

Report of Test

LLIA000954-010A

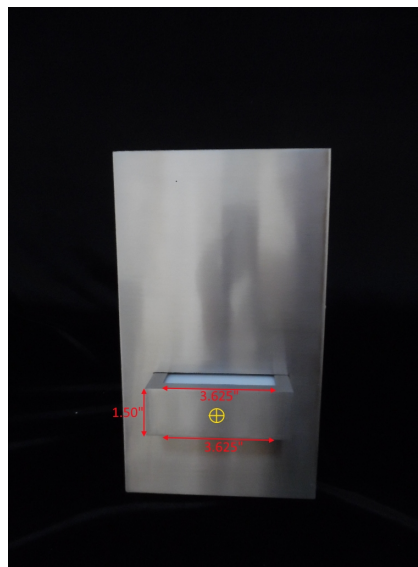
Catalog Number: 3-527-22 Vela Sconce

Wall mounted, formed steel housing, translucent white plastic enclosures.

48 white LEDs, two Harvard Engineering LEDENG-165-930 LED boards with 24 LEDs each

Two LTF DA12W350C1834D010-0014 dimmable LED drivers.

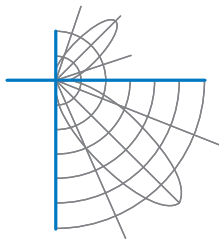
120.0Vac, 60.00Hz, 0.1770A, 20.37W, 0.959PF, 10.6%THD(i)



Performance Summary

Total Light Output	408 lm
Luminaire Power	20.4 W
Luminous Efficacy	20.0 lm/W

PREPARED FOR : Oxygen Lighting, 201 Railhead Road, Fort Worth, TX 76106, USA



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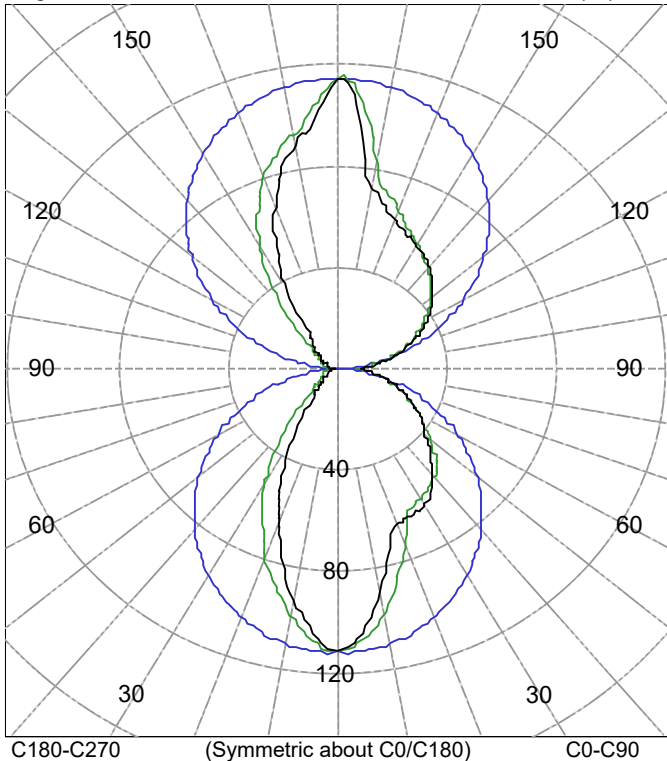
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Legend: C0/C180-Black, C45/C225-Green, C90/C270-Blue (cd)



INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	112	112	112	112	112	
5.0	104	105	107	110	111	10
10.0	89	91	97	105	110	
15.0	73	76	85	99	107	25
20.0	64	64	72	90	104	
25.0	64	63	62	80	99	32
30.0	63	62	59	71	94	
35.0	59	59	58	61	88	34
40.0	54	54	55	52	81	
45.0	47	48	50	48	74	31
50.0	42	42	44	44	66	
55.0	38	37	38	39	58	27
60.0	33	33	33	34	49	
65.0	29	28	29	28	40	21
70.0	25	24	24	22	31	
75.0	20	19	19	17	22	14
80.0	16	15	15	11	14	
85.0	12	11	10	6	5	7
90.0	8	8	7	2	0	

AVERAGE LUMINANCE (cd/m²)

Gamma	C0	C45	C90
45.0	11390	12043	17769
55.0	11129	11259	17081
65.0	11653	11468	16108
75.0	13302	12764	14588
85.0	22497	20413	10031

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	67	N / A	16.5
0-40	101	N / A	24.8
0-60	159	N / A	39.0
0-90	201	N / A	49.3
40-90	100	N / A	24.5
60-90	42	N / A	10.4
90-180	207	N / A	50.7
0-180	408	N / A	100.0

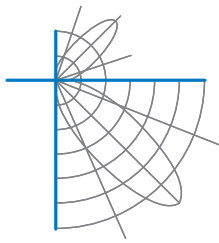
Total Light Output = 408 lm

Signed:

Authorized Signatory

Date of test 28-Mar-2018

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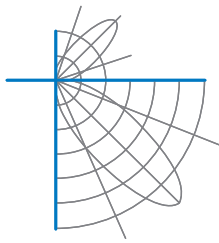
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Two LTF DA12W350C1834D010-0014 dimmable LED drivers.

120.0Vac, 60.00Hz, 0.1770A, 20.37W, 0.959PF, 10.6%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	112	112	112	112	112
2.5	109	109	110	111	112
5.0	104	105	107	110	111
7.5	97	99	103	108	111
10.0	89	91	97	105	110
12.5	80	83	91	102	109
15.0	73	76	85	99	107
17.5	66	69	78	94	106
20.0	64	64	72	90	104
22.5	64	63	67	85	102
25.0	64	63	62	80	99
27.5	63	62	60	76	97
30.0	63	62	59	71	94
32.5	61	61	59	66	91
35.0	59	59	58	61	88
37.5	57	57	56	57	85
40.0	54	54	55	52	81
42.5	51	51	53	50	78
45.0	47	48	50	48	74
47.5	45	45	47	46	70
50.0	42	42	44	44	66
52.5	40	40	41	41	62
55.0	38	37	38	39	58
57.5	36	35	36	37	53
60.0	33	33	33	34	49
62.5	31	30	31	31	45
65.0	29	28	29	28	40
67.5	27	26	26	25	36
70.0	25	24	24	22	31
72.5	22	22	22	19	27
75.0	20	19	19	17	22
77.5	18	17	17	14	18
80.0	16	15	15	11	14
82.5	14	13	13	8	9
85.0	12	11	10	6	5
87.5	8	8	8	3	1
90.0	8	8	7	2	0



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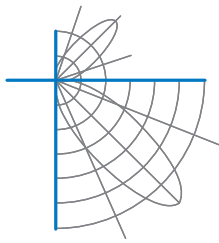
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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	8	8	7	2	0
92.5	9	9	8	3	1
95.0	13	12	11	6	5
97.5	15	14	14	9	10
100.0	18	17	17	12	14
102.5	20	19	19	15	19
105.0	23	22	21	18	23
107.5	25	24	24	21	28
110.0	28	27	26	24	33
112.5	30	29	29	27	38
115.0	32	32	31	31	42
117.5	35	34	34	34	47
120.0	37	36	36	37	52
122.5	39	38	38	40	56
125.0	42	41	40	42	61
127.5	44	43	43	45	65
130.0	45	45	44	47	70
132.5	47	46	46	50	74
135.0	49	48	48	52	78
137.5	50	50	50	54	81
140.0	52	51	51	56	85
142.5	53	53	53	58	88
145.0	54	54	54	59	92
147.5	56	55	56	62	95
150.0	57	56	57	64	98
152.5	58	58	59	66	100
155.0	59	59	61	68	103
157.5	60	60	63	71	105
160.0	62	62	66	75	107
162.5	63	64	69	82	109
165.0	66	68	71	89	110
167.5	70	71	74	96	111
170.0	73	74	82	103	113
172.5	80	84	94	109	113
175.0	97	99	106	112	114
177.5	111	111	113	114	114
180.0	114	114	114	114	114



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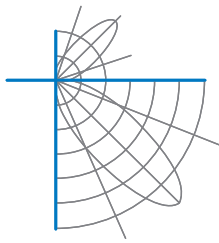
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Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	112	112	112	112	112
2.5	112	111	110	110	110
5.0	111	110	107	105	104
7.5	111	108	103	100	98
10.0	110	105	99	94	92
12.5	109	102	94	88	86
15.0	107	99	89	81	77
17.5	106	95	84	72	70
20.0	104	92	77	67	63
22.5	102	88	70	60	56
25.0	99	84	65	54	49
27.5	97	80	60	47	42
30.0	94	76	54	40	35
32.5	91	71	48	33	28
35.0	88	65	41	26	21
37.5	85	60	35	19	14
40.0	81	55	29	14	13
42.5	78	51	23	12	11
45.0	74	46	17	11	10
47.5	70	42	13	9	8
50.0	66	37	11	8	7
52.5	62	33	10	7	7
55.0	58	28	9	6	6
57.5	53	25	8	6	6
60.0	49	21	7	5	5
62.5	45	19	6	5	5
65.0	40	17	6	5	4
67.5	36	15	6	4	4
70.0	31	14	6	4	3
72.5	27	12	5	4	3
75.0	22	11	5	3	3
77.5	18	9	5	3	2
80.0	14	8	5	3	2
82.5	9	6	5	3	2
85.0	5	4	4	3	2
87.5	1	3	4	3	1
90.0	0	2	4	3	1



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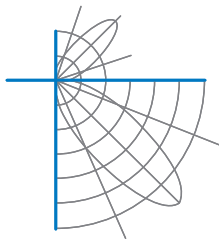
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Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	0	2	4	3	1
92.5	1	2	4	3	2
95.0	5	4	4	3	2
97.5	10	6	5	3	2
100.0	14	8	5	4	3
102.5	19	9	5	4	3
105.0	23	11	5	4	4
107.5	28	13	6	4	4
110.0	33	14	6	5	4
112.5	38	16	6	5	5
115.0	42	18	7	6	6
117.5	47	20	7	6	6
120.0	52	23	8	7	7
122.5	56	26	8	7	7
125.0	61	30	10	8	8
127.5	65	34	11	9	9
130.0	70	39	13	10	9
132.5	74	44	14	11	11
135.0	78	48	19	13	12
137.5	81	54	26	15	14
140.0	85	59	32	16	15
142.5	88	64	38	21	17
145.0	92	68	45	29	23
147.5	95	73	51	36	31
150.0	98	77	57	43	38
152.5	100	80	63	50	46
155.0	103	83	69	57	53
157.5	105	86	74	64	60
160.0	107	89	79	70	67
162.5	109	91	84	76	73
165.0	110	93	87	82	80
167.5	111	98	91	87	85
170.0	113	102	94	91	90
172.5	113	105	97	94	94
175.0	114	109	104	100	98
177.5	114	112	109	107	107
180.0	114	114	114	114	114



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Coefficients Of Utilization - Zonal Cavity Method

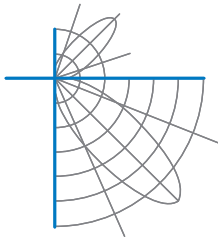
Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	49
1	97	93	89	85	90	86	82	79	72	70	68	60	58	57	49	48	46	41
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35
3	81	72	64	59	75	66	60	55	56	52	48	47	44	41	38	36	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	29	26
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	23
6	63	51	43	38	58	48	41	35	41	35	31	35	30	27	29	26	23	20
7	59	47	39	33	54	43	36	31	37	32	28	32	27	24	26	23	21	18
8	55	42	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	16
9	51	39	31	26	47	36	30	25	31	26	22	27	23	20	23	19	17	15
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14

For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	3.1	4.03	7.51
8.0	1.7	5.37	10.02
10.0	1.1	6.71	12.52
12.0	0.8	8.05	15.03
14.0	0.6	9.40	17.53
16.0	0.4	10.74	20.03



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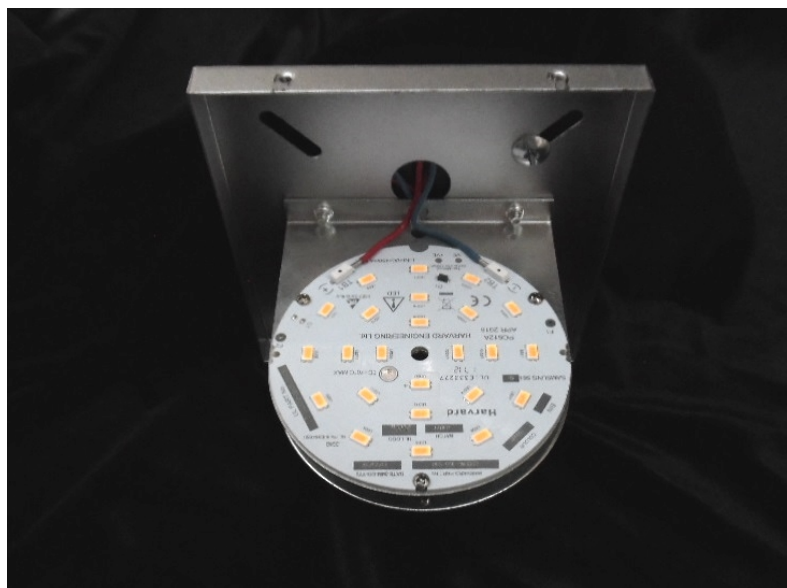
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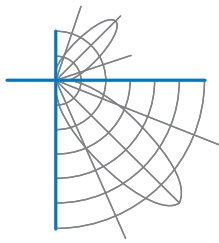
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Test Distance 9.5 m
Test Temperature 25.0 °C

Notes The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-08 (Sec. 12), IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2015, ANSI C82.77-10:2014.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.

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



Report of Test

LLIA000954-010B

Integrating Sphere Report

Catalog Number: 3-527-22 Vela Sconce

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Performance Summary

Voltage	120.0 Vac
Current	0.1766 A
Power	20.39 W
Frequency	59.97 Hz
Power Factor	0.961
Current THD	10.9 %
Total Luminous Flux	410.0 lm
Efficacy	20.1 lm/W
Chromaticity (x,y)	(0.4314, 0.3952)
(u',v')	(0.2508, 0.5170)
Duv	-0.0028
CCT	3022 K
CRI (Ra)	94
R9	68
TM-30: Rf	91
TM-30: Rg	101

Prepared For:

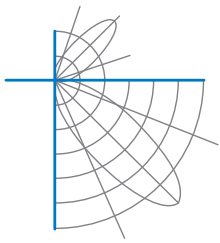
Oxygen Lighting

201 Railhead Road

Fort Worth, TX 76106, USA

Test date: 03/08/2018

Report date: 03/28/2018



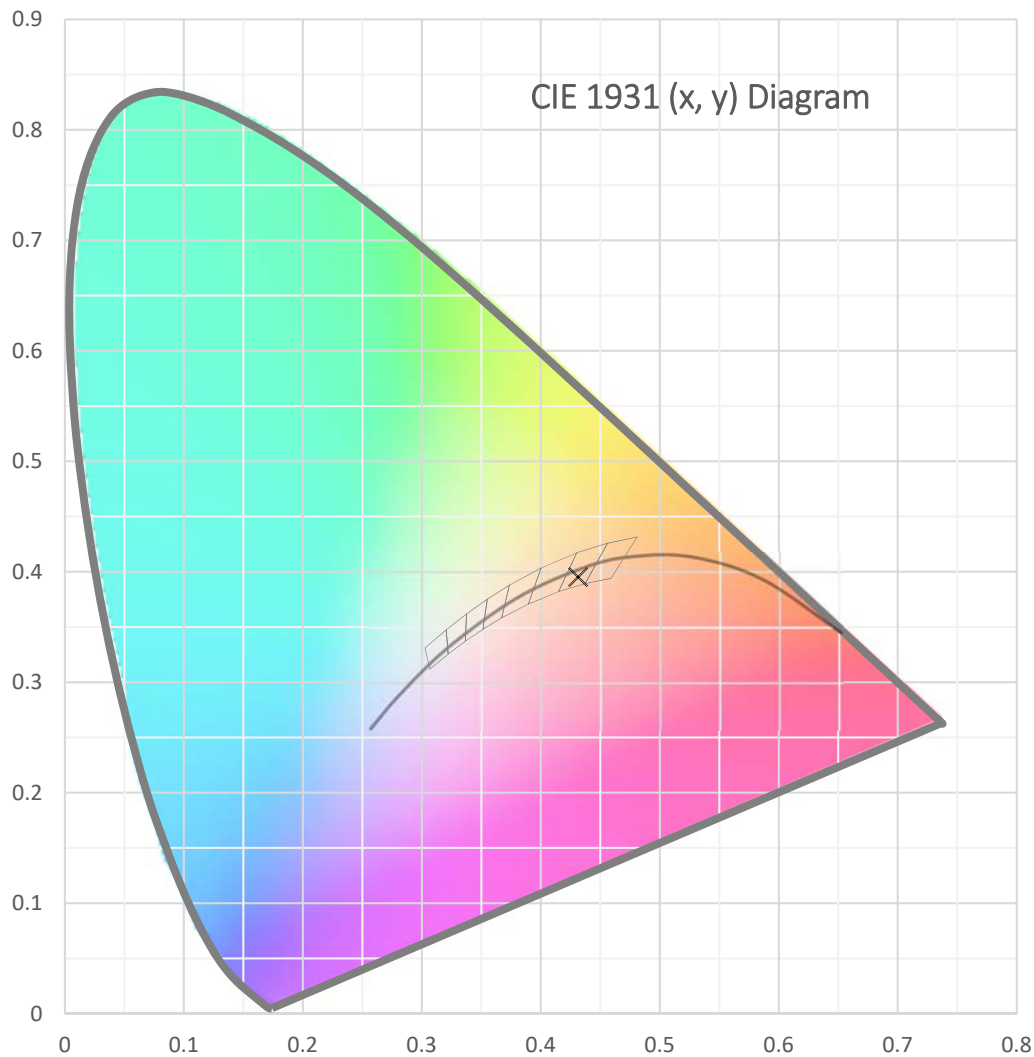
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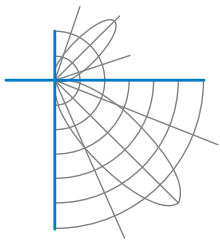
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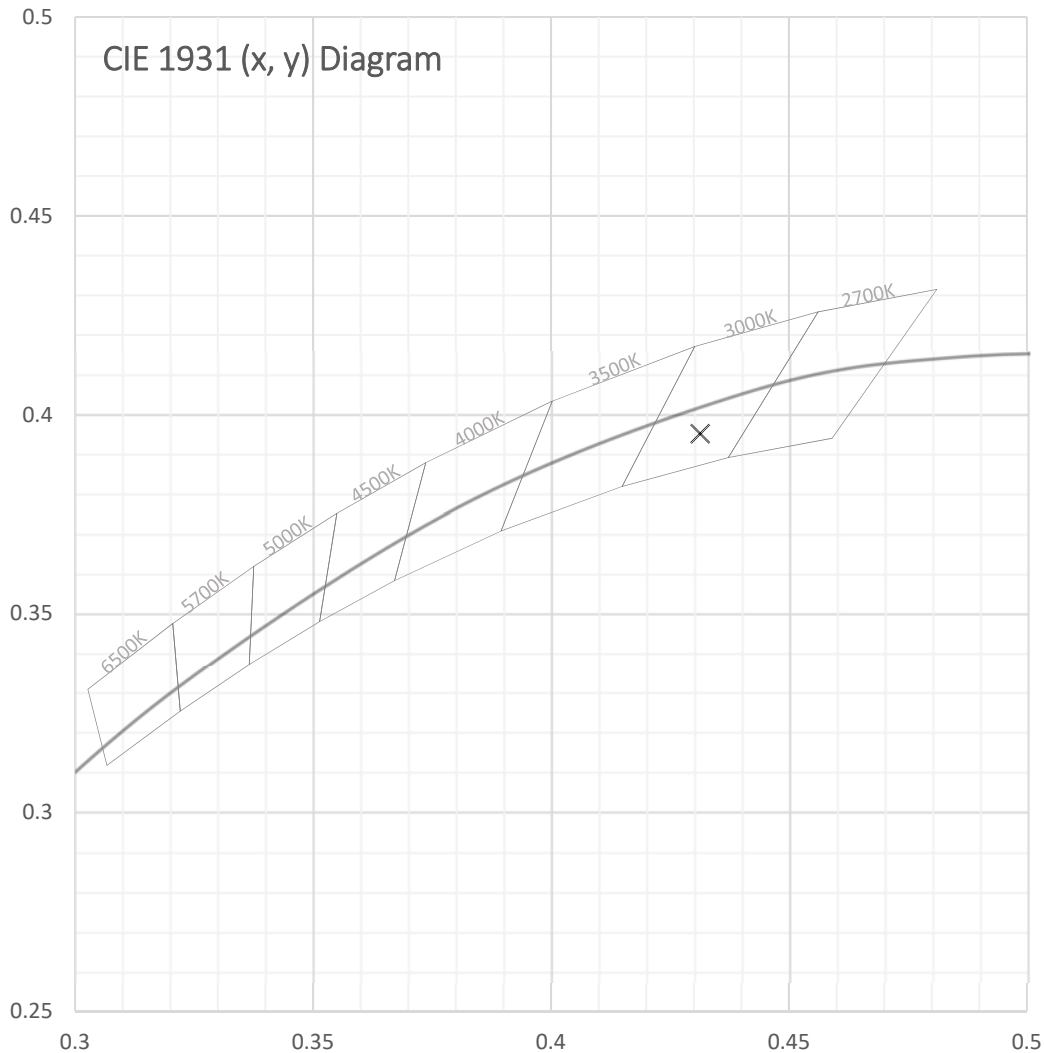
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Spectral Data

Total Radiant Flux	1.485 W
Total Luminous Flux	410.0 Lm
Chromaticity CIE 1931 (x, y)	(0.4314, 0.3952)
Chromaticity CIE 1976 (u', v')	(0.2508, 0.5170)
Correlated Color Temperature (CCT)	3022 K
Color Rendering Index (Ra)	94
R1	95
R2	98
R3	98
R4	94
R5	95
R6	96
R7	93
R8	85
R9	68
R10	93
R11	94
R12	85
R13	96
R14	98
TM-30: Rf	91
TM-30: Rg	101
Distance from Planckian Locus (Duv)	-0.0028
Scotopic/Photopic Ratio *	1.449

Electrical Data

Voltage	120.0 Vac
Current	0.1766 A
Power	20.39 W
Frequency	59.97 Hz
Power Factor	0.961
Current THD	10.9 %



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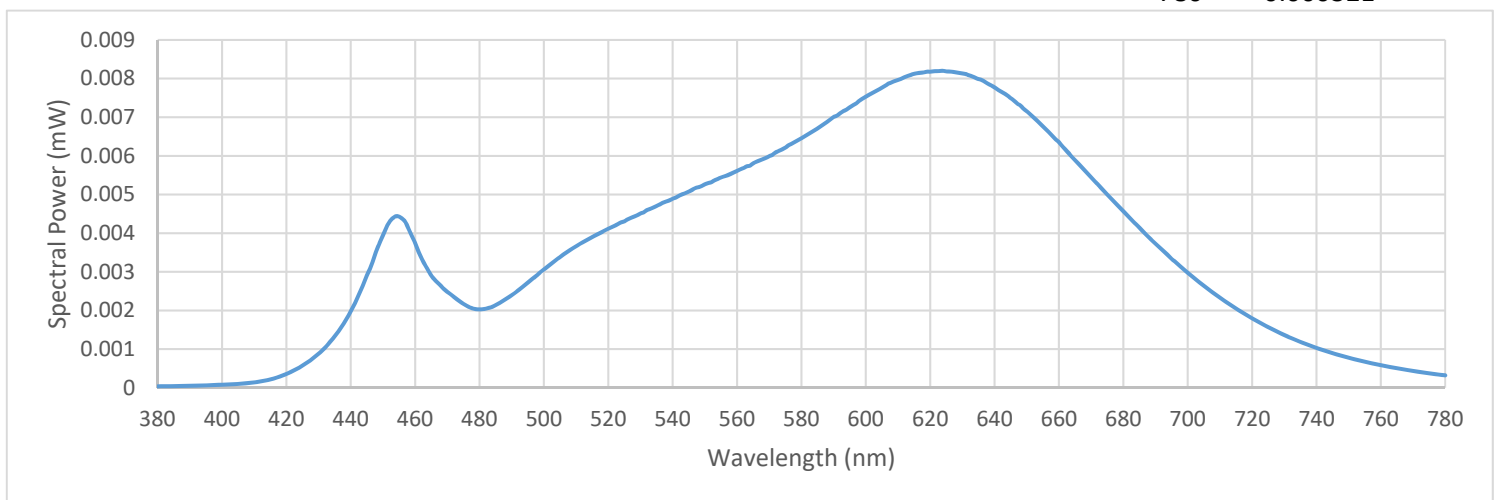
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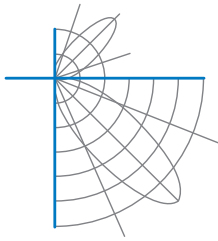
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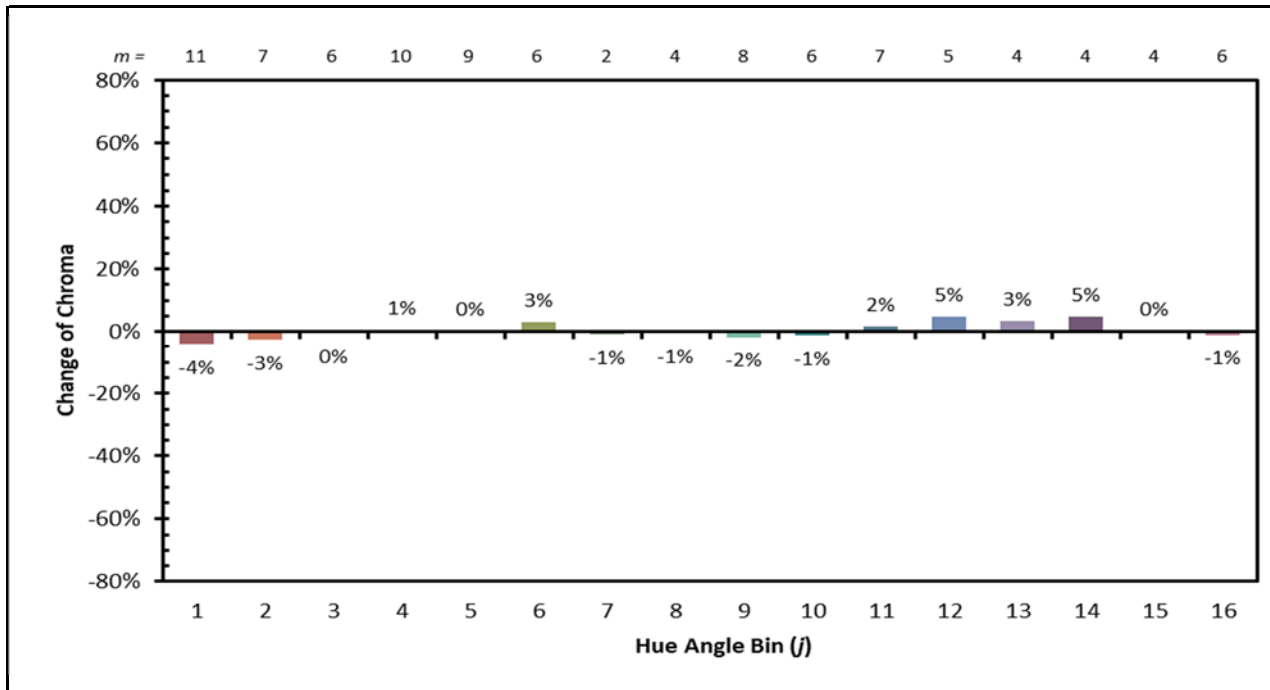
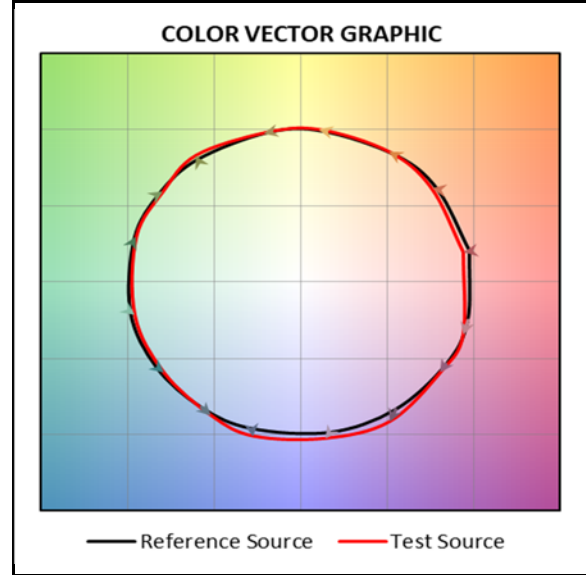
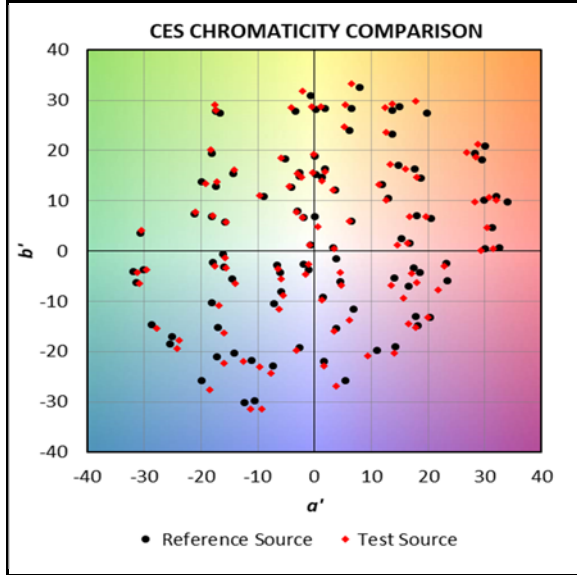
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000038	480	0.002031	580	0.006454	680	0.004565
385	0.000043	485	0.002141	585	0.006714	685	0.004148
390	0.000052	490	0.002400	590	0.007006	690	0.003730
395	0.000063	495	0.002721	595	0.007257	695	0.003332
400	0.000079	500	0.003067	600	0.007528	700	0.002980
405	0.000099	505	0.003380	605	0.007766	705	0.002636
410	0.000138	510	0.003665	610	0.007961	710	0.002328
415	0.000217	515	0.003901	615	0.008124	715	0.002052
420	0.000358	520	0.004116	620	0.008177	720	0.001797
425	0.000568	525	0.004306	625	0.008186	725	0.001567
430	0.000885	530	0.004510	630	0.008130	730	0.001368
435	0.001334	535	0.004706	635	0.007988	735	0.001187
440	0.001968	540	0.004891	640	0.007772	740	0.001028
445	0.002908	545	0.005076	645	0.007494	745	0.000897
450	0.003951	550	0.005263	650	0.007153	750	0.000777
455	0.004429	555	0.005444	655	0.006761	755	0.000675
460	0.003744	560	0.005613	660	0.006354	760	0.000587
465	0.002901	565	0.005807	665	0.005888	765	0.000505
470	0.002484	570	0.005992	670	0.005443	770	0.000433
475	0.002170	575	0.006213	675	0.005008	775	0.000374
						780	0.000321





IES TM-30 Summary





Test Report Number: LLIA000954-010B

Catalog Number: 3-527-22 Vela Sconce

Wall mounted, formed steel housing, translucent white plastic enclosures.

48 white LEDs, two Harvard Engineering LEDENG-165-930 LED boards with 24 LEDs each.

Two LTF DA12W350C1834D010-0014 dimmable LED drivers.

Test Equipment Configuration:	LightLab International Allentown 2m Integrating Sphere Measurements acquired using a Labsphere CDS 2600 spectroradiometer Testing was performed using 4 π geometry
Test Temperature:	24.9 °C
Test Procedure:	Tested in accordance with the applicable sections of: LM-79-08, LM-78-07, LM-58-13, ANSI_ANSLG C78.377-2015, ANSI C82-77-10:2014, TM-30-15
Significance:	The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.
Notes:	The measurements and other derived quantities contained in this report are based on the absolute data as measured. Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results. This report is free of erasures and corrections This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.