



Report No.:GZE150120-E

NVLAP LAB CODE 201011-0

## LM-79-08 Test Report

For

# AOK LED LIGHT COMPANY LIMITED

(Brand Name: AOK)

Building 1, St George's Science and Technology Industrial Park,  
Shajin Street, Shenzhen, Guangdong Province, China Zip 518104

## Outdoor Pole/Arm-Mounted Area and Roadway

### Luminaires

Model name(s):AOK-200WiL

Representative (Tested) Model:AOK-200WiL(3000K)  
AOK-200WiL(5700K)

Model Difference: All construction and rating are the same, except CCT

Test & Report By:

*Sean Zhuo*

Engineer: Sean Zhuo

Date: Mar.10,2015

Review By:

*Tommy Liang*

Manager: Tommy Liang

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

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**Lighting Facts™ Uniform LM-79 Reporting Template**
**Laboratory Information:**

Name of Test Laboratory	Standard-Tech Co. Ltd
Date of Test Report	Mar.10,2015
Test Report No.	GZE150120-E
Laboratory Contact Name	Tommy Liang

**Product Information:**

Organization Name	AOK LED LIGHT COMPANY LIMITED	
Brand Name	AOK	
Model Number	AOK-200WiL(3000K)	
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	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	

**Integrating Sphere**
**Goniophotometer**
**Electrical Measurements:**
**Output**
**Output**

	Integrating Sphere Output	Goniophotometer Output	
Input Wattage	--	202.9	W
Input Current	--	1.701	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9945	
Off-State Power	--	0	W

**Photometric Characteristics**

Total Initial Lumen Output	--	20514	lm
Initial Lumen Efficacy	--	101.09	lm/w
Correlated color temperature / CCT	3045	--	K
Color rendering index / CRI	72.3		
R9 Value	0	--	
Duv	-0.0019	--	
<b>Luminous Intensity Distribution</b>			
Center beam candlepower (if applicable)		8767	cd
Beam angle (if applicable)		119.8	°
Zonal lumens in the 0°-60° zone		78.1	%
Zonal lumens in the 60°-90° zone	-----	21.8	%
Zonal lumens in the 90°-120° zone		0	%
Zonal lumens in the 120°-180° zone		0.1	%

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Test Report No.	GZE150120-E
Laboratory Contact Name	Tommy Liang

**Product Information:**

Organization Name	AOK LED LIGHT COMPANY LIMITED	
Brand Name	AOK	
Model Number	AOK-200WiL(5700K)	
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	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	

Electrical Measurements:	Integrating Sphere	Goniophotometer	
	Output	Output	
Input Wattage	201.7	--	W
Input Current	1.688	--	A
Input Voltage (ac)	120.1	--	V
Power Factor	0.9950	--	
Off-State Power	0	--	W

**Photometric Characteristics**

Total Initial Lumen Output	22015	--	lm
Initial Lumen Efficacy	109.15	--	lm/w
Correlated color temperature / CCT	5762	--	K
Color rendering index / CRI	74.1	--	
R9 Value	0	--	
Duv	-0.0027	--	
<b>Luminous Intensity Distribution</b>			
Center beam candlepower (if applicable)			cd
Beam angle (if applicable)			°
Zonal lumens in the 0°-60° zone	-----	-----	%
Zonal lumens in the 60°-90° zone			%
Zonal lumens in the 90°-120° zone			%
Zonal lumens in the 120°-180° zone			%

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Test Specifications:	
Date of Receipt	: Mar.06, 2015
Date of Test	: Mar.09, 2015
Test item	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
Reference Standard	IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources CIE 15-2004 Technical Report Colorimetry IESNA LM-16-93 Practical Guide to Colorimetry of Light Source IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

### Test Methods

#### 1. Photometric and Electrical measurements – Light Distribution Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at  $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ , 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 Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at  $1\text{ }^{\circ}$  vertical intervals and  $22.5\text{ }^{\circ}$  horizontal intervals.

#### 2. Photometric and Electrical Measurements – Integrating Sphere Method:

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at  $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ . 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 120 Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at least 5 nm intervals over the range of 380 to 780 nm.

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**1. Product Information:**

Brand Name	AOK
Model Number	AOK-200WiL
Luminaire Type	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires
Rated Voltage / Frequency	90 ~ 305 Vac, 47-63 Hz
Nominal Power	200W
Rated Initial Lamp Lumen	--
Declared CCT	3000K,3500K,4000K,4500K,5000K,5700K
LED Manufacturer	Philips
LED Model	LXM8-PW30
Sample Receipt Date	Mar.06, 2015
Sample Number	150120-9(3000K),-10(5700K)

**Photo**



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<b>2.1 Electrical, Photometric and Chromaticity Measurements</b> (Refer to Work Instruction QD25)	<b>IES LM-79 2008</b>
--	-----------------------

<b>Test date</b>	2015-03-09	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As Intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AOK-200WiL(3000K)		

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
150120-9	120.0	60	1.701	202.9	0.9945	6.17
	305.0	60	0.7046	196.50	0.9144	10.26

### Sphere-Spectroradiometer Method:

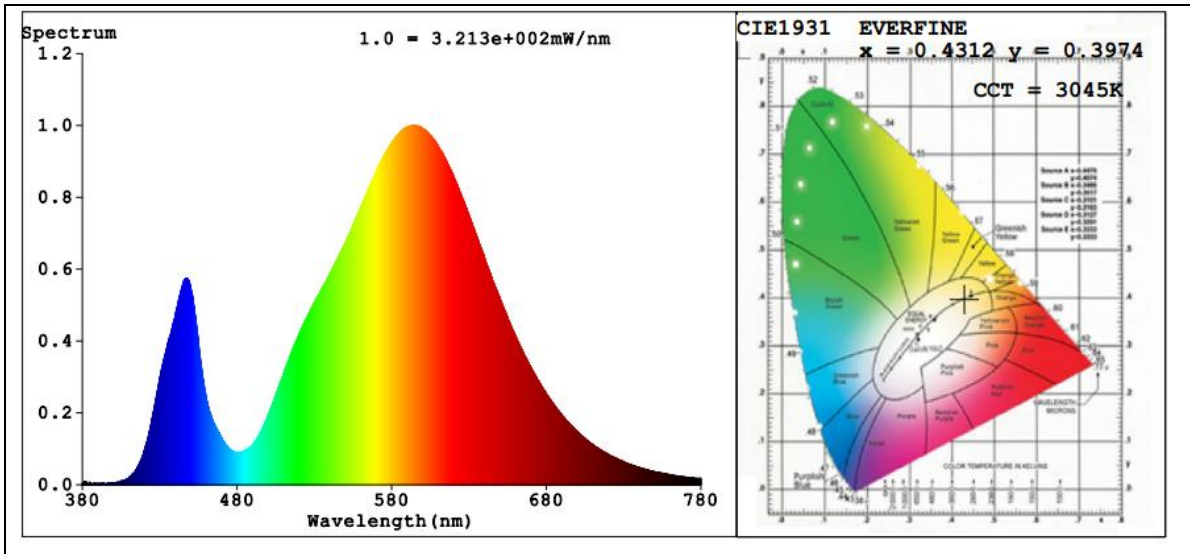
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	72.3
R9	0
CCT (K)	3045
Chromaticity (x, y)	x=0.4312 y=0.3974
Chromaticity (u', v')	u'=0.2497 v'=0.5179
Duv	-0.0019

Special Color Rendering Indices			
R1	69	R9	0
R2	81	R10	56
R3	91	R11	64
R4	69	R12	50
R5	68	R13	71
R6	73	R14	94
R7	79	R15	63
R8	49	--	--

### Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	20514
Luminous Efficacy (lm/W)	101.09
Beam Angle °	119.8
Center Beam Candle Power (cd)	8767
S/MH(C0/180)	2.03
S/MH(C90/270)	0.92

**Spectral Power Distribution & Chromaticity Diagram**



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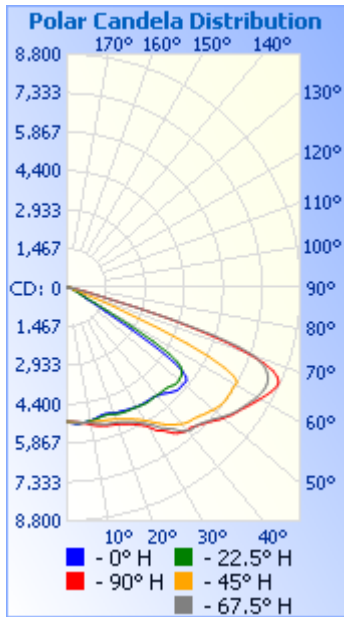
**Zonal Lumen Tabulation**

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Luminaire
0-30	4,201.6	20.5%	20.5%
0-40	7,459.0	36.4%	36.4%
0-60	16,013.0	78.1%	78.1%
60-90	4,469.6	21.8%	21.8%
70-100	964.5	4.7%	4.7%
90-120	8.1	0%	0%
0-90	20,482.6	99.8%	99.9%
90-180	30.0	0.1%	0.1%
0-180	20,512.6	100%	100%

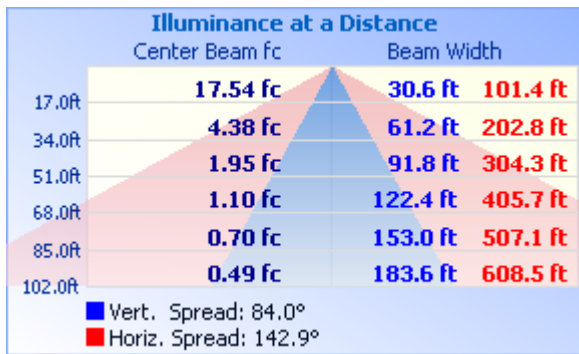
Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	480.4	2.3%	90-100	0.9	0%
10-20	1,406.9	6.9%	100-110	2.8	0%
20-30	2,314.3	11.3%	110-120	4.5	0%
30-40	3,257.4	15.9%	120-130	5.3	0%
40-50	4,032.9	19.7%	130-140	5.0	0%
50-60	4,521.1	22.0%	140-150	4.5	0%
60-70	3,506.0	17.1%	150-160	3.8	0%
70-80	850.6	4.1%	160-170	2.5	0%
80-90	113.0	0.6%	170-180	0.8	0%



### Photometric Data



### Illuminance Plots



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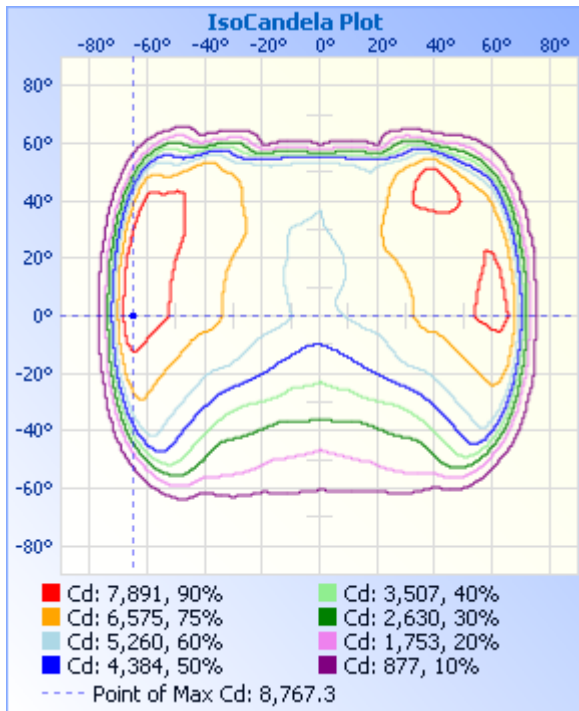
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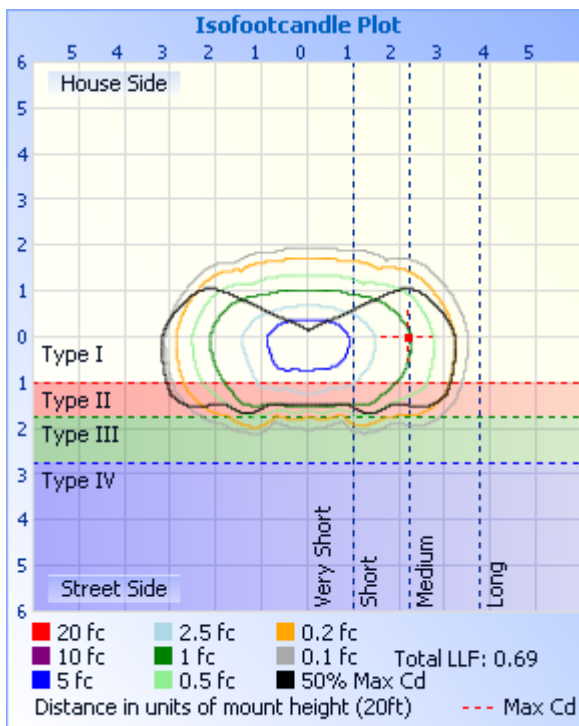
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### ISOCANDELA DIAGRAM



### ISOLUX DIAGRAM



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**Candela Table - Type C**

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	5068	5068	5068	5068	5068	5068	5068	5068	5068	5068	5068	5068	5068	5068	5068	5068	5068
1	5103	5094	5083	5072	5069	5056	5038	5025	5028	5035	5053	5068	5071	5086	5102	5106	5103
2	5131	5112	5097	5079	5077	5044	5000	4975	4979	4997	5042	5073	5080	5112	5135	5135	5131
3	5151	5129	5109	5085	5092	5039	4961	4914	4911	4954	5027	5081	5097	5145	5169	5158	5151
4	5168	5137	5122	5098	5101	5035	4918	4833	4833	4897	5014	5093	5123	5178	5196	5171	5168
5	5171	5142	5138	5116	5117	5038	4871	4750	4744	4829	5000	5108	5150	5208	5218	5178	5171
6	5162	5149	5151	5129	5138	5042	4826	4668	4653	4761	4980	5121	5179	5240	5239	5188	5162
7	5153	5146	5157	5143	5162	5050	4784	4592	4570	4692	4955	5130	5215	5275	5260	5192	5153
8	5142	5140	5158	5161	5194	5061	4751	4524	4491	4629	4932	5137	5250	5307	5275	5192	5142
9	5127	5130	5165	5183	5233	5075	4724	4462	4418	4564	4902	5142	5282	5338	5289	5187	5127
10	5108	5116	5168	5202	5268	5092	4699	4402	4345	4498	4867	5147	5304	5366	5305	5175	5108
11	5089	5107	5171	5227	5305	5111	4679	4347	4272	4431	4832	5154	5322	5390	5315	5159	5089
12	5069	5096	5182	5256	5339	5125	4656	4288	4201	4369	4795	5152	5343	5418	5327	5146	5069
13	5044	5083	5190	5284	5366	5142	4633	4232	4134	4321	4761	5149	5367	5440	5344	5142	5044
14	5017	5064	5200	5312	5390	5152	4608	4183	4067	4274	4730	5152	5387	5463	5358	5134	5017
15	5000	5047	5212	5343	5413	5157	4587	4128	4005	4221	4695	5157	5408	5492	5380	5129	5000
16	4991	5041	5222	5374	5436	5160	4563	4072	3944	4165	4653	5158	5433	5529	5411	5132	4991
17	4990	5039	5232	5386	5448	5166	4539	4020	3886	4106	4614	5157	5457	5562	5441	5141	4990
18	5004	5042	5250	5396	5464	5168	4513	3976	3826	4052	4578	5153	5481	5591	5477	5162	5004
19	5035	5062	5272	5412	5486	5168	4483	3928	3760	4001	4551	5145	5516	5639	5529	5190	5035
20	5056	5095	5301	5438	5512	5173	4456	3868	3691	3949	4526	5137	5550	5686	5579	5220	5056
21	5075	5123	5325	5460	5539	5177	4434	3808	3627	3894	4504	5136	5580	5735	5625	5246	5075
22	5089	5149	5358	5491	5571	5172	4416	3761	3553	3838	4484	5149	5616	5782	5678	5265	5089
23	5096	5161	5405	5528	5607	5169	4398	3704	3488	3783	4466	5172	5657	5828	5731	5283	5096
24	5107	5173	5448	5569	5651	5178	4385	3645	3427	3725	4442	5195	5710	5871	5785	5302	5107
25	5129	5184	5486	5610	5700	5194	4358	3591	3358	3661	4413	5217	5769	5918	5848	5330	5129
26	5143	5195	5533	5666	5760	5220	4340	3531	3295	3599	4372	5246	5827	5981	5923	5349	5143
27	5164	5199	5594	5725	5822	5256	4309	3475	3237	3529	4329	5271	5899	6054	6008	5373	5164
28	5176	5201	5653	5788	5888	5278	4258	3417	3170	3458	4284	5319	5976	6125	6099	5399	5176
29	5199	5212	5724	5869	5968	5300	4210	3357	3104	3390	4250	5376	6086	6186	6193	5423	5199

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30	5210	5218	5802	5959	6067	5319	4157	3294	3037	3320	4201	5429	6262	6282	6303	5446	5210
31	5224	5234	5882	6045	6209	5350	4097	3230	2964	3246	4155	5456	6434	6425	6410	5470	5224
32	5235	5253	5989	6143	6390	5374	4038	3151	2890	3165	4086	5495	6521	6550	6545	5495	5235
33	5242	5271	6091	6288	6462	5390	3974	3072	2812	3085	4009	5517	6628	6613	6691	5497	5242
34	5242	5289	6197	6427	6540	5409	3918	2993	2743	3004	3939	5523	6751	6672	6810	5492	5242
35	5251	5298	6311	6503	6662	5425	3856	2911	2662	2920	3863	5514	6860	6766	6914	5497	5251
36	5258	5294	6407	6594	6809	5430	3780	2832	2579	2839	3794	5480	6964	6873	7019	5512	5258
37	5260	5289	6495	6710	6908	5411	3718	2747	2487	2756	3718	5448	7021	6934	7108	5522	5260
38	5267	5287	6589	6871	6958	5376	3649	2664	2393	2669	3653	5416	7036	6993	7227	5522	5267
39	5293	5284	6644	7001	7020	5337	3586	2578	2287	2589	3579	5365	7053	7019	7315	5527	5293
40	5323	5302	6735	7060	7065	5286	3513	2495	2187	2504	3507	5356	7062	7037	7390	5521	5323
41	5352	5313	6797	7131	7046	5270	3444	2422	2097	2423	3446	5362	7067	7034	7442	5517	5352
42	5402	5320	6840	7136	7089	5257	3384	2352	2017	2337	3378	5358	7112	7032	7449	5502	5402
43	5465	5319	6865	7146	7162	5251	3309	2281	1944	2265	3318	5355	7186	7066	7467	5509	5465
44	5526	5338	6893	7182	7214	5255	3249	2205	1883	2200	3255	5369	7262	7119	7501	5517	5526
45	5587	5353	6939	7235	7278	5265	3180	2137	1822	2131	3180	5382	7328	7169	7544	5535	5587
46	5639	5387	6977	7303	7346	5295	3112	2067	1770	2071	3105	5389	7407	7227	7627	5545	5639
47	5688	5437	7046	7371	7426	5331	3043	2002	1713	2010	3031	5410	7484	7277	7725	5547	5688
48	5707	5475	7094	7440	7516	5359	2970	1944	1660	1955	2953	5430	7543	7330	7821	5534	5707
49	5701	5496	7139	7528	7611	5380	2894	1887	1610	1906	2873	5445	7604	7376	7929	5512	5701
50	5706	5496	7200	7620	7687	5406	2821	1840	1564	1863	2798	5466	7661	7418	8015	5469	5706
51	5718	5478	7245	7711	7763	5422	2756	1803	1513	1830	2724	5474	7721	7464	8090	5392	5718
52	5720	5454	7285	7790	7848	5422	2687	1762	1470	1793	2660	5491	7797	7495	8167	5313	5720
53	5628	5416	7321	7869	7914	5417	2617	1719	1422	1741	2599	5500	7867	7536	8256	5214	5628
54	5391	5353	7343	7938	7977	5427	2548	1673	1372	1688	2531	5510	7927	7556	8316	5107	5391
55	4934	5236	7348	7994	8032	5456	2478	1621	1315	1627	2460	5513	8011	7573	8372	4968	4934
56	4102	5018	7328	8041	8106	5452	2422	1564	1243	1565	2396	5501	8054	7622	8429	4745	4102
57	2851	4589	7355	8105	8187	5449	2354	1500	1163	1489	2336	5501	8056	7613	8444	4328	2851
58	1695	3832	7331	8161	8266	5448	2297	1418	1074	1396	2282	5497	8096	7640	8450	3653	1695
59	1268	2777	7319	8229	8347	5442	2236	1321	980	1284	2213	5485	8121	7681	8412	2736	1268
60	860	1678	7361	8281	8427	5437	2173	1210	880	1161	2132	5473	8220	7704	8302	1727	860
61	774	1186	7334	8326	8504	5434	2100	1087	777	1030	2034	5460	8235	7689	8098	1249	774

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62	716	699	7131	8368	8584	5428	2008	961	679	897	1912	5458	8233	7657	7806	775	716
63	661	616	6677	8387	8657	5415	1886	835	588	773	1744	5436	8197	7587	7269	653	661
64	607	554	5948	8392	8721	5419	1737	713	513	659	1539	5357	8109	7457	6450	572	607
65	553	501	4993	8363	8767	5406	1558	610	449	563	1300	5171	7951	7255	5465	509	553
66	501	454	3801	8308	8747	5357	1354	531	398	491	1054	4823	7661	6980	4281	452	501
67	460	405	2519	8202	8621	5240	1132	468	359	437	832	4278	7203	6599	3069	391	460
68	425	355	1915	8056	8386	4976	908	420	328	393	653	3546	6498	6048	1977	327	425
69	370	303	1320	7820	7952	4524	721	380	301	357	528	2814	5619	5352	1520	275	370
70	305	261	726	7486	7291	3817	582	346	280	325	448	2082	4574	4437	1081	244	305
71	255	238	628	6836	6405	3110	489	317	263	300	396	1452	3414	3304	641	226	255
72	234	226	525	5763	5298	2403	424	296	248	282	358	978	2288	2198	482	215	234
73	224	218	415	4277	4068	1710	375	280	236	266	327	685	1801	1712	387	207	224
74	213	217	334	2808	2838	1171	338	263	226	252	301	529	1318	1232	323	205	213
75	201	220	281	1597	1620	816	308	249	215	239	277	448	836	751	277	208	201
76	189	220	245	1164	1120	614	285	237	204	228	256	395	721	638	241	209	189
77	173	213	217	734	889	497	261	225	189	217	235	356	624	548	212	204	173
78	158	204	198	601	731	423	240	214	164	208	220	318	472	464	194	198	158
79	144	193	185	495	565	368	221	204	156	200	205	280	331	377	183	189	144
80	130	182	179	396	384	321	206	195	151	192	189	246	225	298	179	178	130
81	117	170	179	316	272	284	192	189	132	170	171	218	157	230	178	167	117
82	105	162	183	250	192	254	177	168	100	149	154	198	122	183	178	155	105
83	94	151	183	202	144	229	160	146	81	128	132	184	97	149	172	143	94
84	80	140	182	166	117	210	139	123	68	107	104	168	75	126	156	129	80
85	67	125	167	139	90	194	117	101	47	76	78	121	56	104	131	113	67
86	49	112	145	118	65	171	87	68	30	54	51	65	38	74	98	90	49
87	29	84	113	89	45	115	56	47	18	31	22	22	17	39	54	69	29
88	11	65	72	57	25	46	25	19	4	9	4	4	3	10	13	45	11
89	1	37	26	29	9	10	4	3	0	0	1	3	0	0	1	5	1
90	0	1	2	5	3	2	0	0	0	0	1	3	0	0	0	0	0
91	0	0	0	0	3	2	0	0	0	0	1	3	0	0	0	0	0
92	0	0	0	0	3	2	0	0	0	0	1	3	0	0	0	0	0
93	0	0	0	0	3	2	0	0	0	0	1	3	0	0	0	0	0

Laboratory: Standard-Tech Co. Ltd Testing Center  
 NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

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94	0	0	0	0	3	2	0	0	0	0	1	3	0	0	0	0	0
95	0	0	0	0	3	2	1	0	0	0	1	3	0	0	0	0	0
96	0	0	0	0	3	2	1	0	0	0	1	4	1	0	0	0	0
97	0	0	0	0	3	3	1	0	0	0	2	4	1	1	0	0	0
98	0	0	0	0	3	3	1	0	0	0	2	4	1	1	0	0	0
99	0	0	0	0	4	3	2	0	0	0	2	5	2	1	0	0	0
100	0	0	0	0	4	4	2	0	0	0	3	6	2	1	0	0	0
101	0	0	0	0	4	4	2	0	0	0	3	6	2	2	0	0	0
102	0	0	0	0	5	5	3	0	0	0	4	7	3	2	0	0	0
103	0	0	0	1	5	6	3	0	0	1	4	8	4	3	0	0	0
104	0	0	0	1	6	6	4	0	0	1	5	8	4	3	0	0	0
105	0	0	0	1	7	7	4	1	0	1	5	9	5	3	0	0	0
106	0	0	0	1	7	7	4	1	0	1	6	9	5	4	1	0	0
107	0	0	0	2	8	7	5	1	0	1	6	9	6	4	1	0	0
108	0	0	0	2	8	7	5	1	1	2	6	9	6	4	1	0	0
109	0	0	0	2	9	8	6	1	1	2	7	10	6	5	1	0	0
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111	0	0	1	3	9	8	6	2	1	3	7	10	7	5	1	0	0
112	0	0	1	3	8	9	6	2	1	3	7	10	7	5	2	0	0
113	0	0	1	3	8	9	6	2	2	3	7	10	7	6	2	0	0
114	0	0	1	3	8	9	6	3	2	4	7	10	7	6	2	1	0
115	1	0	1	4	8	10	6	3	2	4	8	9	7	6	2	1	1
116	1	0	1	4	8	10	6	3	3	5	8	9	7	6	2	1	1
117	1	0	1	4	8	10	6	4	3	5	8	9	7	6	2	1	1
118	1	1	1	4	9	10	7	4	3	5	8	9	8	6	3	1	1
119	1	1	1	4	9	10	7	4	4	6	8	9	9	6	3	1	1
120	1	1	1	5	9	10	7	4	4	6	8	9	9	6	3	1	1
121	1	1	2	5	9	10	7	5	4	6	8	8	10	6	3	2	1
122	2	1	2	5	9	10	7	5	5	7	8	8	10	6	3	2	2
123	2	1	2	5	10	10	7	5	6	7	8	8	10	6	3	2	2
124	2	1	2	5	9	10	7	6	6	7	8	8	10	6	3	2	2
125	2	1	2	5	9	10	7	6	6	7	8	8	10	7	3	2	2

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Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

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126	2	1	2	5	9	10	8	6	7	8	8	8	10	7	3	2	2	
127	2	1	2	5	9	10	8	7	7	8	8	8	10	7	3	2	2	
128	2	2	2	5	9	10	8	7	7	8	8	8	10	7	4	2	2	
129	2	2	2	5	9	9	8	7	7	8	8	8	9	7	4	3	2	
130	3	2	2	5	9	9	8	8	7	8	9	8	9	6	4	3	3	
131	3	2	3	5	9	9	9	8	8	9	9	8	9	6	4	3	3	
132	3	2	3	5	9	9	9	8	8	9	9	8	8	6	4	3	3	
133	4	2	3	5	9	9	9	9	9	9	9	8	8	6	4	3	4	
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136	4	3	3	5	9	9	9	9	9	9	9	8	8	7	5	4	4	4
137	4	3	3	5	9	9	9	9	9	9	9	8	8	7	5	4	4	4
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139	4	3	3	5	9	9	9	9	9	9	9	8	8	7	6	5	4	4
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141	5	3	3	5	9	9	9	10	9	9	9	9	8	7	6	5	4	5
142	5	4	3	5	9	9	9	10	9	10	9	9	8	7	6	5	4	5
143	5	4	4	5	9	9	9	10	10	10	10	11	8	7	6	5	5	5
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145	5	4	4	5	9	9	9	10	10	10	10	9	8	7	6	5	5	5
146	5	4	4	5	9	9	9	10	10	10	10	9	8	7	6	5	6	5
147	6	4	4	5	9	9	9	10	10	10	10	9	8	7	6	6	6	6
148	6	5	4	5	9	9	9	10	10	10	10	9	8	7	6	6	6	6
149	6	5	4	5	9	9	9	10	10	11	10	10	8	7	6	6	6	6
150	6	5	5	6	9	9	9	10	10	11	10	10	8	7	6	6	6	6
151	6	5	5	5	9	9	9	11	10	11	10	10	8	7	6	7	6	6
152	6	6	5	5	9	9	9	11	11	11	10	10	9	7	6	7	7	6
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156	7	6	6	6	9	9	9	11	11	11	10	10	9	6	7	8	8	7
157	7	6	6	6	8	9	9	11	11	11	10	10	9	6	7	8	8	7

Laboratory: Standard-Tech Co. Ltd Testing Center  
 NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

158	8	6	6	6	8	9	9	11	11	12	11	9	7	7	8	8	8
159	8	6	6	6	8	9	9	11	11	12	11	9	7	7	8	8	8
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178	9	8	8	8	9	9	9	9	9	9	9	8	8	9	9	8	9
179	9	8	8	8	8	8	9	8	8	9	9	8	8	9	8	8	9
180	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8



<b>2.2 Electrical, Photometric and Chromaticity Measurements</b> (Refer to Work Instruction QD25)	<b>IES LM-79 2008</b>
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<b>Test date</b>	2015-03-09	<b>Test Ambient:</b>	25.1 °C
<b>Test Orientation</b>	As Intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AOK-200WiL(5700K)		

### Electrical Measurement for Bare Lamp:

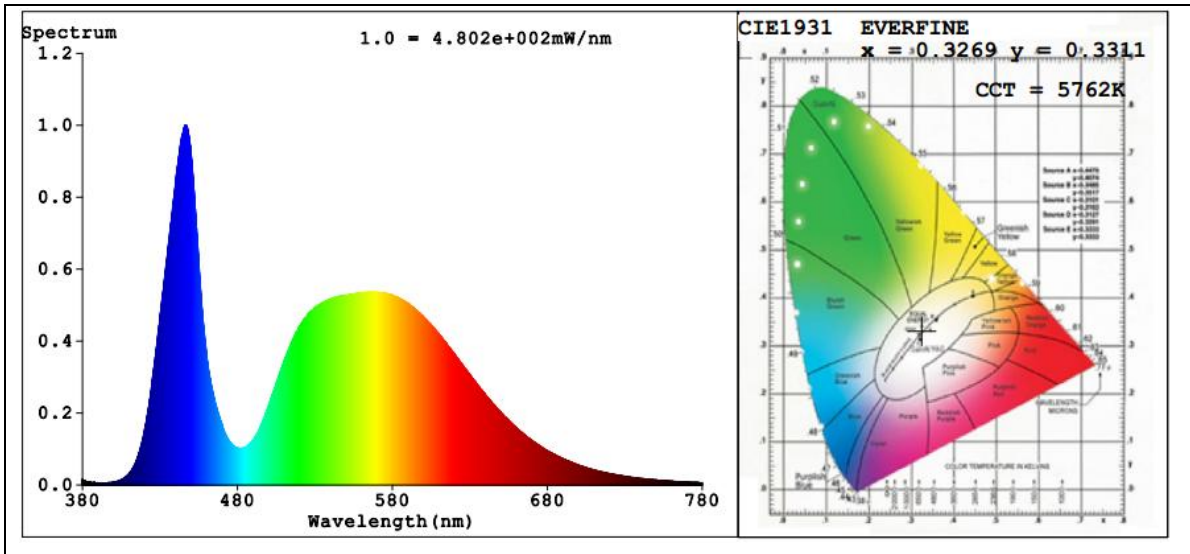
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
150120-10	120.1	60	1.688	201.7	0.9950	5.84
	305.0	60	0.7023	195.7	0.9136	10.79

### Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.1
Frequency (Hz)	60
Color Rendering Index (CRI)	74.1
R9	0
CCT (K)	5762
Chromaticity (x, y)	x=0.3269 y=0.3311
Chromaticity (u', v')	u'=0.2069 v'=0.4716
Duv	-0.0027
Total Initial Lumen Output(lm)	22015
Initial Lumen Efficacy(lm/w)	109.15

Special Color Rendering Indices			
R1	75	R9	0
R2	76	R10	43
R3	76	R11	77
R4	76	R12	50
R5	76	R13	74
R6	69	R14	86
R7	79	R15	71
R8	65	--	--

**Spectral Power Distribution & Chromaticity Diagram**



Laboratory: Standard-Tech Co. Ltd Testing Center  
NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

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**3. Test Equipment**

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2014-07-01	2015-06-30
ST-R-331	Spectral analysis system HAAS-2000	2014-07-01	2015-06-30
D204	Standard Lamp	2014-07-01	2015-06-30
PF2010	Power Meter for Integrating Sphere	2014-07-01	2015-06-30
EE-09	Goniophotometer system	2014-07-01	2015-06-30
D908S	Standard Lamp	2014-07-01	2015-06-30
PF210	Power Meter for Goniophotometer	2014-07-01	2015-06-30
ST-R-181A	Temperature Tester	2014-07-01	2015-06-30

**\*\*\*\*\* END OF DATASHEET PACKAGE \*\*\*\*\***