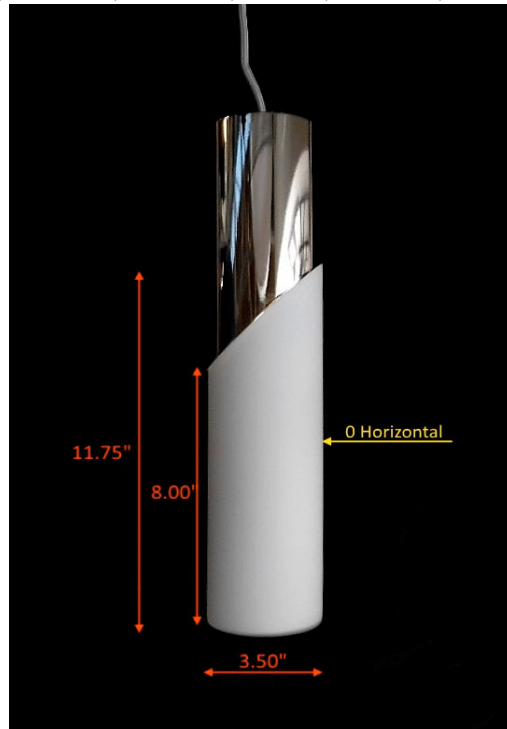




Report of Test

LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)



Performance Summary

Total Light Output	244 lm
Luminaire Power	7.00 W
Luminous Efficacy	34.9 lm/W

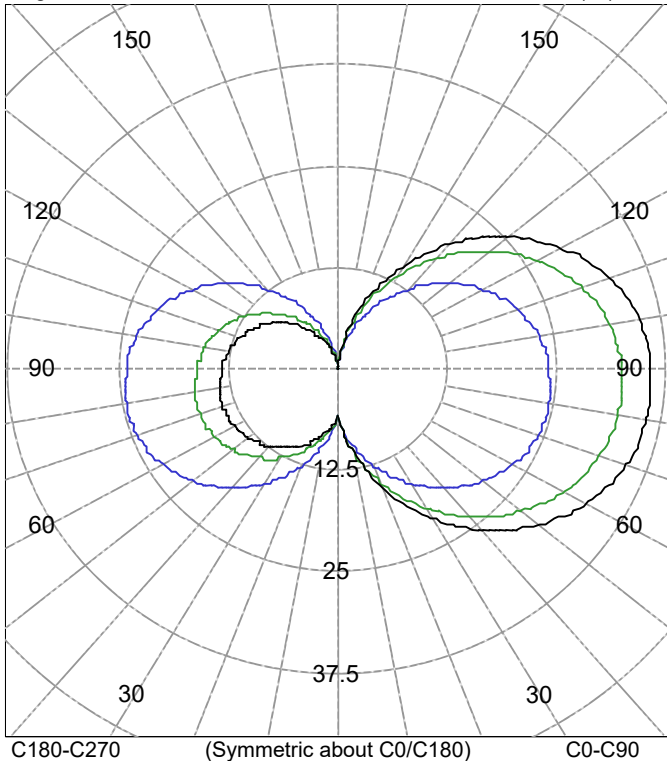
PREPARED FOR : Oxygen Lighting, 201 Railhead Road, Fort Worth, TX 76106, USA



Test Report No. LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
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120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)

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



AVERAGE LUMINANCE (cd/m²)

Gamma	C0	C45	C90
45.0	1205	1106	880
55.0	1242	1134	886
65.0	1275	1160	891
75.0	1302	1181	896
85.0	1326	1200	898

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	5.8	5.8	5.8	5.8	5.8	
5.0	8.3	8.3	8.3	8.2	7.9	1
10.0	10.5	10.5	10.4	10.1	9.5	
15.0	13.3	13.2	12.8	12.1	11.3	3
20.0	16.1	15.8	15.2	14.2	13.0	
25.0	18.7	18.4	17.5	16.2	14.7	7
30.0	21.2	20.8	19.7	18.2	16.3	
35.0	23.6	23.1	21.8	20.0	17.8	11
40.0	25.9	25.3	23.8	21.7	19.1	
45.0	27.9	27.3	25.6	23.2	20.4	16
50.0	29.8	29.1	27.3	24.6	21.5	
55.0	31.4	30.8	28.7	25.9	22.4	20
60.0	32.8	32.1	29.9	26.9	23.2	
65.0	34.0	33.2	30.9	27.7	23.8	24
70.0	34.9	34.1	31.7	28.2	24.2	
75.0	35.5	34.6	32.2	28.6	24.4	26
80.0	35.7	34.9	32.4	28.8	24.4	
85.0	35.8	34.9	32.4	28.7	24.2	27
90.0	35.7	34.8	32.2	28.5	24.0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	11	N / A	4.4
0-40	22	N / A	9.0
0-60	58	N / A	23.7
0-90	134	N / A	54.8
40-90	112	N / A	45.8
60-90	76	N / A	31.1
90-180	111	N / A	45.2
0-180	244	N / A	100.0

Total Light Output = 244 lm

Spacing Criterion: 0-180 4.1
Spacing Criterion: 90-270 3.5

Signed:

Authorized Signatory

Date of test 18-Jan-2019
Date of report 21-Jan-2019



Test Report No. LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	5.8	5.8	5.8	5.8	5.8
2.5	6.8	6.8	6.8	6.9	6.9
5.0	8.3	8.3	8.3	8.2	7.9
7.5	9.4	9.5	9.4	9.2	8.8
10.0	10.5	10.5	10.4	10.1	9.5
12.5	11.9	11.8	11.5	11.1	10.4
15.0	13.3	13.2	12.8	12.1	11.3
17.5	14.7	14.5	14.0	13.2	12.2
20.0	16.1	15.8	15.2	14.2	13.0
22.5	17.4	17.1	16.4	15.3	13.9
25.0	18.7	18.4	17.5	16.2	14.7
27.5	20.0	19.6	18.6	17.2	15.5
30.0	21.2	20.8	19.7	18.2	16.3
32.5	22.4	22.0	20.8	19.1	17.0
35.0	23.6	23.1	21.8	20.0	17.8
37.5	24.8	24.2	22.8	20.9	18.5
40.0	25.9	25.3	23.8	21.7	19.1
42.5	26.9	26.3	24.7	22.5	19.8
45.0	27.9	27.3	25.6	23.2	20.4
47.5	28.9	28.3	26.5	24.0	20.9
50.0	29.8	29.1	27.3	24.6	21.5
52.5	30.6	30.0	28.0	25.3	22.0
55.0	31.4	30.8	28.7	25.9	22.4
57.5	32.2	31.5	29.4	26.4	22.8
60.0	32.8	32.1	29.9	26.9	23.2
62.5	33.5	32.7	30.5	27.3	23.5
65.0	34.0	33.2	30.9	27.7	23.8
67.5	34.5	33.7	31.4	28.0	24.0
70.0	34.9	34.1	31.7	28.2	24.2
72.5	35.2	34.4	32.0	28.5	24.3
75.0	35.5	34.6	32.2	28.6	24.4
77.5	35.7	34.8	32.3	28.7	24.5
80.0	35.7	34.9	32.4	28.8	24.4
82.5	35.8	35.0	32.4	28.7	24.4
85.0	35.8	34.9	32.4	28.7	24.2
87.5	35.7	34.9	32.3	28.5	24.1
90.0	35.7	34.8	32.2	28.5	24.0



Test Report No. LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	35.7	34.8	32.2	28.5	24.0
92.5	35.7	34.8	32.2	28.4	24.0
95.0	35.5	34.6	32.0	28.2	23.7
97.5	35.2	34.3	31.7	28.0	23.5
100.0	34.9	34.0	31.4	27.7	23.2
102.5	34.5	33.6	31.0	27.3	22.9
105.0	34.0	33.1	30.6	26.9	22.5
107.5	33.4	32.6	30.0	26.4	22.1
110.0	32.8	31.9	29.5	25.9	21.6
112.5	32.1	31.2	28.8	25.3	21.1
115.0	31.3	30.4	28.1	24.6	20.6
117.5	30.4	29.6	27.3	23.9	19.9
120.0	29.5	28.7	26.4	23.2	19.3
122.5	28.5	27.7	25.5	22.4	18.6
125.0	27.5	26.7	24.6	21.5	17.9
127.5	26.4	25.6	23.5	20.6	17.2
130.0	25.2	24.5	22.5	19.7	16.3
132.5	24.0	23.3	21.4	18.7	15.5
135.0	22.7	22.1	20.2	17.7	14.7
137.5	21.4	20.8	19.1	16.6	13.8
140.0	20.0	19.5	17.9	15.6	12.9
142.5	18.7	18.1	16.6	14.5	11.9
145.0	17.3	16.8	15.4	13.3	11.0
147.5	15.8	15.4	14.1	12.2	10.1
150.0	14.4	14.0	12.8	11.1	9.1
152.5	13.0	12.6	11.5	9.9	8.2
155.0	11.5	11.2	10.2	8.8	7.2
157.5	10.0	9.7	8.9	7.6	6.3
160.0	8.6	8.3	7.6	6.5	5.4
162.5	7.1	6.9	6.3	5.4	4.5
165.0	5.7	5.5	5.0	4.3	3.6
167.5	4.3	4.1	3.7	3.2	2.7
170.0	2.2	2.3	2.3	2.0	1.7
172.5	0.6	0.6	0.6	0.7	0.7
175.0	0.0	0.0	0.1	0.1	0.1
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. LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure

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

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

One ERP ESS010W-0180-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	5.8	5.8	5.8	5.8	5.8
2.5	6.9	6.8	6.8	6.7	6.7
5.0	7.9	7.7	7.5	7.3	7.2
7.5	8.8	8.3	8.0	7.7	7.6
10.0	9.5	8.9	8.4	8.1	7.9
12.5	10.4	9.6	9.0	8.5	8.4
15.0	11.3	10.3	9.5	9.0	8.8
17.5	12.2	11.1	10.1	9.4	9.2
20.0	13.0	11.8	10.6	9.9	9.7
22.5	13.9	12.4	11.2	10.3	10.1
25.0	14.7	13.1	11.7	10.7	10.4
27.5	15.5	13.7	12.1	11.2	10.8
30.0	16.3	14.3	12.6	11.5	11.2
32.5	17.0	14.9	13.1	11.9	11.5
35.0	17.8	15.5	13.5	12.2	11.8
37.5	18.5	16.0	13.9	12.5	12.1
40.0	19.1	16.5	14.3	12.8	12.4
42.5	19.8	17.0	14.6	13.1	12.6
45.0	20.4	17.4	14.9	13.4	12.8
47.5	20.9	17.9	15.3	13.6	13.0
50.0	21.5	18.2	15.5	13.8	13.2
52.5	22.0	18.6	15.8	14.0	13.4
55.0	22.4	18.9	16.0	14.1	13.6
57.5	22.8	19.2	16.2	14.3	13.7
60.0	23.2	19.4	16.3	14.4	13.8
62.5	23.5	19.6	16.5	14.4	13.8
65.0	23.8	19.8	16.5	14.5	13.9
67.5	24.0	20.0	16.6	14.5	13.9
70.0	24.2	20.1	16.6	14.6	13.9
72.5	24.3	20.1	16.6	14.5	13.8
75.0	24.4	20.1	16.6	14.5	13.8
77.5	24.5	20.1	16.6	14.4	13.7
80.0	24.4	20.0	16.5	14.3	13.6
82.5	24.4	19.9	16.3	14.2	13.5
85.0	24.2	19.8	16.2	14.0	13.3
87.5	24.1	19.6	16.0	13.9	13.1
90.0	24.0	19.5	15.9	13.7	13.1



Test Report No. LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	24.0	19.5	15.9	13.7	13.1
92.5	24.0	19.4	15.9	13.7	13.0
95.0	23.7	19.3	15.7	13.6	12.9
97.5	23.5	19.0	15.6	13.4	12.8
100.0	23.2	18.8	15.4	13.3	12.6
102.5	22.9	18.5	15.1	13.1	12.4
105.0	22.5	18.2	14.9	12.9	12.2
107.5	22.1	17.9	14.6	12.6	12.0
110.0	21.6	17.5	14.3	12.3	11.7
112.5	21.1	17.1	13.9	12.0	11.4
115.0	20.6	16.6	13.6	11.7	11.1
117.5	19.9	16.1	13.1	11.3	10.8
120.0	19.3	15.6	12.7	11.0	10.4
122.5	18.6	15.0	12.2	10.5	10.0
125.0	17.9	14.4	11.8	10.1	9.6
127.5	17.2	13.8	11.2	9.7	9.2
130.0	16.3	13.1	10.7	9.2	8.8
132.5	15.5	12.5	10.1	8.7	8.3
135.0	14.7	11.8	9.6	8.3	7.8
137.5	13.8	11.1	9.0	7.8	7.4
140.0	12.9	10.3	8.4	7.2	6.9
142.5	11.9	9.6	7.8	6.7	6.4
145.0	11.0	8.8	7.2	6.2	5.9
147.5	10.1	8.1	6.6	5.7	5.4
150.0	9.1	7.3	6.0	5.1	4.9
152.5	8.2	6.5	5.4	4.6	4.4
155.0	7.2	5.8	4.7	4.1	3.9
157.5	6.3	5.0	4.1	3.6	3.4
160.0	5.4	4.3	3.5	3.1	2.9
162.5	4.5	3.6	2.9	2.6	2.5
165.0	3.6	2.9	2.4	2.1	2.0
167.5	2.7	2.2	1.8	1.6	1.6
170.0	1.7	1.5	1.3	1.1	1.1
172.5	0.7	0.7	0.7	0.6	0.6
175.0	0.1	0.1	0.1	0.1	0.1
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: LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure

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

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

One ERP ESS010W-0180-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)

Coefficients Of Utilization - Zonal Cavity Method

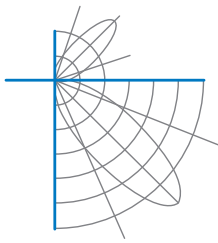
Effective Floor Cavity Reflectance 0.20

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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	93	87	81	75	86	80	74	70	67	63	59	55	52	49	45	42	40	35
2	83	73	64	57	76	67	59	53	56	50	45	46	41	37	36	33	30	25
3	74	62	52	45	68	57	48	42	47	41	35	39	33	29	30	26	23	19
4	67	54	44	36	61	49	41	34	41	34	28	33	28	23	26	22	18	14
5	61	47	37	30	56	43	34	28	36	29	23	29	24	19	23	18	15	11
6	56	42	32	25	51	38	30	24	32	25	20	26	20	16	20	16	12	9
7	51	37	28	22	47	34	26	20	29	22	17	23	18	14	18	14	11	8
8	48	34	25	19	43	31	23	17	26	19	15	21	16	12	17	12	9	7
9	44	30	22	16	40	28	20	15	24	17	13	19	14	10	15	11	8	6
10	41	28	20	14	38	26	18	13	22	15	11	18	13	9	14	10	7	5

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	0.2	20.14	20.71
8.0	0.1	26.86	27.62
10.0	0.1	33.57	34.52
12.0	0.0	40.28	41.42
14.0	0.0	47.00	48.33
16.0	0.0	53.71	55.23



Test Report No. LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with
cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)





Test Report No. LLIA001067-016A

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass enclosure.
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board
One ERP ESS010W-0180-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.0592A, 7.00W, 0.986PF, 11.4%THD(i)

Test Distance 9.5 m
Test Temperature 24.8 °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

LLIA001067-016B

Integrating Sphere Report

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure

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

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

One ERP ESS010W-0180-42 dimmable LED driver.

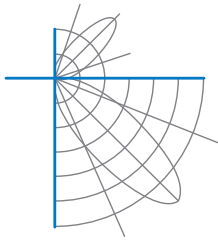


Performance Summary

Voltage	120.0 Vac
Current	0.0591 A
Power	7.00 W
Frequency	59.99 Hz
Power Factor	0.987
Current THD	11.3 %
Total Luminous Flux	241.6 lm
Efficacy	34.5 lm/W
Chromaticity (x,y)	(0.4378, 0.4000)
(u',v')	(0.2529, 0.5199)
Duv	-0.0017
CCT	2953 K
CRI (Ra)	97
R9	85
TM-30: Rf	93
TM-30: Rg	100

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

Test date: 01/14/2019
Report date: 01/21/2019



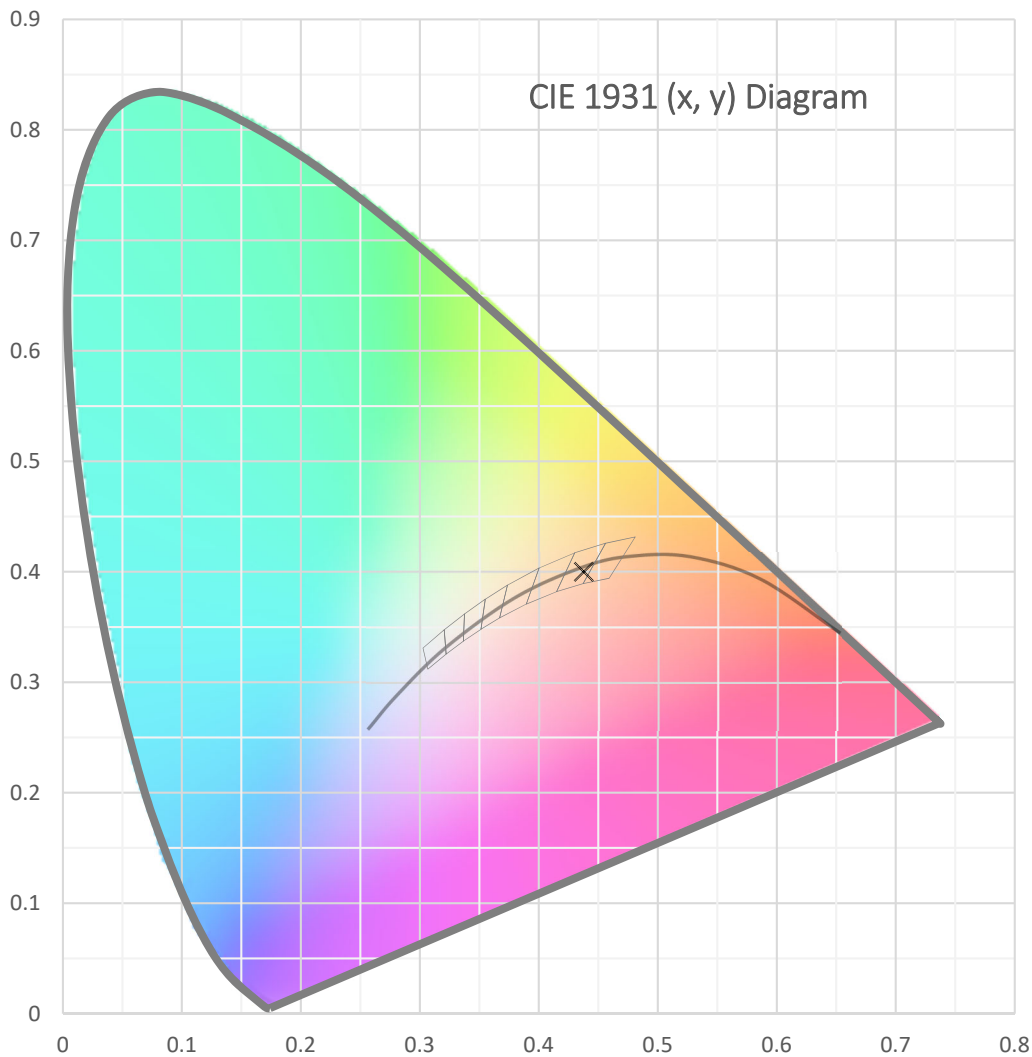
Test Report Number: LLIA001067-016B

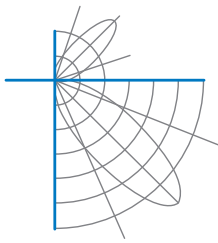
Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure

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

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

One ERP ESS010W-0180-42 dimmable LED driver.





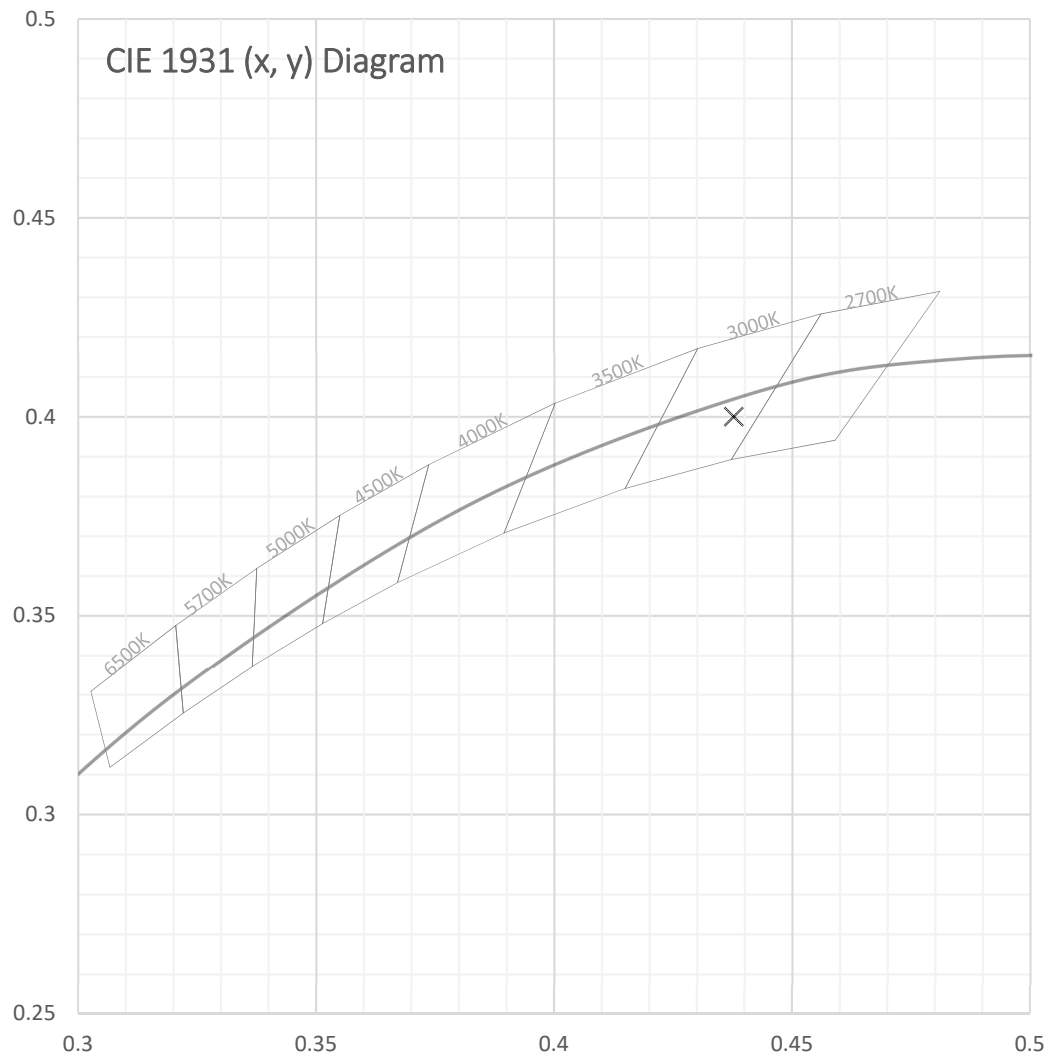
Test Report Number: LLIA001067-016B

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure

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

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

One ERP ESS010W-0180-42 dimmable LED driver.





Test Report Number: LLIA001067-016B

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure

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

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

One ERP ESS010W-0180-42 dimmable LED driver.

Spectral Data	Total Radiant Flux	0.913 W
	Total Luminous Flux	241.6 Lm
	Chromaticity CIE 1931 (x, y)	(0.4378, 0.4000)
	Chromaticity CIE 1976 (u', v')	(0.2529, 0.5199)
	Correlated Color Temperature (CCT)	2953 K
	Color Rendering Index (Ra)	97
	R1	98
	R2	99
	R3	97
	R4	97
	R5	97
	R6	97
	R7	96
	R8	93
	R9	85
	R10	95
	R11	97
	R12	83
	R13	99
	R14	97
	TM-30: Rf	93
	TM-30: Rg	100
	Distance from Planckian Locus (Duv)	-0.0017
	Scotopic/Photopic Ratio *	1.432

Electrical Data

Voltage	120.0 Vac
Current	0.0591 A
Power	7.00 W
Frequency	59.99 Hz
Power Factor	0.987
Current THD	11.3 %



Test Report Number: LLIA001067-016B

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure

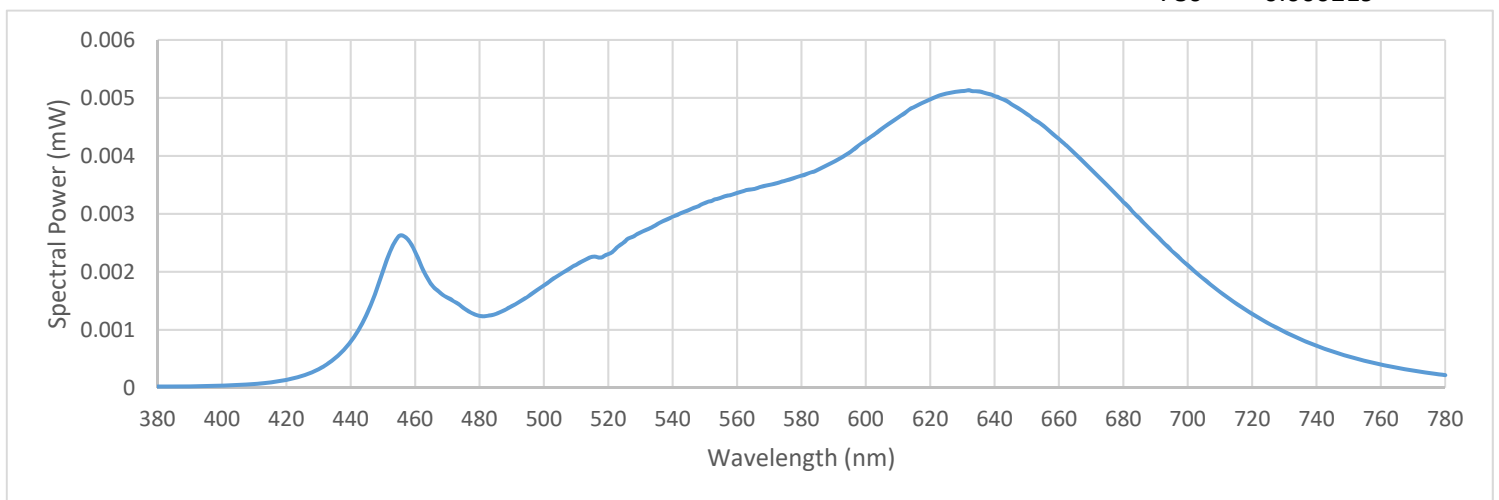
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass enclosure.

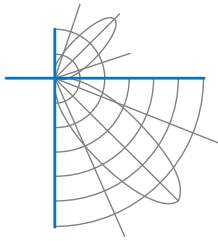
12 white LEDs, one Harvard Engineering LEDENG-163-930 LED board

One ERP ESS010W-0180-42 dimmable LED driver.

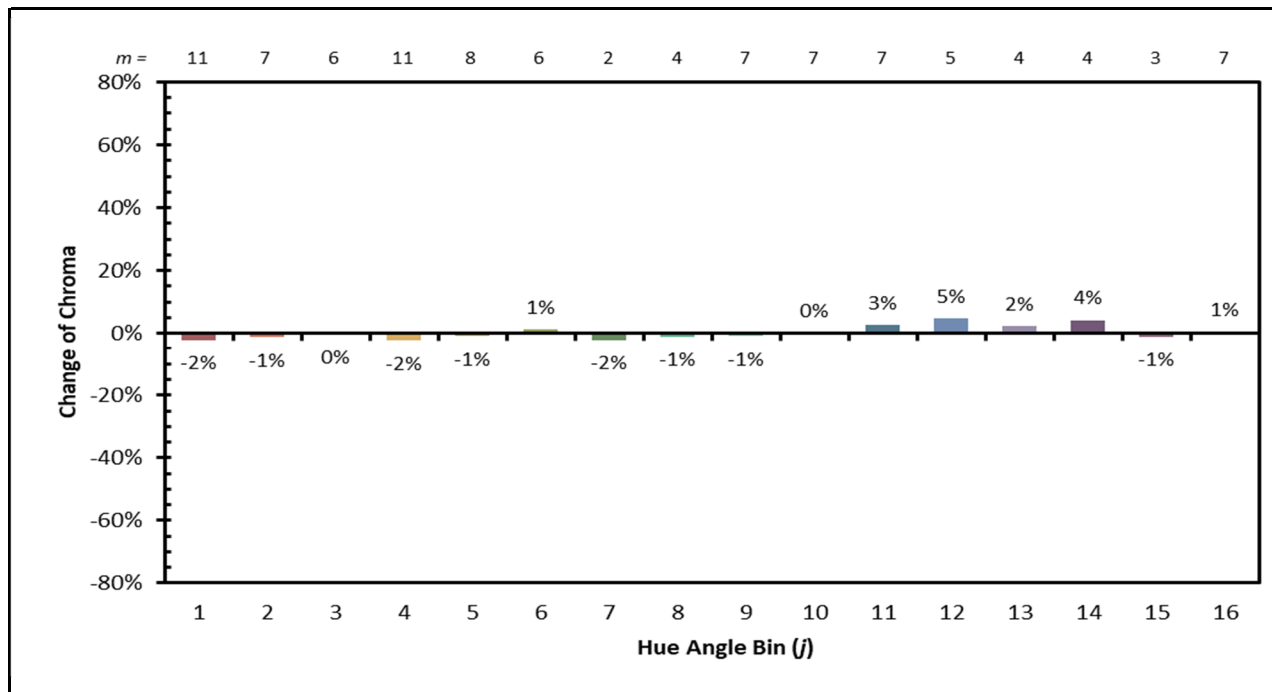
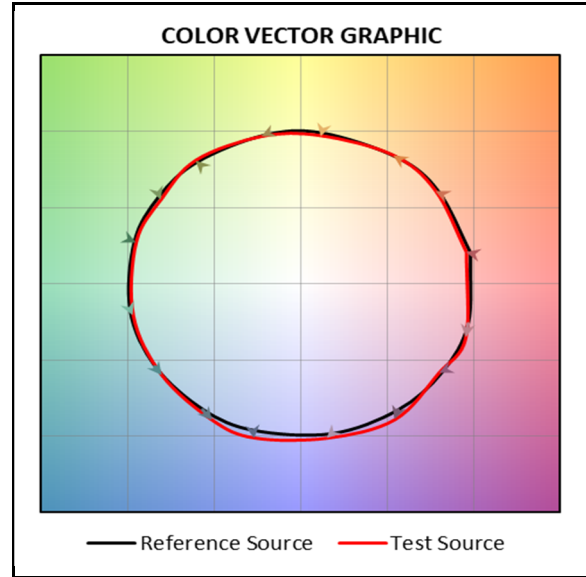
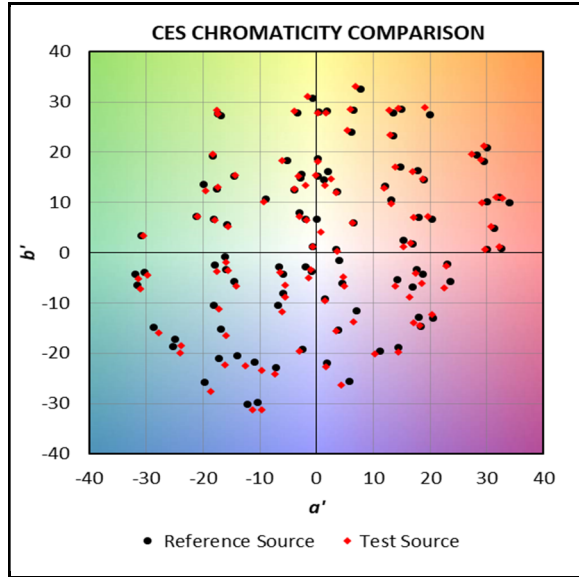
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000022	480	0.001241	580	0.003658	680	0.003205
385	0.000022	485	0.001270	585	0.003759	685	0.002926
390	0.000024	490	0.001408	590	0.003896	690	0.002640
395	0.000029	495	0.001569	595	0.004059	695	0.002363
400	0.000037	500	0.001767	600	0.004264	700	0.002118
405	0.000048	505	0.001952	605	0.004470	705	0.001876
410	0.000066	510	0.002121	610	0.004661	710	0.001653
415	0.000091	515	0.002259	615	0.004842	715	0.001455
420	0.000136	520	0.002304	620	0.004974	720	0.001276
425	0.000207	525	0.002515	625	0.005077	725	0.001113
430	0.000322	530	0.002678	630	0.005116	730	0.000970
435	0.000505	535	0.002813	635	0.005113	735	0.000840
440	0.000796	540	0.002954	640	0.005032	740	0.000724
445	0.001275	545	0.003064	645	0.004901	745	0.000626
450	0.002011	550	0.003186	650	0.004722	750	0.000540
455	0.002618	555	0.003279	655	0.004525	755	0.000464
460	0.002344	560	0.003359	660	0.004291	760	0.000402
465	0.001781	565	0.003425	665	0.004034	765	0.000345
470	0.001556	570	0.003497	670	0.003767	770	0.000296
475	0.001375	575	0.003572	675	0.003495	775	0.000255
						780	0.000219





IES TM-30 Summary





Test Report Number: LLIA001067-016B

Catalog Number: 3-678-120 Ellipse Pendant with Glass Enclosure
Pendant mounted, formed and machined steel housing, center lampholder with
cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white glass 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 4 π geometry

Test Temperature: 25.8 °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.