



Report of Test

LLIA000954-014A

Catalog Number: 3-671-22 Luna 8" 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, 0.0589A, 6.57W, 0.930PF, 10.1%THD(i)



Performance Summary

Total Light Output	368 lm
Luminaire Power	6.57 W
Luminous Efficacy	56.0 lm/W

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



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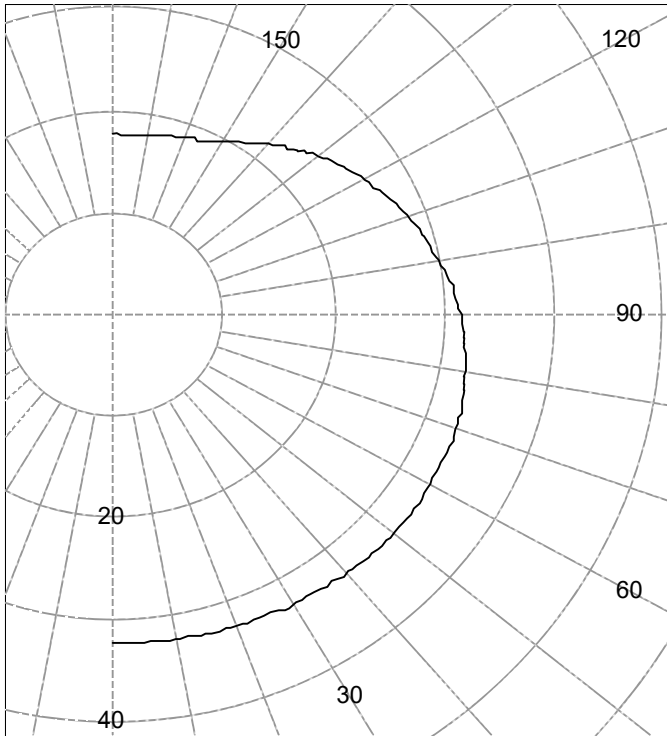
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Legend: All planes - Black (cd)



(Rotational symmetry)

AVERAGE LUMINANCE (cd / m²)

Gamma	C0
45.0	1027
55.0	1031
65.0	1027
75.0	1014
85.0	990

INTENSITY SUMMARY (cd)

Gamma	All Planes	Flux (lm)	Gamma	C0	Flux (lm)
0	32.3		90	31.5	
5	32.4	3	95	30.9	34
10	32.5		100	30.1	
15	32.5	9	105	29.3	31
20	32.6		110	28.4	
25	32.7	15	115	27.4	27
30	32.8		120	26.4	
35	33.0	21	125	25.3	23
40	33.1		130	24.2	
45	33.2	26	135	23.1	18
50	33.3		140	21.8	
55	33.4	30	145	20.7	13
60	33.3		150	19.7	
65	33.2	33	155	18.9	9
70	33.1		160	18.5	
75	32.8	35	165	18.3	5
80	32.5		170	18.0	
85	32.0	35	175	17.8	2
90	31.5		180	17.7	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	%Lamp	%Luminaire
0-30	27	N / A	7.5
0-40	48	N / A	13.1
0-60	104	N / A	28.2
0-90	206	N / A	56.1
40-90	158	N / A	43.0
60-90	103	N / A	27.9
90-180	161	N / A	43.9
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	32.3		90.0	31.5	
2.5	32.4		92.5	31.2	
5.0	32.4	3	95.0	30.9	34
7.5	32.4		97.5	30.5	
10.0	32.5		100.0	30.1	
12.5	32.5		102.5	29.7	
15.0	32.5	9	105.0	29.3	31
17.5	32.6		107.5	28.9	
20.0	32.6		110.0	28.4	
22.5	32.7		112.5	27.9	
25.0	32.7	15	115.0	27.4	27
27.5	32.8		117.5	26.9	
30.0	32.8		120.0	26.4	
32.5	32.9		122.5	25.9	
35.0	33.0	21	125.0	25.3	23
37.5	33.0		127.5	24.8	
40.0	33.1		130.0	24.2	
42.5	33.2		132.5	23.7	
45.0	33.2	26	135.0	23.1	18
47.5	33.3		137.5	22.4	
50.0	33.3		140.0	21.8	
52.5	33.3		142.5	21.2	
55.0	33.4	30	145.0	20.7	13
57.5	33.3		147.5	20.2	
60.0	33.3		150.0	19.7	
62.5	33.3		152.5	19.3	
65.0	33.2	33	155.0	18.9	9
67.5	33.2		157.5	18.7	
70.0	33.1		160.0	18.5	
72.5	33.0		162.5	18.3	
75.0	32.8	35	165.0	18.3	5
77.5	32.7		167.5	18.1	
80.0	32.5		170.0	18.0	
82.5	32.3		172.5	17.8	
85.0	32.0	35	175.0	17.8	2
87.5	31.8		177.5	17.7	
90.0	31.5		180.0	17.7	



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Coefficients Of Utilization - Zonal Cavity Method

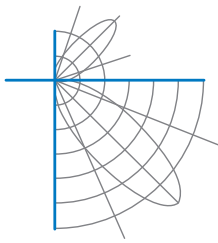
Effective Floor Cavity Reflectance 0.20

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	101	101	101	101	87	87	87	74	74	74	62	62	62	56	
1	95	88	82	77	87	82	76	72	69	65	62	58	55	52	47	45	43	38	
2	84	75	66	60	77	69	62	56	58	52	48	48	44	40	39	36	33	28	
3	76	64	55	48	70	59	51	44	50	43	38	41	36	32	33	29	26	22	
4	69	56	46	39	63	52	43	37	44	37	31	36	31	26	29	25	21	18	
5	63	49	40	33	58	46	37	31	38	32	26	32	26	22	26	21	18	15	
6	58	44	35	28	53	41	32	26	34	28	22	28	23	19	23	19	15	12	
7	53	39	30	24	49	36	28	23	31	24	19	26	20	16	21	17	13	11	
8	49	36	27	21	45	33	25	20	28	22	17	23	18	14	19	15	12	9	
9	46	32	24	19	42	30	22	17	26	19	15	21	16	13	18	13	10	8	
10	43	30	22	16	39	27	20	15	23	17	13	20	15	11	16	12	9	7	

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	0.9	9.38	9.38
8.0	0.5	12.51	12.51
10.0	0.3	15.63	15.63
12.0	0.2	18.76	18.76
14.0	0.2	21.88	21.88
16.0	0.1	25.01	25.01



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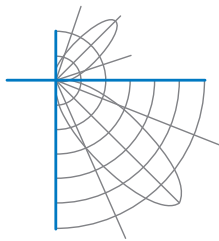
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Test Distance 9.5 m
Test Temperature 24.9 °C

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

LLIA000954-014B

Integrating Sphere Report

Catalog Number: 3-671-22 Luna 8" 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	0.0589 A
Power	6.59 W
Frequency	59.97 Hz
Power Factor	0.934
Current THD	9.8 %

Total Luminous Flux	372.4 lm
Efficacy	56.5 lm/W
Chromaticity (x,y)	(0.4429, 0.4057)
(u',v')	(0.2537, 0.5229)
Duv	-0.0001
CCT	2915 K
CRI (Ra)	97
R9	85
TM-30: Rf	94
TM-30: Rg	101

Prepared For:
Oxygen Lighting
201 Railhead Road
Fort Worth, TX 76106, USA

Test date: 03/08/2018

Report date: 03/29/2018



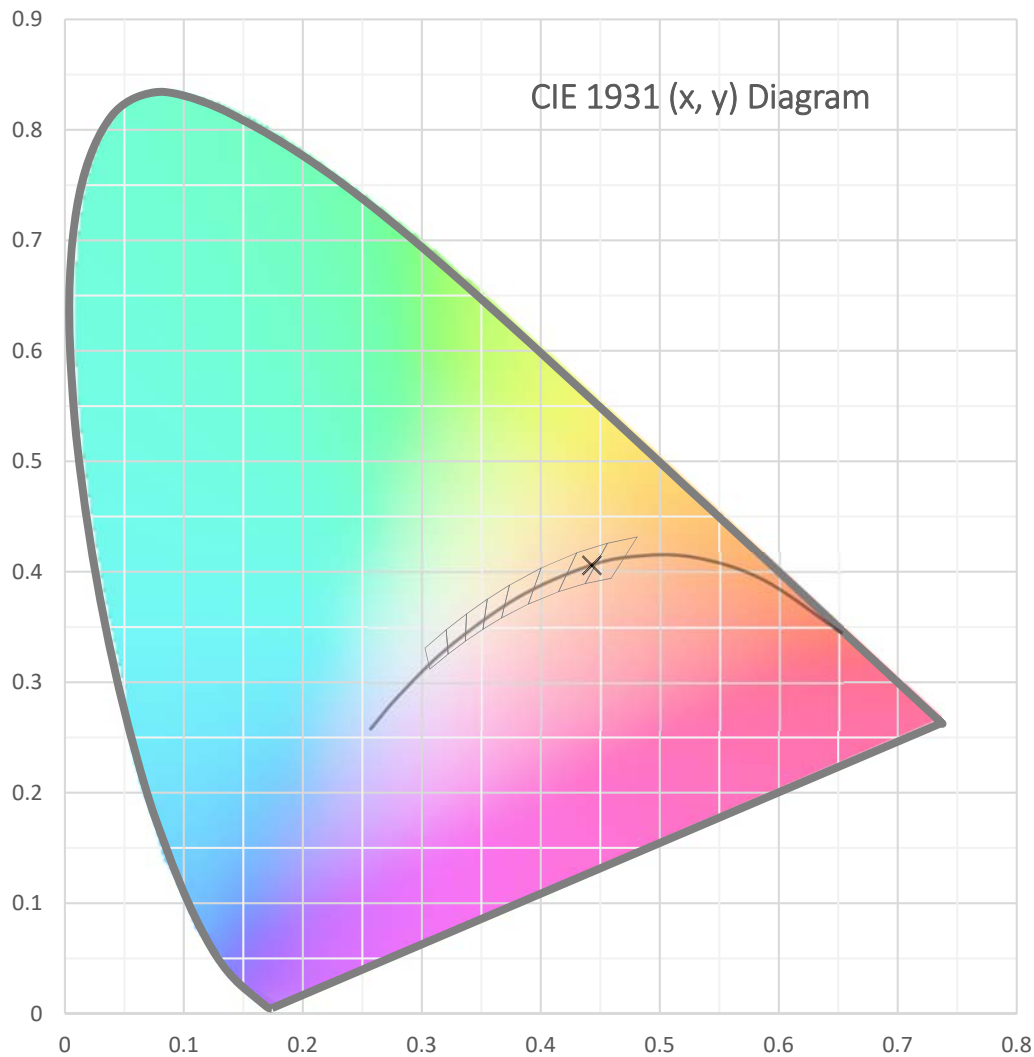
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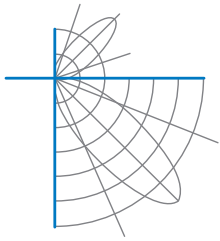
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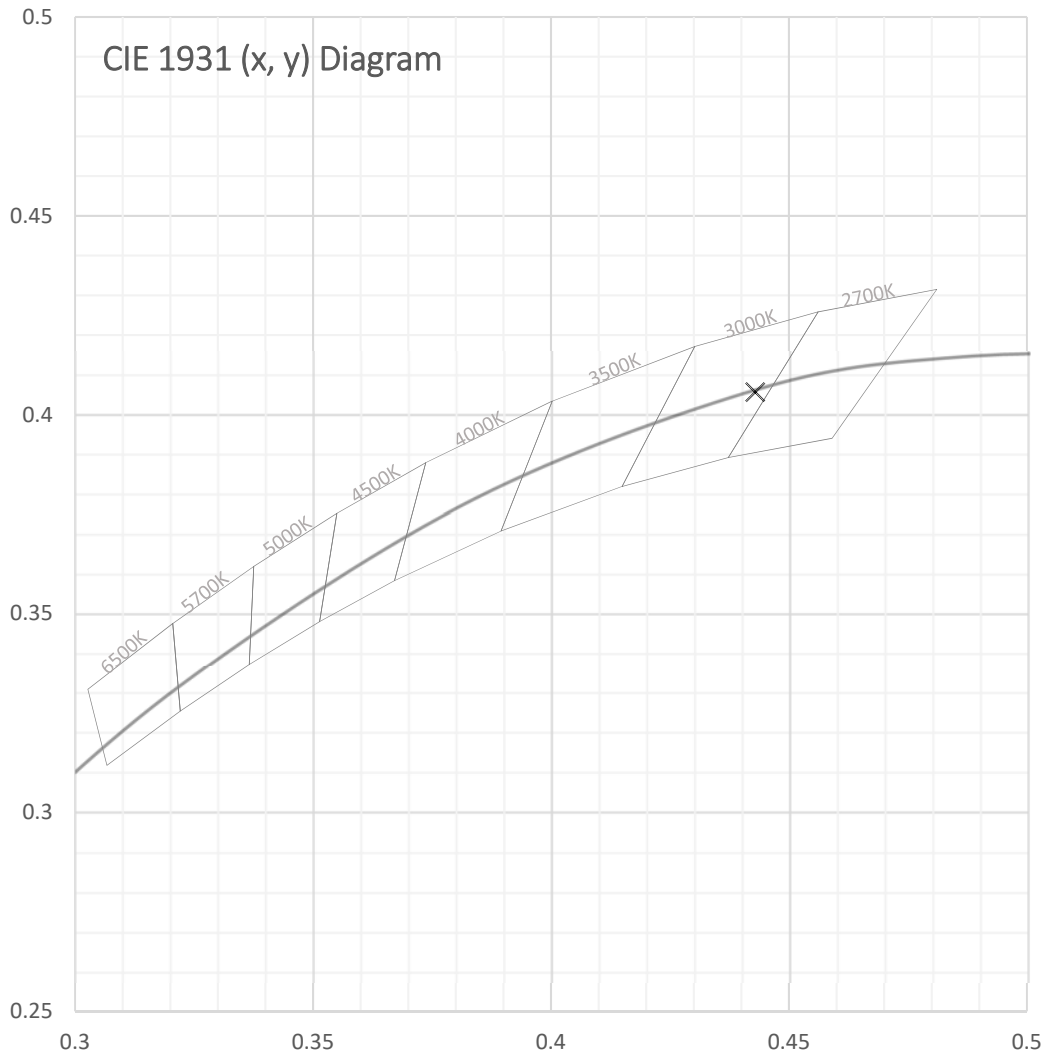
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Spectral Data

Total Radiant Flux	1.404 W
Total Luminous Flux	372.4 Lm
Chromaticity CIE 1931 (x, y)	(0.4429, 0.4057)
Chromaticity CIE 1976 (u', v')	(0.2537, 0.5229)
Correlated Color Temperature (CCT)	2915 K
Color Rendering Index (Ra)	97
R1	98
R2	98
R3	95
R4	97
R5	97
R6	96
R7	97
R8	94
R9	85
R10	92
R11	97
R12	84
R13	98
R14	96
TM-30: Rf	94
TM-30: Rg	101
Distance from Planckian Locus (Duv)	-0.0001
Scotopic/Photopic Ratio *	1.391

Electrical Data

Voltage	120.0 Vac
Current	0.0589 A
Power	6.59 W
Frequency	59.97 Hz
Power Factor	0.934
Current THD	9.8 %



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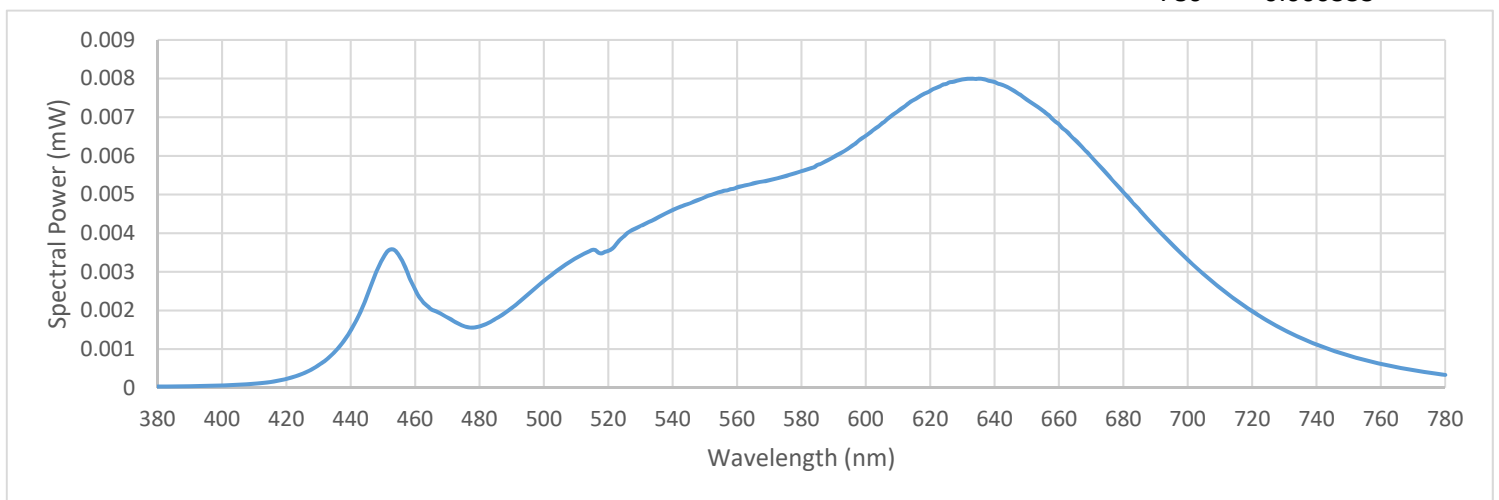
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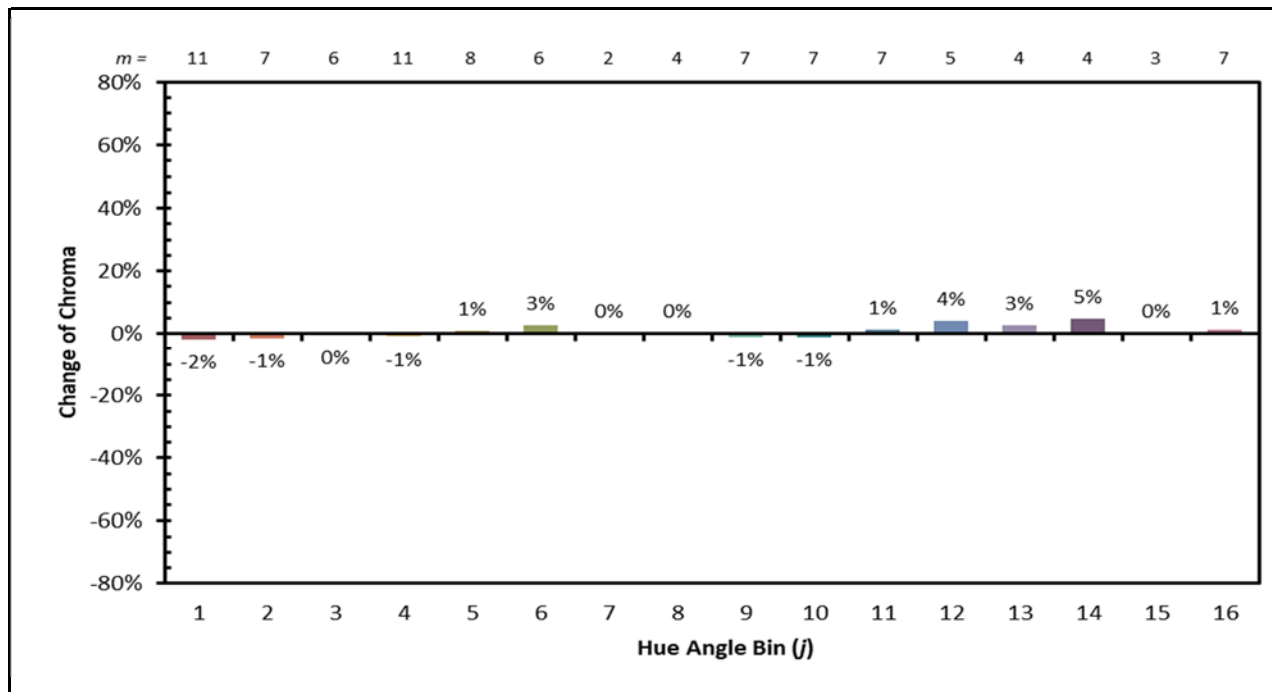
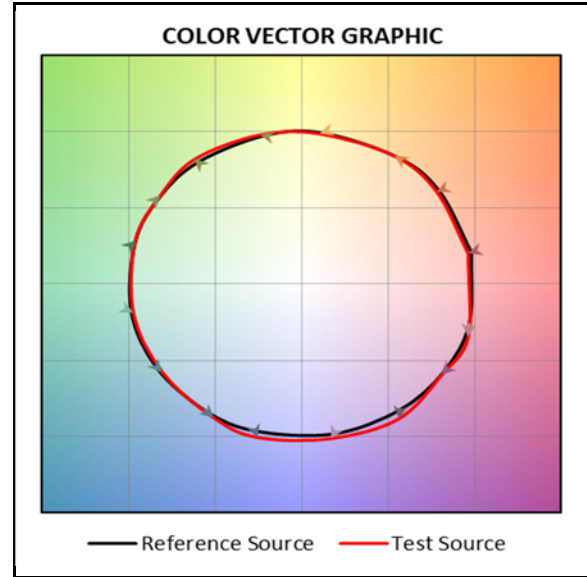
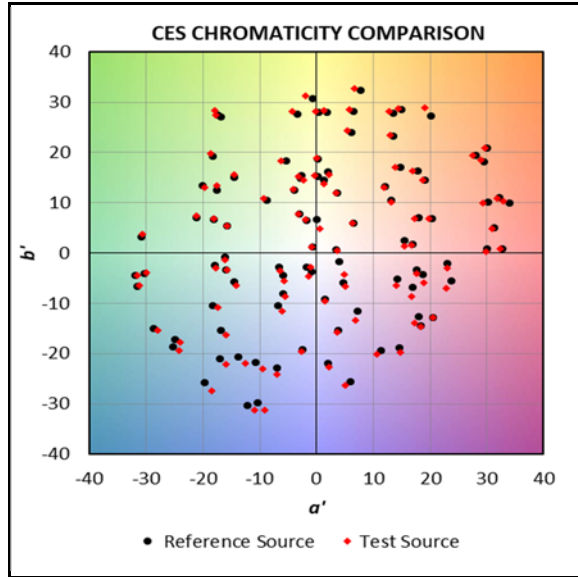
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000033	480	0.001588	580	0.005605	680	0.005058
385	0.000034	485	0.001787	585	0.005767	685	0.004606
390	0.000039	490	0.002066	590	0.005974	690	0.004151
395	0.000048	495	0.002410	595	0.006217	695	0.003712
400	0.000061	500	0.002773	600	0.006519	700	0.003320
405	0.000077	505	0.003087	605	0.006840	705	0.002934
410	0.000103	510	0.003354	610	0.007154	710	0.002582
415	0.000149	515	0.003567	615	0.007453	715	0.002270
420	0.000230	520	0.003544	620	0.007679	720	0.001980
425	0.000362	525	0.003930	625	0.007862	725	0.001722
430	0.000587	530	0.004190	630	0.007973	730	0.001496
435	0.000933	535	0.004385	635	0.007997	735	0.001294
440	0.001480	540	0.004595	640	0.007912	740	0.001116
445	0.002372	545	0.004757	645	0.007734	745	0.000966
450	0.003350	550	0.004927	650	0.007455	750	0.000832
455	0.003426	555	0.005071	655	0.007174	755	0.000718
460	0.002542	560	0.005187	660	0.006819	760	0.000619
465	0.002029	565	0.005291	665	0.006416	765	0.000533
470	0.001821	570	0.005372	670	0.005975	770	0.000455
475	0.001595	575	0.005470	675	0.005532	775	0.000390
						780	0.000333





IES TM-30 Summary





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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: 25.2 °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
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Prorating the performance of the sample for the use of other component
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