

LM-79-08 Test Report

For

Antec Lighting Inc

(Brand Name: )

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

Architectural Flood and Spot Luminaires

Model name(s): AOK-960WoF-HV-L5-XX-XX70-15-P

Remark: The first “XX” can be “00” for without sensor or “PH” for Plug-In photocontrol, The last “XX” represents different CCT as below: 30=3000K, 40=4000K, 50=5000K, 57=5700K, “P” represents mounting option which can be as following: A; B; C

Representative (Tested) Model: AOK-960WoF-HV-L5-00-3070-15-C

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

Test & Report By:

Garman Mo

Engineer: Garman Mo

Date: Nov.18,2019

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:

Organization Name	Antec Lighting Inc	
Brand Name		
Model Number	AOK-960WoF-HV-L5-XX-XX70-15-P	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Architectural Flood and Spot Luminaires	
Rated Voltage / Frequency	277-480Vac, 50/60Hz	
Nominal Power	960W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,4000K,5000K,5700K	
LED Manufacturer	Lumileds	
LED Model	LUXEON 5050	
Sample Number	JAE191009-C1	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s
Photo		
 		

1.2 Test Specifications:

Date of Receipt	Nov.13,2019
Date of Test	Nov.14,2019
Test item	<ol style="list-style-type: none"> 1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Electrical Parameters
Reference Standard	<ol style="list-style-type: none"> 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

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) 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

Test date	2019-11-14	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	60
Model Number	AOK-960WoF-HV-L5-00-3070 -15-A	Total Operating Time (min)	90

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JAE191009-C1	277.0	60	3.489	964.1	0.9977	2.84
	480.0	60	2.037	947.9	0.9693	6.82
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Photometric Measurement – Goniophotometer Method(Test Distance: 26.000m):

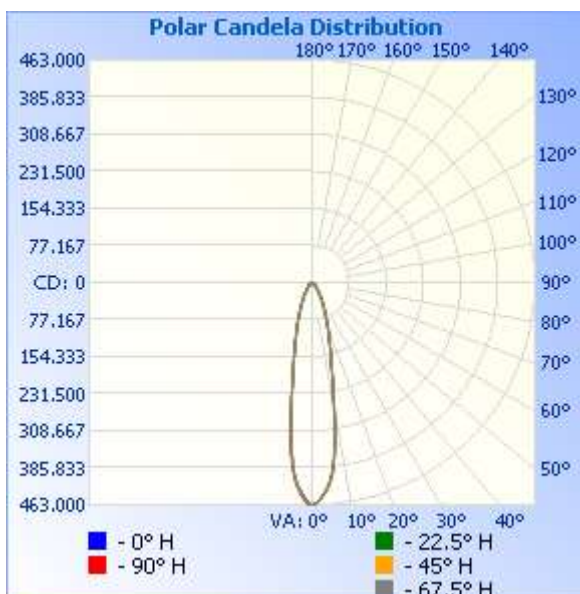
Parameter	Result		DLC V4.4 Pass Criteria	
Test Voltage (V)	277.0	480.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	135376	133665	>=1000 (-10%)	
Luminous Efficacy (lm/W)	140.42	141.01	Standard: >= 100(-3%)	Premium: >= 120(-3%)
Zonal lumens in the 0-90 °zone (%)	99.6	--	>= 85(-3)	
Beam Angle (°)	21.4	--	--	
Center Beam Candle Power (cd)	462760	--	--	

Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	101,520.9	75.1%
0-40	116,453.5	86.1%
0-60	130,364.1	96.4%
60-90	4,379.4	3.2%
70-100	1,447.0	1.1%
90-120	38.7	0%
0-90	134,743.5	99.6%
90-180	525.4	0.4%
0-180	135,268.8	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	34,207.2	25.3%	90-100	7.9	0%
10-20	40,817.1	30.2%	100-110	11.6	0%
20-30	26,496.6	19.6%	110-120	19.2	0%
30-40	14,932.7	11.0%	120-130	34.4	0%
40-50	8,670.8	6.4%	130-140	59.6	0%
50-60	5,239.7	3.9%	140-150	99.2	0.1%
60-70	2,940.2	2.2%	150-160	145.7	0.1%
70-80	1,265.1	0.9%	160-170	109.8	0.1%
80-90	174.0	0.1%	170-180	37.9	0%

Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width
3.3ft	42,494.0 fc	1.3 ft
6.6ft	10,623.5 fc	2.5 ft
9.9ft	4,721.6 fc	3.8 ft
13.2ft	2,655.9 fc	5.1 ft
16.5ft	1,699.8 fc	6.3 ft
19.8ft	1,180.4 fc	7.6 ft

■ Vert. Spread: 21.7°
■ Horiz. Spread: 21.7°

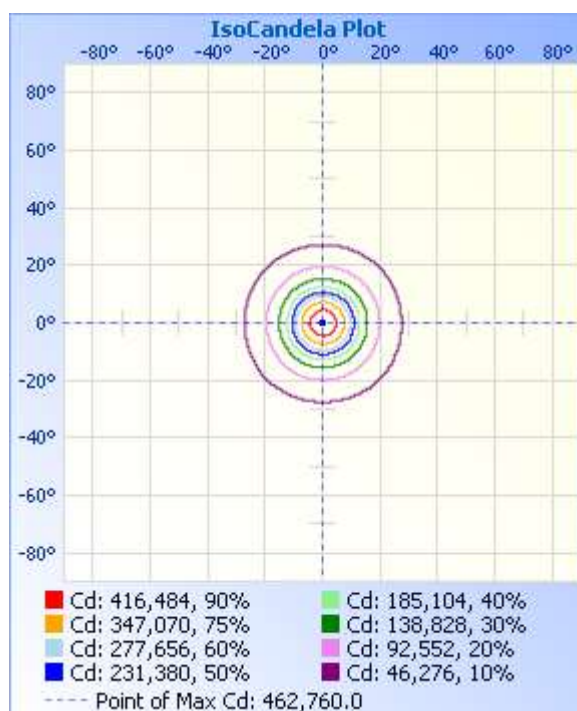
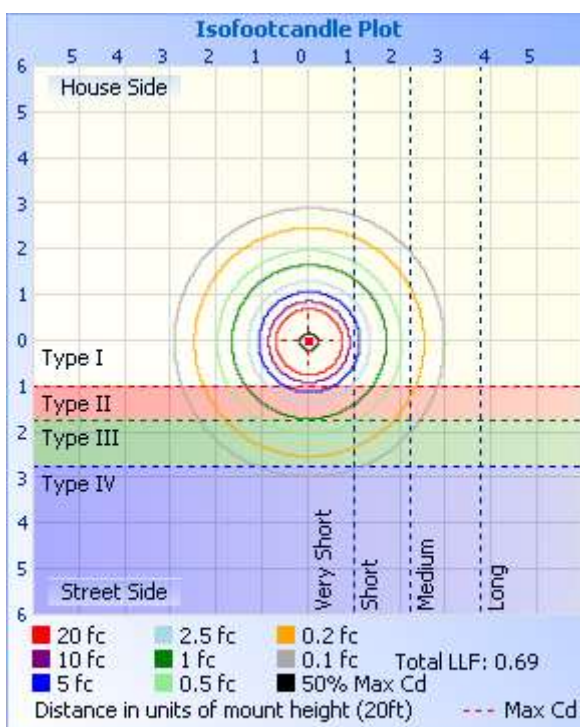


Table--1

UNIT: *100cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	
0	4628	4628	4628	4628	4628	4628	4628	4628	4628	4628	4628	4628	4628	4628	4628	4628	
5	4121	4142	4163	4184	4190	4189	4192	4187	4163	4140	4119	4091	4079	4074	4084	4095	
10	2488	2524	2561	2594	2621	2631	2622	2604	2597	2563	2528	2491	2468	2454	2456	2470	
15	1410	1441	1459	1471	1479	1489	1490	1479	1451	1442	1424	1409	1397	1393	1393	1398	
20	880	890	898	909	916	919	919	915	911	904	894	885	879	877	876	878	
25	556	562	566	573	580	581	579	578	576	570	564	559	558	554	554	556	
30	358	361	364	369	373	374	372	371	372	369	364	361	360	360	359	362	
35	229	230	231	234	237	237	235	235	235	231	227	226	227	226	225	228	
40	156	157	155	157	159	158	158	157	157	155	153	151	152	151	152	153	
45	109	110	110	111	111	111	110	111	110	109	107	107	107	107	107	108	
50	81.1	81.9	82.6	83.0	83.4	82.9	83.2	83.5	82.5	82.0	80.9	79.6	79.4	79.4	79.8	80.7	
55	56.9	57.5	57.8	58.1	58.1	58.0	58.3	58.6	57.8	57.7	56.9	56.2	55.8	55.8	55.9	56.8	
60	41.3	41.9	42.0	42.3	42.1	42.2	42.3	42.6	41.9	42.0	41.4	41.1	40.6	40.7	40.8	41.4	
65	29.2	29.5	29.8	29.8	29.7	29.8	30.1	30.1	29.7	29.6	29.1	28.7	28.4	28.4	28.6	28.9	
70	19.4	19.6	20.0	19.8	19.8	19.8	20.2	20.1	19.7	19.5	19.5	19.1	18.9	18.8	19.2	19.3	
75	11.5	11.9	12.1	12.0	11.9	12.1	12.3	12.2	11.9	11.9	11.7	11.4	11.2	11.3	11.5	11.6	
80	5.14	5.38	5.45	5.44	5.39	5.58	5.64	5.57	5.45	5.43	5.22	5.01	4.86	5.00	5.10	5.18	
85	1.05	1.01	0.88	1.12	1.22	1.23	1.04	1.13	1.19	1.02	0.80	0.88	0.86	0.87	0.81	0.94	
90	0.08	0.09	0.08	0.08	0.08	0.09	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.08	0.08	
95	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.08	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	
100	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.09	0.07	0.07	0.07	0.07	0.07	0.08	0.07	0.08	
105	0.12	0.12	0.12	0.11	0.11	0.11	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.11	
110	0.17	0.17	0.16	0.15	0.15	0.15	0.16	0.17	0.14	0.13	0.14	0.15	0.14	0.13	0.14	0.16	
115	0.22	0.22	0.20	0.18	0.19	0.18	0.21	0.22	0.20	0.18	0.19	0.18	0.18	0.14	0.20	0.22	
120	0.30	0.29	0.28	0.22	0.19	0.22	0.28	0.30	0.27	0.24	0.27	0.24	0.20	0.19	0.28	0.28	
125	0.40	0.42	0.38	0.39	0.40	0.38	0.36	0.41	0.34	0.34	0.37	0.39	0.39	0.33	0.39	0.40	
130	0.57	0.58	0.49	0.55	0.56	0.53	0.47	0.56	0.50	0.51	0.52	0.61	0.56	0.48	0.55	0.57	
135	0.82	0.84	0.67	0.82	0.82	0.77	0.64	0.77	0.75	0.76	0.72	0.89	0.78	0.72	0.71	0.83	
140	1.21	1.23	0.72	1.13	1.11	1.11	0.79	1.09	1.11	1.09	0.93	1.29	1.06	1.06	0.78	1.21	
145	1.77	1.75	0.96	1.63	1.23	1.62	1.23	1.56	1.63	1.62	1.17	1.92	1.19	1.66	1.51	1.76	
150	2.75	2.63	1.43	2.46	2.58	2.61	1.78	2.42	2.53	2.51	1.21	3.06	2.63	2.51	2.78	2.43	
155	3.81	3.40	2.40	3.29	3.70	3.76	2.31	3.59	3.56	3.41	1.97	4.29	3.31	2.96	3.25	2.37	
160	4.38	3.78	3.72	3.40	4.38	4.31	3.39	4.07	4.24	4.16	3.65	4.78	4.55	3.84	2.40	2.86	
165	4.53	4.01	4.29	2.43	3.81	3.32	4.18	4.29	4.44	4.37	3.92	4.11	3.66	3.41	2.67	3.97	
170	4.28	4.21	4.20	3.10	3.49	3.83	4.52	4.44	4.30	4.28	4.12	3.89	4.22	3.65	3.30	4.12	
175	4.08	4.10	3.96	3.28	4.04	3.74	4.33	4.31	3.99	4.00	4.01	3.89	3.90	4.05	3.48	4.00	
180	3.74	3.83	3.67	3.40	3.79	3.38	3.92	3.86	3.73	3.74	3.82	3.67	3.40	3.79	3.37	3.93	

3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-355	Goniophotometer system	Verified by D908S standard lamp	
ST-R-359	Standard Lamp	2019-07-03	2020-07-02
ST-R-358	Power Meter for Goniophotometer	2019-06-27	2020-06-26
Expand Uncertainty: Photometric Measurement(Goniophotometer):2.76%, k=2			

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