

## LM-79-08 Test Report

For

### AOK LED Light Company Limited

(Brand Name: AOK)

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 ,Shenzhen, Guangdong 518125 China

### Outdoor Pole/Arm-Mounted Area and Roadway Luminaires

Model name(s):

AOK-150WPLA-NVS-L2-[00;PH;PIR]-5070-T4-[A;B;C;D;E;F;G]

Remark: The [00;PH;PIR] represents type of Sensor, can be 00=Without Sensor;  
PH=Photocell; PIR=PIR sensor. The [A;B;C;D;E;F;G] represents mounting option  
which can be as following: A=Slip Fitter; B=Adjustable table; C=Yoke; D=Slide &  
Lock; E=Square Pole; F= Round Pole; G=Trunnion.

Representative (Tested) Model:

AOK-150WPLA-NVS-L2-00-5070-T4-E

Model Different: N/A

Test & Report By:

*Ferrum Li*

Engineer: Ferrum Li

Date: Feb,17,2023

Review By:

*Garman Mo*

Manager: Garman Mo

Note: 1.The results contained in this report pertain only to the tested samples.

2.This report does not imply product certification, approval, or endorsement by A2LA, or any  
agency of the Federal Government.

**Laboratory: STANDARD-TECH TESTING SERVICES**

Report Format Number STD-QP019-409-B/0

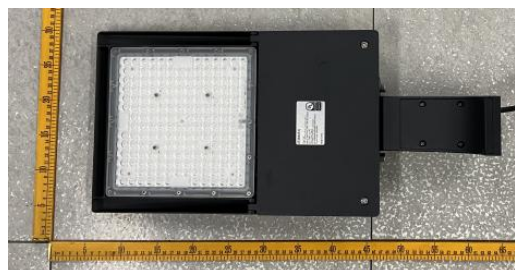

Address: Standard-Tech Building, No.6 Guanhong Road,Guangzhou Science City, Guangzhou 510663, China

Tel: 8620-3229 0320

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<http://www.standard-tech.com>

**1.1 Product Information:**

Organization Name	AOK LED Light Company Limited		
Brand Name	AOK		
Model Number	AOK-150WPLA-NVS-L2-[00;PH;PIR]-5070-T4-[A;B;C;D;E;F;G]		
SKU (if available)	N/A		
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires		
Rated Voltage / Frequency	100-277Vac, 50/60Hz		
Nominal Power	150W		
Rated Initial Lamp Lumen	--		
Declared CCT	5000K		
LED Manufacturer	Lumileds Holding B.V.		
LED Model	L128-5070RB35000G1		
Integral Controls Availability	Yes		
Dimming	Continuous		
Sample Number	JAE230102-C1		
Luminaire Aperture (for downlights)	--	in. mm mm s	
Luminaire Length	--		
Luminaires Width	--		
Number of Units (modular products)	N/A		
Photo			
			

**1.2 Test Specifications:**

Date of Receipt	Feb.14,2023
Date of Test	Feb.16,2023
Test item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2017 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>4. CIE 15-2004 Technical Report Colorimetry</li> <li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> <li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> </ol>

**1.3 Test Methods****1) Photometric and Light Distribution Measurement – Goniophotometer Method:**

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  horizontal intervals.

**2) Electrical Measurements:**

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

**2.1 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2023-02-16	<b>Test Ambient:</b>	25±1 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	60
<b>Model Number</b>	AOK-150WPLA-NVS-L2-00-5 070-T4-E	<b>Total Operating Time (min)</b>	75

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE230102-C1	120.1	60	1.252	149.5	0.9946	6.63
	277.3	60	0.5676	143.7	0.9129	10.25
<b>DLC Pass Criteria</b>					>= 0.9(-3%)	<= 20(+5)

**Photometric Measurement – Goniophotometer Method(Test Distance: 26.000m):**

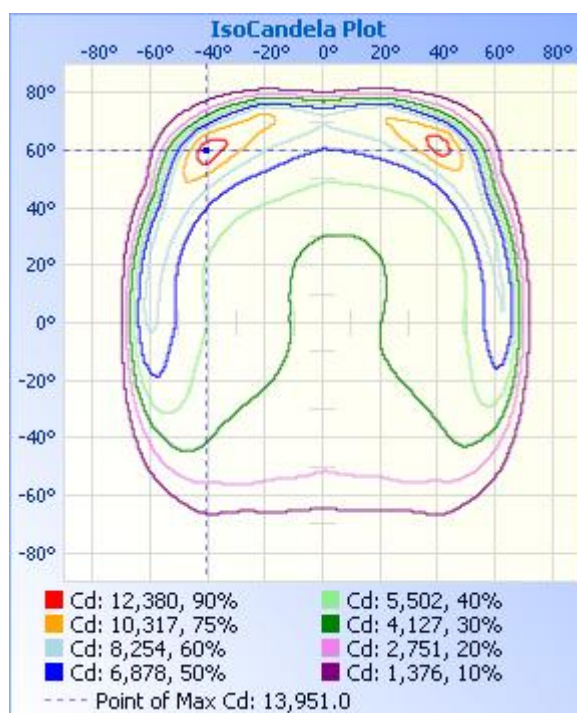
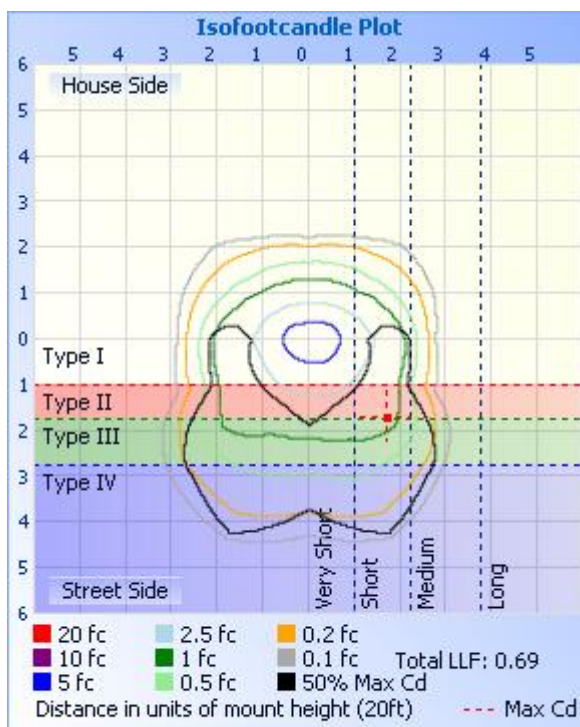
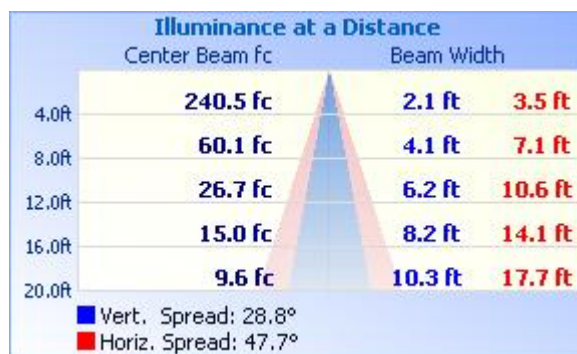
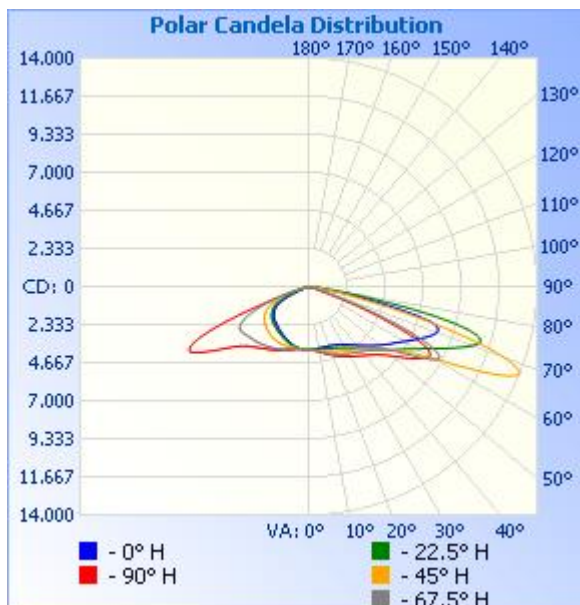
Parameter	Result		DLC V5.1 Pass Criteria	
Test Voltage (V)	120	277	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	23414	23008	>=1000(-10%)	
Luminous Efficacy (lm/W)	156.64	160.13	Standard: >= 105(-3%)	Premium: >= 120(-3%)
Zonal lumens in the0-90° zone (%)	99.6	--	100(-1)	
Zonal lumens in the80-90° zone (%)	1.2	--	<=10(+3)	
BUG Ratings	B3-U3-G3	--	--	
Beam Angle (°)	92.6	--	--	
Center Beam Candle Power (cd)	3848	--	--	

**Zonal Lumen Tabulation**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	3,393.4	14.5%
0-40	6,088.4	26%
0-60	14,433.9	61.6%
60-90	8,891.1	38%
70-100	3,219.4	13.8%
90-120	41.9	0.2%
0-90	23,325.0	99.6%
90-180	87.9	0.4%
0-180	23,413.0	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	369.9	1.6%	90-100	9.0	0%
10-20	1,123.3	4.8%	100-110	15.8	0.1%
20-30	1,900.2	8.1%	110-120	17.2	0.1%
30-40	2,695.0	11.5%	120-130	16.5	0.1%
40-50	3,572.6	15.3%	130-140	11.5	0%
50-60	4,772.9	20.4%	140-150	7.9	0%
60-70	5,680.7	24.3%	150-160	5.5	0%
70-80	2,939.5	12.6%	160-170	3.3	0%
80-90	270.9	1.2%	170-180	1.4	0%

## Photometric Data



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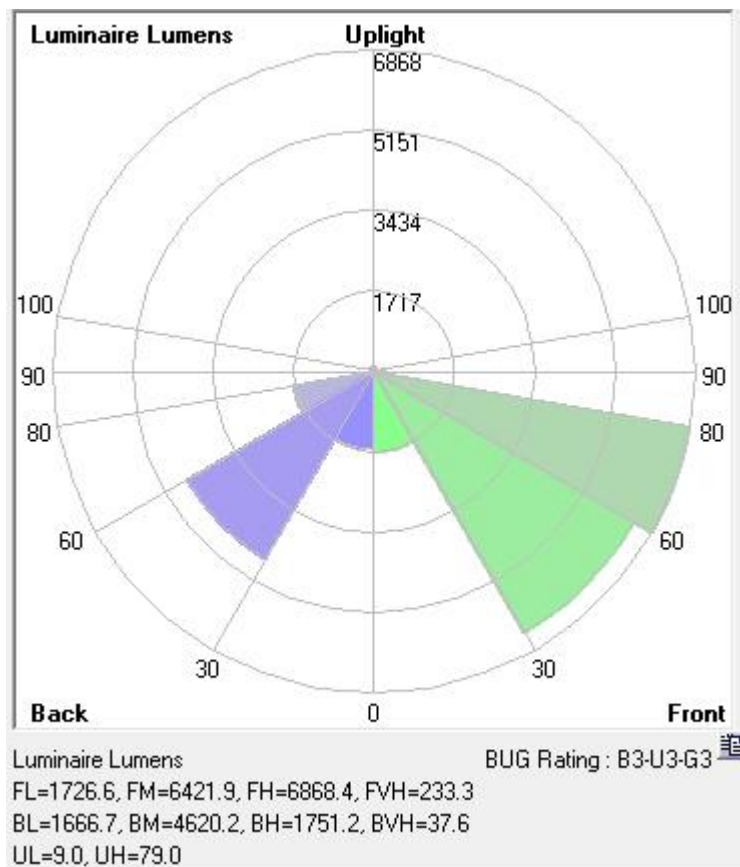


Table--1

UNIT: X10cd

C (DEG) T (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	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	
5	384	383	382	382	383	386	390	393	393	393	391	387	385	383	384	383	
10	389	386	382	380	382	389	397	405	406	406	396	386	381	380	384	387	
15	399	393	387	381	382	394	408	422	426	423	404	382	371	374	385	395	
20	414	404	393	386	385	402	423	439	448	441	411	375	358	363	387	409	
25	429	417	403	393	394	413	437	457	471	459	415	365	343	352	388	422	
30	446	429	414	404	409	431	454	476	494	475	414	354	329	340	386	434	
35	464	442	428	425	434	458	474	494	519	491	407	343	316	328	380	445	
40	487	456	447	459	469	495	500	517	549	504	397	331	305	318	373	456	
45	516	476	477	500	511	544	540	545	590	516	384	320	294	308	363	467	
50	569	506	520	550	559	603	599	597	660	531	367	305	279	295	348	478	
55	673	597	587	613	610	672	686	711	765	544	346	282	256	274	332	492	
60	809	799	717	695	672	762	879	895	855	519	312	248	219	244	303	488	
65	731	814	1100	818	753	896	1277	767	654	399	255	185	108	181	252	398	
70	244	364	1348	981	832	1060	1286	272	153	210	186	51.2	36.8	49.8	185	223	
75	26.2	75.4	767	992	692	1008	580	42.5	25.5	63.2	61.0	28.4	25.7	27.7	66.8	71.7	
80	15.9	18.7	209	333	196	310	135	17.7	16.4	17.8	17.8	17.8	14.2	17.2	18.0	18.0	
85	6.71	9.19	49.5	47.2	21.1	45.2	35.5	9.08	7.10	6.67	5.54	6.99	3.34	6.59	5.10	6.43	
90	0.05	0.16	0.63	0.75	0.52	0.72	0.65	0.23	0.06	0.12	0.91	1.14	0.72	1.15	0.68	0.11	
95	0.13	0.26	0.49	0.37	0.22	0.34	0.52	0.30	0.17	0.37	1.95	2.03	1.50	2.12	1.66	0.25	
100	1.06	0.80	0.58	0.35	0.17	0.30	0.59	0.85	0.70	1.04	2.64	2.25	2.05	2.43	2.69	0.89	
105	2.25	1.36	0.80	0.48	0.30	0.47	0.78	1.34	1.41	1.72	2.53	2.07	2.03	2.31	2.85	1.74	
110	2.76	1.73	0.93	0.64	0.56	0.61	0.92	1.63	1.66	1.80	2.09	2.24	2.13	2.42	2.36	2.02	
115	2.74	1.93	1.11	0.66	0.64	0.65	1.08	1.77	1.66	1.70	2.40	2.22	2.20	2.53	2.49	1.86	
120	2.60	1.94	1.32	0.91	0.74	0.85	1.29	1.80	1.70	1.74	2.97	2.49	2.20	2.54	2.75	1.84	
125	2.61	2.12	1.34	1.16	1.12	1.18	1.30	1.95	1.83	2.10	1.92	2.26	2.49	2.42	1.89	2.16	
130	2.66	2.11	1.26	1.20	1.17	1.20	1.30	1.91	1.89	1.55	1.39	1.96	2.06	2.11	1.75	1.67	
135	2.12	1.74	1.27	1.24	1.17	1.24	1.30	1.59	1.48	1.24	1.25	1.51	1.53	1.70	1.49	1.46	
140	1.95	1.68	1.17	1.24	1.17	1.27	1.16	1.54	1.30	1.23	0.96	1.38	1.27	1.48	1.05	1.48	
145	1.82	1.39	1.17	1.34	1.15	1.27	1.02	1.35	1.22	1.17	0.96	1.17	1.13	1.17	1.11	1.33	
150	1.60	1.34	1.33	1.33	1.32	1.29	1.18	1.35	1.16	1.12	1.13	1.10	1.13	1.08	1.29	1.33	
155	1.33	1.25	1.47	1.32	1.32	1.27	1.30	1.33	0.99	1.06	1.07	1.06	0.86	0.91	1.13	1.16	
160	1.23	1.20	1.47	1.33	1.30	1.25	1.33	1.23	0.97	0.94	1.05	1.09	0.92	0.87	0.99	1.06	
165	1.24	1.15	1.43	1.31	1.24	1.24	1.31	1.14	0.97	0.94	1.05	0.97	0.81	0.84	0.83	1.14	
170	1.30	1.24	1.53	1.48	1.33	1.40	1.50	1.12	1.26	1.24	1.33	1.49	1.46	1.34	1.37	1.58	
175	1.41	1.37	1.55	1.48	1.49	1.44	1.53	1.17	1.43	1.44	1.40	1.50	1.48	1.55	1.35	1.59	
180	1.41	1.45	1.45	1.38	1.49	1.37	1.53	1.24	1.41	1.43	1.44	1.46	1.38	1.49	1.35	1.53	

## BUG





**3. Test Equipment**

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-355	Goniophotometer system	Verified by D908S standard lamp	
ST-R-359	Standard Lamp	2022-07-06	2023-07-05
ST-R-358	Power Meter for Goniophotometer	2022-07-11	2023-07-10
ST-R-354	hygrothermograph for Goniophotometer	2022-07-11	2023-07-10
Expand Uncertainty: Photometric Measurement(Goniophotometer):3.36%, k=2			

**\*\*\*\*\* END OF REPORT \*\*\*\*\***