

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-40WiL

Representative (Tested) Model:AOK-40WiL(3000K)
AOK-40WiL(5700K)

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

Test & Report By:

Sean Zhao

Engineer: Sean Zhuo

Date: Mar.10,2015

Update: 2016-02-26

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

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

U.S. Department of Energy

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-A
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	AOK LED LIGHT COMPANY LIMITED	
Brand Name	AOK	
Model Number	AOK-40WiL(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

Input Wattage	--	39.02	W
Input Current	--	0.3266	A
Input Voltage (ac)	--	120.1	V
Power Factor	--	0.9948	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	3836.2	lm
Initial Lumen Efficacy	--	98.32	lm/w
Correlated color temperature / CCT	3044	--	K
Color rendering index / CRI	72.4		
R9 Value	0	--	
Duv	-0.0022	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)		1622	cd
Beam angle (if applicable)		116.6	°
Zonal lumens in the 0°-60° zone	-----	78.9	%
Zonal lumens in the 60°-90° zone		21	%
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-A
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	AOK LED LIGHT COMPANY LIMITED	
Brand Name	AOK	
Model Number	AOK-40WiL(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	40.44	--	W
Input Current	0.3379	--	A
Input Voltage (ac)	120.1	--	V
Power Factor	0.9968	--	
Off-State Power	0	--	W

Photometric Characteristics

Total Initial Lumen Output	4349	--	lm
Initial Lumen Efficacy	107.54	--	lm/w
Correlated color temperature / CCT	5636	--	K
Color rendering index / CRI	73.9	--	
R9 Value	0	--	
Duv	-0.0029	--	
Luminous Intensity Distribution			
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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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 Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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.

1. Product Information:

Brand Name	AOK
Model Number	AOK-40WiL
Luminaire Type	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires
Rated Voltage / Frequency	90 ~ 305 Vac, 47-63 Hz
Nominal Power	40W
Rated Initial Lamp Lumen	--
Declared CCT	3000K,3500K,4000K,4500K,5000K,5700K
LED Manufacturer	Philips
LED Model	LXH7-FW30
LED Representative Model tested in LM-80	LXM8-PW30
Sample Receipt Date	Mar.06, 2015
Sample Number	150120-1(3000K),-2(5700K)

Photo



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2.1 Electrical, Photometric and Chromaticity Measurements <i>(Refer to Work Instruction QD25)</i>	IES LM-79 2008
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Test date	2015-03-09	Test Ambient:	25.2 °C
Test Orientation	As Intended	Stabilization Time (min)	90
Model Number	AOK-40WiL(3000K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
150120-1	120.1	60	0.3266	39.02	0.9948	6.87
	305.0	60	0.1338	38.82	0.9511	11.48

Sphere-Spectroradiometer Method:

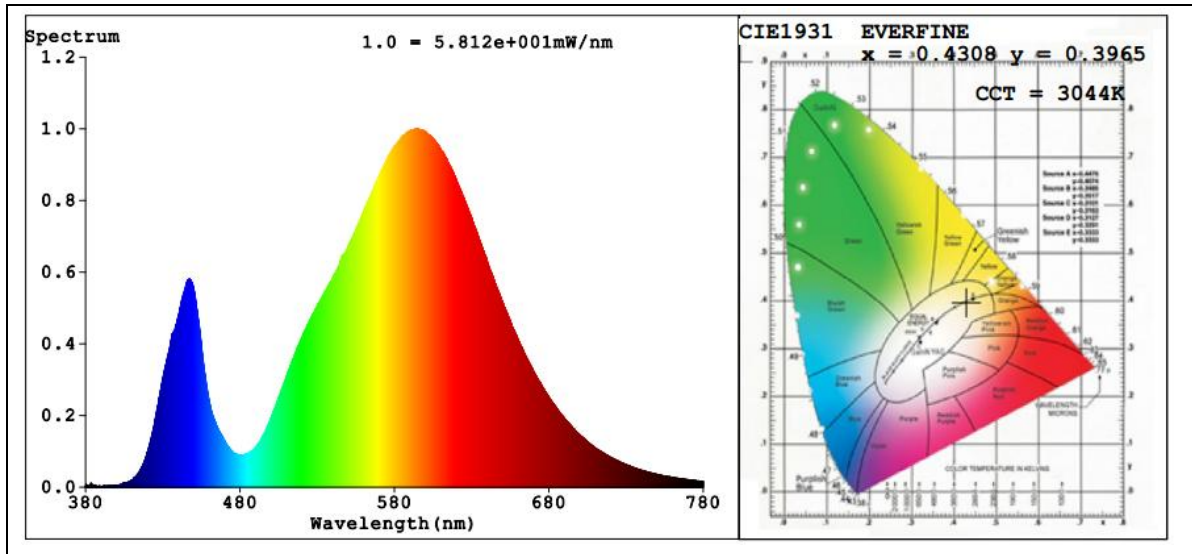
Parameter	Result
Test Voltage (V)	120.1
Frequency (Hz)	60
Color Rendering Index (CRI)	72.4
R9	0
CCT (K)	3044
Chromaticity (x, y)	x=0.4308 y=0.3965
Chromaticity (u', v')	u'=0.2498 v'=0.5175
Duv	-0.0022

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	95
R7	79	R15	64
R8	49	--	--

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.1
Frequency (Hz)	60
Total Luminous (lm)	3836.2
Luminous Efficacy (lm/W)	98.32
Beam Angle °	116.6
Center Beam Candle Power (cd)	1622
S/MH(C0/180)	2.04
S/MH(C90/270)	0.88

Spectral Power Distribution & Chromaticity Diagram



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Zonal Lumen Tabulation

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Luminaire
0-30	786.7	20.5%	20.5%
0-40	1,403.5	36.6%	36.6%
0-60	3,027.3	78.9%	78.9%
60-90	804.7	21%	21%
70-100	172.5	4.5%	4.5%
90-120	1.0	0%	0%
0-90	3,832.0	99.9%	99.9%
90-180	3.6	0.1%	0.1%
0-180	3,835.7	100%	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	88.2	2.3%	90-100	0.2	0%
10-20	261.1	6.8%	100-110	0.3	0%
20-30	437.4	11.4%	110-120	0.5	0%
30-40	616.8	16.1%	120-130	0.7	0%
40-50	764.4	19.9%	130-140	0.6	0%
50-60	859.4	22.4%	140-150	0.5	0%
60-70	632.4	16.5%	150-160	0.4	0%
70-80	163.2	4.3%	160-170	0.3	0%
80-90	9.2	0.2%	170-180	0.1	0%

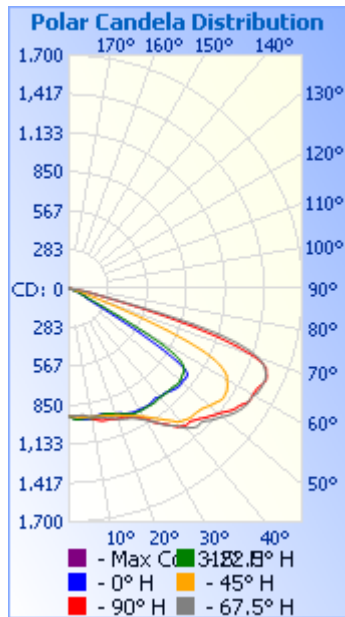
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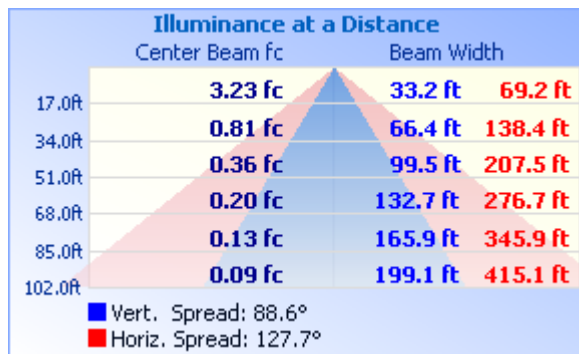
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Photometric Data



Illuminance Plots



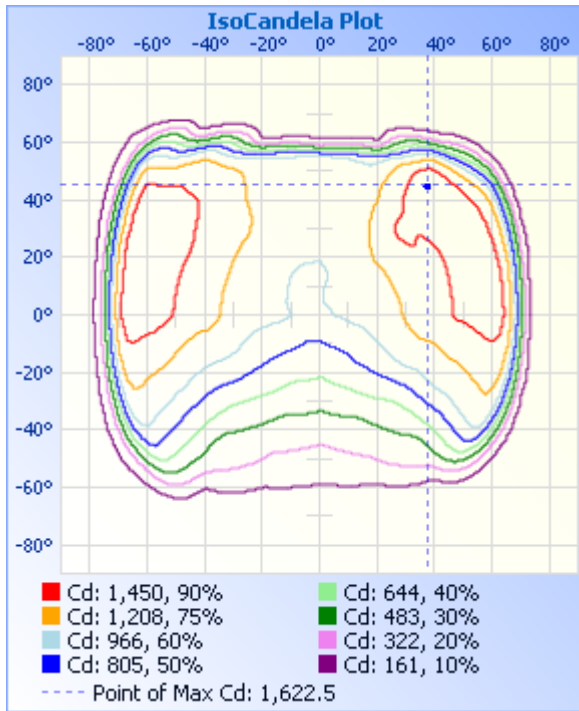
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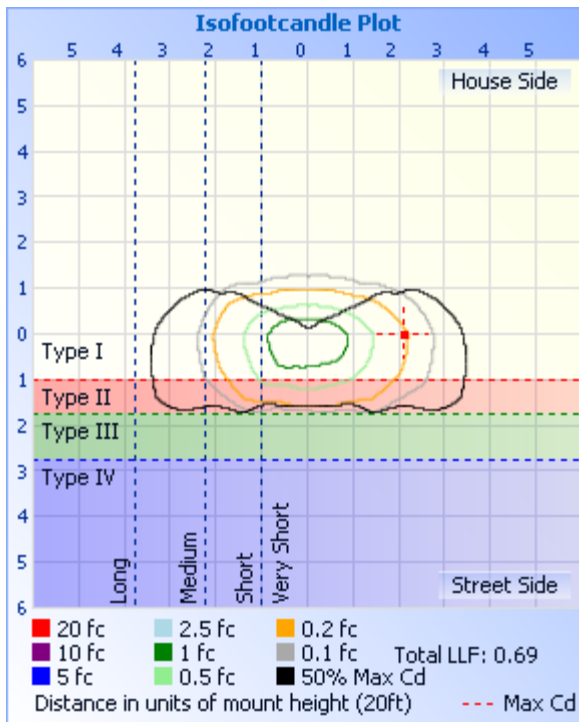
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ISOCANDELA DIAGRAM



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	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
1	943	944	934	933	929	926	922	922	922	921	933	932	940	942	943	944	943
2	949	953	935	930	929	918	911	910	908	910	929	934	946	953	951	955	949
3	954	958	938	930	930	910	899	895	891	901	922	935	954	964	957	964	954
4	957	958	942	930	932	905	886	878	872	893	914	936	961	972	963	971	957
5	959	957	944	930	935	903	874	859	853	882	907	935	966	976	969	975	959
6	960	955	945	930	939	902	864	842	838	871	899	936	971	979	974	976	960
7	961	954	947	935	943	900	858	827	825	860	890	941	974	983	977	977	961
8	962	956	949	942	951	897	854	815	812	848	883	942	975	991	983	979	962
9	961	960	950	949	961	897	851	803	800	836	876	943	979	997	993	982	961
10	958	963	951	952	967	900	846	792	787	825	868	947	988	1004	1004	984	958
11	954	964	952	953	973	904	841	782	774	814	862	947	992	1010	1015	986	954
12	951	960	956	959	982	906	837	772	760	802	856	943	996	1016	1024	987	951
13	949	955	960	966	988	909	835	763	746	790	851	943	1002	1024	1032	989	949
14	949	952	962	973	993	912	831	753	734	778	849	943	1007	1032	1041	991	949
15	950	952	963	978	997	915	825	742	721	766	847	945	1011	1043	1052	992	950
16	953	952	966	983	999	917	816	731	708	756	842	946	1015	1055	1066	993	953
17	957	955	970	989	999	918	809	721	696	745	839	949	1024	1068	1078	1001	957
18	962	960	975	995	1001	918	801	712	684	736	840	952	1037	1083	1088	1013	962
19	966	966	981	1003	1008	918	793	704	672	732	841	958	1047	1093	1101	1025	966
20	972	975	985	1012	1013	918	786	696	658	727	837	963	1056	1103	1117	1036	972
21	976	984	990	1020	1016	917	780	686	645	717	833	968	1069	1118	1133	1043	976
22	983	990	999	1028	1017	917	775	674	631	707	828	973	1081	1133	1146	1050	983
23	991	995	1007	1035	1020	919	772	661	617	695	821	981	1095	1146	1157	1057	991
24	999	1004	1015	1040	1031	923	769	648	604	682	818	985	1109	1156	1170	1063	999
25	1007	1013	1024	1046	1040	925	764	635	592	671	813	992	1124	1168	1186	1070	1007
26	1013	1021	1034	1055	1047	931	757	625	580	658	808	998	1142	1188	1203	1078	1013
27	1017	1028	1045	1064	1056	933	749	614	569	644	800	1010	1166	1208	1219	1087	1017
28	1020	1031	1056	1078	1069	937	742	603	556	629	793	1020	1194	1229	1238	1095	1020
29	1020	1032	1067	1094	1081	941	734	591	543	614	782	1025	1229	1248	1257	1101	1020

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30	1022	1032	1080	1110	1094	947	726	578	527	600	766	1029	1248	1277	1278	1103	1022
31	1025	1035	1094	1128	1113	952	719	566	514	585	753	1034	1271	1297	1300	1105	1025
32	1028	1035	1111	1145	1151	953	710	554	499	569	743	1042	1298	1316	1325	1106	1028
33	1029	1034	1128	1165	1171	951	700	539	483	553	728	1044	1325	1331	1348	1106	1029
34	1029	1035	1146	1192	1188	952	690	524	467	536	712	1043	1346	1352	1370	1106	1029
35	1029	1038	1165	1216	1209	955	681	509	451	519	697	1041	1370	1371	1392	1106	1029
36	1026	1039	1186	1235	1230	953	673	493	434	502	683	1029	1387	1386	1414	1107	1026
37	1021	1040	1206	1252	1258	949	664	478	418	487	670	1020	1392	1409	1436	1104	1021
38	1018	1036	1229	1274	1283	941	654	462	402	474	659	1020	1389	1420	1462	1102	1018
39	1028	1034	1256	1303	1295	936	640	448	389	461	647	1019	1381	1423	1483	1104	1028
40	1032	1034	1267	1331	1312	931	625	434	374	448	637	1024	1382	1413	1493	1106	1032
41	1033	1037	1276	1348	1315	924	610	421	361	436	626	1035	1392	1405	1495	1104	1033
42	1035	1040	1285	1365	1312	921	595	409	350	421	616	1041	1403	1404	1487	1100	1035
43	1038	1042	1294	1377	1319	920	582	396	339	407	603	1043	1411	1404	1474	1097	1038
44	1044	1042	1296	1372	1334	921	569	383	329	393	588	1051	1424	1415	1478	1095	1044
45	1053	1043	1296	1376	1345	921	554	370	318	381	575	1060	1433	1431	1495	1093	1053
46	1062	1044	1299	1390	1361	922	542	358	307	370	563	1058	1455	1446	1513	1091	1062
47	1068	1048	1304	1412	1377	920	531	348	298	359	549	1055	1470	1462	1529	1089	1068
48	1072	1053	1310	1427	1391	918	516	338	289	350	535	1054	1480	1471	1543	1087	1072
49	1073	1055	1321	1442	1407	922	502	330	281	342	520	1048	1483	1484	1557	1079	1073
50	1069	1054	1334	1458	1422	929	487	321	273	333	506	1044	1486	1495	1570	1067	1069
51	1068	1049	1345	1478	1439	931	473	313	264	323	492	1047	1493	1496	1578	1049	1068
52	1072	1043	1355	1494	1460	933	461	306	255	313	477	1049	1505	1495	1588	1025	1072
53	1072	1038	1368	1510	1479	927	450	299	244	301	461	1053	1516	1495	1605	1002	1072
54	1067	1035	1378	1522	1495	926	439	289	232	289	448	1059	1524	1497	1615	978	1067
55	1036	1025	1380	1534	1505	925	427	279	218	278	434	1062	1533	1503	1620	952	1036
56	951	1003	1376	1542	1518	924	416	267	202	261	420	1063	1550	1512	1622	919	951
57	809	969	1372	1550	1538	923	406	252	185	241	404	1066	1562	1517	1615	860	809
58	601	902	1360	1548	1551	921	397	234	167	218	389	1071	1559	1516	1597	766	601
59	379	793	1347	1550	1552	919	387	214	148	192	370	1071	1562	1518	1574	620	379
60	223	623	1328	1558	1550	915	374	192	130	167	347	1075	1563	1508	1515	455	223

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61	158	407	1315	1573	1552	910	358	170	114	143	319	1079	1561	1506	1431	300	158
62	142	255	1285	1576	1555	906	339	148	100	123	281	1068	1535	1485	1347	205	142
63	131	166	1238	1579	1566	899	315	128	87	106	239	1033	1506	1448	1242	147	131
64	122	131	1173	1579	1578	896	287	111	78	92	196	959	1459	1397	1098	123	122
65	112	117	1080	1578	1585	896	255	97	69	81	156	850	1387	1341	925	108	112
66	102	105	944	1572	1578	891	219	86	63	73	124	717	1277	1266	721	96	102
67	91	95	770	1558	1563	884	181	76	58	66	101	574	1139	1173	525	86	91
68	80	84	575	1540	1551	854	147	69	53	60	85	433	952	1042	361	75	80
69	67	74	389	1512	1509	793	120	62	49	56	75	306	756	885	249	64	67
70	53	62	260	1463	1425	703	101	57	46	52	67	212	539	691	176	52	53
71	39	50	182	1394	1294	591	87	53	44	49	61	147	341	482	132	43	39
72	29	40	147	1295	1137	469	77	50	41	46	56	112	211	305	104	35	29
73	23	32	125	1152	939	347	69	47	39	43	51	94	155	190	84	29	23
74	17	26	102	939	720	248	62	44	37	40	47	82	132	141	67	23	17
75	12	21	76	688	502	177	57	42	34	38	43	72	117	118	52	17	12
76	6	15	54	443	336	135	51	39	31	37	40	63	98	103	40	12	6
77	2	9	38	280	245	110	47	37	28	35	37	56	76	90	28	6	2
78	0	3	28	197	194	93	43	35	26	33	34	49	57	77	21	2	0
79	0	1	19	161	157	81	40	34	19	24	32	44	43	65	13	0	0
80	0	0	11	133	121	69	37	32	15	19	28	39	31	53	5	0	0
81	0	0	4	105	72	59	35	23	9	13	21	31	20	41	0	0	0
82	0	0	0	76	43	48	32	17	5	10	15	24	12	23	0	0	0
83	0	0	0	40	25	38	26	12	2	7	9	13	5	9	0	0	0
84	0	0	0	20	15	27	16	5	0	2	3	1	1	1	0	0	0
85	0	0	0	8	7	15	7	0	0	0	0	0	0	0	0	0	0
86	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

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92	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0
93	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0
94	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
101	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0
102	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0
103	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0
104	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0
105	0	0	0	0	1	1	1	0	0	0	1	1	1	0	0	0
106	0	0	0	0	1	1	1	0	0	0	1	2	0	0	0	0
107	0	0	0	0	1	1	1	0	0	0	1	2	0	0	0	0
108	0	0	0	0	1	1	1	0	0	0	1	2	1	0	0	0
109	0	0	0	0	1	1	1	0	0	0	1	2	1	0	0	0
110	0	0	0	0	1	1	1	0	0	0	1	2	1	0	0	0
111	0	0	0	0	1	1	1	0	0	0	1	2	1	0	0	0
112	0	0	0	0	1	1	1	0	0	0	1	2	1	0	0	0
113	0	0	0	0	1	1	1	0	0	0	1	2	1	1	0	0
114	0	0	0	0	1	1	1	0	0	1	1	2	1	1	0	0
115	0	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0
116	0	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0
117	0	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0
118	0	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0
119	0	0	0	1	1	1	1	1	0	1	1	1	1	1	0	0
120	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0
121	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0
122	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0

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123	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
124	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
125	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
126	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
127	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0
128	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0
129	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0
130	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0
131	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0
132	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0
133	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
134	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0
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136	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
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140	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0
141	0	0	0	0	1	1	1	1	1	2	1	1	1	1	0	0	0
142	0	0	0	0	1	1	1	1	1	2	1	1	1	1	0	0	0
143	0	0	0	0	1	1	1	1	1	2	1	1	1	1	0	0	0
144	0	0	0	0	1	1	1	1	1	2	1	1	1	1	0	0	0
145	0	0	0	0	1	1	1	1	1	2	1	1	1	1	0	0	0
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147	0	0	0	0	1	1	1	1	1	2	1	1	1	1	0	0	0
148	0	0	0	0	1	1	1	1	1	2	1	1	1	1	0	0	0
149	0	0	0	0	1	1	1	1	1	2	1	1	1	1	1	0	0
150	0	0	0	0	1	1	1	1	1	2	1	1	1	1	1	0	0
151	0	0	0	0	1	1	1	1	1	2	2	1	1	1	1	1	0
152	0	0	0	0	1	1	1	1	1	2	1	1	1	1	1	0	0
153	1	0	0	0	1	1	1	1	1	2	2	1	1	1	1	0	1

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154	1	0	0	0	1	1	1	1	1	2	2	1	1	1	1	0	1
155	1	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1
156	1	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1
157	1	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1
158	1	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1
159	1	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1
160	1	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1
161	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
162	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
163	1	1	0	0	1	1	1	1	1	2	1	1	1	1	1	1	1
164	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
165	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
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170	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
171	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
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174	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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176	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
177	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
178	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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2.2 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
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Test date	2015-03-09	Test Ambient:	25.1 °C
Test Orientation	As Intended	Stabilization Time (min)	90
Model Number	AOK-40WiL(5700K)		

Electrical Measurement for Bare Lamp:

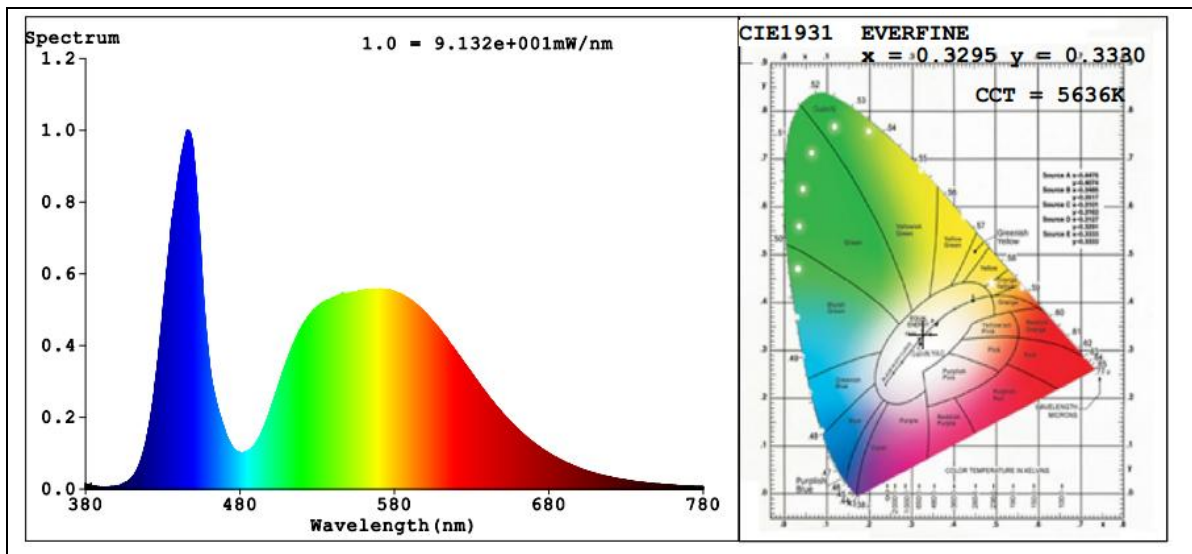
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
150120-2	120.1	60	0.3379	40.44	0.9968	7.29
	305.0	60	0.1371	39.89	0.9542	11.86

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.1
Frequency (Hz)	60
Color Rendering Index (CRI)	73.9
R9	0
CCT (K)	5636
Chromaticity (x, y)	x=0.3295 y=0.3330
Chromaticity (u', v')	u'=0.2080 v'=0.4729
Duv	-0.0029
Total Initial Lumen Output(lm)	4349
Initial Lumen Efficacy(lm/w)	107.54

Special Color Rendering Indices			
R1	75	R9	0
R2	76	R10	43
R3	76	R11	77
R4	76	R12	50
R5	76	R13	73
R6	69	R14	86
R7	79	R15	70
R8	64	--	--

Spectral Power Distribution & Chromaticity Diagram



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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 *******