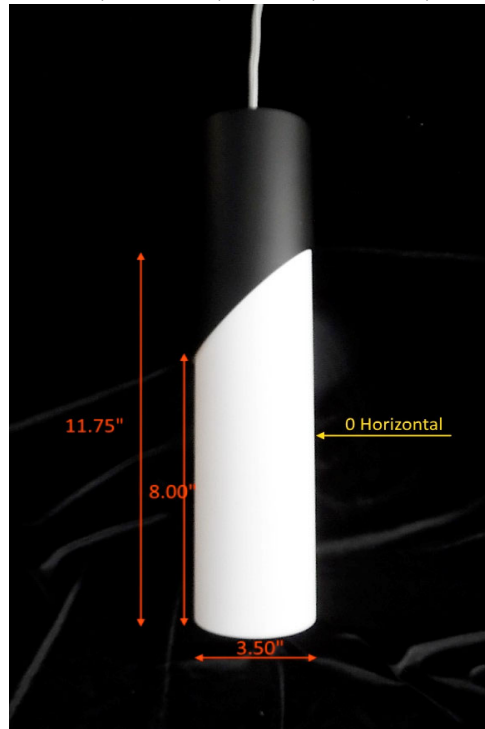




Report of Test

LLIA001067-017A

Catalog Number: 3-678-215 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, 0.0594A, 7.03W, 0.986PF, 11.3%THD(i)



Performance Summary

Total Light Output	213 lm
Luminaire Power	7.03 W
Luminous Efficacy	30.3 lm/W

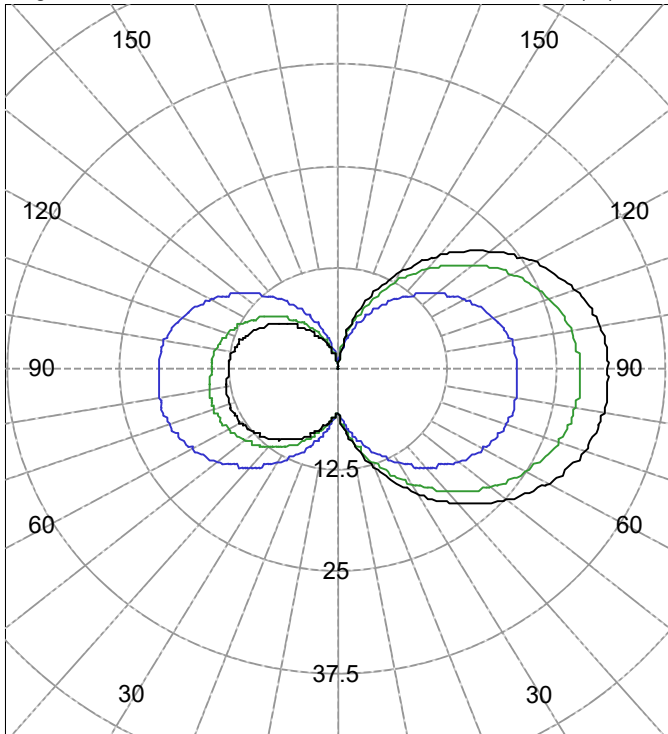
PREPARED FOR : Oxygen Lighting, 201 Railhead Road, Fort Worth, TX 76106, USA



Test Report No. LLIA001067-017A

Catalog Number: 3-678-215 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, 0.0594A, 7.03W, 0.986PF, 11.3%THD(i)

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



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

AVERAGE LUMINANCE (cd/m²)

Gamma	C0	C45	C90
45.0	1009	916	725
55.0	1048	946	736
65.0	1083	973	745
75.0	1114	997	754
85.0	1143	1020	763

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	5.3	5.3	5.3	5.3	5.3	
5.0	7.3	7.2	7.0	6.8	6.5	1
10.0	9.0	8.8	8.6	8.2	7.8	
15.0	11.1	10.9	10.4	9.8	9.1	3
20.0	13.3	13.0	12.4	11.5	10.6	
25.0	15.5	15.2	14.3	13.2	11.9	6
30.0	17.6	17.2	16.2	14.8	13.3	
35.0	19.7	19.1	18.0	16.3	14.5	9
40.0	21.6	21.0	19.6	17.8	15.7	
45.0	23.4	22.8	21.2	19.1	16.8	13
50.0	25.0	24.4	22.7	20.3	17.8	
55.0	26.5	25.8	23.9	21.4	18.6	17
60.0	27.8	27.1	25.0	22.3	19.3	
65.0	28.9	28.1	26.0	23.0	19.9	20
70.0	29.7	28.9	26.6	23.6	20.3	
75.0	30.4	29.5	27.2	24.0	20.5	22
80.0	30.7	29.8	27.4	24.2	20.6	
85.0	30.8	29.9	27.5	24.1	20.6	23
90.0	30.7	29.8	27.4	24.0	20.4	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	9	N / A	4.2
0-40	18	N / A	8.6
0-60	49	N / A	22.9
0-90	114	N / A	53.7
40-90	96	N / A	45.1
60-90	65	N / A	30.8
90-180	98	N / A	46.3
0-180	213	N / A	100.0

Total Light Output = 213 lm

Spacing Criterion: 0-180 3.9
Spacing Criterion: 90-270 3.3

Signed:

Authorized Signatory

Date of test 17-Jan-2019
Date of report 21-Jan-2019



Test Report No. LLIA001067-017A

Catalog Number: 3-678-215 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, 0.0594A, 7.03W, 0.986PF, 11.3%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	5.3	5.3	5.3	5.3	5.3
2.5	6.1	6.0	6.0	5.9	5.8
5.0	7.3	7.2	7.0	6.8	6.5
7.5	8.1	8.1	7.9	7.6	7.2
10.0	9.0	8.8	8.6	8.2	7.8
12.5	10.0	9.8	9.5	9.0	8.4
15.0	11.1	10.9	10.4	9.8	9.1
17.5	12.2	12.0	11.4	10.6	9.8
20.0	13.3	13.0	12.4	11.5	10.6
22.5	14.4	14.1	13.3	12.3	11.2
25.0	15.5	15.2	14.3	13.2	11.9
27.5	16.6	16.2	15.2	13.9	12.6
30.0	17.6	17.2	16.2	14.8	13.3
32.5	18.6	18.2	17.1	15.5	13.9
35.0	19.7	19.1	18.0	16.3	14.5
37.5	20.6	20.1	18.8	17.0	15.1
40.0	21.6	21.0	19.6	17.8	15.7
42.5	22.5	21.9	20.4	18.4	16.3
45.0	23.4	22.8	21.2	19.1	16.8
47.5	24.3	23.6	22.0	19.7	17.3
50.0	25.0	24.4	22.7	20.3	17.8
52.5	25.8	25.1	23.3	20.8	18.2
55.0	26.5	25.8	23.9	21.4	18.6
57.5	27.2	26.4	24.5	21.9	19.0
60.0	27.8	27.1	25.0	22.3	19.3
62.5	28.4	27.6	25.5	22.7	19.7
65.0	28.9	28.1	26.0	23.0	19.9
67.5	29.3	28.5	26.3	23.3	20.1
70.0	29.7	28.9	26.6	23.6	20.3
72.5	30.1	29.2	27.0	23.8	20.4
75.0	30.4	29.5	27.2	24.0	20.5
77.5	30.6	29.7	27.3	24.1	20.6
80.0	30.7	29.8	27.4	24.2	20.6
82.5	30.8	29.9	27.5	24.2	20.6
85.0	30.8	29.9	27.5	24.1	20.6
87.5	30.8	29.9	27.4	24.1	20.5
90.0	30.7	29.8	27.4	24.0	20.4



Test Report No. LLIA001067-017A

Catalog Number: 3-678-215 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, 0.0594A, 7.03W, 0.986PF, 11.3%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	30.7	29.8	27.4	24.0	20.4
92.5	30.7	29.8	27.4	24.0	20.3
95.0	30.7	29.7	27.3	23.9	20.3
97.5	30.5	29.6	27.1	23.8	20.1
100.0	30.3	29.4	27.0	23.6	19.9
102.5	30.0	29.1	26.7	23.3	19.7
105.0	29.6	28.7	26.3	23.0	19.4
107.5	29.2	28.3	26.0	22.7	19.1
110.0	28.7	27.8	25.5	22.3	18.7
112.5	28.1	27.3	25.0	21.8	18.3
115.0	27.5	26.6	24.4	21.3	17.9
117.5	26.8	26.0	23.8	20.7	17.4
120.0	26.0	25.3	23.1	20.1	16.8
122.5	25.3	24.5	22.4	19.5	16.3
125.0	24.4	23.7	21.7	18.8	15.7
127.5	23.5	22.8	20.9	18.1	15.1
130.0	22.5	21.9	20.0	17.3	14.4
132.5	21.6	20.9	19.1	16.5	13.8
135.0	20.5	19.9	18.1	15.7	13.0
137.5	19.4	18.8	17.1	14.8	12.3
140.0	18.3	17.7	16.1	13.9	11.5
142.5	17.1	16.6	15.1	13.0	10.8
145.0	15.9	15.4	14.0	12.0	10.0
147.5	14.7	14.2	12.9	11.1	9.2
150.0	13.5	13.0	11.8	10.1	8.4
152.5	12.2	11.8	10.7	9.2	7.5
155.0	10.9	10.5	9.6	8.2	6.7
157.5	9.6	9.3	8.4	7.2	5.9
160.0	8.3	8.1	7.3	6.2	5.1
162.5	7.0	6.8	6.2	5.3	4.3
165.0	5.8	5.6	5.0	4.3	3.5
167.5	4.5	4.4	3.9	3.3	2.7
170.0	2.9	2.9	2.6	2.2	1.8
172.5	1.0	1.0	1.0	0.9	0.8
175.0	0.2	0.2	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. LLIA001067-017A

Catalog Number: 3-678-215 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, 0.0594A, 7.03W, 0.986PF, 11.3%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	5.3	5.3	5.3	5.3	5.3
2.5	5.8	5.7	5.7	5.7	5.6
5.0	6.5	6.3	6.2	6.2	6.2
7.5	7.2	6.8	6.6	6.5	6.5
10.0	7.8	7.3	7.1	6.9	6.8
12.5	8.4	7.9	7.5	7.3	7.2
15.0	9.1	8.5	8.0	7.8	7.6
17.5	9.8	9.1	8.5	8.2	8.1
20.0	10.6	9.6	9.0	8.6	8.5
22.5	11.2	10.2	9.5	9.0	8.9
25.0	11.9	10.8	10.0	9.5	9.3
27.5	12.6	11.4	10.4	9.9	9.6
30.0	13.3	11.9	10.9	10.3	10.0
32.5	13.9	12.4	11.3	10.6	10.4
35.0	14.5	12.9	11.7	11.0	10.7
37.5	15.1	13.4	12.1	11.3	11.0
40.0	15.7	13.9	12.4	11.6	11.3
42.5	16.3	14.3	12.8	11.9	11.6
45.0	16.8	14.7	13.1	12.2	11.9
47.5	17.3	15.1	13.4	12.4	12.1
50.0	17.8	15.5	13.7	12.6	12.3
52.5	18.2	15.8	13.9	12.9	12.5
55.0	18.6	16.1	14.2	13.0	12.6
57.5	19.0	16.4	14.4	13.2	12.8
60.0	19.3	16.6	14.5	13.3	12.9
62.5	19.7	16.8	14.7	13.4	13.0
65.0	19.9	17.0	14.8	13.5	13.0
67.5	20.1	17.2	14.9	13.5	13.1
70.0	20.3	17.3	14.9	13.5	13.1
72.5	20.4	17.3	14.9	13.5	13.0
75.0	20.5	17.4	14.9	13.5	13.0
77.5	20.6	17.4	14.9	13.4	13.0
80.0	20.6	17.3	14.8	13.4	12.9
82.5	20.6	17.3	14.7	13.3	12.8
85.0	20.6	17.2	14.6	13.1	12.6
87.5	20.5	17.0	14.5	13.0	12.5
90.0	20.4	17.0	14.4	12.9	12.4



Test Report No. LLIA001067-017A

Catalog Number: 3-678-215 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, 0.0594A, 7.03W, 0.986PF, 11.3%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	20.4	17.0	14.4	12.9	12.4
92.5	20.3	16.9	14.4	12.9	12.4
95.0	20.3	16.9	14.3	12.8	12.3
97.5	20.1	16.7	14.2	12.7	12.2
100.0	19.9	16.5	14.0	12.6	12.1
102.5	19.7	16.3	13.8	12.4	11.9
105.0	19.4	16.1	13.6	12.2	11.7
107.5	19.1	15.8	13.4	12.0	11.5
110.0	18.7	15.5	13.1	11.7	11.3
112.5	18.3	15.1	12.8	11.5	11.0
115.0	17.9	14.8	12.5	11.2	10.7
117.5	17.4	14.3	12.2	10.9	10.4
120.0	16.8	13.9	11.8	10.5	10.1
122.5	16.3	13.4	11.4	10.1	9.7
125.0	15.7	13.0	10.9	9.8	9.4
127.5	15.1	12.4	10.5	9.4	8.9
130.0	14.4	11.9	10.0	8.9	8.6
132.5	13.8	11.3	9.5	8.5	8.1
135.0	13.0	10.7	9.0	8.0	7.7
137.5	12.3	10.1	8.5	7.6	7.2
140.0	11.5	9.5	8.0	7.1	6.8
142.5	10.8	8.8	7.4	6.6	6.3
145.0	10.0	8.2	6.9	6.1	5.9
147.5	9.2	7.5	6.3	5.6	5.4
150.0	8.4	6.8	5.7	5.1	4.9
152.5	7.5	6.2	5.2	4.6	4.4
155.0	6.7	5.5	4.6	4.1	3.9
157.5	5.9	4.8	4.0	3.6	3.4
160.0	5.1	4.2	3.5	3.1	3.0
162.5	4.3	3.5	2.9	2.6	2.5
165.0	3.5	2.9	2.4	2.1	2.0
167.5	2.7	2.2	1.8	1.6	1.6
170.0	1.8	1.5	1.3	1.1	1.1
172.5	0.8	0.7	0.6	0.6	0.6
175.0	0.1	0.1	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: LLIA001067-017A

Catalog Number: 3-678-215 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

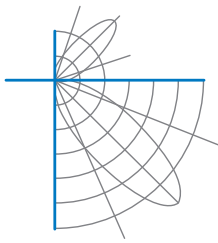
One ERP ESS010W-0180-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.0594A, 7.03W, 0.986PF, 11.3%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
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54
1	93	86	80	75	85	80	74	69	67	62	59	55	52	49	44	42	39	34
2	83	72	64	57	75	66	59	53	55	49	44	45	40	36	36	32	29	24
3	74	62	52	45	67	57	48	41	47	40	35	38	33	28	30	26	22	18
4	67	54	44	36	61	49	40	34	41	34	28	33	27	23	26	21	18	14
5	61	47	37	30	55	43	34	28	36	29	23	29	23	19	22	18	15	11
6	56	42	32	25	51	38	30	23	32	25	20	26	20	16	20	16	12	9
7	51	37	28	22	47	34	26	20	28	22	17	23	18	14	18	14	10	8
8	47	33	25	19	43	31	23	17	26	19	14	21	16	12	16	12	9	6
9	44	30	22	16	40	28	20	15	23	17	13	19	14	10	15	11	8	5
10	41	28	20	14	37	25	18	13	21	15	11	17	12	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.

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	0.1	19.82	19.80
8.0	0.1	26.42	26.40
10.0	0.1	33.03	33.00
12.0	0.0	39.64	39.59
14.0	0.0	46.24	46.19
16.0	0.0	52.85	52.79



Test Report No. LLIA001067-017A

Catalog Number: 3-678-215 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, 0.0594A, 7.03W, 0.986PF, 11.3%THD(i)





Test Report No. LLIA001067-017A

Catalog Number: 3-678-215 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, 0.0594A, 7.03W, 0.986PF, 11.3%THD(i)

Test Distance 9.5 m
Test Temperature 24.7 °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

LLIA001067-017B

Integrating Sphere Report

Catalog Number: 3-678-215 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.



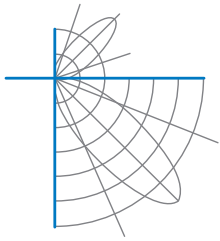
Performance Summary

Voltage	120.0 Vac
Current	0.0594 A
Power	7.03 W
Frequency	59.99 Hz
Power Factor	0.987
Current THD	11.3 %

Total Luminous Flux	211.9 lm
Efficacy	30.1 lm/W
Chromaticity (x,y)	(0.4455, 0.4043)
(u',v')	(0.2561, 0.5228)
Duv	-0.0010
CCT	2862 K
CRI (Ra)	97
R9	84
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



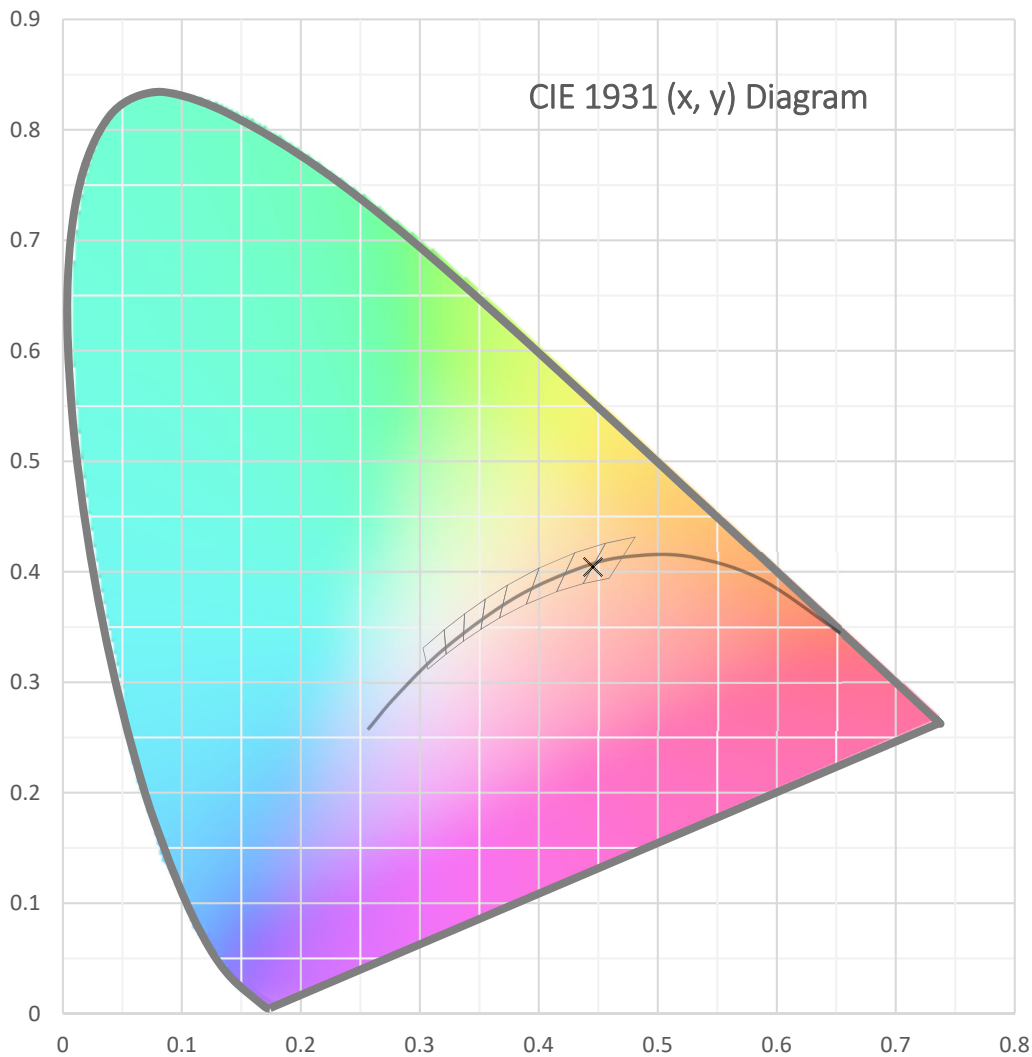
Test Report Number: LLIA001067-017B

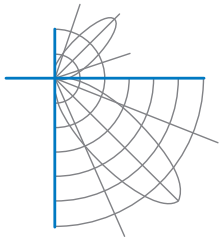
Catalog Number: 3-678-215 Ellipse Pendant with Acrylic Enclosure

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.





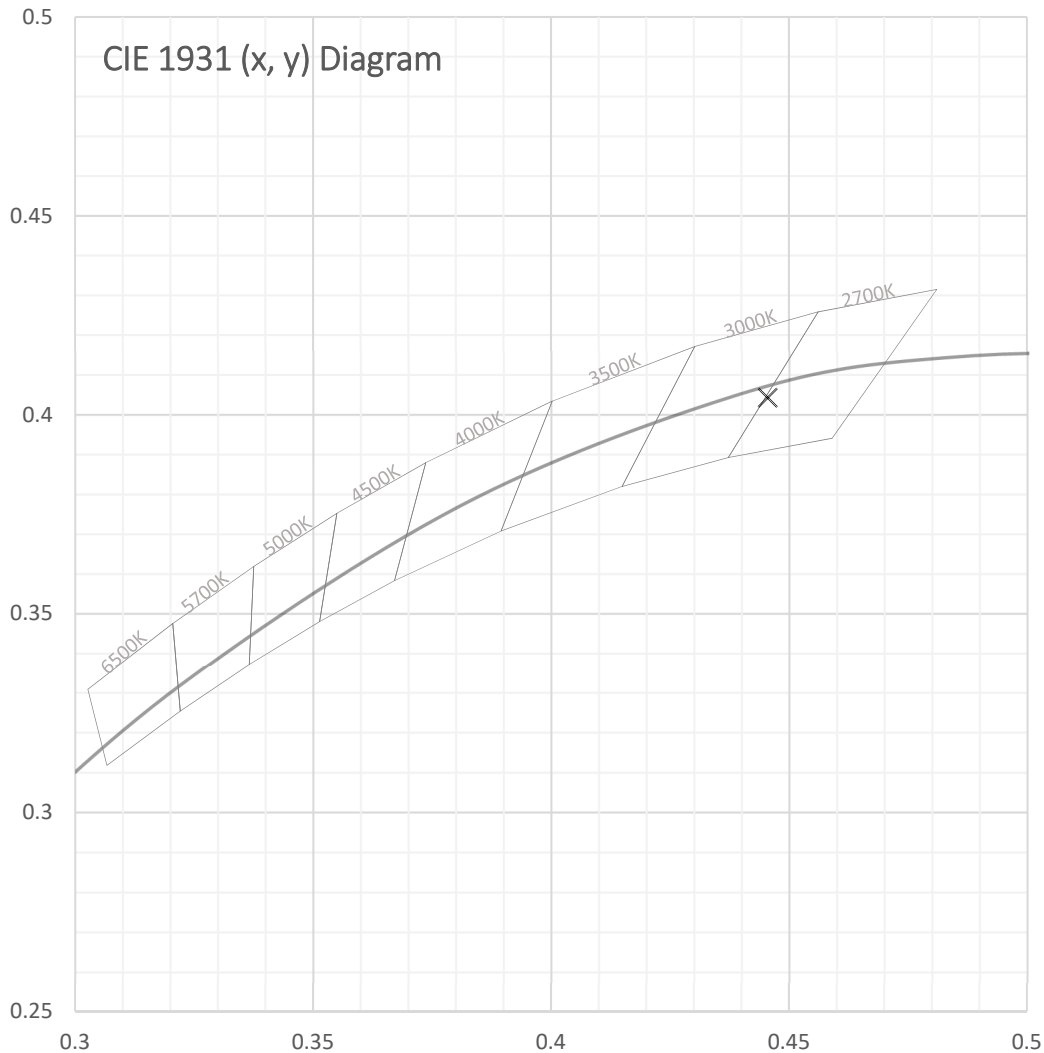
Test Report Number: LLIA001067-017B

Catalog Number: 3-678-215 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: LLIA001067-017B

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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.

Spectral Data

Total Radiant Flux	0.798 W
Total Luminous Flux	211.9 Lm
Chromaticity CIE 1931 (x, y)	(0.4455, 0.4043)
Chromaticity CIE 1976 (u', v')	(0.2561, 0.5228)
Correlated Color Temperature (CCT)	2862 K
Color Rendering Index (Ra)	97
R1	98
R2	99
R3	97
R4	98
R5	97
R6	97
R7	96
R8	93
R9	84
R10	95
R11	98
R12	84
R13	99
R14	97
TM-30: Rf	93
TM-30: Rg	100
Distance from Planckian Locus (Duv)	-0.0010
Scotopic/Photopic Ratio *	1.386

Electrical Data

Voltage	120.0 Vac
Current	0.0594 A
Power	7.03 W
Frequency	59.99 Hz
Power Factor	0.987
Current THD	11.3 %



Test Report Number: LLIA001067-017B

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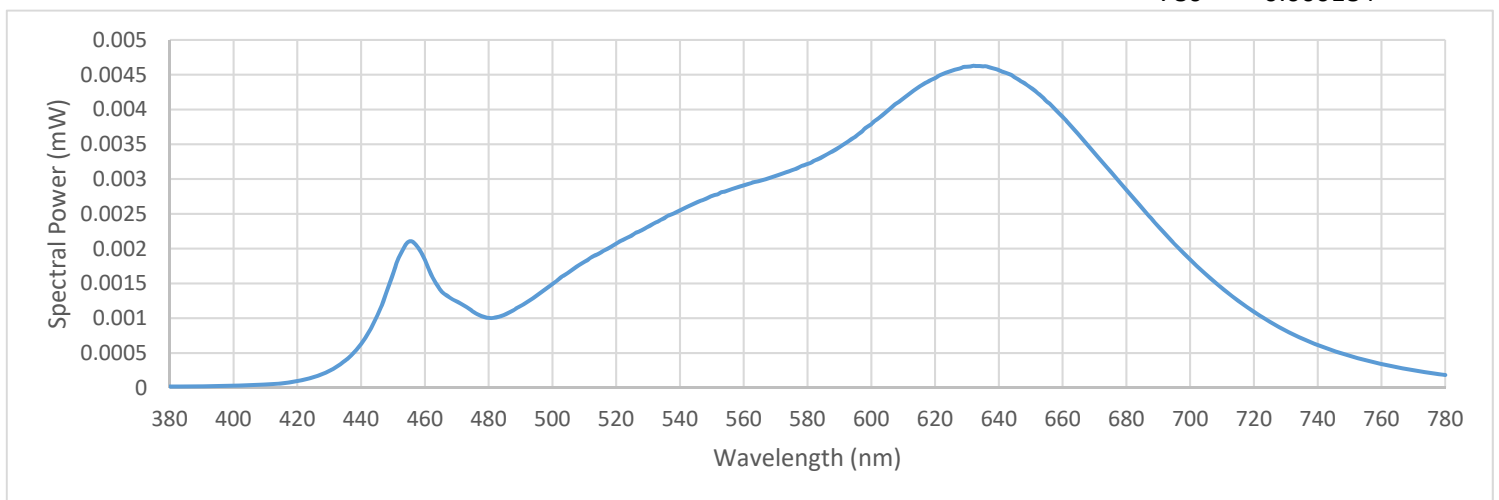
Pendant mounted, formed and machined steel housing, center lampholder with cast aluminum heatsink, frosted glass enclosure below LEDs, translucent white plastic enclosure.

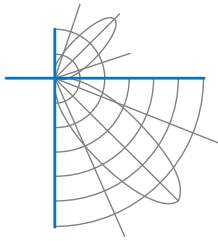
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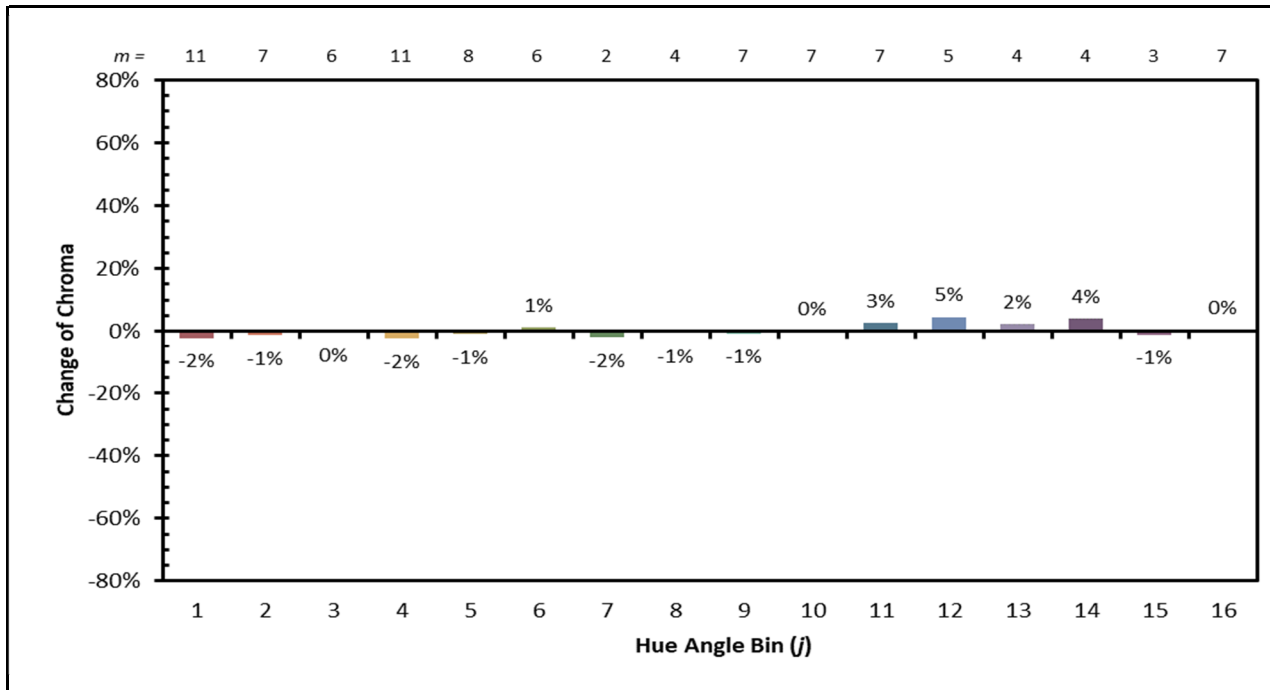
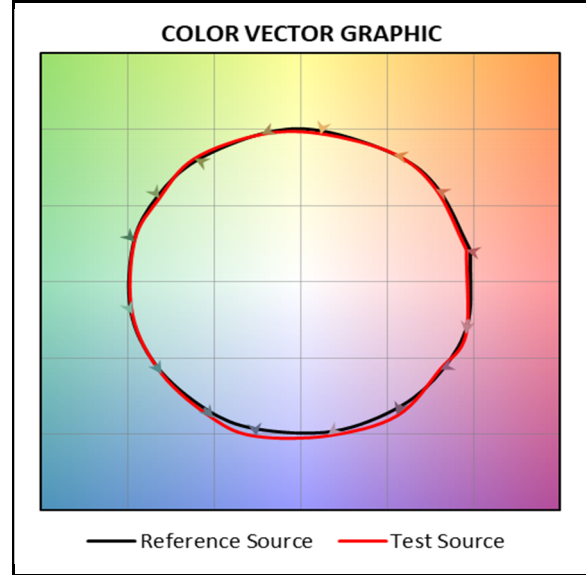
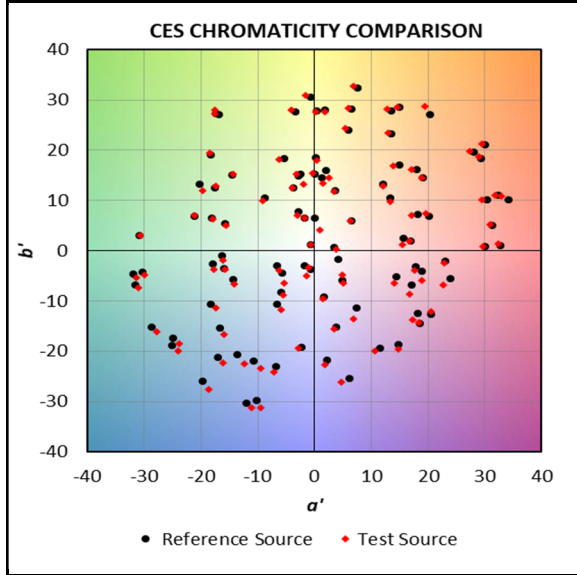
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000018	480	0.001005	580	0.003218	680	0.002843
385	0.000018	485	0.001050	585	0.003326	685	0.002586
390	0.000021	490	0.001174	590	0.003459	690	0.002319
395	0.000025	495	0.001321	595	0.003609	695	0.002068
400	0.000030	500	0.001493	600	0.003789	700	0.001847
405	0.000038	505	0.001656	605	0.003978	705	0.001627
410	0.000046	510	0.001810	610	0.004160	710	0.001428
415	0.000062	515	0.001940	615	0.004327	715	0.001254
420	0.000097	520	0.002071	620	0.004451	720	0.001092
425	0.000151	525	0.002191	625	0.004554	725	0.000948
430	0.000242	530	0.002317	630	0.004615	730	0.000821
435	0.000391	535	0.002435	635	0.004621	735	0.000710
440	0.000627	540	0.002550	640	0.004567	740	0.000614
445	0.001033	545	0.002659	645	0.004461	745	0.000532
450	0.001637	550	0.002757	650	0.004315	750	0.000460
455	0.002102	555	0.002836	655	0.004116	755	0.000397
460	0.001839	560	0.002910	660	0.003894	760	0.000342
465	0.001397	565	0.002972	665	0.003641	765	0.000294
470	0.001239	570	0.003043	670	0.003370	770	0.000251
475	0.001098	575	0.003125	675	0.003112	775	0.000215
						780	0.000184





IES TM-30 Summary





Test Report Number: LLIA001067-017B

Catalog Number: 3-678-215 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: 25.4 °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.