Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
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LM-79-08 Test Report

For

Antec Lighting Inc

(Brand Name: AOK)

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

Model name(s): AOK-18WiE-NV-LV2-XX-XX70-T202-P

Report Type:	Testing and Report According to IES LM-79-2008
Type of Luminaire:	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires
Report Date:	2019-03-20
Prepared By:	Ningbo TengLi Testing Co., Ltd 2nd floor, Block B, Ningbo Testing and Certification Base, No. 66 Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang

Test & Report By:

Xeon Ren

Engineer: Xeon Ren

Review By:

Johnson Sun

Manager: Johnson Sun

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.

1.1 Product Information:		
Model Number	AOK-18WiE-NV-LV2-XX-XX70-T202-P	
Remark	The first “XX” can be “00” =no photocontrol or “PH”=photocontrol provided. The second “XX” could be 27/30/35/40/45/50/57 refers to CCT. This is multiple listed report, the Project Number of the original report is JAE190121-B-R.	
Representative (Tested) Model	AOK-18WiE-NV-LV2-00-2770-T202-P	
Model Difference	All construction and rating are the same, except CCT	
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	
LED Manufacturer	Lumileds	
LED Model	LUXEON V Family	
Dimming	Dimmable	
Sample Number	JAE190121-B1	
Date of Receipt	Feb.23, 2019	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

1.2 Rated Values:	
Rated Voltage / Frequency	100-277Vac, 50/60Hz
Nominal Power	18W
Rated Initial Lamp Lumen	--
Declared CCT	2700K,3000K,3500K,4000K,4500K,5000K, 5700K

1.3 Test Specifications:

Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Electrical Parameters
Reference Standard	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

1.4 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 ℃ ± 1 ℃, 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) 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 ºC ± 1 ºC. 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 Summary of Test Result

Criteria Item	Measured Value			Compliance	Requirement (DLC V4.4)	
Power (W)	2700K	120V	17.22	N/A	N/A	
		277V	18.66			
Power Factor	2700K	120V	0.9898	Pass	>= 0.9(-3%)	
		277V	0.8831			
THD %	2700K	120V	9.43	Pass	<= 20(+5)	
		277V	9.12			
Luminous Intensity Distribution	Zonal lumens in the 0-90°:		100	Pass	>=100(-1)	
	Zonal lumens in the 80-90°:		0.3	Pass	<=10(+3)	
Total Luminous	2700K	120V	2282.0	Pass	>=1000(-10%)	
		277V	2374.4			
Luminous Efficacy	2700K	120V	132.52	Pass	Standard: >= 90(-3%)	Premium: >= 110(-3%)
		277V	127.25			

2.2 Electrical, Photometric and Chromaticity Measurements

Test date	2019-02-25	**Test Ambient:**	25.2 ℃
Test Orientation	As intended	**Stabilization Time (min)**	90
Model Number	AOK-18WiE-NV-LV2-00-2770-T2 02-P		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE190121-B1	120.0	60	0.1450	17.22	0.9898	9.43
	277.0	60	0.0763	18.66	0.8831	9.12

Photometric Measurement – Goniophotometer Method:

Parameter	Result	
Test Voltage (V)	120.0	277.0
Frequency (Hz)	60	60
Total Luminous (lm)	2282.0	2374.4
Luminous Efficacy (lm/W)	132.52	127.25
Zonal lumens in the 0-90 °	100	--
Zonal lumens in the 80-90 °	0.3	--
Beam Angle (°)	100.4	--
Center Beam Candle Power (cd)	878	--

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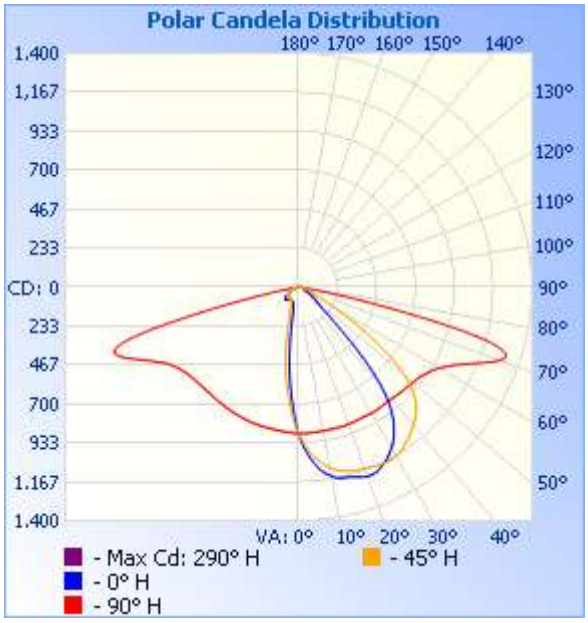
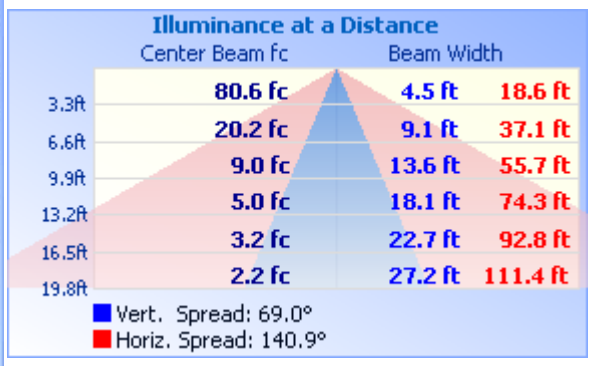
Zonal Lumen Tabulation

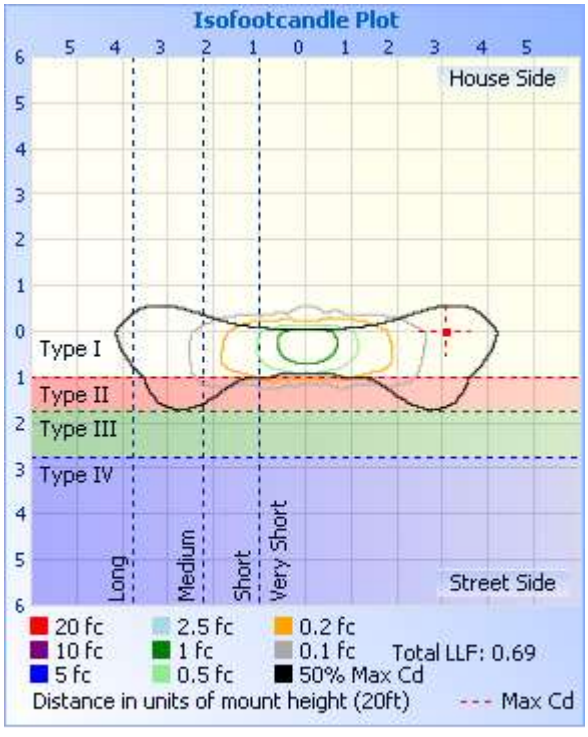
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	600.5	26.3%
0-40	992.8	43.5%
0-60	1,735.0	76%
60-90	546.9	24%
70-100	206.1	9%
90-120	0	0%
0-90	2,281.9	100%
90-180	0	0%
0-180	2,281.9	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	78.6	3.4%	90-100	0	0%
10-20	206.3	9.0%	100-110	0	0%
20-30	315.6	13.8%	110-120	0	0%
30-40	392.3	17.2%	120-130	0	0%
40-50	393.4	17.2%	130-140	0	0%
50-60	348.8	15.3%	140-150	0	0%
60-70	340.8	14.9%	150-160	0	0%
70-80	199.5	8.7%	160-170	0	0%
80-90	6.6	0.3%	170-180	0	0%

Photometric Data







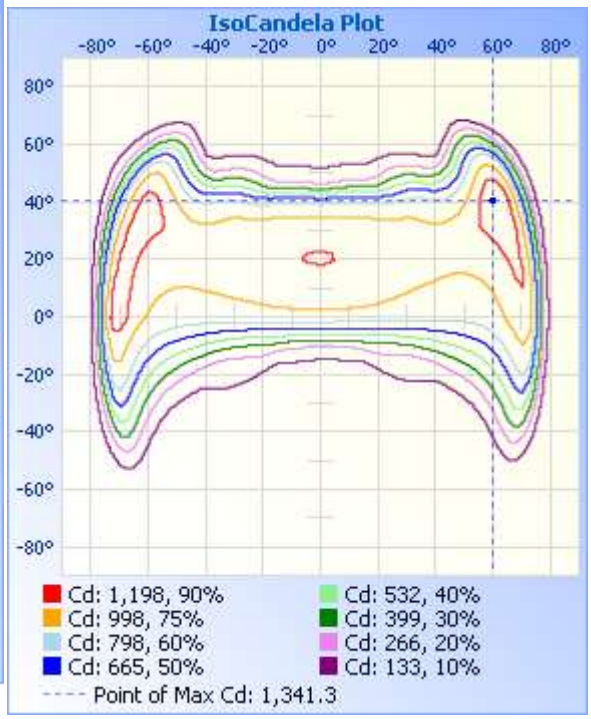


Table--1 UNIT: cd

γ (DEG) \ C (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878
5	871	892	913	930	946	961	975	988	999	1010	1020	1029	1035	1042	1047	1051	1053	1055	1057
10	865	910	942	971	999	1026	1049	1065	1080	1095	1108	1116	1124	1131	1137	1141	1144	1147	1149
15	860	920	959	996	1033	1067	1089	1105	1120	1134	1145	1152	1158	1164	1169	1171	1174	1175	1177
20	856	924	967	1007	1047	1081	1103	1118	1132	1147	1158	1167	1175	1184	1190	1195	1198	1202	1207
25	849	921	963	1003	1044	1078	1102	1122	1141	1160	1168	1172	1175	1178	1181	1181	1182	1182	1182
30	843	916	957	998	1038	1071	1095	1115	1135	1154	1154	1148	1140	1133	1128	1124	1120	1117	1113
35	835	908	951	993	1036	1066	1081	1092	1103	1114	1104	1089	1073	1058	1044	1031	1019	1006	994
40	830	902	948	995	1040	1067	1070	1067	1064	1061	1030	994	958	922	888	858	827	795	766
45	830	901	949	997	1044	1065	1053	1035	1018	999	921	831	743	655	582	524	467	410	349
50	837	909	961	1012	1063	1070	1028	978	929	877	753	615	476	339	255	226	203	180	155
55	862	937	995	1053	1109	1088	979	859	742	627	522	415	308	200	139	127	119	112	104
60	915	994	1059	1123	1185	1125	932	725	519	321	256	207	158	107	79.8	74.9	71.7	68.4	63.9
65	1032	1109	1173	1236	1297	1203	942	664	386	120	84.2	74.0	64.0	53.6	48.3	48.5	49.0	49.4	49.9
70	1170	1211	1239	1271	1304	1191	923	639	353	76.3	49.5	46.4	43.8	41.2	39.8	39.8	39.8	39.8	39.9
75	717	700	674	649	623	558	443	317	184	47.2	36.5	35.0	33.8	32.5	31.5	30.8	30.0	29.3	28.5
80	45.5	52.4	53.1	52.7	51.3	47.4	41.8	35.4	28.4	20.8	20.4	20.4	20.3	20.2	19.8	19.2	18.6	18.0	17.3
85	1.20	1.22	1.25	1.28	1.30	1.39	1.54	1.78	2.02	2.26	2.93	3.67	4.39	5.06	5.45	5.44	5.38	5.30	5.20
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table--2 UNIT: cd

C (DEG) / ▼ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878
5	1056	1054	1052	1049	1044	1038	1032	1023	1014	1003	992	979	965	949	933	916	896	875	854
10	1148	1147	1145	1142	1136	1129	1121	1112	1099	1084	1069	1052	1030	1003	975	946	914	872	828
15	1177	1176	1174	1173	1169	1164	1158	1152	1141	1126	1109	1093	1070	1038	1003	968	931	873	805
20	1203	1201	1198	1195	1190	1182	1174	1167	1156	1141	1125	1109	1087	1055	1017	979	939	873	782
25	1183	1184	1185	1185	1185	1183	1181	1179	1171	1153	1135	1115	1092	1059	1020	980	940	870	755
30	1118	1123	1127	1132	1139	1148	1157	1166	1168	1152	1135	1117	1096	1064	1025	985	944	872	735
35	1006	1018	1030	1043	1058	1077	1096	1115	1128	1123	1116	1110	1099	1070	1028	986	943	870	719
40	793	821	850	878	913	954	995	1036	1072	1081	1090	1099	1102	1078	1033	988	943	871	711
45	401	449	497	546	619	715	812	910	997	1026	1052	1079	1100	1085	1040	995	949	879	711
50	173	190	207	230	309	444	580	714	838	905	970	1037	1096	1099	1053	1006	960	891	714
55	110	117	123	132	185	277	369	459	554	688	825	965	1093	1128	1081	1033	984	916	729
60	68.5	72.0	75.4	80.0	101	139	177	213	270	480	699	919	1123	1195	1144	1092	1041	971	768
65	49.5	49.1	48.6	48.4	53.4	63.0	72.2	81.7	116	373	641	909	1161	1263	1225	1186	1148	1092	860
70	39.8	39.7	39.7	39.7	40.9	43.3	45.7	48.6	72.7	321	575	827	1067	1193	1214	1239	1270	1282	1002
75	29.3	30.0	30.7	31.5	32.7	34.4	36.2	38.1	46.6	144	240	330	417	525	658	788	916	1038	786
80	18.0	18.8	19.5	20.2	21.1	22.2	23.3	24.4	25.8	34.3	42.3	49.6	56.9	72.5	94.4	114	130	137	109
85	5.57	5.92	6.25	6.53	6.47	6.10	5.68	5.22	4.76	4.58	4.33	4.02	3.72	3.50	3.31	3.04	2.70	2.27	2.24
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table--3 UNIT: cd

γ (DEG) \ C (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878
5	832	810	786	762	738	714	693	674	656	638	622	609	601	594	588	583	577	582	587
10	783	737	691	643	595	546	500	460	424	389	354	325	305	292	280	268	255	267	278
15	736	668	596	523	449	374	303	253	221	194	168	146	134	131	128	125	122	124	127
20	690	597	508	425	346	268	192	142	131	122	114	107	104	103	103	102	102	102	102
25	640	524	419	339	275	212	151	109	103	100	97.3	94.9	93.9	94.1	94.3	94.5	94.8	94.2	93.6
30	598	462	340	263	216	170	127	94.5	91.7	91.0	90.4	89.9	89.8	89.9	90.1	90.3	90.5	90.0	89.4
35	569	419	284	208	174	142	110	85.8	84.7	85.0	85.3	85.7	86.4	87.5	88.6	89.7	90.8	89.5	88.1
40	550	391	246	169	145	122	99.1	81.4	82.3	84.2	86.2	88.1	90.3	92.7	95.0	97.4	99.7	97.0	94.3
45	542	373	220	141	124	108	93.0	80.8	82.9	85.6	88.4	91.2	94.4	98.2	102	106	109	105	101
50	537	361	198	118	107	98.7	90.4	83.5	84.0	84.7	85.4	86.1	88.4	92.0	95.7	99.4	103	98.4	93.6
55	541	354	179	94.6	90.0	86.8	83.7	81.0	79.4	77.8	76.2	74.8	75.3	77.7	80.2	82.6	85.1	81.9	78.6
60	563	359	165	73.3	71.4	71.3	71.3	71.0	68.6	66.2	63.8	61.5	61.2	62.7	64.2	65.7	67.2	65.2	63.3
65	626	390	165	56.6	53.3	52.2	51.1	50.1	49.6	49.1	48.6	48.2	48.3	48.8	49.3	49.7	50.1	49.1	48.2
70	723	443	172	40.5	37.8	37.0	36.2	35.5	34.9	34.4	33.8	33.3	32.7	32.2	31.6	31.1	30.6	30.7	30.7
75	557	335	127	26.9	24.5	23.9	23.3	22.6	21.1	19.5	18.0	16.4	15.1	14.1	13.0	12.0	11.1	11.6	12.2
80	78.4	51.0	27.4	16.2	15.0	14.1	13.2	12.2	9.79	7.32	4.84	2.43	1.19	0.86	0.58	0.29	0.00	0.16	0.31
85	2.01	1.75	1.46	1.34	1.44	1.55	1.65	1.67	1.23	0.82	0.48	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ningbo TengLi Testing Co., Ltd

2nd floor, Block B, Ningbo Testing and Certification Base, No. 66
Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang
Tel: 86574-8783 6802
Fax: 86574-8783 5902

ACCREDITED
Certificate#4703.02

Table--4 UNIT: cd

C(DEG) / (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355			
0	878	878	878	878	878	878	878	878	878	878	878	878	878	878	878			
5	592	598	606	618	634	652	670	688	709	732	756	780	803	826	848			
10	289	301	320	348	381	415	450	488	534	582	629	676	724	771	818			
15	129	132	143	162	187	212	241	289	358	431	503	575	647	719	790			
20	102	102	105	111	118	125	135	182	252	326	400	481	571	666	762			
25	93.0	92.6	93.1	94.8	96.9	99.1	104	141	195	251	308	385	492	611	730			
30	88.9	88.4	88.2	88.4	88.6	89.0	91.1	118	155	194	234	308	429	567	705			
35	86.7	85.4	84.4	83.6	83.0	82.4	82.8	102	128	154	181	254	387	536	686			
40	91.6	88.9	86.5	84.2	82.1	80.0	78.6	91.8	109	126	145	218	359	515	672			
45	96.0	91.5	87.9	85.2	82.5	79.9	77.7	85.6	95.9	106	118	192	340	503	667			
50	88.9	84.2	81.9	82.0	82.3	82.6	82.8	85.6	89.1	92.7	98.0	173	328	498	668			
55	75.4	72.2	71.1	72.2	73.4	74.7	76.0	76.2	76.3	76.5	78.1	157	324	503	683			
60	61.3	59.4	59.3	61.3	63.4	65.7	67.9	66.8	65.3	63.7	63.7	150	333	528	722			
65	47.1	46.1	45.5	45.5	45.5	45.5	45.6	46.6	47.8	48.9	52.1	155	368	590	812			
70	30.8	30.9	31.1	31.3	31.5	31.8	32.0	32.8	33.6	34.4	37.1	156	402	657	912			
75	12.9	13.5	14.6	16.0	17.4	18.8	20.1	20.8	21.4	22.1	23.8	90.9	231	385	546			
80	0.45	0.64	1.68	3.73	5.84	7.97	10.1	10.7	11.4	12.1	12.9	16.1	22.5	30.5	40.0			
85	0.00	0.00	0.01	0.08	0.12	0.21	0.31	0.31	0.27	0.20	0.12	0.23	0.48	0.72	0.96			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

2.4 Performance Assessment:

Model name	CCT(K)	Total Luminous (lm)	Power (W)	Luminous Efficacy (lm/W)
AOK-18WiE-NV-LV2-00-2770-T202-P	2700K	2282.0	17.22	132.52
AOK-18WiE-NV-LV2-00-3070-T202-P	3000K	2294.8	17.22	133.26
AOK-18WiE-NV-LV2-00-3570-T202-P	3500K	2316.0	17.22	134.49
AOK-18WiE-NV-LV2-00-4070-T202-P	4000K	2337.0	17.22	135.71
AOK-18WiE-NV-LV2-00-4570-T202-P	4500K	2357.1	17.22	136.88
AOK-18WiE-NV-LV2-00-5070-T202-P	5000K	2378.1	17.22	138.10
AOK-18WiE-NV-LV2-00-5770-T202-P	5700K	2391.1	17.22	138.85

According to the test report JAE190121-A-R-PL
Scaled Methodology Explanation:
18W 3000K eff / 18W 2700K eff = 132.02 / 131.29 =1.0056
18W 3500K eff / 18W 2700K eff = 133.24 / 131.29 =1.0149
18W 4000K eff / 18W 2700K eff = 134.45 / 131.29 =1.0241
18W 4500K eff / 18W 2700K eff = 135.61 / 131.29 =1.0329
18W 5000K eff / 18W 2700K eff = 136.82 / 131.29 =1.0421
18W 5700K eff / 18W 2700K eff = 137.56 / 131.29 =1.0478

3000K eff=2700K eff*1.0056
3500K eff=2700K eff*1.0149
4000K eff=2700K eff*1.0241
4500K eff=2700K eff*1.0329
5000K eff=2700K eff*1.0421
5700K eff=2700K eff*1.0478

18-T2 3000K eff / 18W-T3 3000K eff= 132.52/131.29 =1.0094
18-T4 3000K eff / 18W-T3 3000K eff =136.95 / 131.29 = 1.0431

T2 Type eff=T3 Type eff *1.0094
T4 Type eff=T3 Type eff/ 1.0431

3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-714	Goniophotometer system	Verified by D908S standard lamp	
ST-R-710	Standard Lamp	2019-02-12	2020-02-11
ST-R-711	Power Meter for Goniophotometer	2019-01-06	2020-01-05
Uncertainty: Photometric Measurement(Goniophotometer):1.62%			

4. Product Photo

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