

LM-79-08 Test Report

For

Antec Lighting Inc

(Brand Name: **AOK**)
Quality, Honesty, Service and Innovation

Uniy C, 3979 E Guasti Road, Ontario, CA 91761

Parking Garage Luminaires

Model name(s): AOK-40WiDA-NV-L3-XX-XX80-150-P

Remark: The first "XX" can be "00" for without sensor or "SN" for with sensor function, The last "XX" represents different CCT as below:
30=3000K, 35=3500K, 40=4000K, 50=5000K, 57=5700K.

Representative (Tested) Model:
AOK-40WiDA-NV-L3-00-3080-150-P
AOK-40WiDA-NV-L3-00-5770-150-P

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

Test & Report By:

Don Tang

Engineer: Don Tang

Date: Oct.17,2018

Review By:

John Li

Manager: John Li

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

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

1.1 Product Information:

Organization Name	Antec Lighting Inc	
Brand Name		
Model Number	AOK-40WiDA-NV-L3-XX-XX80-150-P	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Parking Garage Luminaires	
Rated Voltage / Frequency	100-277V ac, 50/60 Hz	
Nominal Power	40W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K, 3500K, 4000K, 5000K, 5700K.	
LED Manufacturer	Osram Opto Semiconductors(Malaysia) Sdn. Bhd.	
LED Model	3000K: GW JTLRS1.EM-K2K5-XX57-1 5700K: GW JTLRS1.EM-K3LV-XX52-1	
Sample Number	JAE180410-U1(3000K), U2(5700K)	
Lamp Length	--	mm
Lamp Width	--	mm
Number of Units (modular products)	N/A	s
Photo		
		

1.2 Test Specifications:

Date of Receipt	Oct.15,2018
Date of Test	Oct.16,2018
Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

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° vertical intervals and 22.5° horizontal intervals.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity 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 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

3) 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*(Refer to Work Instruction QD25)*

Test date	2018-10-16	Test Ambient:	25.4 °C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AOK-40WiDA-NV-L3-00-3070-150-P		

Electrical Measurement :

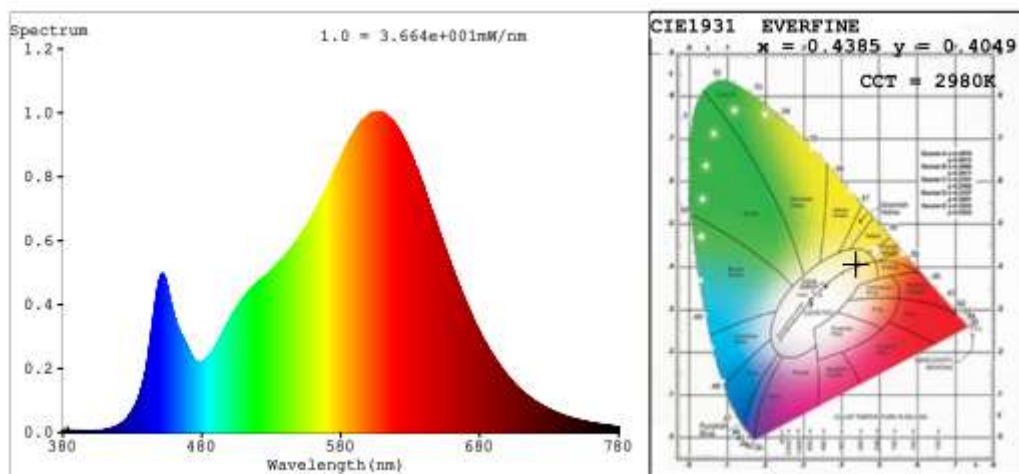
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE180410	120.0	60	0.3205	38.20	0.9932	11.29
-U1	277.0	60	0.1415	38.11	0.9724	9.76
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement -Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	84	R9	19
Frequency (Hz)	60	R2	93	R10	85
CCT (K)	2980	R3	96	R11	84
Duv	0.0001	R4	83	R12	76
Chromaticity (x, y)	x=0.4385 y=0.4049	R5	85	R13	86
Chromaticity (u', v')	u'=0.2512 v'=0.5219	R6	92	R14	99
Color Rendering Index (CRI)	85.2	R7	84	R15	77
R9	19	R8	64	--	--

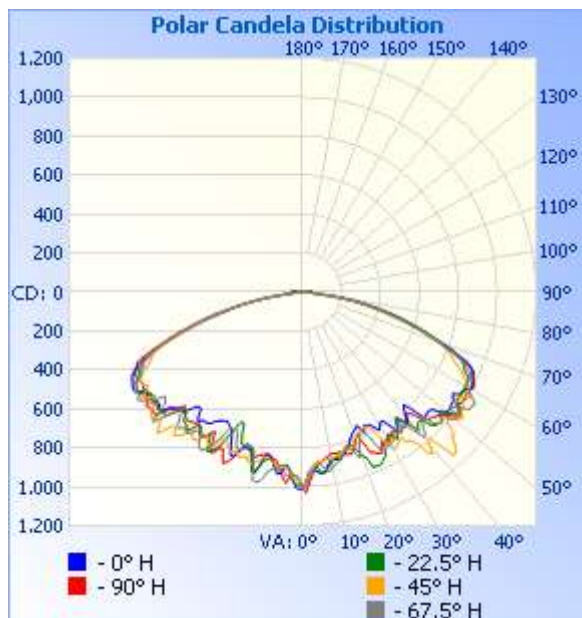
Photometric Measurement –Goniophotometer Method:

Parameter	Result		DLC V4.3 Pass Criteria	
Test Voltage (V)	120.0	277.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	4405.2	4308.0	>=2000(-10%)	
Luminous Efficacy (lm/W)	115.32	113.04	Standard: >= 90(-3%)	Premium: >= 110(-3%)
Most Worst Luminous/Highest Watts	112.77			
Zonal lumens in the 60-80 °zone (%)	32.1	--	>=30(-3)	
Zonal lumens in the 70-80 °zone (%)	11.9	--	<=25(+3)	
Beam Angle (°)	149.9	--	--	
Center Beam Candle Power (cd)	1005	--	--	

Spectral Power Distribution & Chromaticity Diagram

Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	724.8	16.5%
0-40	1,275.5	29%
0-60	2,872.5	65.2%
60-90	1,503.3	34.1%
70-100	625.1	14.2%
90-120	27.0	0.6%
0-90	4,375.7	99.3%
90-180	29.3	0.7%
0-180	4,405.1	100%

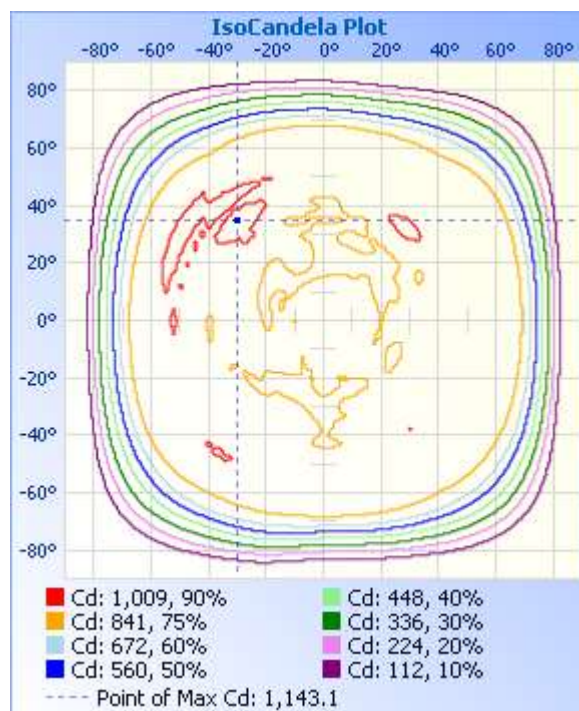
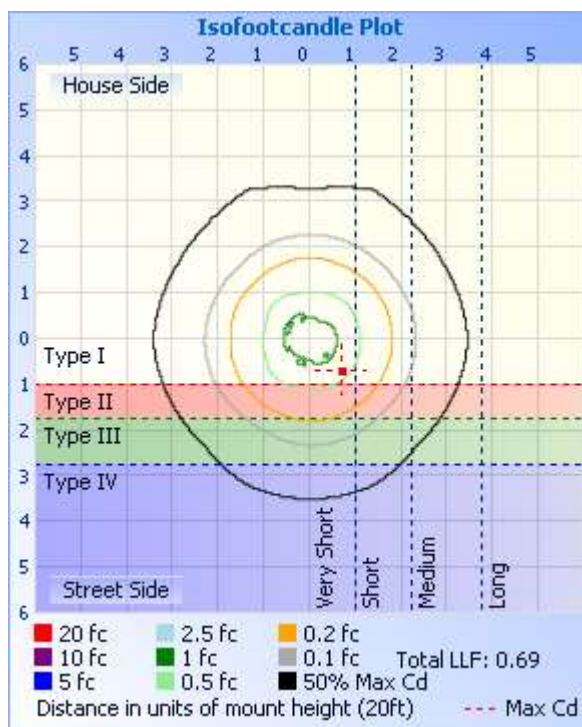
Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	%Total
0-10	86.5	2.0%	90-100	13.6	0.3%
10-20	246.5	5.6%	100-110	9.6	0.2%
20-30	391.9	8.9%	110-120	3.8	0.1%
30-40	550.7	12.5%	120-130	0.9	0%
40-50	722.7	16.4%	130-140	0.5	0%
50-60	874.2	19.8%	140-150	0.4	0%
60-70	891.8	20.2%	150-160	0.3	0%
70-80	522.6	11.9%	160-170	0.2	0%
80-90	88.9	2.0%	170-180	0.1	0%

Photometric Data


Illuminance at a Distance

	Center Beam fc	Beam Width
17.0ft	3.48 fc	101.7 ft 96.4 ft
34.0ft	0.87 fc	203.3 ft 192.8 ft
51.0ft	0.39 fc	305.0 ft 289.2 ft
68.0ft	0.22 fc	406.7 ft 385.7 ft
85.0ft	0.14 fc	508.3 ft 482.1 ft
102.0ft	0.10 fc	610.0 ft 578.5 ft

■ Vert. Spread: 143.0°
■ Horiz. Spread: 141.2°



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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	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005
1	972	982	982	1004	1029	1051	1055	1021	1015	991	975	961	963	957	962	963	972
2	924	936	935	957	983	1019	1018	992	1001	986	958	943	942	939	930	932	924
3	913	903	908	926	941	955	952	932	964	971	956	939	940	933	908	902	913
4	917	893	885	907	905	918	912	902	920	931	933	946	951	924	905	895	917
5	928	906	874	883	889	881	897	897	894	903	907	948	984	917	904	901	928
6	938	930	874	887	880	872	880	911	910	892	899	929	963	910	910	909	938
7	932	932	872	908	868	873	879	914	936	900	905	915	926	907	910	897	932
8	904	916	866	931	859	867	884	899	942	910	910	917	897	897	901	889	904
9	883	900	870	926	853	875	880	880	914	909	894	915	874	875	892	883	883
10	869	879	869	905	839	886	868	864	886	884	885	923	868	883	883	881	869
11	874	864	862	896	842	905	857	864	861	873	877	939	858	899	871	892	874
12	879	866	857	891	845	918	840	872	849	878	870	971	853	913	865	896	879
13	875	860	855	881	843	924	835	872	868	888	867	997	855	924	884	906	875
14	861	852	844	865	850	938	838	854	919	923	885	1005	861	933	880	921	861
15	852	847	828	838	861	922	839	829	956	965	903	998	866	917	871	922	852
16	833	825	835	819	865	907	851	828	924	957	912	919	882	895	873	896	833
17	819	814	832	844	867	882	863	833	883	904	920	851	876	900	861	859	819
18	793	827	832	869	846	863	889	832	852	864	912	837	846	888	844	826	793
19	774	860	808	901	825	881	926	830	851	841	891	838	829	843	859	794	774
20	762	895	790	853	795	908	951	837	850	831	899	830	842	797	867	797	762
21	754	908	776	816	788	957	930	820	858	842	912	858	850	791	851	788	754
22	740	968	776	784	838	998	876	794	893	839	895	874	886	789	837	769	740
23	760	970	772	776	893	1015	850	766	915	799	884	868	927	803	807	746	760
24	780	973	765	796	900	970	846	758	913	741	899	833	953	812	778	741	780
25	753	967	762	832	914	926	839	765	874	736	891	789	969	796	789	752	753
26	759	951	766	890	919	905	814	772	831	762	872	783	938	777	790	788	759
27	766	942	798	920	891	899	814	782	799	816	862	789	904	795	766	849	766
28	788	891	851	913	870	881	823	799	786	884	846	787	907	850	788	907	788

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29	811	872	884	899	886	877	843	839	780	918	866	840	938	896	810	941	811
30	794	874	920	902	886	879	833	864	768	939	914	882	950	887	793	937	794
31	778	852	936	897	876	858	806	887	772	952	928	922	903	852	769	891	778
32	778	873	919	890	859	852	809	914	778	906	914	954	847	876	810	837	778
33	816	896	911	867	850	838	837	928	788	869	903	964	859	881	873	825	816
34	849	869	902	851	861	845	847	940	800	890	885	955	901	850	890	828	849
35	856	847	939	864	879	849	879	930	822	896	925	923	908	813	883	835	856
36	839	812	942	873	865	831	902	907	830	891	940	881	902	823	870	835	839
37	816	806	970	849	870	841	906	906	835	868	941	882	882	847	895	821	816
38	842	841	1047	869	865	862	881	892	835	863	921	910	861	848	960	834	842
39	863	878	1064	921	844	860	868	892	854	898	926	930	871	836	986	851	863
40	831	927	1002	974	817	852	897	893	834	926	951	932	871	852	1039	850	831
41	791	902	993	960	826	871	919	913	797	908	976	921	882	873	1086	926	791
42	777	893	1070	921	842	907	920	942	793	902	986	942	884	879	1096	915	777
43	821	897	1143	905	882	929	936	932	804	899	957	943	882	867	1099	909	821
44	894	947	1137	887	907	889	943	918	836	861	953	916	871	906	1051	903	894
45	898	968	1109	951	920	897	970	911	868	855	992	890	862	924	996	892	898
46	890	969	1069	969	924	911	967	906	864	872	1041	869	841	902	962	892	890
47	891	979	1063	978	934	934	959	914	879	911	1012	892	871	901	972	938	891
48	900	955	1001	967	944	938	981	939	891	951	981	950	896	918	1018	954	900
49	939	938	989	980	959	959	990	972	902	945	985	1016	923	934	995	976	939
50	958	963	1017	1018	985	957	957	960	946	938	1011	993	982	957	936	964	958
51	966	989	1034	1019	1013	972	925	928	950	956	1001	911	983	925	930	951	966
52	963	1007	1047	961	1031	987	953	946	935	949	986	895	980	906	959	955	963
53	956	1017	1020	982	1005	982	999	961	936	952	957	889	984	915	967	934	956
54	958	993	1016	1014	975	997	986	966	960	947	971	937	992	933	1003	920	958
55	943	966	1013	1046	995	984	1018	972	954	931	931	964	978	983	1006	959	943
56	933	967	968	1046	993	998	1030	964	937	944	974	995	971	984	987	972	933
57	962	969	986	1056	1002	1008	994	994	959	947	987	1012	947	961	984	976	962
58	970	962	1014	1031	990	997	1008	980	981	962	942	992	949	971	960	965	970
59	969	977	1003	1002	994	997	1009	966	991	988	928	1000	957	958	963	961	969
60	998	963	984	991	996	991	970	979	1002	984	949	979	947	972	945	957	998

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61	998	967	963	972	1009	995	976	950	999	980	946	981	949	968	944	952	998
62	989	966	946	965	1000	985	946	950	991	969	949	951	955	966	926	929	989
63	983	955	923	968	986	961	946	937	984	947	923	931	960	963	921	915	983
64	962	928	896	960	981	949	910	942	976	930	903	922	960	953	893	901	962
65	967	917	869	940	970	942	897	928	953	924	873	901	938	935	863	889	967
66	946	904	845	912	942	921	872	914	933	905	855	895	929	927	837	870	946
67	917	888	828	874	885	897	851	879	893	875	842	868	925	897	816	849	917
68	863	848	803	835	844	851	815	838	838	837	821	841	884	866	776	802	863
69	819	809	779	775	792	798	783	806	786	797	780	799	824	820	740	759	819
70	760	755	740	734	747	736	742	769	743	744	739	748	766	757	706	698	760
71	704	714	676	684	688	689	709	726	687	692	685	691	720	699	664	644	704
72	660	661	632	641	645	633	653	674	625	648	632	648	664	650	605	604	660
73	609	622	575	587	590	587	603	635	577	592	582	594	606	592	546	558	609
74	572	569	526	542	547	535	544	584	520	536	531	543	563	542	505	510	572
75	522	524	473	484	493	497	498	542	467	480	486	502	511	498	459	470	522
76	480	474	430	444	451	445	448	491	413	438	445	455	458	445	416	420	480
77	429	432	377	393	401	403	409	447	369	387	390	403	388	388	380	372	429
78	387	380	341	352	363	355	358	395	321	339	339	340	346	337	332	320	387
79	335	336	296	306	313	314	320	355	273	295	289	298	285	278	280	279	335
80	294	285	260	259	260	260	272	308	235	248	239	238	220	221	226	232	294
81	245	247	218	209	191	206	241	265	188	200	200	175	170	160	181	185	245
82	207	199	183	147	139	141	190	215	136	150	149	128	111	115	125	132	207
83	152	155	136	101	81	96	130	174	88	109	98	78	75	74	82	91	152
84	108	101	93	62	61	62	90	125	57	69	63	54	56	53	60	59	108
85	68	70	58	48	44	49	58	88	39	42	47	39	40	38	43	39	68
86	51	48	43	34	32	35	45	55	24	26	34	28	30	29	31	24	51
87	33	34	29	25	21	26	32	38	17	19	23	21	20	20	22	18	33
88	22	21	21	18	16	18	24	24	13	14	17	15	13	15	18	15	22
89	15	16	16	14	12	14	18	18	13	13	16	13	12	13	17	16	15
90	12	14	15	13	11	12	16	14	16	15	17	14	13	15	19	17	12
91	14	15	18	16	14	14	17	14	15	14	12	16	16	17	12	17	14
92	16	17	20	18	16	16	18	17	8	8	8	8	11	10	9	9	16

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93	18	18	10	16	17	15	10	16	7	7	3	6	6	7	3	7	18
94	13	10	8	7	9	7	8	8	6	5	4	3	5	5	4	4	13
95	6	6	3	6	5	5	3	7	6	5	8	3	2	3	10	4	6
96	5	6	3	3	5	4	6	4	22	17	7	17	7	13	11	10	5
97	5	4	4	5	2	3	13	4	42	30	6	21	25	25	9	13	5
98	6	13	4	25	13	19	13	9	53	42	7	18	20	18	9	13	6
99	31	36	4	17	22	21	10	12	43	33	6	14	15	15	7	8	31
100	44	48	5	11	14	12	11	14	26	24	6	14	13	15	7	8	44
101	39	29	5	10	12	12	9	14	24	20	6	13	13	14	6	7	39
102	23	21	4	11	11	11	8	8	19	13	4	11	12	13	5	6	23
103	21	20	4	12	9	12	8	7	15	10	3	11	10	12	5	5	21
104	19	18	3	11	10	11	7	5	11	9	2	10	10	11	4	3	19
105	17	15	2	10	9	10	7	5	11	9	2	9	9	10	4	3	17
106	15	11	2	10	9	10	6	4	10	9	2	8	8	9	3	3	15
107	13	9	1	9	8	9	5	4	11	8	2	7	8	8	3	3	13
108	10	7	1	8	7	8	4	4	11	8	2	6	7	7	3	4	10
109	8	7	1	7	7	7	4	4	11	10	1	6	6	6	2	5	8
110	8	7	1	7	6	6	3	5	13	11	1	5	5	6	2	5	8
111	9	6	1	6	6	6	3	5	11	10	1	5	5	5	1	5	9
112	10	7	1	5	5	5	2	6	10	8	1	4	5	5	1	5	10
113	10	9	1	5	5	5	2	6	9	7	1	3	4	4	1	5	10
114	10	8	1	4	4	4	1	7	8	7	1	3	4	4	1	4	10
115	9	7	1	4	4	4	1	6	7	6	1	2	3	3	1	4	9
116	8	6	1	3	3	3	1	5	6	6	1	1	3	2	1	3	8
117	7	6	1	2	3	2	1	5	6	5	1	1	2	1	1	3	7
118	6	5	1	1	3	2	1	5	5	4	1	1	2	1	1	3	6
119	6	5	1	1	2	1	1	4	5	4	1	1	1	1	1	2	6
120	5	4	1	1	2	1	1	4	4	3	1	1	1	1	1	2	5
121	4	3	1	1	1	1	1	3	3	2	1	1	1	1	1	1	4
122	4	3	1	1	1	1	1	3	2	2	1	1	1	1	1	1	4
123	3	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	3
124	2	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2

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125	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2
126	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
127	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
128	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
129	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
130	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
131	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
132	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
133	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
134	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
135	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0
136	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
137	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
138	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
139	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
140	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
141	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
142	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
143	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0
144	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0
145	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	0
146	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0
147	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
148	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1
149	0	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0
150	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0
151	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1
152	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0
153	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0
154	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
155	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
156	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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157	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
158	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
159	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0
160	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
161	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0
162	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0
163	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
164	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0
165	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
166	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0
167	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0
168	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
169	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
170	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0
171	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0
172	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0
173	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0
174	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
175	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
176	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
177	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
178	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179	1	1	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

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction QD25)

Test date	2018-10-16	Test Ambient:	25.4 °C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AOK-40WiDA-NV-L3-00-5780-150-P		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE180410	120.0	60	0.3254	38.75	0.9923	11.35
-U2	277.0	60	0.1437	38.66	0.9715	9.98
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

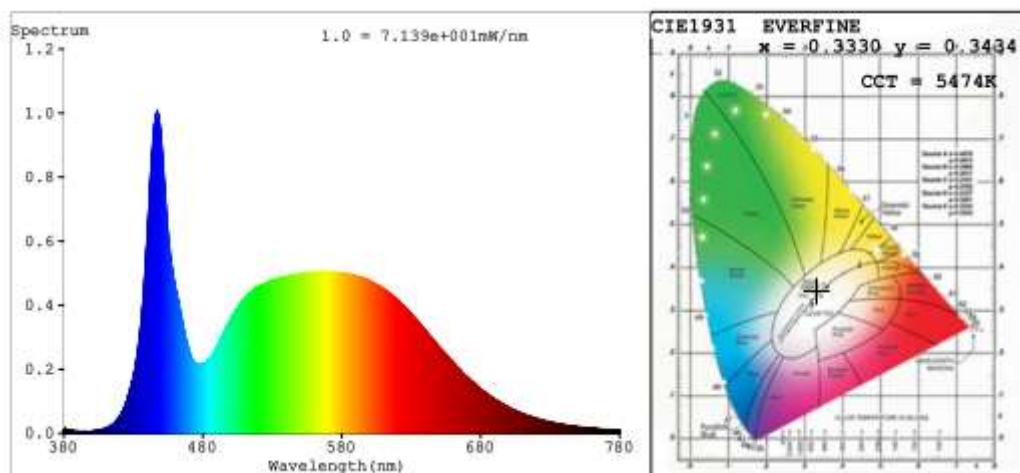
Chromaticity Measurement -Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	85	R9	29
Frequency (Hz)	60	R2	88	R10	71
CCT (K)	5474	R3	89	R11	87
Duv	0.0009	R4	87	R12	67
Chromaticity (x, y)	x=0.3330 y=0.3434	R5	86	R13	85
Chromaticity (u', v')	u'=0.2064 v'=0.4788	R6	84	R14	94
Color Rendering Index (CRI)	85.4	R7	89	R15	82
R9	29	R8	76	--	--

Photometric Measurement –Spectroradiometer Method:

Parameter	Result		DLC V4.3 Pass Criteria	
Test Voltage (V)	120.0	277.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	4725	4621	>=2000(-10%)	
Luminous Efficacy (lm/W)	121.94	119.53	Standard: >= 90(-3%)	Premium: >= 110(-3%)
Most Worst Luminous/Highest Watts	119.25			

Spectral Power Distribution & Chromaticity Diagram



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2.3 Performance Assessment:

Model name	CCT(K)	Total Luminous (lm)	Power (W)	Luminous Efficacy (lm/W)
AOK-40WiDA-NV-L3-00-3080-150-P	3000	4405.2	38.20	115.32
AOK-40WiDA-NV-L3-00-3580-150-P	3500	4469 ^{*1}	38.48 ^{*2}	116.14 ^{*3}
AOK-40WiDA-NV-L3-00-4080-150-P	4000	4533 ^{*1}	38.48 ^{*2}	117.80 ^{*3}
AOK-40WiDA-NV-L3-00-5080-150-P	5000	4661 ^{*1}	38.48 ^{*2}	121.13 ^{*3}
AOK-40WiDA-NV-L3-00-5780-150-P	5700	4725	38.75	121.94

*1: This value is calculated and the calculation formula is as below:

$$4469 = (4725 - 4405.2) / 5 * 1 + 4405.2$$

$$4533 = (4725 - 4405.2) / 5 * 2 + 4405.2$$

$$4661 = (4725 - 4405.2) / 5 * 4 + 4405.2$$

*2: This value is calculated and the calculation formula is as below:

$$38.48 = (38.20 + 38.75) / 2$$

*3: This value is calculated and the calculation formula is as below:

$$116.14 = 4469 / 38.48$$

$$117.80 = 4533 / 38.48$$

$$121.13 = 4661 / 38.48$$

3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-331	2 meter Integrating Sphere	2018-07-02	2019-07-01
ST-R-327	Spectral analysis system HAAS-2000	2018-07-02	2019-07-01
ST-R-332	Standard Lamp	2018-07-04	2019-07-03
ST-R-333	Power Meter for Integrating Sphere	2018-06-28	2019-06-27
ST-R-355	Goniophotometer system	2018-07-01	2019-06-30
ST-R-359	Standard Lamp	2018-07-04	2019-07-03
ST-R-358	Power Meter for Goniophotometer	2018-06-28	2019-06-27
Expand Uncertainty: Photometric Measurement (Sphere):2.04%, k=2 Chromaticity Measurement(Sphere):28.8K, k=2 Photometric Measurement(Goniophotometer):2.36%, k=2			

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