



## LM-79-08 Test Report

For

**Antec Lighting Inc**

(Brand Name: )

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

**Model name(s):**

**AOK-110WiE-NV-LV2-XX-XX70-T302-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  
Ningbo TengLi Testing Co., Ltd  
**Prepared By:** 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.



<b>1.1 Product Information:</b>		
Model Number	AOK-110WiE-NV-LV2-XX-XX70-T302-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-M-R1.	
Representative (Tested) Model	AOK-110WiE-NV-LV2-00-2770-T302-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-M1	
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

<b>1.2 Rated Values:</b>	
Rated Voltage / Frequency	100-277Vac, 50/60Hz
Nominal Power	110W
Rated Initial Lamp Lumen	--
Declared CCT	2700K,3000K,3500K,4000K,4500K,5000K, 5700K



### 1.3 Test Specifications:

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. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> </ol>
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  $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ , 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 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  $1\text{ }^{\circ}$  vertical intervals and  $22.5\text{ }^{\circ}$  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  $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ . 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 Summary of Test Result**

Criteria Item	Measured Value		Compliance	Requirement (DLC V4.4)	
	2700K				
Power (W)	2700K	120V	113.4	N/A	N/A
		277V	111.6		
Power Factor	2700K	120V	0.9952	Pass	>= 0.9(-3%)
		277V	0.8811		
THD %	2700K	120V	7.14	Pass	<= 20(+5)
		277V	9.28		
Luminous Intensity Distribution	Zonal lumens in the 0-90 °		100	Pass	>=100(-1)
	Zonal lumens in the 80-90 °		0.5	Pass	<=10(+3)
Total Luminous	2700K	120V	13601	Pass	>=1000(-10%)
		277V	13489		
Luminous Efficacy	2700K	120V	119.94	Pass	Standard: >= 100(-3%) Premium: >= 120(-3%)
		277V	120.87		



**2.2 Electrical, Photometric and Chromaticity Measurements**

<b>Test date</b>	2019-02-25	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AOK-110WiE-NV-LV2-00-2770-T 302-P		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE190121-	120.0	60	0.9496	113.4	0.9952	7.14
M1	277.0	60	0.4573	111.6	0.8811	9.28

**Photometric Measurement – Goniophotometer Method:**

Parameter	Result	
Test Voltage (V)	120.0	277.0
Frequency (Hz)	60	60
Total Luminous (lm)	13601	13489
Luminous Efficacy (lm/W)	119.94	120.87
Zonal lumens in the 0-90 °	100	--
Zonal lumens in the 80-90 °	0.5	--
Beam Angle ( °)	107.2	--
Center Beam Candle Power (cd)	3101	--



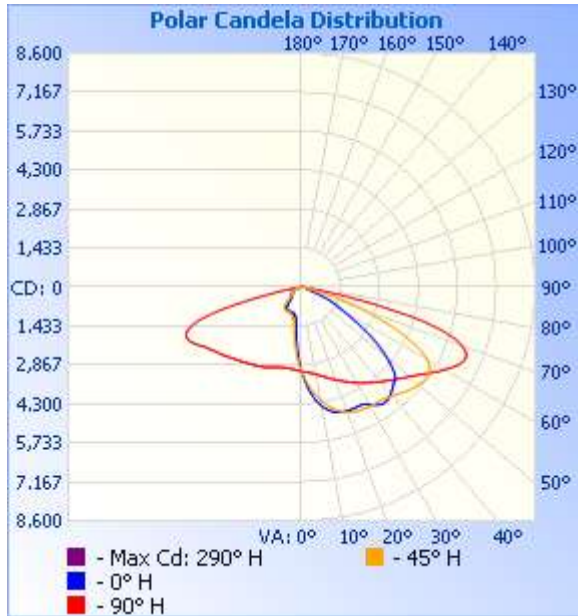
**Zonal Lumen Tabulation**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	2,552.5	18.8%
0-40	4,553.0	33.5%
0-60	9,693.4	71.3%
60-90	3,907.7	28.7%
70-100	1,383.9	10.2%
90-120	0	0%
0-90	13,601.2	100%
90-180	0	0%
0-180	13,601.2	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	286.7	2.1%	90-100	0	0%
10-20	845.1	6.2%	100-110	0	0%
20-30	1,420.6	10.4%	110-120	0	0%
30-40	2,000.6	14.7%	120-130	0	0%
40-50	2,461.8	18.1%	130-140	0	0%
50-60	2,678.6	19.7%	140-150	0	0%
60-70	2,523.9	18.6%	150-160	0	0%
70-80	1,321.6	9.7%	160-170	0	0%
80-90	62.3	0.5%	170-180	0	0%



**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width	
3.3ft	284.7 fc	3.7 ft	17.5 ft
6.6ft	71.2 fc	7.4 ft	34.9 ft
9.9ft	31.6 fc	11.2 ft	52.4 ft
13.2ft	17.8 fc	14.9 ft	69.9 ft
16.5ft	11.4 fc	18.6 ft	87.4 ft
19.8ft	7.9 fc	22.3 ft	104.8 ft

Vert. Spread: 58.8°  
Horiz. Spread: 138.6°

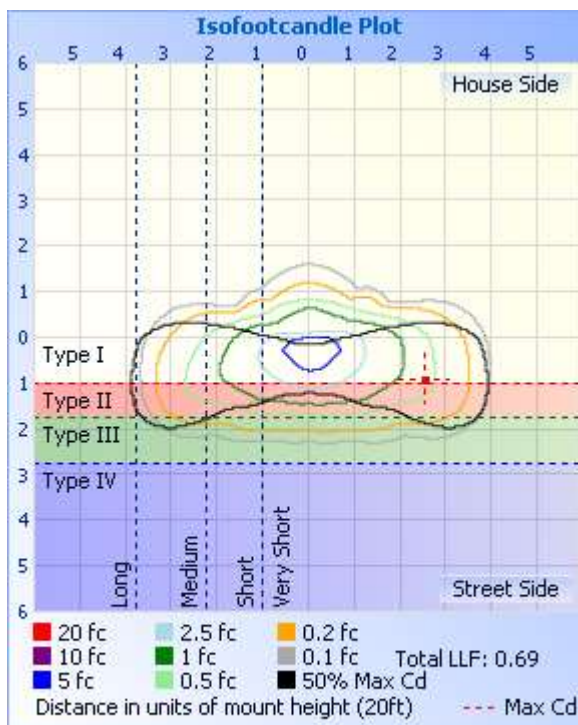






Table--1 UNIT: °C

C (DEG) y (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101
5	3042	3123	3201	3273	3342	3409	3473	3533	3589	3642	3692	3736	3772	3806	3835	3859	3878	3895	3912
10	3022	3185	3320	3445	3569	3690	3798	3891	3981	4070	4147	4204	4255	4306	4350	4381	4408	4436	4464
15	3052	3290	3471	3647	3820	3982	4102	4198	4292	4384	4458	4509	4558	4607	4649	4679	4705	4733	4761
20	3136	3426	3647	3863	4078	4256	4369	4448	4526	4603	4650	4679	4707	4734	4760	4783	4806	4829	4851
25	3243	3567	3822	4073	4322	4504	4582	4617	4652	4687	4711	4728	4744	4760	4777	4796	4815	4834	4853
30	3333	3679	3960	4240	4516	4693	4728	4714	4701	4690	4712	4746	4779	4812	4845	4880	4914	4948	4981
35	3422	3783	4086	4389	4690	4861	4858	4808	4758	4713	4756	4826	4898	4969	5030	5081	5131	5181	5235
40	3539	3913	4239	4564	4886	5057	5034	4967	4900	4838	4861	4907	4955	5003	5039	5060	5078	5096	5116
45	3673	4071	4428	4784	5135	5311	5266	5180	5093	5010	4974	4950	4928	4907	4891	4881	4869	4858	4848
50	3848	4273	4662	5049	5432	5604	5530	5415	5301	5186	5037	4886	4738	4592	4479	4402	4325	4245	4169
55	4025	4508	4957	5404	5845	6009	5859	5667	5477	5284	4921	4538	4158	3784	3530	3401	3279	3156	3035
60	4301	4875	5410	5942	6464	6567	6216	5817	5426	5034	4465	3870	3276	2683	2325	2194	2078	1961	1838
65	4601	5343	6054	6758	7443	7392	6565	5675	4803	3957	3386	2839	2288	1735	1407	1314	1232	1150	1070
70	4395	5431	6464	7500	8520	8321	6860	5304	3761	2269	1800	1418	1034	647	442	409	389	363	342
75	2652	3078	3546	4064	4633	4544	3676	2695	1657	591	469	409	345	276	237	231	227	222	217
80	561	537	506	474	442	401	353	297	230	156	155	158	160	163	160	152	144	135	126
85	19.5	24.3	29.0	33.6	38.2	41.3	42.8	43.9	44.5	44.9	50.2	55.9	61.7	67.3	67.9	63.6	59.0	54.1	49.1
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: ed

C (DEG) y (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101
5	3905	3897	3887	3872	3852	3826	3799	3764	3723	3679	3631	3577	3514	3449	3382	3311	3235	3157	3076
10	4455	4445	4437	4425	4400	4368	4337	4300	4242	4172	4101	4027	3927	3809	3687	3562	3429	3267	3099
15	4758	4755	4754	4750	4739	4723	4707	4689	4641	4569	4494	4418	4313	4163	3999	3835	3663	3428	3160
20	4859	4867	4875	4883	4890	4898	4906	4912	4895	4844	4791	4738	4649	4494	4302	4109	3909	3622	3244
25	4868	4883	4898	4914	4932	4954	4975	4996	5007	5001	4995	4989	4942	4794	4582	4369	4150	3830	3356
30	4992	5002	5013	5022	5028	5030	5031	5032	5044	5088	5135	5183	5186	5058	4840	4620	4396	4062	3500
35	5238	5245	5252	5256	5236	5191	5146	5102	5085	5160	5241	5322	5363	5259	5047	4835	4622	4293	3664
40	5158	5203	5247	5286	5291	5266	5240	5217	5217	5309	5405	5501	5562	5474	5269	5063	4854	4538	3850
45	4930	5013	5096	5177	5237	5279	5322	5368	5424	5520	5619	5717	5788	5711	5516	5319	5122	4817	4066
50	4321	4477	4631	4781	4939	5104	5270	5440	5605	5727	5849	5971	6068	6010	5819	5626	5432	5135	4312
55	3209	3385	3559	3740	4038	4448	4865	5286	5682	5881	6073	6268	6438	6417	6227	6036	5845	5551	4628
60	1996	2147	2297	2462	2855	3481	4109	4739	5337	5729	6119	6516	6887	6966	6775	6578	6381	6074	4942
65	1175	1281	1388	1506	1852	2417	2978	3535	4113	4932	5776	6635	7452	7718	7459	7188	6915	6536	5144
70	364	390	410	444	666	1085	1500	1913	2401	3775	5195	6626	7990	8407	7906	7390	6873	6287	4898
75	222	227	232	239	275	341	403	462	602	1946	3295	4608	5836	6138	5636	5112	4614	4160	3176
80	137	147	158	168	175	178	181	183	192	316	430	535	629	695	733	769	801	817	638
85	57.3	65.2	73.0	80.5	83.2	80.6	78.0	75.3	73.0	77.2	81.3	84.5	86.8	83.2	74.3	65.5	56.9	48.6	44.0
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

C (DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101
5	2995	2914	2833	2752	2670	2588	2511	2440	2368	2299	2233	2181	2144	2113	2084	2056	2028	2048	2069
10	2929	2757	2578	2393	2206	2020	1842	1716	1614	1517	1423	1348	1302	1279	1258	1235	1212	1227	1242
15	2889	2616	2356	2112	1877	1644	1425	1287	1225	1176	1128	1088	1064	1055	1047	1038	1029	1033	1037
20	2864	2484	2147	1893	1683	1478	1280	1146	1109	1080	1051	1026	1011	1005	1001	996	991	991	992
25	2880	2405	1991	1726	1553	1386	1225	1107	1078	1055	1033	1013	1002	998	995	991	988	986	984
30	2936	2372	1883	1597	1456	1322	1191	1090	1067	1049	1032	1016	1008	1007	1007	1007	1007	1000	994
35	3035	2407	1847	1537	1413	1294	1177	1083	1061	1044	1026	1009	996	988	979	971	963	963	963
40	3161	2474	1851	1511	1396	1285	1174	1072	1005	939	871	806	767	753	741	729	717	722	726
45	3315	2563	1873	1477	1326	1178	1029	887	793	702	613	530	491	493	499	504	509	505	500
50	3488	2662	1886	1401	1165	932	697	495	472	460	449	439	439	446	453	461	468	463	457
55	3700	2768	1881	1329	1075	827	581	368	367	374	381	389	396	403	410	417	425	418	411
60	3801	2652	1554	942	770	612	458	327	329	337	345	354	363	373	384	394	404	394	385
65	3751	2356	1025	372	335	313	294	280	292	305	317	329	335	334	333	333	332	329	325
70	3526	2165	864	239	235	239	244	248	247	246	245	244	238	230	221	213	205	208	210
75	2269	1389	567	173	167	169	170	170	158	146	133	121	109	98.6	88.6	78.3	67.9	70.9	73.9
80	465	305	161	93.4	90.5	89.7	89.0	87.2	71.4	55.0	38.8	23.0	14.3	11.4	8.80	6.20	3.59	4.50	5.29
85	39.1	34.5	30.1	26.3	22.7	19.1	15.6	12.0	9.23	6.76	4.59	2.42	1.31	0.95	0.61	0.30	0.00	0.08	0.18
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--4 UNIT: ed

C (DEG) y (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355			
0	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101	3101			
5	2089	2112	2141	2184	2241	2301	2364	2427	2497	2572	2648	2724	2801	2879	2960			
10	1256	1271	1305	1364	1438	1516	1599	1704	1856	2018	2180	2342	2510	2681	2852			
15	1040	1045	1061	1088	1122	1157	1202	1303	1464	1637	1813	2009	2245	2516	2785			
20	992	993	1001	1017	1036	1056	1079	1165	1292	1423	1560	1754	2056	2415	2776			
25	982	980	985	998	1012	1027	1045	1111	1201	1295	1393	1592	1954	2382	2813			
30	987	981	982	991	1001	1012	1026	1079	1148	1218	1295	1507	1910	2384	2859			
35	963	963	968	979	990	1001	1014	1061	1118	1177	1239	1464	1908	2411	2916			
40	731	737	767	822	880	936	991	1047	1102	1158	1217	1461	1939	2471	3005			
45	496	494	520	576	637	700	767	867	972	1075	1179	1471	1986	2549	3111			
50	451	446	440	434	429	424	428	577	753	928	1107	1465	2034	2639	3244			
55	405	398	391	382	374	365	362	496	653	812	978	1368	2011	2686	3358			
60	375	365	354	343	332	321	312	344	385	430	486	905	1728	2591	3450			
65	322	319	312	301	291	280	269	265	262	260	267	715	1650	2633	3617			
70	213	215	217	218	218	218	218	213	208	204	205	637	1538	2481	3431			
75	76.6	80.1	87.5	99.3	111	123	135	135	135	134	138	386	904	1462	2042			
80	6.13	7.18	12.0	20.9	30.3	39.9	49.4	52.1	54.0	56.0	59.1	105	202	312	431			
85	0.28	0.39	0.55	0.94	1.25	1.69	2.30	4.21	6.32	8.64	11.3	13.4	15.0	16.7	18.4			
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-110WiE-NV-LV2-00-2770-T302-P	2700K	13601	113.4	119.94
AOK-110WiE-NV-LV2-00-3070-T302-P	3000K	13677	113.4	120.61
AOK-110WiE-NV-LV2-00-3570-T302-P	3500K	13804	113.4	121.73
AOK-110WiE-NV-LV2-00-4070-T302-P	4000K	13929	113.4	122.83
AOK-110WiE-NV-LV2-00-4570-T302-P	4500K	14049	113.4	123.89
AOK-110WiE-NV-LV2-00-5070-T302-P	5000K	14174	113.4	124.99
AOK-110WiE-NV-LV2-00-5770-T302-P	5700K	14251	113.4	125.67

According to the test report JAE190121-A-R

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



### 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 \*\*\*\*\***