




# TEST REPORT

## Of IES LM-79-08

<b>Kunde:</b> <i>Client:</i>	AOK Industrial Company Limited
<b>Adresse:</b> <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
<b>Hersteller:</b> <i>Manufacturer:</i>	AOK Industrial Company Limited
<b>Adresse:</b> <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
<b>Name der Marke:</b> <i>Brand Name:</i>	
<b>Beschreibung des Produkts:</b> <i>Product Description:</i>	SOLAR STREET LIGHT
<b>Modelle:</b> <i>Models:</i>	AOK-25WsE-DC-S5-00-4070-T3-A
<b>Bewertung:</b> <i>Rating:</i>	Input: DC12V, 25W(Whole light) DC24V, 25W, 4000K(Light board)
<b>Verfahren:</b> <i>Method:</i>	IES LM-79-08: Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass

**Datum der Prüfung:**  
*Date of Test:*

2021-11-22

**Datum der Emission:**  
*Date of Issue:*

2021-11-27

**Klassifizierung:**  
*Classification:*

Commission Test

**Gegenstand der Prüfung:**  
*Test item:*

IES LM-79-08

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

**Compiled von/Compiled by:**

Zero Huang

Zero Huang/ Project Engineer

**Check von/Check by:**



Ian Luo/ Director

**Genehmigt von/Approved by:**



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.**

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Table of Contents

1. Test Method..... 3

2. Product Information..... 4

3. Test equipment list..... 4

4. Integrating Sphere Test Results..... 5

    4.1 Test Data..... 5

    4.2 Spectrum..... 5

5. Goniophotometer Test results..... 6

    5.1 Test Data..... 6

    5.2 Luminous Intensity Distribution Diagram and C0 Plane Isolux Diagram (Unit : lx)..... 6

    5.3 Zonal Flux Diagram..... 7

    5.4 Isocandela Diagram..... 8

    5.5 Luminous Distribution Intensity Data..... 9

6. Photo of sample.....10





## 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-25WsE-DC-S5-00-4070-T3-A
Rated Inputs.....:	Input: DC12V(Whole light) DC24V(Light board)
Rated Power.....:	25W
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

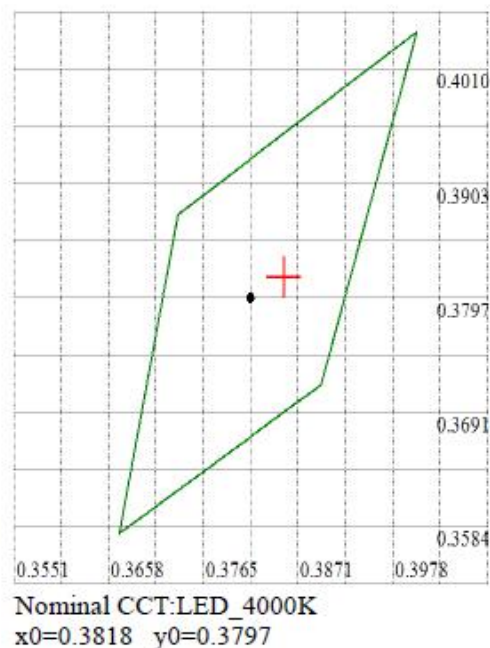
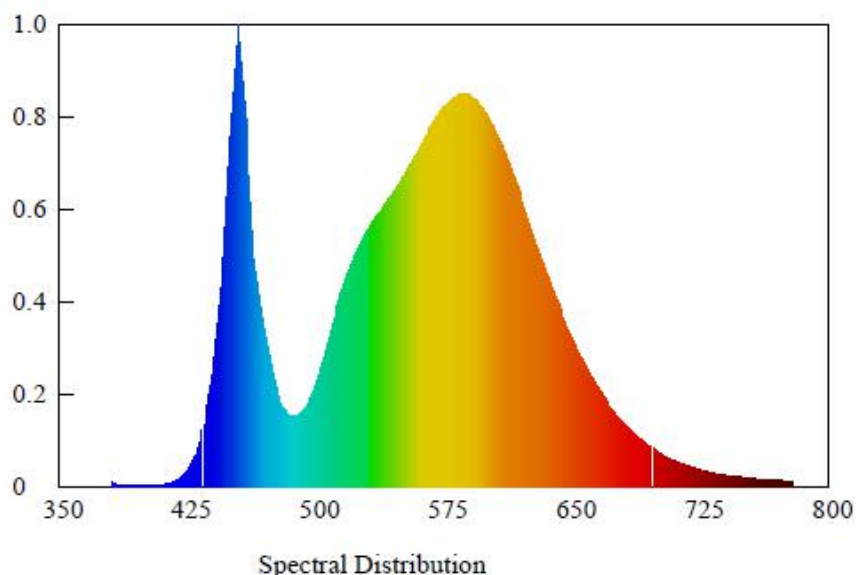
### 4.1 Test Data

Test type	Voltage (V DC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	21.82	-	1.1455	1.0000	25.00

Test type	CCT (K)	CRI	Duv	Luminous flux (lm)	Luminous efficacy(lm/W)
Output	3899	73.6	+0.00077	4752.50	190.1

### 4.2 Spectrum

#### Spectroradiometric Parameters



Chromaticity Coordinates:  $x=0.3856$   $y=0.3816$   $u'=0.2266$   $v'=0.5045$

Correlated Color Temperature: 3899 K

Colour Fidelity Index:  $R_f=72$

Luminous Flux: 4752.50 lm

Chromaticity Difference: +0.00077Duv

Color Ratio:  $K_r=38.5\%$   $K_g=54.1\%$   $K_b=7.3\%$

Bandwidth: 14.1nm

Photosynthetically Active Radiation(PAR): 10.43W

Rendering Index:  $R_a=73.6$

$R_1=70$   $R_2=83$   $R_3=92$   $R_4=69$   $R_5=69$   $R_6=75$   $R_7=81$   $R_8=50$

$R_9=-30$   $R_{10}=59$   $R_{11}=64$   $R_{12}=42$   $R_{13}=74$   $R_{14}=95$   $R_{15}=64$   $R_e=64$

Dominant Wavelength: 578.0 nm(E)

Gamut Index:  $R_g=90$

Purity: 0.3026

Peak Wavelength: 455.0 nm

Radiant Flux: 10.625 W

Photosynthetic Photon Flux(PPF): 49.13  $\mu\text{mol/s}$



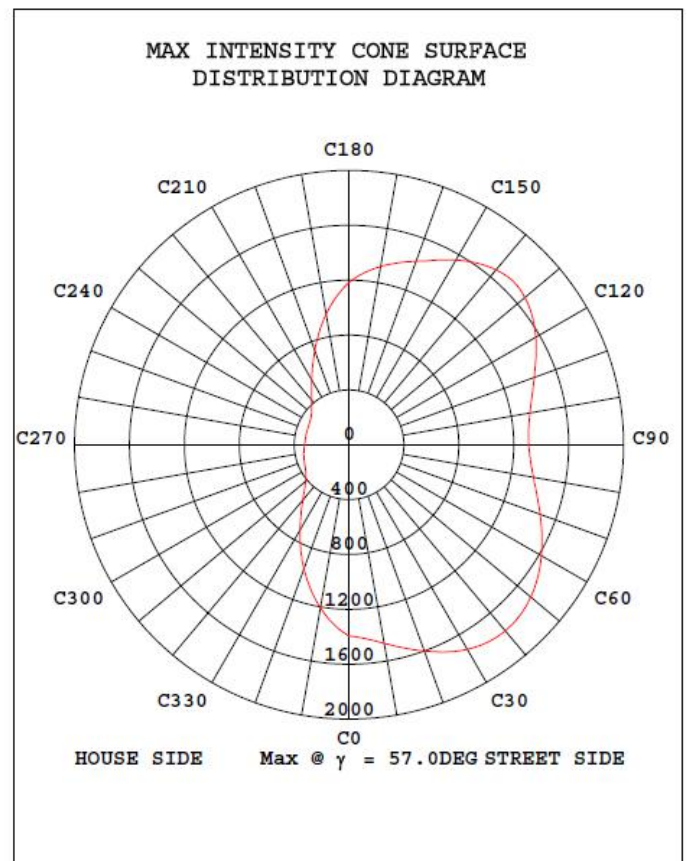
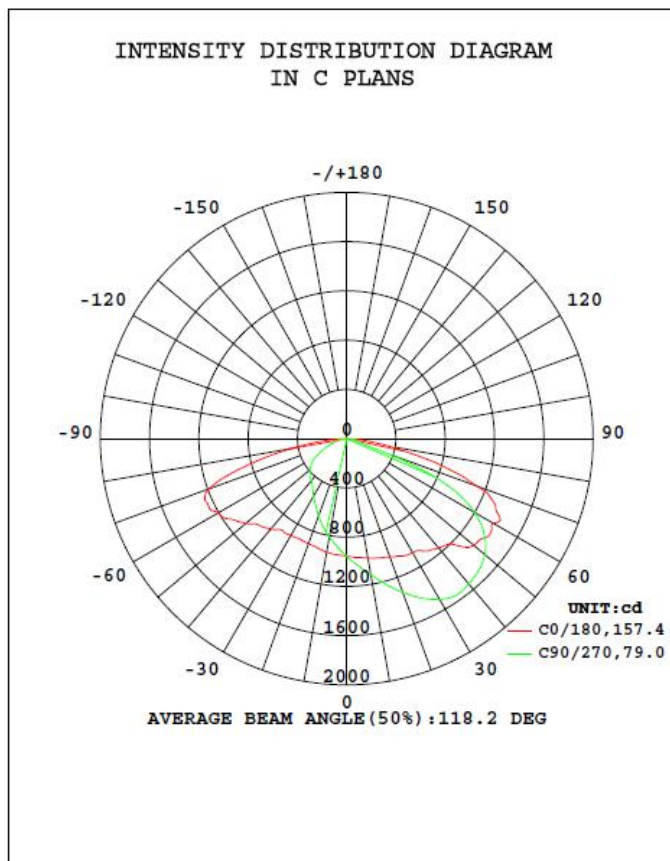
## 5. Goniophotometer Test results

### 5.1 Test Data

Test type	Voltage (V DC)	Frequency (Hz)	Current (A)	Power Factor	Power (W)
Input	21.66	-	1.158	1.000	25.08

Test type	Total Flux (lm)	Luminous efficacy(lm/W)	ZL (0~90°)	ZL (80~90°)
Output	4772.09	190.26	99.6%	1.7%

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





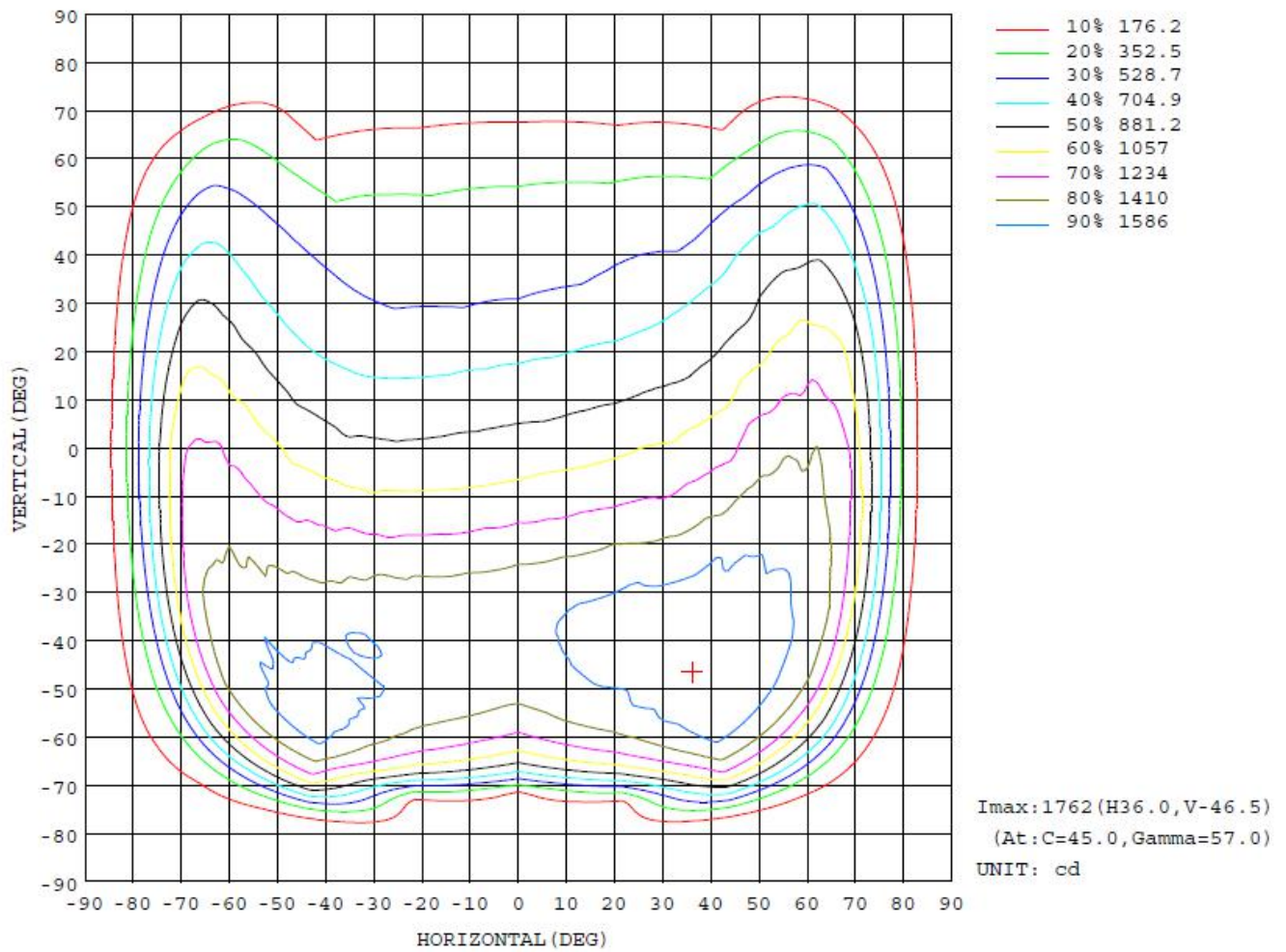
### 5.3 Zonal Flux Diagram

y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	lum, lamp
10	984.2	1094	1120	1049	936.8	831.7	812.3	865.1	0- 10	91.43	91.43	1.92, 1.92
20	1023	1257	1326	1168	907.9	713.0	667.7	789.3	10- 20	275.1	366.6	7.68, 7.68
30	1071	1462	1505	1334	909.8	601.0	540.4	708.7	20- 30	462.0	828.6	17.4, 17.4
40	1155	1616	1539	1497	957.6	510.8	446.4	628.3	30- 40	646.4	1475	30.9, 30.9
50	1345	1704	1463	1629	1071	444.8	390.3	537.0	40- 50	818.1	2293	48.1, 48.1
60	1376	1731	1196	1687	1205	354.7	286.8	423.2	50- 60	943.5	3237	67.8, 67.8
70	1118	1518	334.2	1547	1193	190.2	148.1	233.7	60- 70	929.8	4166	87.3, 87.3
80	331.2	207.4	66.70	231.7	453.8	57.20	59.65	65.83	70- 80	505.8	4672	97.9, 97.9
90	17.15	38.78	13.67	38.54	8.928	9.051	13.97	12.64	80- 90	79.06	4751	99.6, 99.6
100	3.143	4.048	4.960	5.698	2.578	3.397	3.901	3.372	90-100	6.964	4758	99.7, 99.7
110	1.692	1.941	3.336	2.248	2.578	3.883	2.602	3.934	100-110	3.353	4762	99.8, 99.8
120	1.692	5.177	2.441	4.337	2.658	2.992	2.602	3.206	110-120	2.848	4764	99.8, 99.8
130	2.173	3.397	1.545	2.971	2.497	2.427	2.439	2.649	120-130	2.340	4767	99.9, 99.9
140	2.658	1.943	1.465	2.168	2.497	2.510	2.521	2.729	130-140	1.908	4769	99.9, 99.9
150	2.658	1.860	1.460	2.168	2.578	2.750	2.602	2.649	140-150	1.503	4770	100, 100
160	2.658	1.860	1.464	2.168	2.578	2.750	2.521	2.168	150-160	1.095	4771	100, 100
170	2.497	1.860	1.464	2.168	2.658	2.346	2.521	2.168	160-170	0.6440	4772	100, 100
180	2.497	2.345	1.789	2.248	2.658	2.264	1.950	1.927	170-180	0.2165	4772	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		





## 5.4 Isocandela Diagram





## 5.5 Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG) y (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	955	955	955	955	955	955	955	955	955	955	955	955	955	955	955	955			
5	968	999	1022	1033	1033	1020	1003	973	945	911	891	880	882	890	908	938			
10	984	1042	1094	1117	1120	1097	1049	990	937	870	832	807	812	829	865	922			
15	1003	1087	1169	1212	1226	1180	1105	1015	917	831	772	738	741	769	828	908			
20	1023	1146	1257	1316	1326	1274	1168	1043	908	790	713	673	668	709	789	895			
25	1054	1208	1357	1421	1427	1364	1244	1079	899	755	653	605	600	652	751	882			
30	1071	1268	1462	1521	1505	1448	1334	1121	910	724	601	542	540	593	709	873			
35	1113	1342	1567	1592	1552	1517	1403	1185	909	702	554	483	483	538	669	853			
40	1155	1437	1616	1621	1539	1545	1497	1251	958	687	511	442	446	496	628	850			
45	1211	1548	1706	1620	1515	1546	1521	1329	1000	675	475	417	425	462	588	857			
50	1345	1595	1704	1604	1463	1500	1629	1377	1071	673	445	388	390	424	537	872			
55	1392	1628	1752	1522	1364	1496	1665	1467	1143	678	405	347	345	374	483	884			
60	1376	1661	1731	1437	1196	1401	1687	1500	1205	675	355	294	287	315	423	899			
65	1333	1583	1690	1228	910	1220	1676	1566	1247	665	284	219	208	231	340	843			
70	1118	1440	1518	776	334	766	1547	1483	1193	625	190	149	148	155	234	779			
75	734	950	1019	137	103	120	1096	1030	836	519	108	90.0	97.1	97.8	131	607			
80	331	282	207	93.3	66.7	88.3	232	332	454	260	57.2	55.0	59.7	59.3	65.8	306			
85	95.9	72.1	82.5	51.6	36.2	50.7	90.4	72.8	155	52.9	24.2	27.2	29.1	31.3	29.3	86.2			
90	17.1	19.6	38.8	22.0	13.7	21.1	38.5	16.5	8.93	9.74	9.05	12.4	14.0	14.6	12.6	14.4			
95	4.01	6.81	6.23	4.28	2.11	5.03	5.16	6.67	3.05	2.65	2.59	4.06	5.69	5.32	3.29	3.69			
100	3.14	4.50	4.05	3.58	4.96	3.23	5.70	5.22	2.58	2.65	3.40	3.16	3.90	3.88	3.37	2.73			
105	2.34	3.85	2.11	3.09	3.99	2.75	3.19	5.63	2.58	2.65	3.40	2.68	2.60	2.99	3.54	2.73			
110	1.69	1.52	1.94	3.09	3.34	2.59	2.25	1.97	2.58	2.65	3.88	2.68	2.60	2.99	3.93	2.73			
115	1.45	1.52	5.10	3.90	2.76	2.18	5.04	1.77	2.66	2.65	3.80	2.68	2.60	2.99	3.85	2.73			
120	1.69	1.68	5.18	3.01	2.44	3.80	4.34	1.77	2.66	2.65	2.99	2.76	2.60	2.99	3.21	2.73			
125	1.93	1.76	3.65	2.85	2.04	2.51	3.71	1.85	2.58	2.65	2.43	2.60	2.52	2.43	2.65	2.73			
130	2.17	1.77	3.40	2.85	1.54	2.59	2.97	1.93	2.50	2.65	2.43	2.44	2.44	2.43	2.65	2.73			
135	2.73	1.85	2.75	2.85	1.54	2.67	2.81	2.09	2.50	2.65	2.43	2.44	2.44	2.59	2.65	2.73			
140	2.66	2.49	1.94	2.28	1.46	2.18	2.17	2.41	2.50	2.65	2.51	2.60	2.52	2.67	2.73	2.65			
145	2.66	2.49	1.86	2.20	1.22	2.18	2.17	2.41	2.66	2.65	2.75	2.68	2.60	2.67	2.73	2.65			
150	2.66	2.49	1.86	1.71	1.46	2.18	2.17	2.41	2.58	2.65	2.75	2.68	2.60	2.67	2.65	2.65			
155	2.66	2.49	1.86	1.71	1.38	2.18	2.17	2.41	2.58	2.65	2.75	2.68	2.60	2.59	2.72	2.73			
160	2.66	2.49	1.86	1.71	1.46	1.95	2.17	2.41	2.58	2.65	2.75	2.68	2.52	2.59	2.17	2.57			
165	2.66	2.25	1.86	1.71	1.46	1.86	2.17	2.41	2.58	2.57	2.35	2.68	2.52	2.58	2.17	2.33			
170	2.50	2.25	1.86	1.71	1.46	1.86	2.17	2.41	2.66	2.57	2.35	2.68	2.52	2.43	2.17	2.33			
175	2.50	2.25	2.10	2.03	1.79	1.86	2.17	2.41	2.66	2.57	2.35	2.60	2.60	2.43	2.25	2.33			
180	2.50	2.25	2.34	1.95	1.79	1.86	2.25	2.41	2.66	2.49	2.26	2.19	1.95	1.94	1.93	2.25			

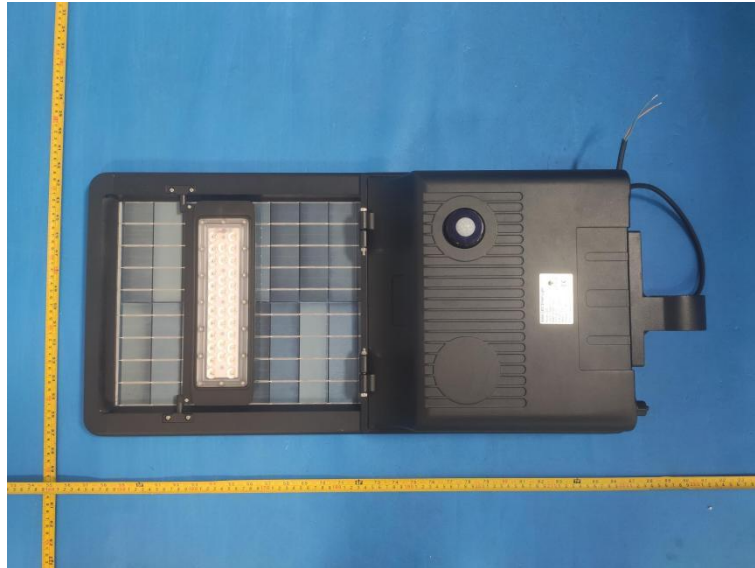




**6. Photo of sample**

**Photo document**

Photos of AOK-25WsE-DC-S5-00-4070-T3-A



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