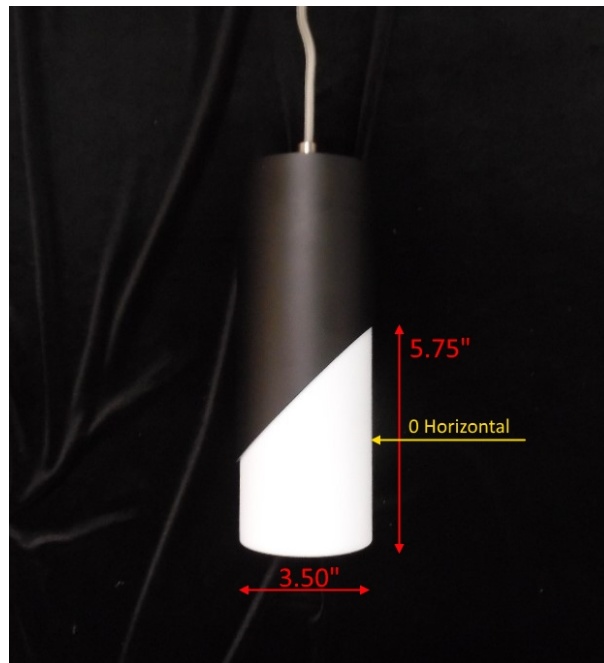


Report of Test

LLIA001067-015A

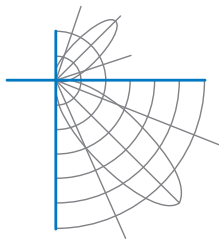
Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with
cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)



Performance Summary

Total Light Output	216 lm
Luminaire Power	7.12 W
Luminous Efficacy	30.3 lm/W

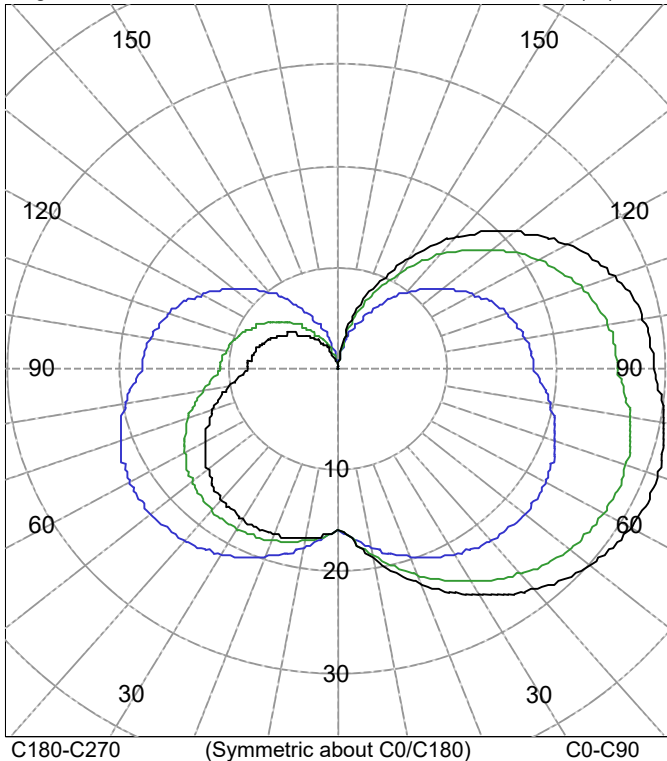
PREPARED FOR : Oxygen Lighting, 201 Railhead Road, Fort Worth, TX 76106, USA



Test Report No. LLIA001067-015A

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)

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



C180-C270 (Symmetric about C0/C180) C0-C90

AVERAGE LUMINANCE (cd/m ²)			
Gamma	C0	C45	C90
45.0	2146	1984	1631
55.0	2152	1964	1558
65.0	2159	1951	1495
75.0	2176	1943	1437
85.0	2198	1945	1384

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	15.9	15.9	15.9	15.9	15.9	
5.0	17.1	17.1	17.0	16.9	16.8	2
10.0	19.0	18.9	18.6	18.3	17.9	
15.0	20.9	20.7	20.2	19.6	18.9	5
20.0	22.6	22.3	21.7	20.7	19.7	
25.0	24.2	23.9	23.0	21.8	20.5	10
30.0	25.7	25.3	24.2	22.8	21.1	
35.0	27.0	26.5	25.3	23.6	21.6	14
40.0	28.2	27.7	26.2	24.2	22.0	
45.0	29.2	28.6	27.0	24.7	22.2	17
50.0	30.0	29.3	27.5	25.1	22.2	
55.0	30.6	29.9	27.9	25.2	22.1	20
60.0	31.0	30.2	28.1	25.2	21.9	
65.0	31.1	30.3	28.1	25.0	21.5	22
70.0	31.1	30.2	27.9	24.7	21.0	
75.0	30.8	29.9	27.5	24.2	20.4	22
80.0	30.4	29.4	27.0	23.5	19.6	
85.0	29.6	28.7	26.2	22.7	18.7	21
90.0	28.9	28.0	25.5	21.9	17.9	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	17	N / A	7.7
0-40	30	N / A	14.0
0-60	68	N / A	31.3
0-90	132	N / A	61.0
40-90	101	N / A	47.0
60-90	64	N / A	29.7
90-180	84	N / A	39.0
0-180	216	N / A	100.0

Total Light Output = 216 lm

Spacing Criterion: 0-180 2.4
Spacing Criterion: 90-270 2.0

Signed:

Authorized Signatory

Date of test 9-Jan-2019
Date of report 10-Jan-2019



Test Report No. LLIA001067-015A

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	15.9	15.9	15.9	15.9	15.9
2.5	16.2	16.2	16.2	16.3	16.3
5.0	17.1	17.1	17.0	16.9	16.8
7.5	18.1	18.0	17.8	17.6	17.4
10.0	19.0	18.9	18.6	18.3	17.9
12.5	19.9	19.8	19.4	18.9	18.4
15.0	20.9	20.7	20.2	19.6	18.9
17.5	21.7	21.5	20.9	20.2	19.3
20.0	22.6	22.3	21.7	20.7	19.7
22.5	23.4	23.1	22.4	21.3	20.1
25.0	24.2	23.9	23.0	21.8	20.5
27.5	24.9	24.6	23.7	22.3	20.8
30.0	25.7	25.3	24.2	22.8	21.1
32.5	26.4	25.9	24.8	23.2	21.4
35.0	27.0	26.5	25.3	23.6	21.6
37.5	27.6	27.1	25.8	23.9	21.8
40.0	28.2	27.7	26.2	24.2	22.0
42.5	28.7	28.1	26.6	24.5	22.1
45.0	29.2	28.6	27.0	24.7	22.2
47.5	29.6	29.0	27.3	24.9	22.2
50.0	30.0	29.3	27.5	25.1	22.2
52.5	30.3	29.6	27.8	25.2	22.2
55.0	30.6	29.9	27.9	25.2	22.1
57.5	30.8	30.1	28.0	25.2	22.0
60.0	31.0	30.2	28.1	25.2	21.9
62.5	31.1	30.3	28.1	25.1	21.7
65.0	31.1	30.3	28.1	25.0	21.5
67.5	31.1	30.3	28.0	24.9	21.3
70.0	31.1	30.2	27.9	24.7	21.0
72.5	31.0	30.1	27.8	24.5	20.7
75.0	30.8	29.9	27.5	24.2	20.4
77.5	30.6	29.7	27.3	23.9	20.0
80.0	30.4	29.4	27.0	23.5	19.6
82.5	30.0	29.1	26.6	23.1	19.1
85.0	29.6	28.7	26.2	22.7	18.7
87.5	29.3	28.3	25.8	22.3	18.2
90.0	28.9	28.0	25.5	21.9	17.9



Test Report No. LLIA001067-015A

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	28.9	28.0	25.5	21.9	17.9
92.5	28.8	27.9	25.4	21.9	17.8
95.0	28.7	27.8	25.3	21.8	17.7
97.5	28.6	27.7	25.2	21.6	17.5
100.0	28.3	27.4	24.9	21.4	17.4
102.5	28.1	27.1	24.7	21.2	17.1
105.0	27.7	26.8	24.4	20.9	16.9
107.5	27.3	26.4	24.0	20.5	16.5
110.0	26.8	25.9	23.5	20.1	16.2
112.5	26.2	25.4	23.0	19.7	15.8
115.0	25.6	24.8	22.5	19.2	15.4
117.5	25.0	24.2	21.9	18.7	14.9
120.0	24.3	23.5	21.3	18.1	14.4
122.5	23.5	22.8	20.6	17.5	14.0
125.0	22.8	22.0	19.9	16.9	13.4
127.5	21.9	21.2	19.1	16.2	12.9
130.0	21.0	20.3	18.3	15.5	12.3
132.5	20.1	19.4	17.4	14.7	11.7
135.0	19.1	18.4	16.6	14.0	11.1
137.5	18.0	17.4	15.6	13.2	10.4
140.0	17.0	16.3	14.7	12.4	9.8
142.5	15.8	15.2	13.7	11.5	9.1
145.0	14.7	14.2	12.7	10.7	8.4
147.5	13.6	13.1	11.7	9.8	7.7
150.0	12.4	11.9	10.7	9.0	7.1
152.5	11.2	10.8	9.7	8.1	6.3
155.0	10.0	9.6	8.6	7.2	5.7
157.5	8.8	8.5	7.6	6.3	4.9
160.0	7.7	7.4	6.6	5.5	4.3
162.5	6.5	6.3	5.6	4.6	3.6
165.0	5.3	5.1	4.6	3.8	2.9
167.5	4.2	4.1	3.6	2.9	2.2
170.0	2.8	2.7	2.4	1.9	1.4
172.5	0.8	0.8	0.7	0.6	0.4
175.0	0.0	0.0	0.0	0.0	0.0
177.5	0.0	0.0	0.0	0.0	0.0
180.0	0.0	0.0	0.0	0.0	0.0

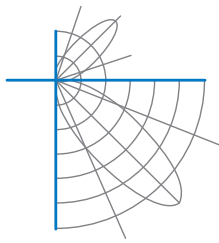


Test Report No. LLIA001067-015A

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with
cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	15.9	15.9	15.9	15.9	15.9
2.5	16.3	16.3	16.4	16.4	16.4
5.0	16.8	16.7	16.6	16.6	16.6
7.5	17.4	17.1	16.9	16.8	16.7
10.0	17.9	17.5	17.2	17.0	16.9
12.5	18.4	17.8	17.4	17.1	17.1
15.0	18.9	18.2	17.6	17.3	17.2
17.5	19.3	18.5	17.8	17.4	17.2
20.0	19.7	18.7	17.9	17.5	17.3
22.5	20.1	19.0	18.1	17.5	17.3
25.0	20.5	19.2	18.1	17.5	17.3
27.5	20.8	19.3	18.2	17.5	17.3
30.0	21.1	19.5	18.2	17.5	17.2
32.5	21.4	19.6	18.2	17.4	17.1
35.0	21.6	19.7	18.2	17.2	17.0
37.5	21.8	19.7	18.1	17.1	16.8
40.0	22.0	19.7	18.0	17.0	16.6
42.5	22.1	19.7	17.9	16.8	16.4
45.0	22.2	19.7	17.7	16.5	16.1
47.5	22.2	19.6	17.5	16.2	15.8
50.0	22.2	19.5	17.3	16.0	15.4
52.5	22.2	19.3	17.0	15.6	15.1
55.0	22.1	19.2	16.7	15.3	14.8
57.5	22.0	18.9	16.4	14.9	14.4
60.0	21.9	18.7	16.1	14.5	13.9
62.5	21.7	18.4	15.7	14.1	13.5
65.0	21.5	18.1	15.3	13.6	13.1
67.5	21.3	17.7	14.9	13.2	12.6
70.0	21.0	17.4	14.5	12.7	12.1
72.5	20.7	17.0	14.0	12.2	11.6
75.0	20.4	16.6	13.5	11.7	11.1
77.5	20.0	16.1	13.0	11.2	10.6
80.0	19.6	15.7	12.6	10.7	10.1
82.5	19.1	15.2	12.0	10.2	9.5
85.0	18.7	14.7	11.5	9.6	9.0
87.5	18.2	14.2	11.0	9.1	8.5
90.0	17.9	13.9	10.7	8.9	8.2

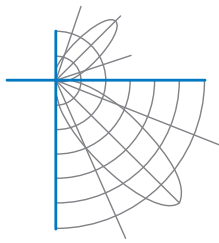


Test Report No. LLIA001067-015A

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	17.9	13.9	10.7	8.9	8.2
92.5	17.8	13.8	10.6	8.8	8.2
95.0	17.7	13.7	10.6	8.7	8.1
97.5	17.5	13.5	10.4	8.6	8.0
100.0	17.4	13.3	10.3	8.5	7.8
102.5	17.1	13.1	10.1	8.3	7.7
105.0	16.9	12.9	9.9	8.2	7.6
107.5	16.5	12.7	9.7	8.0	7.4
110.0	16.2	12.4	9.5	7.8	7.2
112.5	15.8	12.1	9.3	7.6	7.1
115.0	15.4	11.8	9.0	7.4	6.8
117.5	14.9	11.4	8.7	7.1	6.6
120.0	14.4	11.0	8.4	6.9	6.4
122.5	14.0	10.7	8.1	6.7	6.2
125.0	13.4	10.2	7.8	6.4	5.9
127.5	12.9	9.8	7.5	6.1	5.7
130.0	12.3	9.3	7.1	5.8	5.4
132.5	11.7	8.9	6.7	5.6	5.1
135.0	11.1	8.4	6.4	5.2	4.8
137.5	10.4	7.9	6.0	4.9	4.5
140.0	9.8	7.4	5.6	4.6	4.2
142.5	9.1	6.9	5.2	4.2	3.9
145.0	8.4	6.4	4.8	3.9	3.6
147.5	7.7	5.8	4.4	3.6	3.3
150.0	7.1	5.3	4.0	3.2	3.0
152.5	6.3	4.8	3.6	2.9	2.6
155.0	5.7	4.2	3.2	2.5	2.3
157.5	4.9	3.7	2.7	2.2	2.0
160.0	4.3	3.1	2.3	1.9	1.7
162.5	3.6	2.6	1.9	1.5	1.4
165.0	2.9	2.1	1.5	1.2	1.1
167.5	2.2	1.6	1.1	0.9	0.8
170.0	1.4	1.0	0.7	0.5	0.5
172.5	0.4	0.3	0.2	0.1	0.1
175.0	0.0	0.0	0.0	0.0	0.0
177.5	0.0	0.0	0.0	0.0	0.0
180.0	0.0	0.0	0.0	0.0	0.0



Test Number: LLIA001067-015A

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)

Coefficients Of Utilization - Zonal Cavity Method

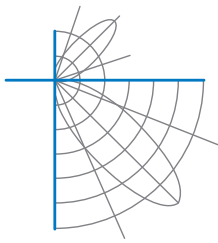
Effective Floor Cavity Reflectance 0.20

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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66	61
1	95	89	83	78	89	83	78	73	71	67	64	61	58	55	51	49	46	42
2	85	75	67	60	79	70	62	56	60	54	49	51	46	42	42	39	35	31
3	76	64	55	48	70	60	51	45	51	45	39	43	38	33	36	32	28	24
4	69	56	46	39	64	52	43	37	45	38	32	38	32	27	31	27	23	19
5	63	49	40	33	58	46	37	31	39	32	27	33	27	23	27	23	19	16
6	58	44	34	28	53	41	32	26	35	28	23	30	24	19	25	20	16	13
7	53	39	30	24	49	37	28	22	31	25	20	27	21	17	22	18	14	11
8	49	35	27	21	46	33	25	19	29	22	17	24	19	15	20	16	12	10
9	46	32	24	18	42	30	22	17	26	20	15	22	17	13	19	14	11	9
10	43	29	21	16	40	27	20	15	24	18	13	20	15	11	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

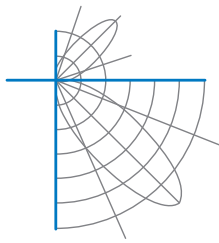
Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	0.4	11.94	11.87
8.0	0.2	15.93	15.83
10.0	0.2	19.91	19.78
12.0	0.1	23.89	23.74
14.0	0.1	27.87	27.70
16.0	0.1	31.85	31.65



Test Report No. LLIA001067-015A

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with
cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)





Test Report No. LLIA001067-015A

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with
cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0603A, 7.12W, 0.985PF, 12.5%THD(i)

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.

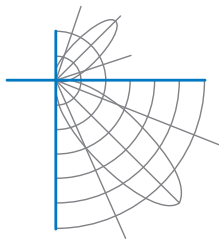
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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

LLIA001067-015B

Integrating Sphere Report

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure

Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.

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

One ERP ESS010W-0180-42 dimmable LED driver.



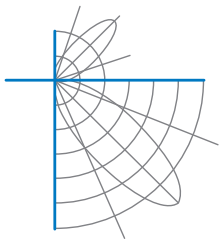
Performance Summary

Voltage	120.0 Vac
Current	0.0602 A
Power	7.12 W
Frequency	59.99 Hz
Power Factor	0.986
Current THD	12.6 %
Total Luminous Flux	215.0 lm
Efficacy	30.2 lm/W
Chromaticity (x,y)	(0.4413, 0.4019)
(u',v')	(0.2544, 0.5212)
Duv	-0.0014
CCT	2909 K
CRI (Ra)	97
R9	85
TM-30: Rf	93
TM-30: Rg	101

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

Test date: 01/07/2019

Report date: 01/09/2019



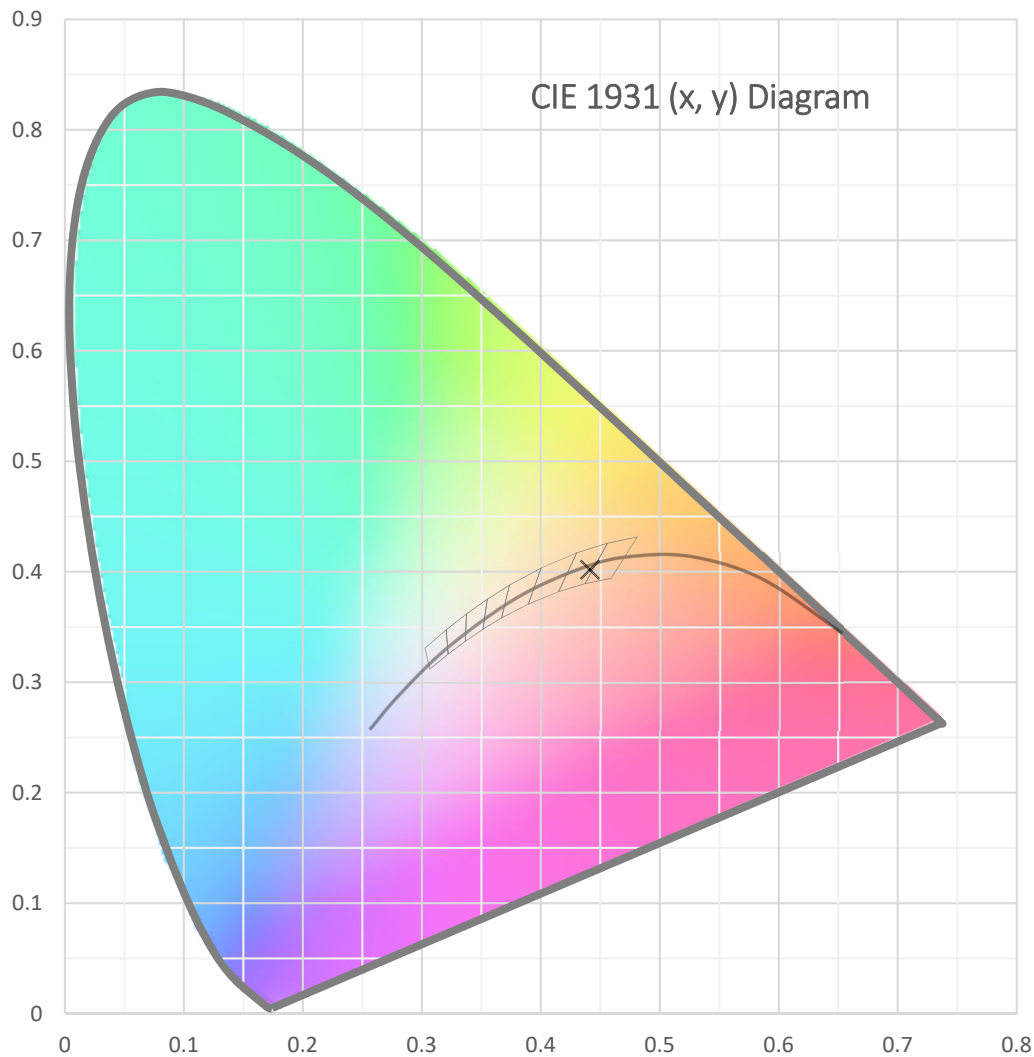
Test Report Number: LLIA001067-015B

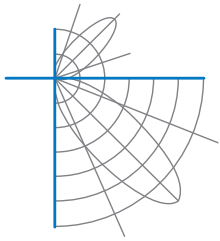
Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure

Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.

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

One ERP ESS010W-0180-42 dimmable LED driver.





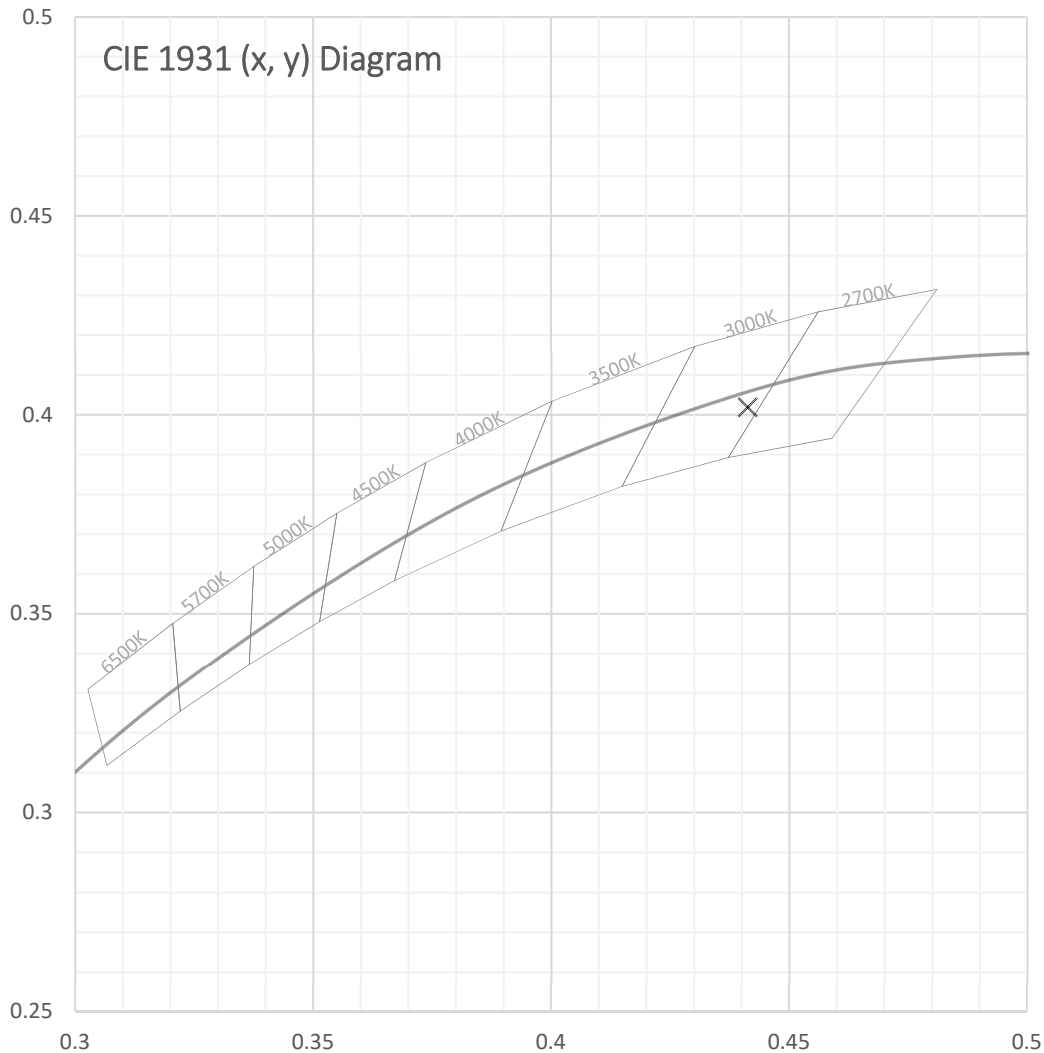
Test Report Number: LLIA001067-015B

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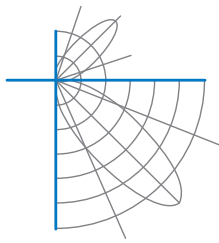
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board

One ERP ESS010W-0180-42 dimmable LED driver.

Spectral Data	Total Radiant Flux	0.808 W
	Total Luminous Flux	215.0 Lm
	Chromaticity CIE 1931 (x, y)	(0.4413, 0.4019)
	Chromaticity CIE 1976 (u', v')	(0.2544, 0.5212)
	Correlated Color Temperature (CCT)	2909 K
	Color Rendering Index (Ra)	97
	R1	99
	R2	99
	R3	97
	R4	98
	R5	98
	R6	97
	R7	96
	R8	93
	R9	85
	R10	95
	R11	97
	R12	84
	R13	99
	R14	97
	TM-30: Rf	93
	TM-30: Rg	101
	Distance from Planckian Locus (Duv)	-0.0014
	Scotopic/Photopic Ratio *	1.411

Electrical Data

Voltage	120.0 Vac
Current	0.0602 A
Power	7.12 W
Frequency	59.99 Hz
Power Factor	0.986
Current THD	12.6 %



Test Report Number: LLIA001067-015B

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure

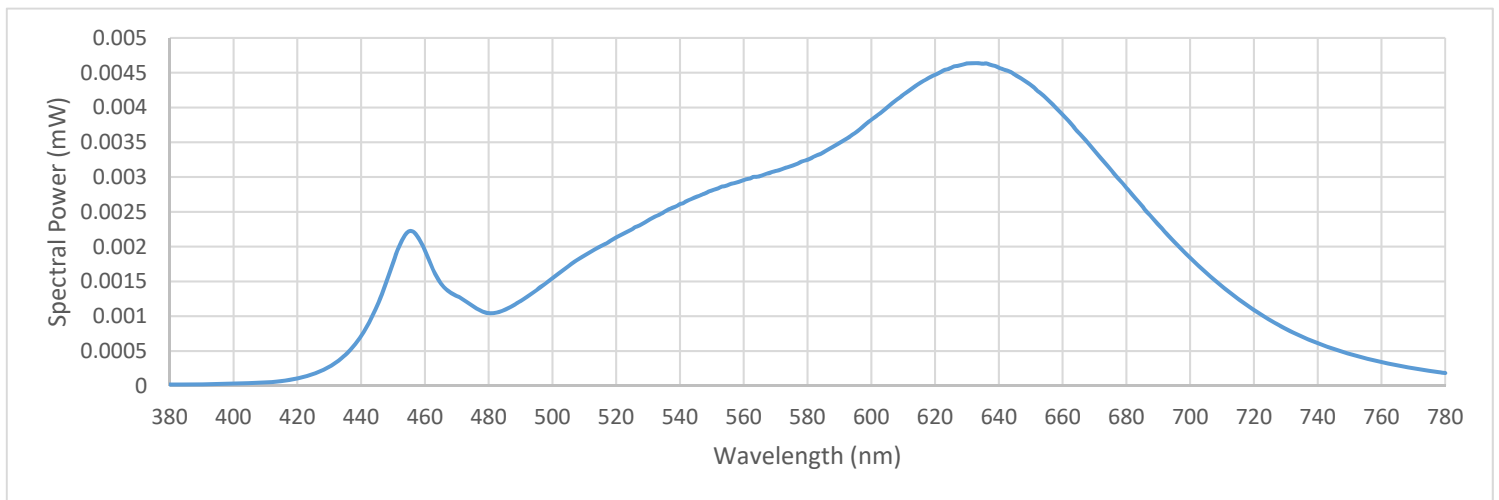
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.

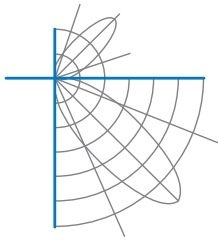
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board

One ERP ESS010W-0180-42 dimmable LED driver.

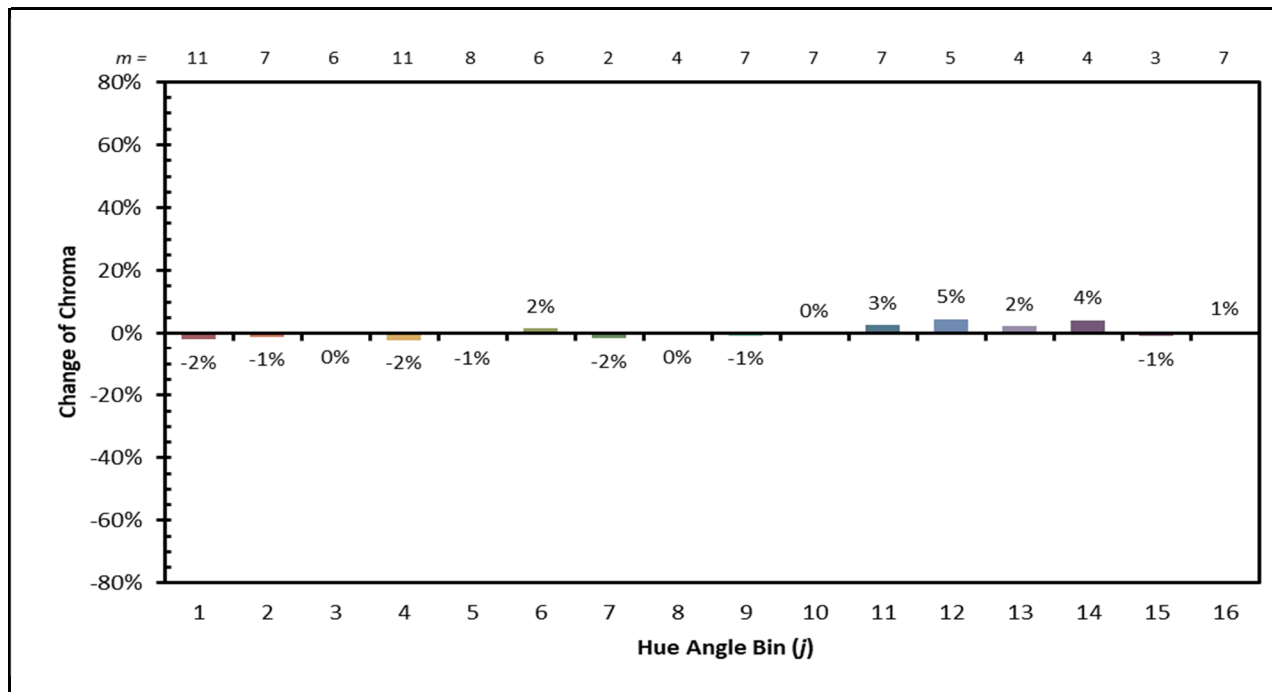
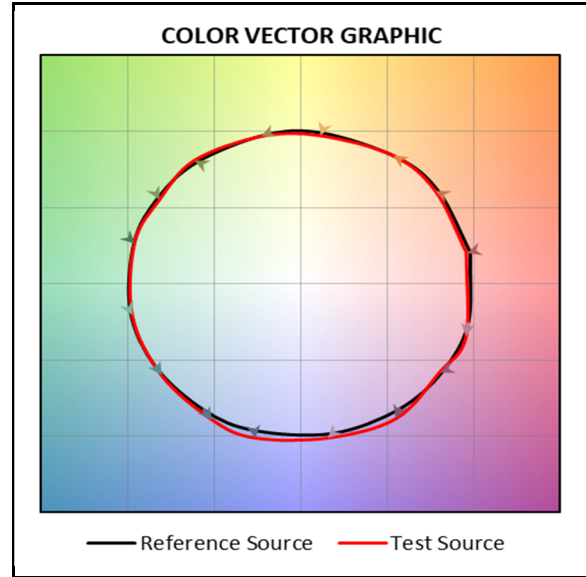
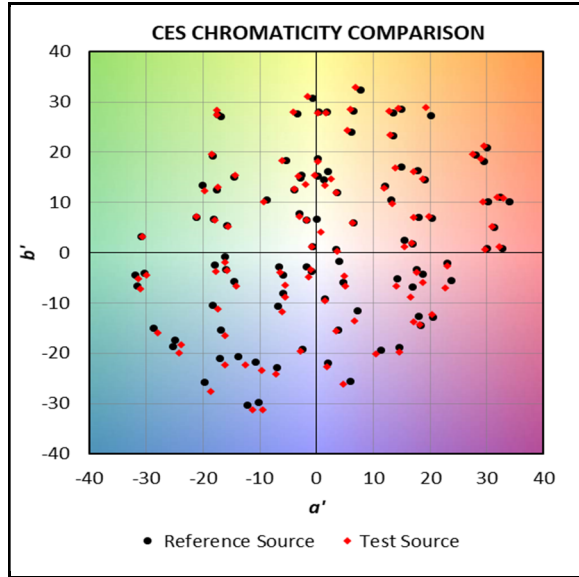
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

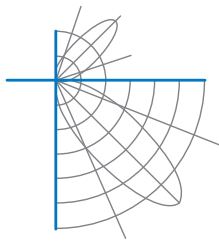
380	0.000018	480	0.001043	580	0.003248	680	0.002845
385	0.000018	485	0.001088	585	0.003357	685	0.002585
390	0.000021	490	0.001218	590	0.003487	690	0.002317
395	0.000025	495	0.001371	595	0.003637	695	0.002065
400	0.000032	500	0.001550	600	0.003820	700	0.001843
405	0.000039	505	0.001717	605	0.004003	705	0.001625
410	0.000049	510	0.001871	610	0.004184	710	0.001428
415	0.000067	515	0.002004	615	0.004345	715	0.001251
420	0.000106	520	0.002133	620	0.004471	720	0.001089
425	0.000170	525	0.002251	625	0.004570	725	0.000945
430	0.000274	530	0.002379	630	0.004634	730	0.000818
435	0.000442	535	0.002496	635	0.004629	735	0.000707
440	0.000712	540	0.002612	640	0.004573	740	0.000611
445	0.001150	545	0.002715	645	0.004472	745	0.000529
450	0.001762	550	0.002807	650	0.004323	750	0.000458
455	0.002220	555	0.002882	655	0.004126	755	0.000395
460	0.001951	560	0.002956	660	0.003899	760	0.000341
465	0.001468	565	0.003011	665	0.003641	765	0.000293
470	0.001291	570	0.003087	670	0.003378	770	0.000251
475	0.001145	575	0.003159	675	0.003114	775	0.000215
						780	0.000184





IES TM-30 Summary





Test Report Number: LLIA001067-015B

Catalog Number: 3-677-215 Ellipse Pendant with Acrylic Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with
cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.

Test Equipment Configuration: LightLab International Allentown 2m Integrating Sphere
Measurements acquired using a Labsphere CDS 2600 spectroradiometer
Testing was performed using 4π geometry

Test Temperature: 24.5 °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.