29	1.52	1.45			
145	1.54	1.45	0.97	1.22	0.41	1.05	1.20	1.37	1.45	1.61	1.46	1.38	1.30	1.37	1.52	1.45			
150	1.77	1.45	0.97	0.82	0.41	1.05	1.20	1.37	1.45	1.45	1.62	1.38	1.30	1.45	1.36	1.37			
155	1.69	1.45	0.97	0.81	0.41	1.05	1.20	1.37	1.45	1.37	1.46	1.38	1.30	1.45	1.36	1.29			
160	1.69	1.52	0.97	0.81	0.41	0.97	1.20	1.37	1.45	1.37	1.46	1.30	1.30	1.45	1.12	1.29			
165	1.46	0.96	0.97	0.81	0.41	0.89	1.20	1.29	1.45	1.36	1.29	1.30	1.30	1.37	1.12	1.21			
170	1.29	0.96	0.97	0.81	0.41	0.89	1.20	1.29	1.53	1.28	1.37	1.30	1.30	1.37	1.12	1.21			
175	1.45	1.20	1.05	0.90	0.65	0.89	1.20	1.21	1.53	1.45	1.53	1.30	1.22	1.37	1.12	1.21			
180	1.37	1.20	1.29	0.90	1.14	1.05	1.20	1.21	1.53	1.45	1.21	1.14	0.89	1.21	1.04	1.21			

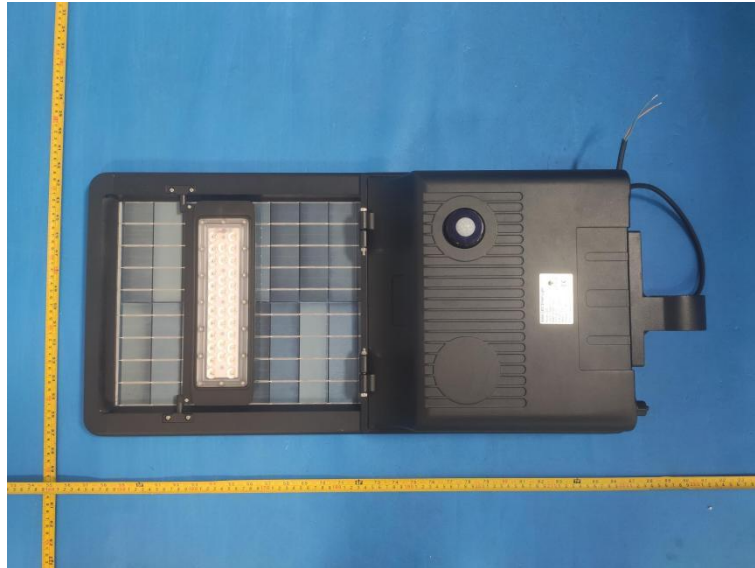




6. Photo of sample

Photo document

Photos of AOK-15WsE-DC-S5-00-4070-T3-A



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