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Report No: L101601201

Date: 10/20/2016



NVLAP LAB CODE 200927-0

Report No: L101601201

Report Prepared For: BARTCO Lighting
 5761 Research Drive, Huntington Beach, CA 92649

Model Number: ADL200-4-35-7-F-WH

Test: Electrical and Photometric tests

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Catalog number is ADL200-4-35-7-F-WH. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 10/7/16

Date of Tests: 10/19/16 - 10/20/16

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	11/18/16
Xitron Power Analyzer	2503AH	MT-EL01	11/30/16
ITECH DC Power Supply	IT6122	PSDC-03-S1	11/17/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/24/16
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Summary

Manufacturer:	BARTCO Lighting
Model Number:	ADL200-4-35-7-F-WH
Driver Model Number:	PHILIPS ADVANCE XI040C110V054BST1
Total Lumens:	2580.03
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.27
Input Power (W):	31.86
Input Power Factor:	1.00
Current ATHD @ 120V(%):	7%
Current ATHD @ 277V(%):	N/A
Efficacy:	81
Color Rendering Index (CRI):	84
Correlated Color Temperature (K):	3525
Chromaticity Coordinate x:	0.4024
Chromaticity Coordinate y:	0.3859
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:10
Total Operating Time (Hours):	1:40
Off State Power(W):	0.00

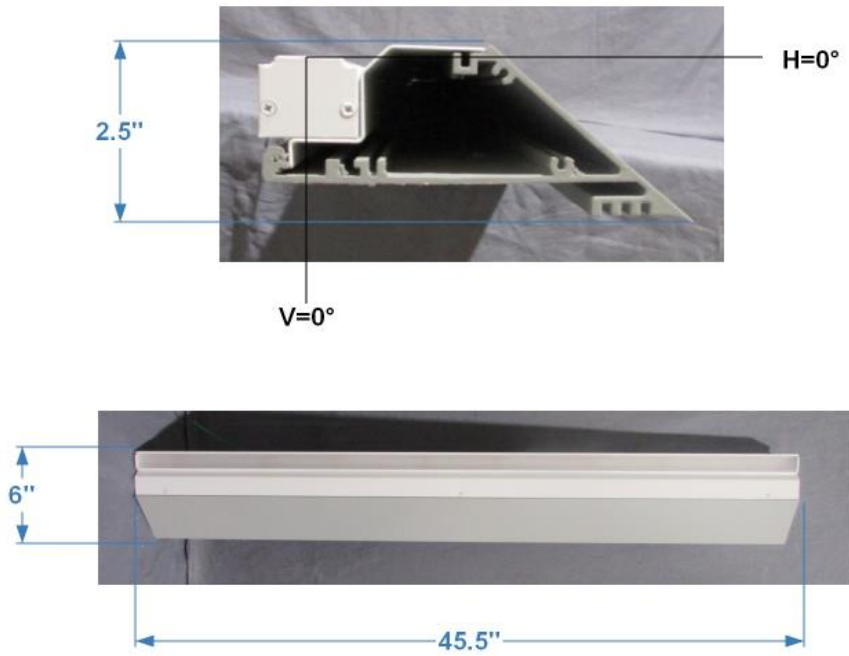
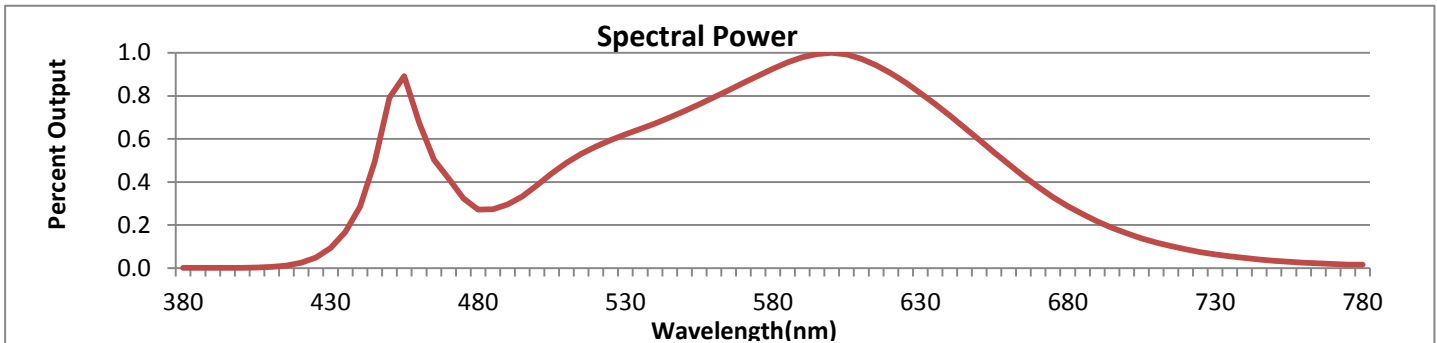


FIG. 1 LUMINAIRE

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.



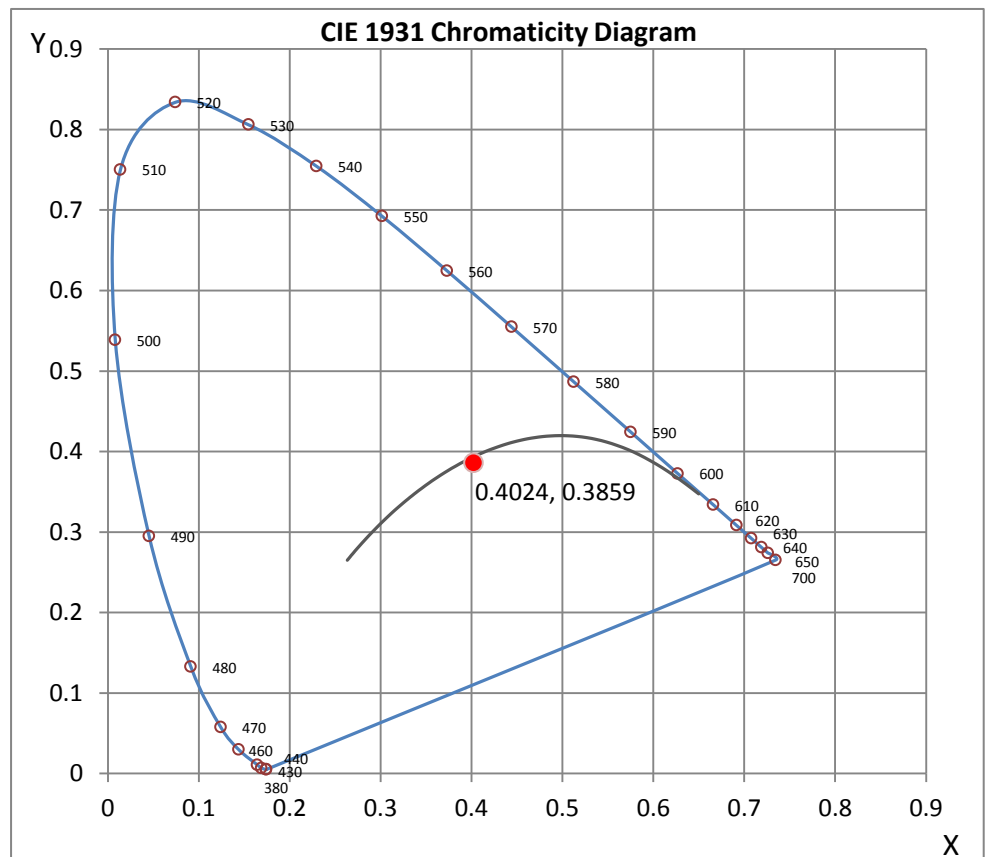
Wavelength	W/m ² nm	440	0.2847	510	0.4890	580	0.9260	650	0.5959	720	0.0871
380	0.0009	450	0.7917	520	0.5653	590	0.9798	660	0.4825	730	0.0635
390	0.0010	460	0.6746	530	0.6208	600	1.0000	670	0.3772	740	0.0466
400	0.0017	470	0.4163	540	0.6719	610	0.9722	680	0.2881	750	0.0343
410	0.0055	480	0.2714	550	0.7295	620	0.9054	690	0.2171	760	0.0254
420	0.0246	490	0.2961	560	0.7936	630	0.8135	700	0.1611	770	0.0188
430	0.0933	500	0.3853	570	0.8605	640	0.7090	710	0.1189	780	0.0162

CRI & CCT

x	0.4024
y	0.3859
u'	0.2358
v'	0.5088
CRI	84.30
CCT	3525
Duv	-0.00149

R Values

R1	83.23
R2	91.69
R3	96.11
R4	81.82
R5	82.67
R6	87.86
R7	85.41
R8	65.57
R9	18.17
R10	79.45
R11	80.29
R12	65.23
R13	85.47
R14	98.07



*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Released by:



Jeff Ahn
Engineering Manager

Test Report Reviewed by:



Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 9*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L101601201.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L101601201
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 10/20/2016
 [MANUFAC] BARTCO LIGHTING
 [LUMCAT] ADL200-4-35-7-F-WH
 [LUMINAIRE] LED COVE FIXTURE
 [BALLASTCAT] PHILIPS ADVANCE XI040C110V054BST1
 [LAMPPOSITION] 0,0
 [LAMPCAT] N/A
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120VAC, 31.86W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2580
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	81
Total Luminaire Watts	31.86
Ballast Factor	1.00
CIE Type	Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.08 ft
Luminous Width (90-270)	3.71 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	0	0	0
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	0	0	0	0	0
5	0	0	0	0	0
10	0	0	0	0	0
15	0	0	0	0	0
20	0	0	0	0	0
25	0	0	0	0	0
30	0	0	0	0	0
35	0	0	0	0	0
40	0	0	0	0	0
45	0	0	0	0	0
50	0	0	0	0	0
55	0	0	0	0	0
60	0	0	0	0	0
65	0	0	0	0	0
70	0	0	0	0	0
75	0	0	0	0	0
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0
95	24	25	28	36	38
100	62	64	73	91	88
105	104	113	128	145	147
110	157	171	193	210	216
115	217	229	253	280	292
120	275	290	316	352	367
125	341	361	399	446	460
130	420	441	489	537	552
135	511	533	580	629	647
140	614	633	678	723	740
145	717	736	779	818	831
150	823	836	873	904	915
155	925	933	959	982	993
160	1012	1017	1036	1050	1057
165	1083	1086	1097	1104	1107
170	1136	1135	1142	1143	1144
175	1170	1167	1169	1168	1168
180	1177	1177	1177	1177	1177

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	0.00	N.A.	0.00
0-30	0.00	N.A.	0.00
0-40	0.00	N.A.	0.00
0-60	0.00	N.A.	0.00
0-80	0.00	N.A.	0.00
0-90	0.00	N.A.	0.00
10-90	0.00	N.A.	0.00
20-40	0.00	N.A.	0.00
20-50	0.00	N.A.	0.00
40-70	0.00	N.A.	0.00
60-80	0.00	N.A.	0.00
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
90-110	174.55	N.A.	6.80
90-120	426.55	N.A.	16.50
90-130	786.78	N.A.	30.50
90-150	1720.86	N.A.	66.70
90-180	2580.03	N.A.	100.00
110-180	2405.48	N.A.	93.20
0-180	2580.03	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	0.00
10-20	0.00
20-30	0.00
30-40	0.00
40-50	0.00
50-60	0.00
60-70	0.00
70-80	0.00
80-90	0.00
90-100	36.95
100-110	137.60
110-120	252.00
120-130	360.23
130-140	448.84
140-150	485.24
150-160	440.42
160-170	308.14
170-180	110.61

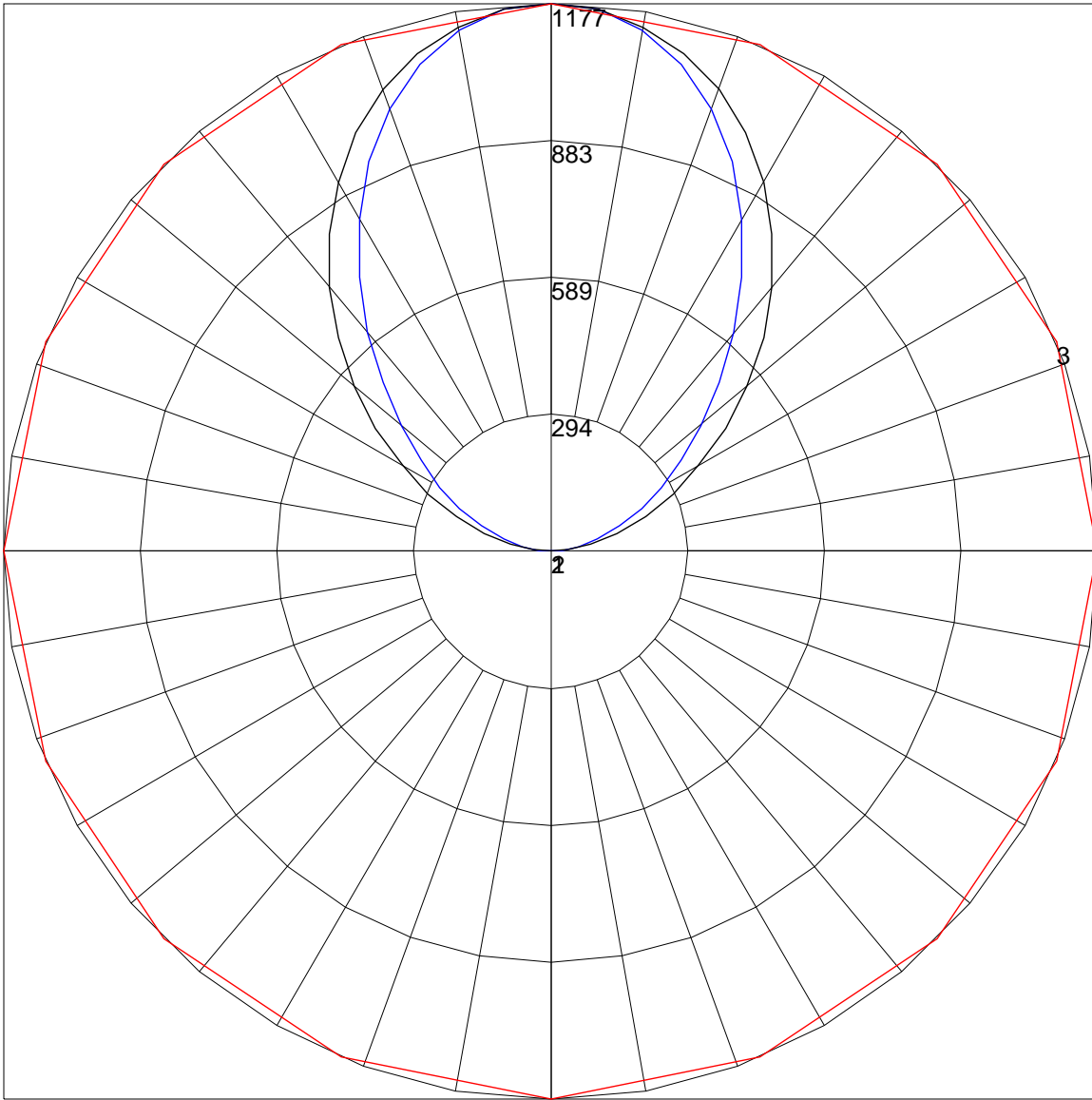
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	
0	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	56	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	28	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

POLAR GRAPH



Maximum Candela = 1177 Located At Horizontal Angle = 0, Vertical Angle = 180

1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

2 - Vertical Plane Through Horizontal Angles (90 - 270)

3 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)