

Report of Test

LLIA000954-013A

Catalog Number: 3-670-24 Luna 6" Pendant

Pendant mounted, formed steel and aluminum housing, translucent white glass enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board with white plastic diffuser
One LTF DA6W150C2040LPD010-0014 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0590A, 6.56W, 0.926PF, 11.0%THD(i)



Performance Summary

Total Light Output	368 lm
Luminaire Power	6.56 W
Luminous Efficacy	56.1 lm/W

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



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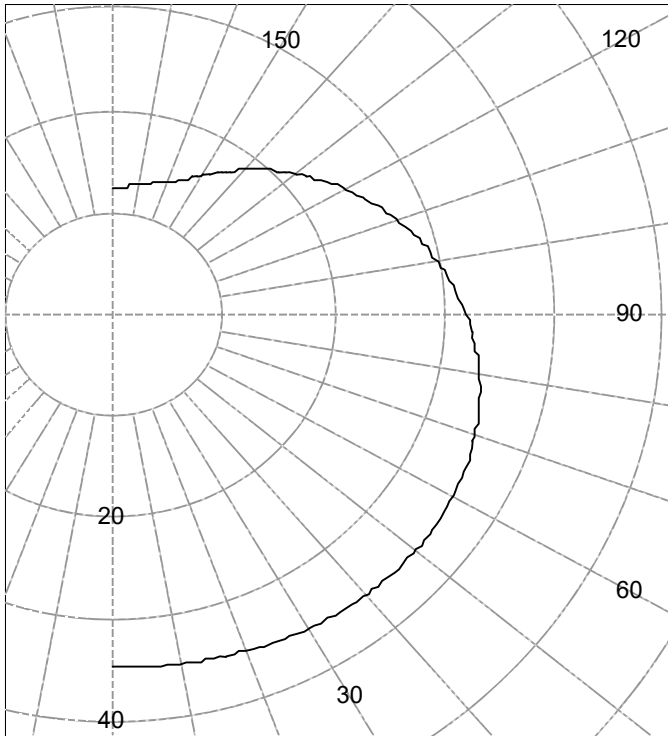
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Legend: All planes - Black (cd)



(Rotational symmetry)

AVERAGE LUMINANCE (cd / m²)

Gamma	C0
45.0	1980
55.0	1976
65.0	1948
75.0	1894
85.0	1815

INTENSITY SUMMARY (cd)

Gamma	All Planes	Flux (lm)	Gamma	C0	Flux (lm)
0	34.8		90	32.0	
5	34.9	3	95	31.0	34
10	34.9		100	29.9	
15	35.1	10	105	28.7	30
20	35.2		110	27.3	
25	35.4	16	115	25.9	26
30	35.6		120	24.5	
35	35.7	22	125	23.0	21
40	35.9		130	21.6	
45	35.9	28	135	20.1	16
50	35.9		140	18.5	
55	35.9	32	145	17.1	11
60	35.7		150	15.7	
65	35.4	35	155	14.6	7
70	34.9		160	13.8	
75	34.4	36	165	13.4	4
80	33.7		170	12.9	
85	32.9	36	175	12.6	1
90	32.0		180	12.6	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	%Lamp	%Luminaire
0-30	30	N / A	8.1
0-40	52	N / A	14.2
0-60	112	N / A	30.5
0-90	219	N / A	59.6
40-90	167	N / A	45.4
60-90	107	N / A	29.2
90-180	149	N / A	40.4
0-180	368	N / A	100.0

Total Light Output = 368 lm

Spacing Criterion:	0-180	1.6
Spacing Criterion:	90-270	1.6

Signed:

Authorized Signatory

Date of test 29-Mar-2018
Date of report 29-Mar-2018



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Intensity (cd) and Flux (lm) data

Gamma	Intensity	Flux	Gamma	Intensity	Flux
0.0	34.8		90.0	32.0	
2.5	34.8		92.5	31.5	
5.0	34.9	3	95.0	31.0	34
7.5	34.9		97.5	30.5	
10.0	34.9		100.0	29.9	
12.5	35.0		102.5	29.3	
15.0	35.1	10	105.0	28.7	30
17.5	35.1		107.5	28.0	
20.0	35.2		110.0	27.3	
22.5	35.3		112.5	26.6	
25.0	35.4	16	115.0	25.9	26
27.5	35.5		117.5	25.2	
30.0	35.6		120.0	24.5	
32.5	35.7		122.5	23.8	
35.0	35.7	22	125.0	23.0	21
37.5	35.8		127.5	22.3	
40.0	35.9		130.0	21.6	
42.5	35.9		132.5	20.8	
45.0	35.9	28	135.0	20.1	16
47.5	36.0		137.5	19.3	
50.0	35.9		140.0	18.5	
52.5	35.9		142.5	17.8	
55.0	35.9	32	145.0	17.1	11
57.5	35.8		147.5	16.4	
60.0	35.7		150.0	15.7	
62.5	35.5		152.5	15.1	
65.0	35.4	35	155.0	14.6	7
67.5	35.1		157.5	14.1	
70.0	34.9		160.0	13.8	
72.5	34.7		162.5	13.5	
75.0	34.4	36	165.0	13.4	4
77.5	34.1		167.5	13.1	
80.0	33.7		170.0	12.9	
82.5	33.4		172.5	12.8	
85.0	32.9	36	175.0	12.6	1
87.5	32.5		177.5	12.6	
90.0	32.0		180.0	12.6	



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Coefficients Of Utilization - Zonal Cavity Method

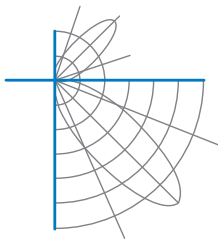
Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0	
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30		10
0	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60	
1	95	89	83	78	88	82	77	73	71	67	63	60	57	54	50	48	45	40	
2	85	75	67	60	78	69	62	56	59	54	49	50	45	41	41	38	35	30	
3	76	64	55	48	70	60	51	45	51	44	39	43	38	33	35	31	28	24	
4	69	56	47	39	64	52	43	37	44	37	32	37	32	27	31	26	23	19	
5	63	49	40	33	58	46	37	31	39	32	27	33	27	23	27	23	19	16	
6	58	44	35	28	53	41	32	26	35	28	23	29	24	20	24	20	16	13	
7	53	39	30	24	49	37	29	23	32	25	20	27	21	17	22	18	14	11	
8	49	36	27	21	46	33	25	20	29	22	17	24	19	15	20	16	12	10	
9	46	32	24	19	42	30	23	17	26	20	15	22	17	13	19	14	11	9	
10	43	30	22	16	40	28	20	15	24	18	14	20	15	12	17	13	10	8	

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	1.0	9.44	9.44
8.0	0.5	12.58	12.58
10.0	0.3	15.73	15.73
12.0	0.2	18.87	18.87
14.0	0.2	22.02	22.02
16.0	0.1	25.16	25.16



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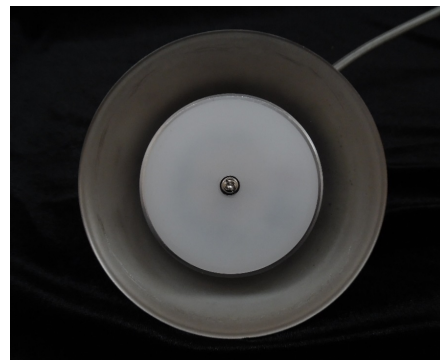
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Test Distance 9.5 m
Test Temperature 25.0 °C

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.

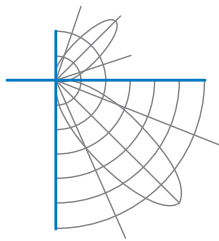
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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

LLIA000954-013B

Integrating Sphere Report

Catalog Number: 3-670-24 Luna 6" Pendant

Pendant mounted, formed steel and aluminum housing, translucent white glass enclosure.

12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board with white plastic diffuser

One LTF DA6W150C2040LPD010-0014 dimmable LED driver.



Performance Summary

Voltage	120.0 Vac
Current	0.0591 A
Power	6.58 W
Frequency	59.97 Hz
Power Factor	0.928
Current THD	10.8 %
Total Luminous Flux	375.9 lm
Efficacy	57.1 lm/W
Chromaticity (x,y)	(0.4321, 0.3969)
(u',v')	(0.2505, 0.5178)
Duv	-0.0022
CCT	3024 K
CRI (Ra)	97
R9	87
TM-30: Rf	93
TM-30: Rg	102

Prepared For:

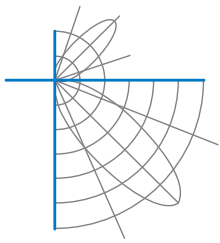
Oxygen Lighting

201 Railhead Road

Fort Worth, TX 76106, USA

Test date: 03/08/2018

Report date: 03/29/2018



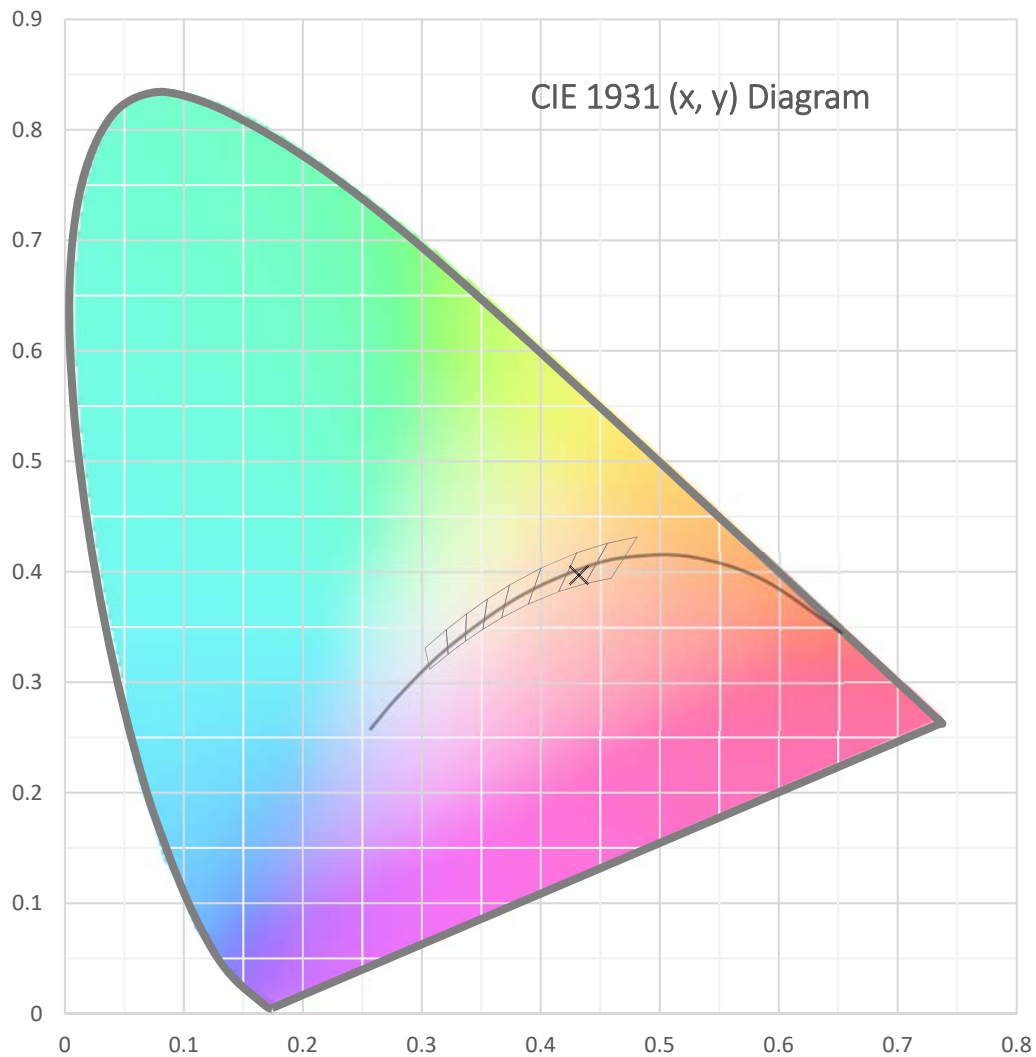
Test Report Number: LLIA000954-013B

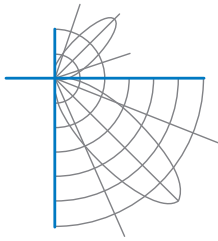
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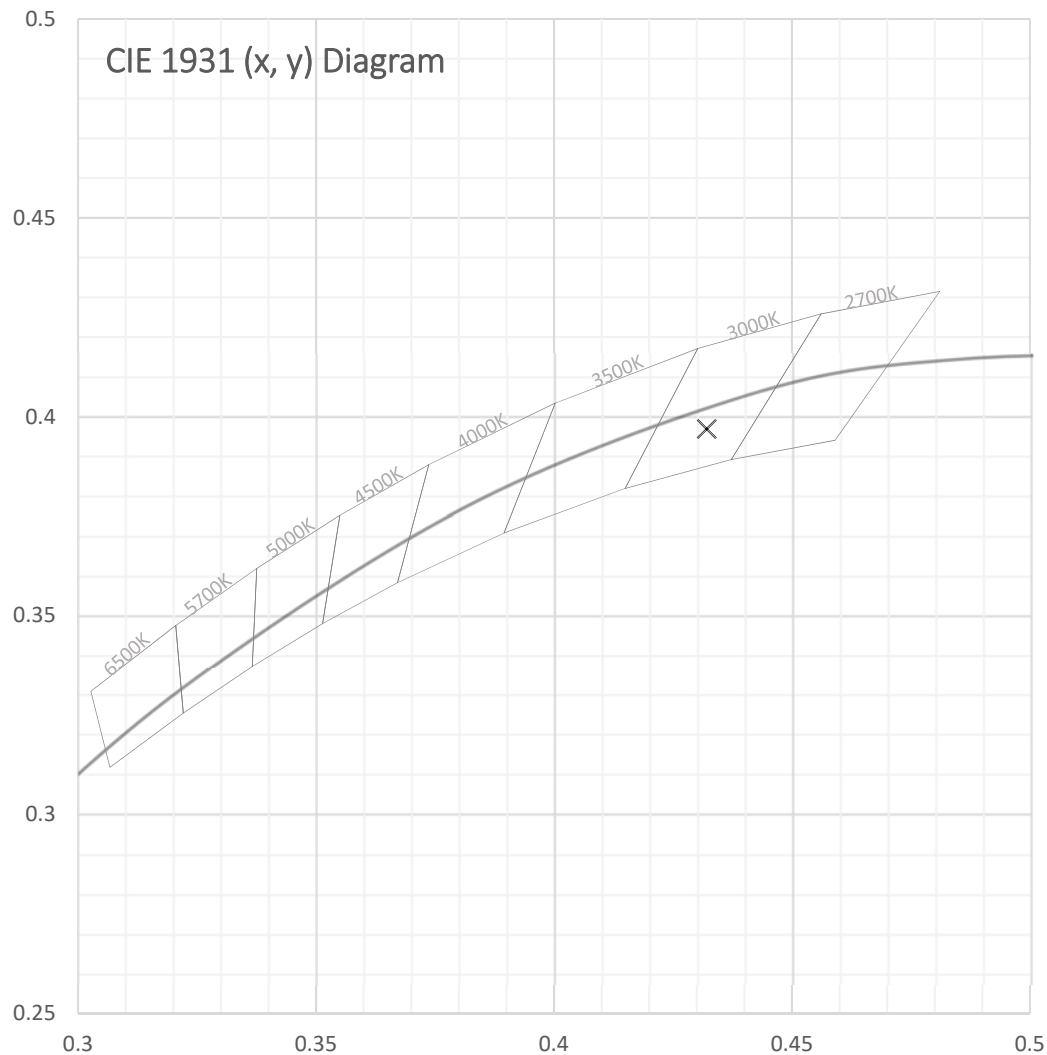
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Spectral Data

Total Radiant Flux	1.415 W
Total Luminous Flux	375.9 Lm
Chromaticity CIE 1931 (x, y)	(0.4321, 0.3969)
Chromaticity CIE 1976 (u', v')	(0.2505, 0.5178)
Correlated Color Temperature (CCT)	3024 K
Color Rendering Index (Ra)	97
R1	99
R2	99
R3	96
R4	97
R5	98
R6	97
R7	97
R8	95
R9	87
R10	95
R11	97
R12	84
R13	99
R14	97
TM-30: Rf	93
TM-30: Rg	102
Distance from Planckian Locus (Duv)	-0.0022
Scotopic/Photopic Ratio *	1.459

Electrical Data

Voltage	120.0 Vac
Current	0.0591 A
Power	6.58 W
Frequency	59.97 Hz
Power Factor	0.928
Current THD	10.8 %



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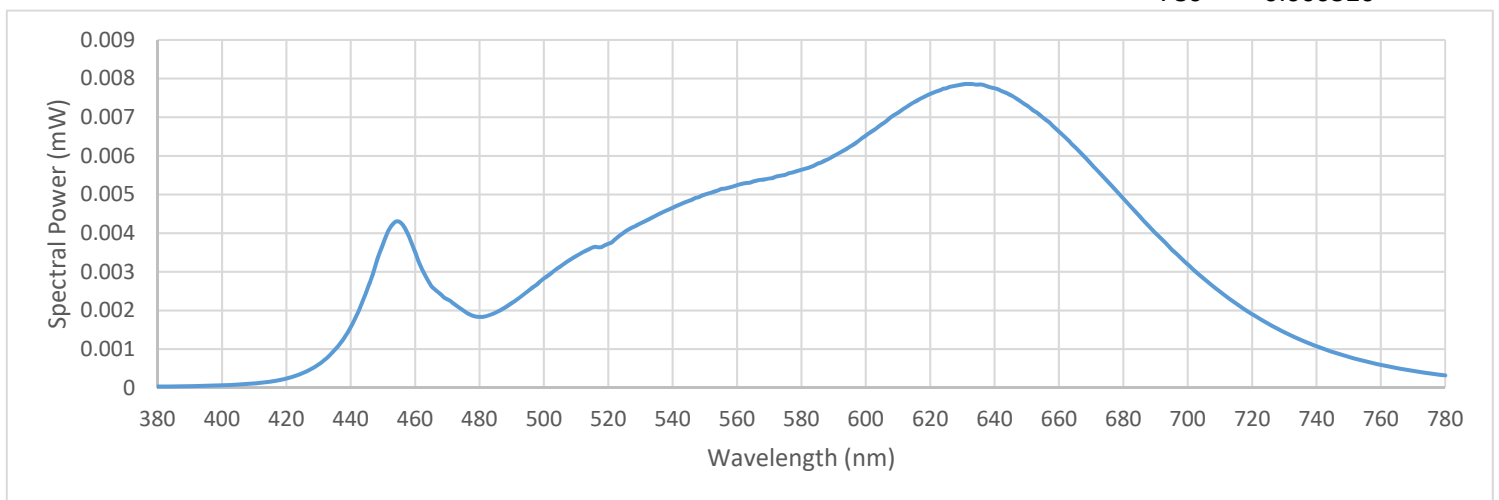
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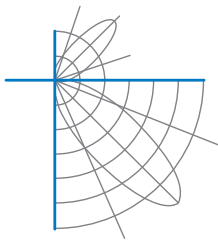
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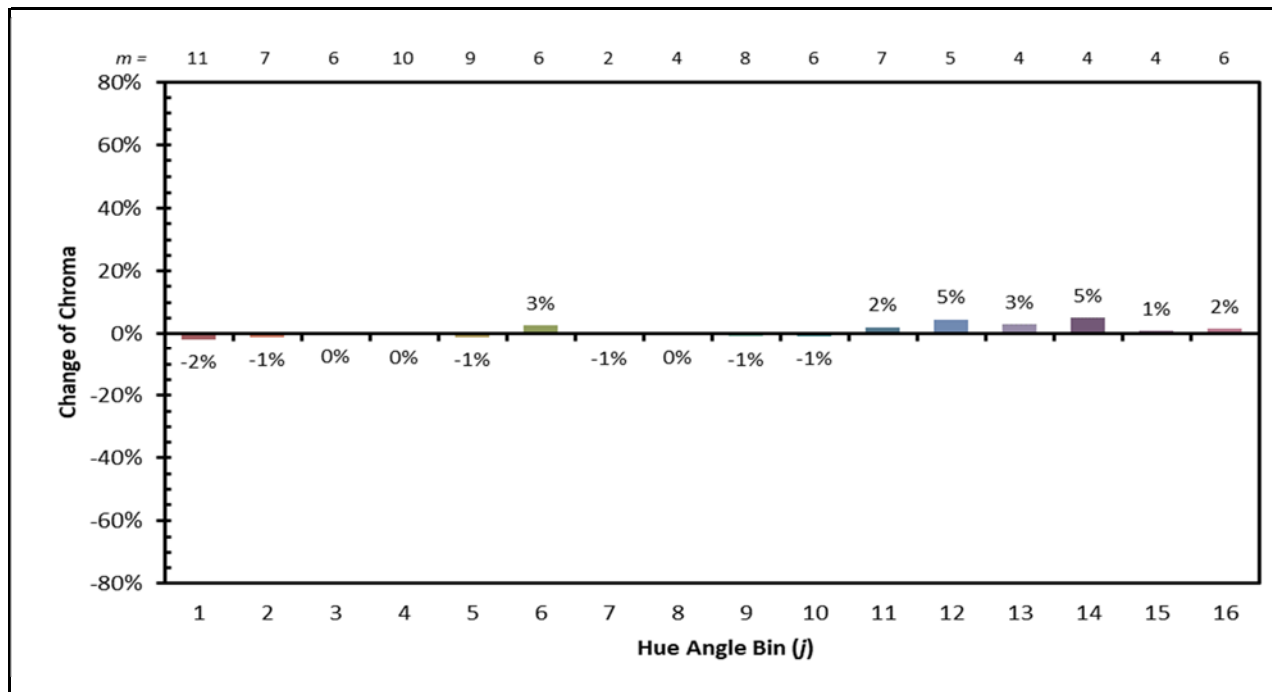
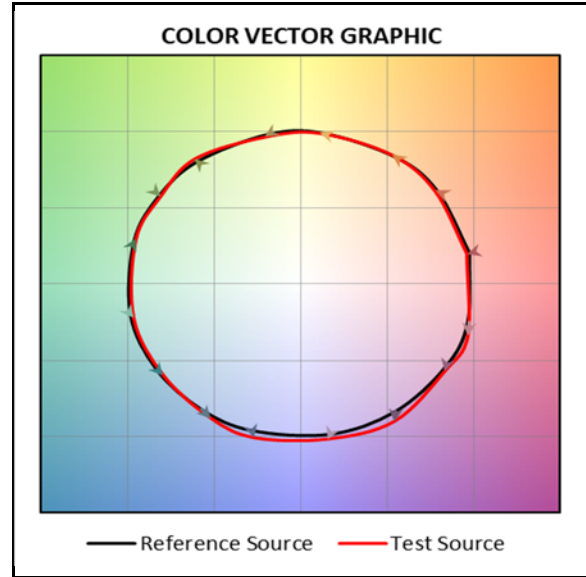
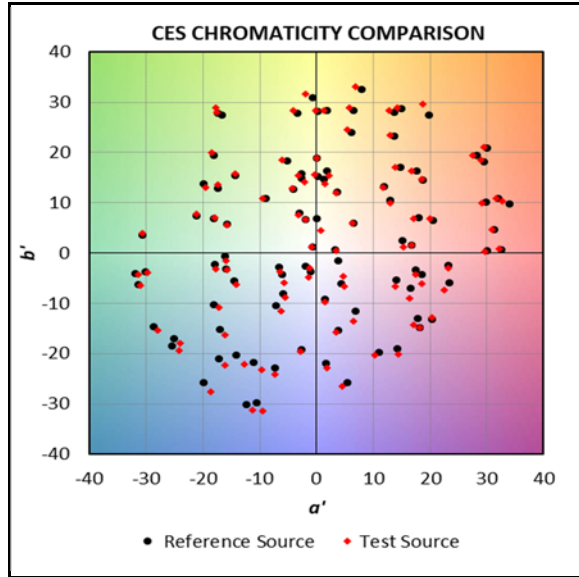
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000033	480	0.001835	580	0.005636	680	0.004894
385	0.000035	485	0.001943	585	0.005799	685	0.004449
390	0.000040	490	0.002194	590	0.005999	690	0.004006
395	0.000051	495	0.002493	595	0.006235	695	0.003576
400	0.000065	500	0.002830	600	0.006523	700	0.003199
405	0.000083	505	0.003134	605	0.006822	705	0.002821
410	0.000111	510	0.003406	610	0.007114	710	0.002482
415	0.000157	515	0.003627	615	0.007391	715	0.002183
420	0.000240	520	0.003727	620	0.007604	720	0.001904
425	0.000375	525	0.004022	625	0.007750	725	0.001655
430	0.000608	530	0.004254	630	0.007851	730	0.001441
435	0.000976	535	0.004462	635	0.007845	735	0.001245
440	0.001566	540	0.004658	640	0.007751	740	0.001071
445	0.002531	545	0.004835	645	0.007570	745	0.000925
450	0.003712	550	0.004999	650	0.007305	750	0.000798
455	0.004298	555	0.005140	655	0.006995	755	0.000687
460	0.003517	560	0.005245	660	0.006636	760	0.000594
465	0.002636	565	0.005337	665	0.006228	765	0.000510
470	0.002289	570	0.005416	670	0.005789	770	0.000436
475	0.001993	575	0.005510	675	0.005357	775	0.000373
						780	0.000320





IES TM-30 Summary





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One LTF DA6W150C2040LPD010-0014 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: 24.1 °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
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