



Report of Test

LLIA001067-005A

Catalog Number: 3-556 Zenith Sconce
Surface wall mounted, formed steel housing,
translucent white plastic enclosure.
36 white LEDs, one Harvard Engineering LEDENG-156-30-NL LED board
One ERP ESS015W-0350-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.1215A, 14.36W, 0.985PF, 14.8%THD(i)



Performance Summary

Total Light Output	942 lm
Luminaire Power	14.4 W
Luminous Efficacy	65.4 lm/W

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

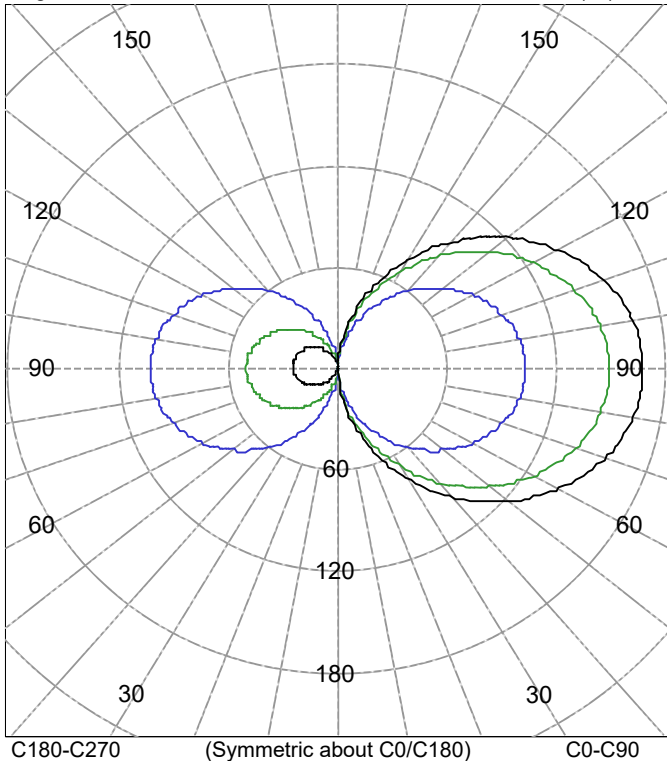


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Legend: C0/C180-Black, C45/C225-Green, C90/C270-Blue (cd)



AVERAGE LUMINANCE (cd/m²)

Gamma	C0	C45	C90
45.0	13892	12369	8539
55.0	14664	13069	9022
4973	15850	13634	9413
75.0	15850	14104	9735
85.0	16288	14487	9999

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	0	0	0	0	0	
5.0	1	1	1	1	1	1
10.0	21	21	19	16	13	
15.0	35	34	31	27	21	6
20.0	48	47	43	37	29	
25.0	61	60	55	47	38	17
30.0	75	73	66	57	46	
35.0	87	85	77	67	53	32
40.0	99	97	88	76	61	
45.0	111	108	99	85	68	51
50.0	122	119	108	93	75	
55.0	131	129	117	101	81	70
60.0	140	137	125	108	86	
65.0	148	145	132	114	91	87
70.0	155	151	138	119	95	
75.0	160	156	142	123	98	100
80.0	164	160	146	126	101	
85.0	166	162	148	127	102	107
90.0	167	163	149	128	103	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	23	N / A	2.4
0-40	55	N / A	5.8
0-60	175	N / A	18.6
0-90	470	N / A	49.9
40-90	414	N / A	44.0
60-90	294	N / A	31.3
90-180	472	N / A	50.1
0-180	942	N / A	100.0

Total Light Output = 942 lm

Signed:

Authorized Signatory

Date of test

30-Jan-2019

Date of report

31-Jan-2019



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	0	0	0	0	0
2.5	0	0	0	0	0
5.0	1	1	1	1	1
7.5	14	14	13	11	9
10.0	21	21	19	16	13
12.5	28	27	25	21	17
15.0	35	34	31	27	21
17.5	42	40	37	32	25
20.0	48	47	43	37	29
22.5	55	53	49	42	34
25.0	61	60	55	47	38
27.5	68	66	60	52	42
30.0	75	73	66	57	46
32.5	81	79	72	62	50
35.0	87	85	77	67	53
37.5	93	91	83	71	57
40.0	99	97	88	76	61
42.5	105	103	94	81	65
45.0	111	108	99	85	68
47.5	116	114	104	89	72
50.0	122	119	108	93	75
52.5	127	124	113	97	78
55.0	131	129	117	101	81
57.5	136	133	121	104	84
60.0	140	137	125	108	86
62.5	144	141	129	111	89
65.0	148	145	132	114	91
67.5	152	148	135	116	93
70.0	155	151	138	119	95
72.5	158	154	140	121	97
75.0	160	156	142	123	98
77.5	162	158	144	124	100
80.0	164	160	146	126	101
82.5	165	161	147	127	102
85.0	166	162	148	127	102
87.5	167	163	148	128	102
90.0	167	163	149	128	103



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	167	163	149	128	103
92.5	167	163	148	128	102
95.0	166	162	148	127	102
97.5	165	161	147	127	101
100.0	164	159	146	126	101
102.5	162	158	144	124	99
105.0	160	155	142	123	98
107.5	157	153	140	121	97
110.0	154	150	137	119	95
112.5	151	147	135	116	93
115.0	147	144	131	113	91
117.5	144	140	128	111	89
120.0	140	136	124	107	86
122.5	135	132	121	104	83
125.0	130	127	116	101	81
127.5	126	122	112	97	78
130.0	120	117	107	93	74
132.5	115	112	103	89	71
135.0	109	107	98	85	68
137.5	104	101	93	80	64
140.0	98	95	87	76	61
142.5	92	89	82	71	57
145.0	86	83	76	66	53
147.5	79	77	71	61	49
150.0	73	71	65	56	45
152.5	67	65	59	51	41
155.0	60	58	54	46	37
157.5	53	52	48	41	33
160.0	47	46	42	36	29
162.5	40	39	36	31	25
165.0	34	33	30	26	21
167.5	27	26	24	21	17
170.0	21	20	19	16	13
172.5	15	14	13	11	9
175.0	9	8	8	7	5
177.5	3	3	3	2	2
180.0	0	0	0	0	0



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120.0Vac, 60.00Hz, 0.1215A, 14.36W, 0.985PF, 14.8%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	0	0	0	0	0
2.5	0	0	0	0	0
5.0	1	1	0	0	0
7.5	9	7	5	2	0
10.0	13	10	6	2	0
12.5	17	13	8	2	0
15.0	21	16	10	2	0
17.5	25	19	12	3	0
20.0	29	22	14	4	0
22.5	34	25	16	5	1
25.0	38	28	18	6	3
27.5	42	31	20	7	4
30.0	46	34	22	9	5
32.5	50	37	24	10	7
35.0	53	39	25	11	8
37.5	57	42	27	12	10
40.0	61	45	29	13	11
42.5	65	48	31	15	12
45.0	68	50	33	16	13
47.5	72	53	34	17	14
50.0	75	55	36	18	15
52.5	78	57	37	19	16
55.0	81	60	39	20	17
57.5	84	62	40	21	18
60.0	86	64	42	22	19
62.5	89	65	43	23	20
65.0	91	67	44	24	20
67.5	93	69	45	25	21
70.0	95	70	46	26	22
72.5	97	71	47	26	22
75.0	98	72	48	27	23
77.5	100	73	48	27	23
80.0	101	74	49	28	24
82.5	102	75	49	28	24
85.0	102	75	50	29	24
87.5	102	75	50	29	24
90.0	103	75	50	29	25



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Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	103	75	50	29	25
92.5	102	75	50	30	25
95.0	102	75	50	30	25
97.5	101	75	49	30	25
100.0	101	74	49	30	25
102.5	99	73	48	30	25
105.0	98	72	48	29	24
107.5	97	71	47	29	24
110.0	95	70	46	29	24
112.5	93	68	45	28	24
115.0	91	67	44	28	23
117.5	89	65	43	27	23
120.0	86	63	42	27	22
122.5	83	61	41	26	22
125.0	81	59	39	26	21
127.5	78	57	38	25	21
130.0	74	55	36	24	20
132.5	71	52	35	23	19
135.0	68	50	33	22	18
137.5	64	47	31	21	18
140.0	61	44	30	20	17
142.5	57	42	28	19	16
145.0	53	39	26	17	15
147.5	49	36	24	16	14
150.0	45	33	22	15	12
152.5	41	30	20	13	11
155.0	37	27	18	12	10
157.5	33	24	16	11	9
160.0	29	21	14	9	8
162.5	25	18	12	8	7
165.0	21	15	10	7	6
167.5	17	12	8	5	4
170.0	13	9	6	4	3
172.5	9	7	4	3	2
175.0	5	4	3	2	1
177.5	2	1	1	1	0
180.0	0	0	0	0	0



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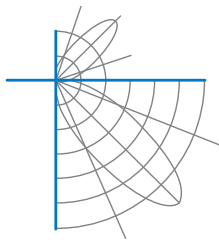
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One ERP ESS015W-0350-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.1215A, 14.36W, 0.985PF, 14.8%THD(i)

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	10
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	92	85	79	73	84	78	72	67	64	60	56	52	49	46	40	38	36	30
2	81	71	62	55	74	65	57	51	53	47	42	42	38	34	32	29	26	21
3	73	61	51	43	66	55	47	40	45	38	33	35	30	26	27	23	19	15
4	66	52	43	35	59	48	39	32	39	32	26	30	25	21	23	19	15	11
5	60	46	36	29	54	42	33	26	34	27	22	27	21	17	20	16	12	9
6	55	41	31	24	49	37	28	22	30	23	18	24	18	14	18	13	10	7
7	50	36	27	21	45	33	25	19	27	20	15	21	16	12	16	12	8	6
8	46	32	24	18	42	30	22	16	24	18	13	19	14	10	14	10	7	5
9	43	29	21	15	39	27	19	14	22	16	11	17	12	9	13	9	6	4
10	40	27	19	13	36	24	17	12	20	14	10	16	11	8	12	8	5	3

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.



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120.0Vac, 60.00Hz, 0.1215A, 14.36W, 0.985PF, 14.8%THD(i)

Test Distance 9.5 m
Test Temperature 24.9 °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

LLIA001067-005B

Integrating Sphere Report

Catalog Number: 3-556 Zenith Sconce

Surface wall mounted, formed steel housing,
translucent white plastic enclosure.

36 white LEDs, one Harvard Engineering LEDENG-156-30-NL LED board

One ERP ESS015W-0350-42 dimmable LED driver.



Performance Summary

Voltage	120.0 Vac
Current	0.1215 A
Power	14.36 W
Frequency	59.99 Hz
Power Factor	0.985
Current THD	14.7 %
Total Luminous Flux	938.9 lm
Efficacy	65.4 lm/W
Chromaticity (x,y)	(0.4423, 0.4034)
(u',v')	(0.2544, 0.5219)
Duv	-0.0010
CCT	2905 K
CRI (Ra)	93
R9	62
TM-30: Rf	91
TM-30: Rg	101

Prepared For:

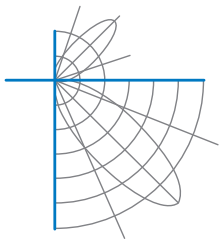
Oxygen Lighting

201 Railhead Road

Fort Worth, TX 76106, USA

Test date: 01/22/2019

Report date: 01/31/2019



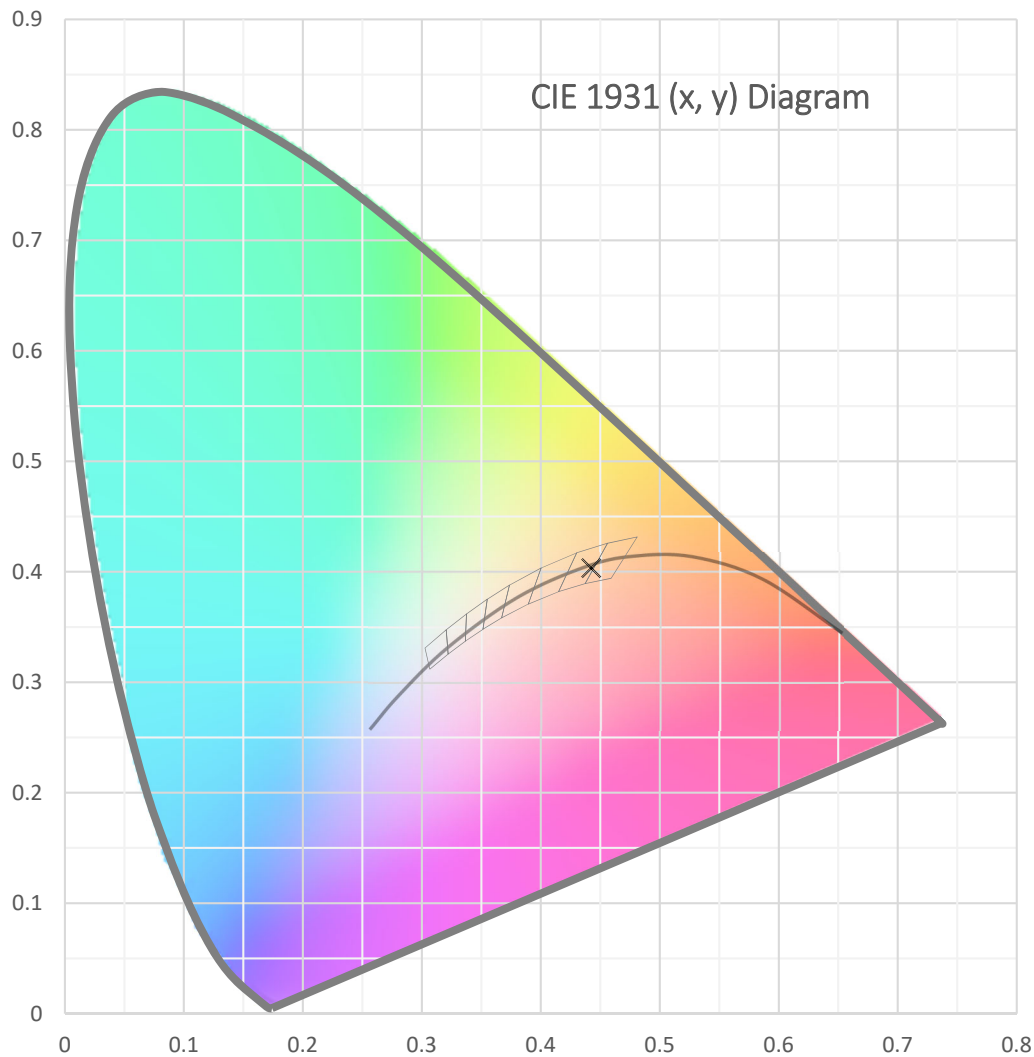
Test Report Number: LLIA001067-005B

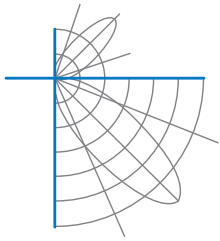
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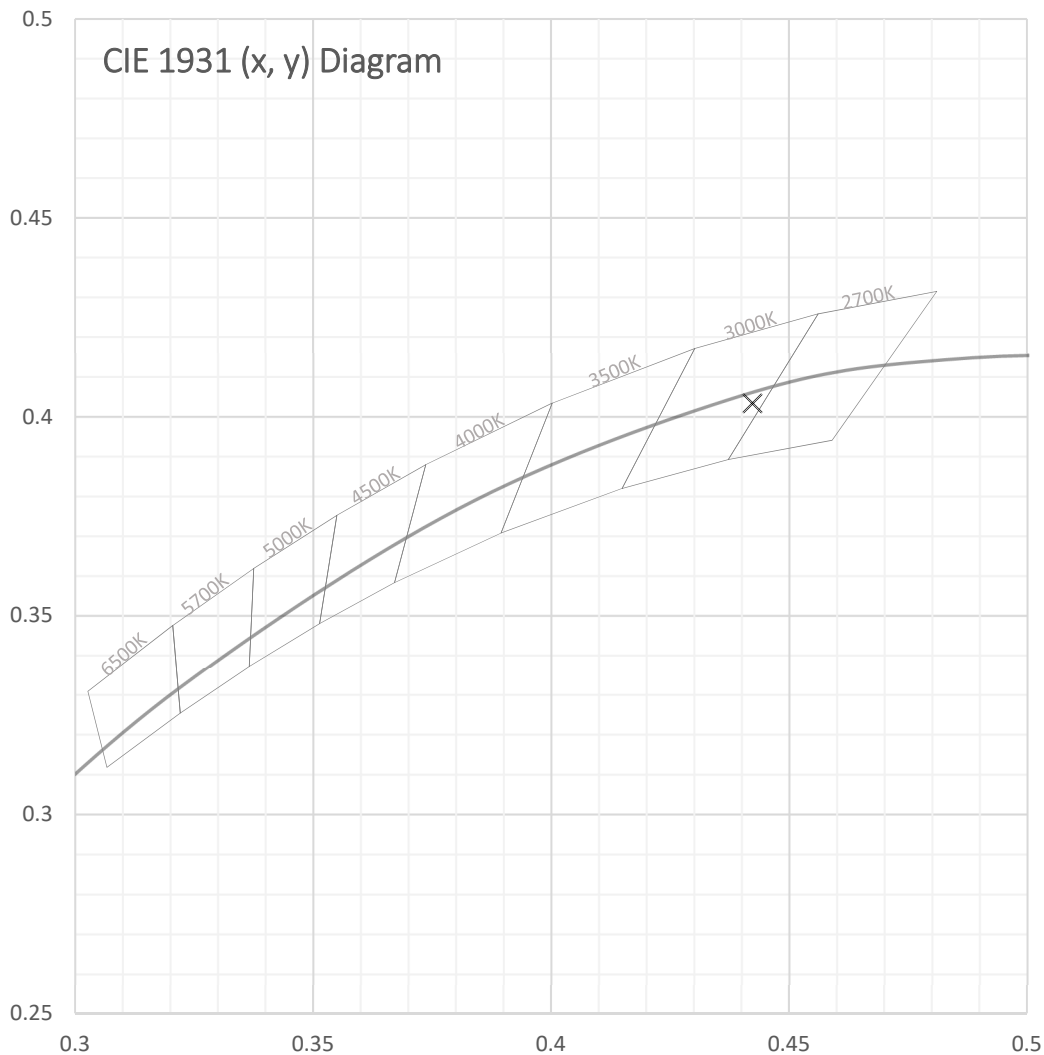
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One ERP ESS015W-0350-42 dimmable LED driver.

Spectral Data

Total Radiant Flux	3.352 W
Total Luminous Flux	938.9 Lm
Chromaticity CIE 1931 (x, y)	(0.4423, 0.4034)
Chromaticity CIE 1976 (u', v')	(0.2544, 0.5219)
Correlated Color Temperature (CCT)	2905 K
Color Rendering Index (Ra)	93
R1	93
R2	96
R3	97
R4	93
R5	93
R6	95
R7	93
R8	83
R9	62
R10	89
R11	93
R12	83
R13	94
R14	97
TM-30: Rf	91
TM-30: Rg	101
Distance from Planckian Locus (Duv)	-0.0010
Scotopic/Photopic Ratio *	1.365

Electrical Data

Voltage	120.0 Vac
Current	0.1215 A
Power	14.36 W
Frequency	59.99 Hz
Power Factor	0.985
Current THD	14.7 %



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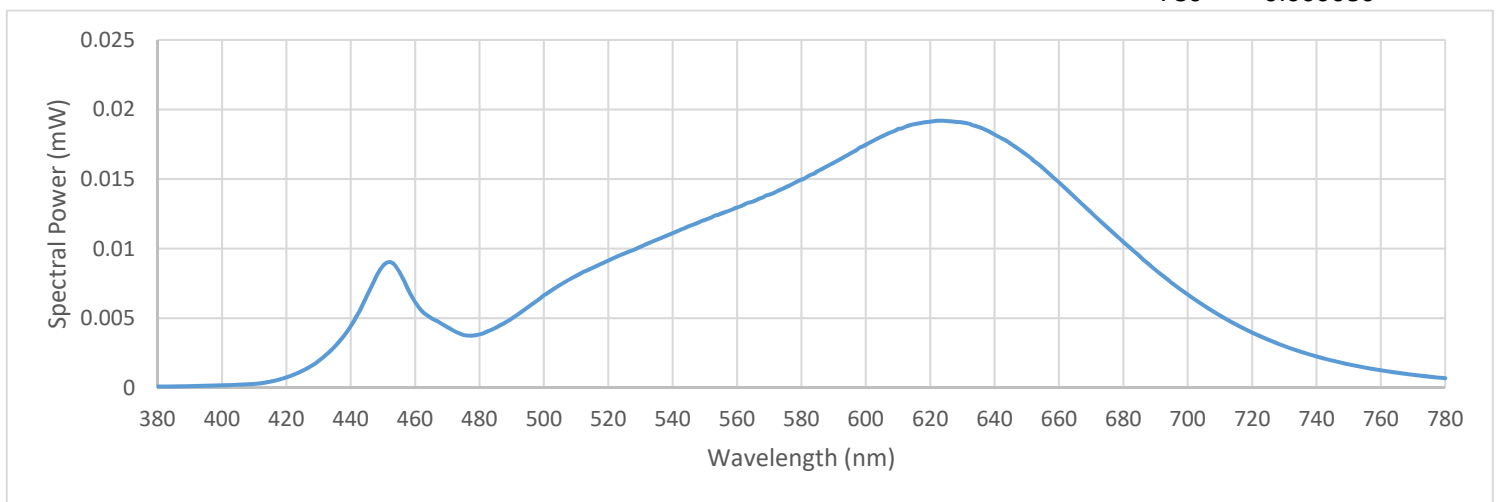
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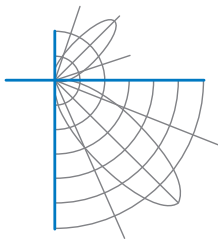
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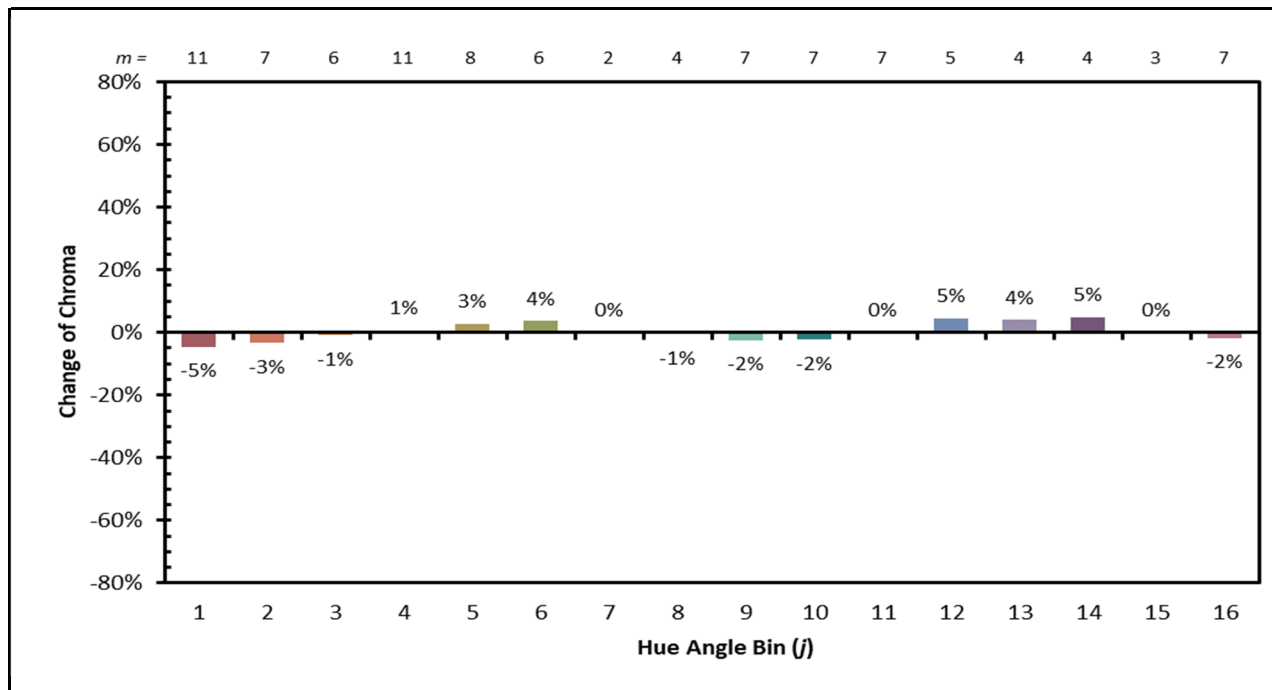
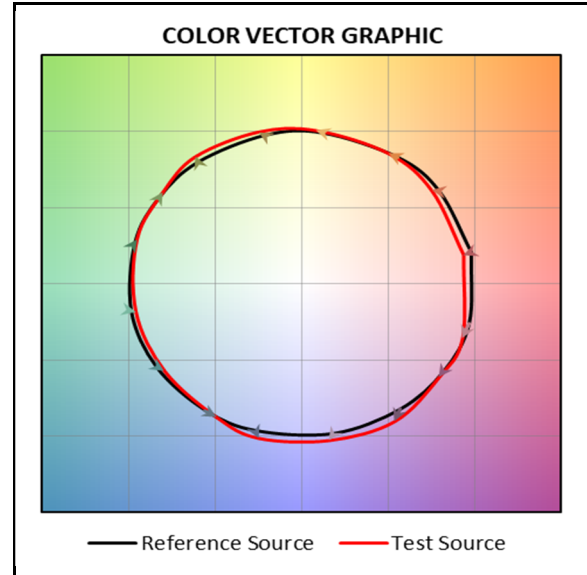
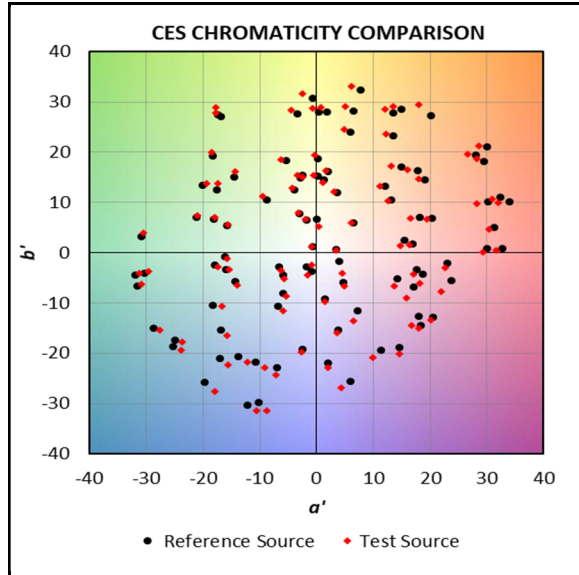
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

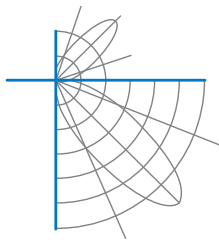
380	0.000091	480	0.003843	580	0.014960	680	0.010470
385	0.000097	485	0.004313	585	0.015564	685	0.009493
390	0.000119	490	0.004985	590	0.016167	690	0.008466
395	0.000143	495	0.005765	595	0.016808	695	0.007538
400	0.000178	500	0.006639	600	0.017452	700	0.006714
405	0.000214	505	0.007387	605	0.018066	705	0.005909
410	0.000279	510	0.008029	610	0.018593	710	0.005190
415	0.000437	515	0.008610	615	0.018934	715	0.004553
420	0.000754	520	0.009161	620	0.019126	720	0.003971
425	0.001221	525	0.009637	625	0.019175	725	0.003454
430	0.001930	530	0.010146	630	0.019066	730	0.003002
435	0.002956	535	0.010623	635	0.018743	735	0.002601
440	0.004414	540	0.011117	640	0.018199	740	0.002247
445	0.006614	545	0.011618	645	0.017537	745	0.001948
450	0.008768	550	0.012056	650	0.016728	750	0.001684
455	0.008352	555	0.012518	655	0.015787	755	0.001456
460	0.006170	560	0.012960	660	0.014775	760	0.001261
465	0.005004	565	0.013389	665	0.013681	765	0.001083
470	0.004362	570	0.013886	670	0.012604	770	0.000929
475	0.003800	575	0.014400	675	0.011534	775	0.000801
						780	0.000686





IES TM-30 Summary





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Surface wall mounted, formed steel housing,
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36 white LEDs, one Harvard Engineering LEDENG-156-30-NL LED board

One ERP ESS015W-0350-42 dimmable LED driver.

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: 25.3 °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
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