

# Report of Test

## LLIA000824-012A

Catalog Number: 3-651 Cornet Pendant

Pendant mounted, formed steel canopy, center lampholder with spun steel reflector, cast aluminum heatsink, frosted glass enclosure below LEDs, clear and mirrorized glass outer enclosure.

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

One L.T.F. DA6W150C2040LP010-0014 dimmable LED driver

120.0Vac, 60.00Hz, 0.0587A, 6.56W, 0.931PF, 10.6%THD(i)



### Performance Summary

Total Light Output	399 lm
Luminaire Power	6.56 W
Luminous Efficacy	60.8 lm/W

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



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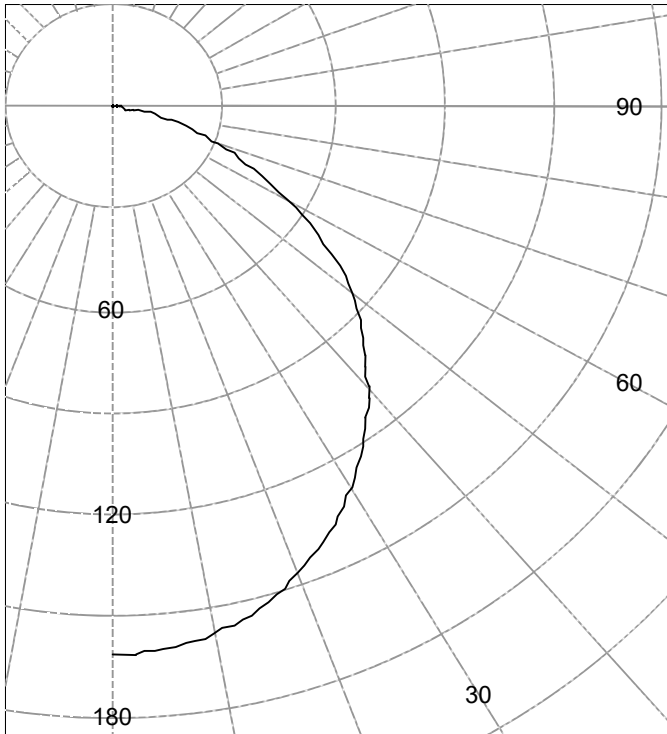
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Legend: All planes - Solid (cd)



(Rotational symmetry)

**AVERAGE LUMINANCE (cd / m<sup>2</sup>)**

Gamma	C0
45.0	93976
55.0	81868
65.0	59359
75.0	39920
85.0	13258

**INTENSITY SUMMARY (cd)**

Gamma	All Planes	Flux (lm)	Gamma	C0	Flux (lm)
0	161		90	1	
5	160	15	95	0	0
10	158		100	0	0
15	153	43	105	0	0
20	147		110	0	0
25	139	64	115	0	0
30	129		120	0	0
35	119	74	125	0	0
40	108		130	0	0
45	96	74	135	0	0
50	85		140	0	0
55	70	63	145	0	0
60	55		150	0	0
65	40	40	155	0	0
70	28		160	0	0
75	18	20	165	0	0
80	10		170	0	0
85	3	4	175	0	0
90	1		180	0	0

**ZONAL FLUX AND PERCENTAGES**

Zone	Flux (lm)	%Lamp	%Luminaire
0-30	122	N / A	30.6
0-40	197	N / A	49.3
0-60	333	N / A	83.6
0-90	397	N / A	99.6
40-90	201	N / A	50.3
60-90	64	N / A	16.0
90-180	2	N / A	0.4
0-180	399	N / A	100.0

Total Light Output = 399 lm

Spacing Criterion: 0-180 1.2  
Spacing Criterion: 90-270 1.2

Signed:

Authorized Signatory

Date of test 18-Sep-2017  
Date of report 20-Sep-2017



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**Intensity (cd) and Flux (lm) data**

Gamma	Intensity	Flux	Gamma	Intensity	Flux
0.0	161		90.0	1	
2.5	161		92.5	0	
5.0	160	15	95.0	0	
7.5	159		97.5	0	0
10.0	158		100.0	0	
12.5	156		102.5	0	
15.0	153	43	105.0	0	
17.5	150		107.5	0	0
20.0	147		110.0	0	
22.5	143		112.5	0	
25.0	139	64	115.0	0	
27.5	134		117.5	0	0
30.0	129		120.0	0	
32.5	124		122.5	0	
35.0	119	74	125.0	0	
37.5	113		127.5	0	0
40.0	108		130.0	0	
42.5	102		132.5	0	
45.0	96	74	135.0	0	
47.5	90		137.5	0	0
50.0	85		140.0	0	
52.5	79		142.5	0	
55.0	70	63	145.0	0	
57.5	62		147.5	0	0
60.0	55		150.0	0	
62.5	47		152.5	0	
65.0	40	40	155.0	0	
67.5	34		157.5	0	0
70.0	28		160.0	0	
72.5	23		162.5	0	
75.0	18	20	165.0	0	
77.5	14		167.5	0	0
80.0	10		170.0	0	
82.5	6		172.5	0	
85.0	3	4	175.0	0	
87.5	2		177.5	0	0
90.0	1		180.0	0	



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**Coefficients Of Utilization - Zonal Cavity Method**

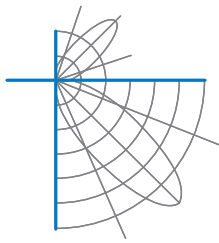
Effective Floor Cavity Reflectance 0.20

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	64	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	35	45	39	34	32
9	58	45	37	32	57	45	37	32	43	36	31	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	28	38	32	28	27

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	4.5	7.18	7.18
8.0	2.5	9.58	9.58
10.0	1.6	11.97	11.97
12.0	1.1	14.37	14.37
14.0	0.8	16.76	16.76
16.0	0.6	19.16	19.16



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120.0Vac, 60.00Hz, 0.0587A, 6.56W, 0.931PF, 10.6%THD(i)

**Test Distance** 9.5 m  
**Test Temperature** 25.1 °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.

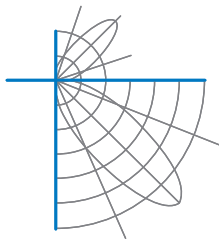
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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

LLIA000824-012B

Integrating Sphere Report

Catalog Number: 3-651 Cornet Pendant

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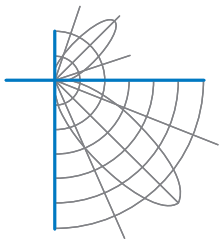
### Performance Summary

Voltage	120.1 Vac
Current	0.0588 A
Power	6.57 W
Frequency	60.00 Hz
Power Factor	0.931
Current THD	10.7 %
Total Luminous Flux	397.5 lm
Efficacy	60.5 lm/W
Chromaticity (x,y)	(0.4350, 0.3984)
(u',v')	(0.2518, 0.5188)
Duv	-0.0020
CCT	2985 K
CRI (Ra)	97
R9	86

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

Test date: 09/18/2017

Report date: 09/20/2017



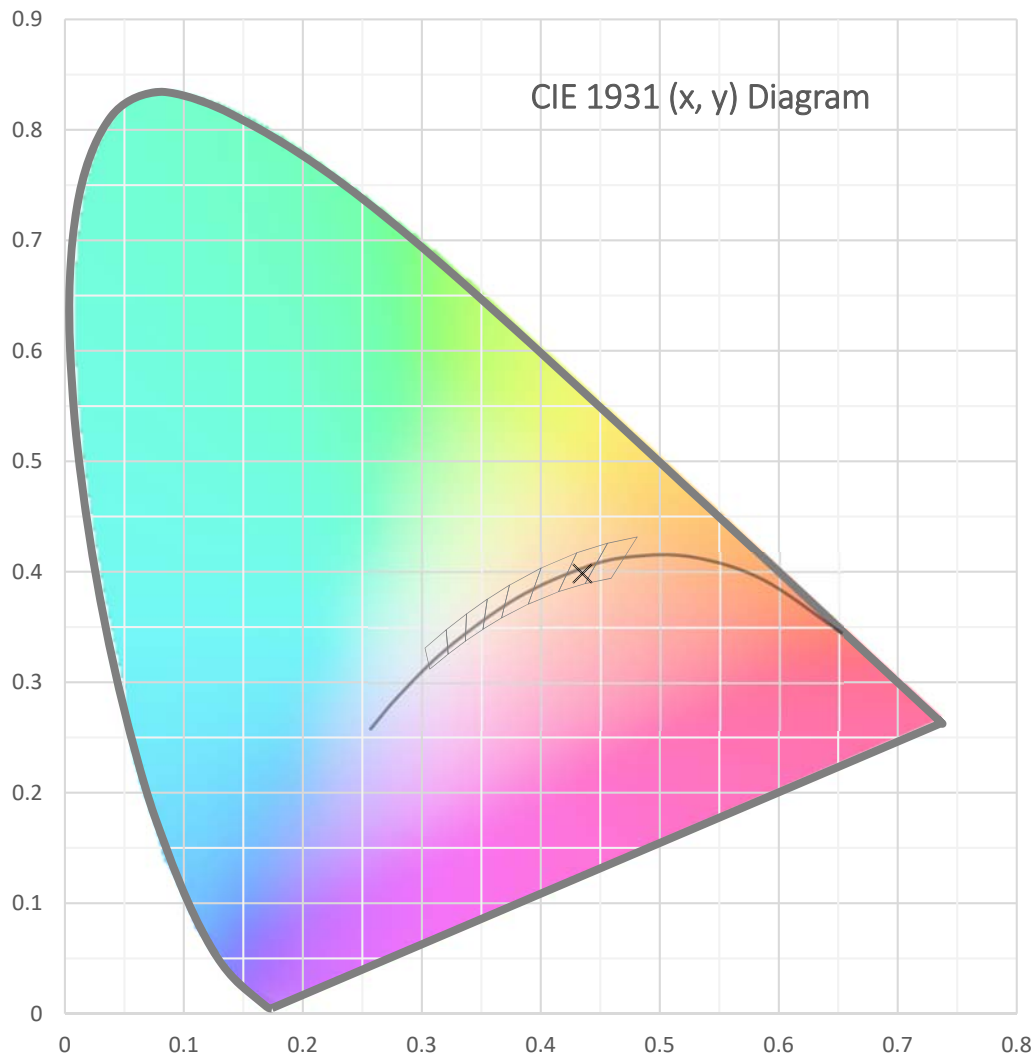
**Test Report Number: LLIA000824-012B**

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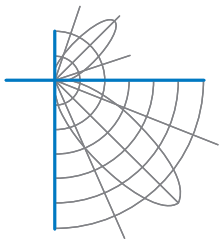
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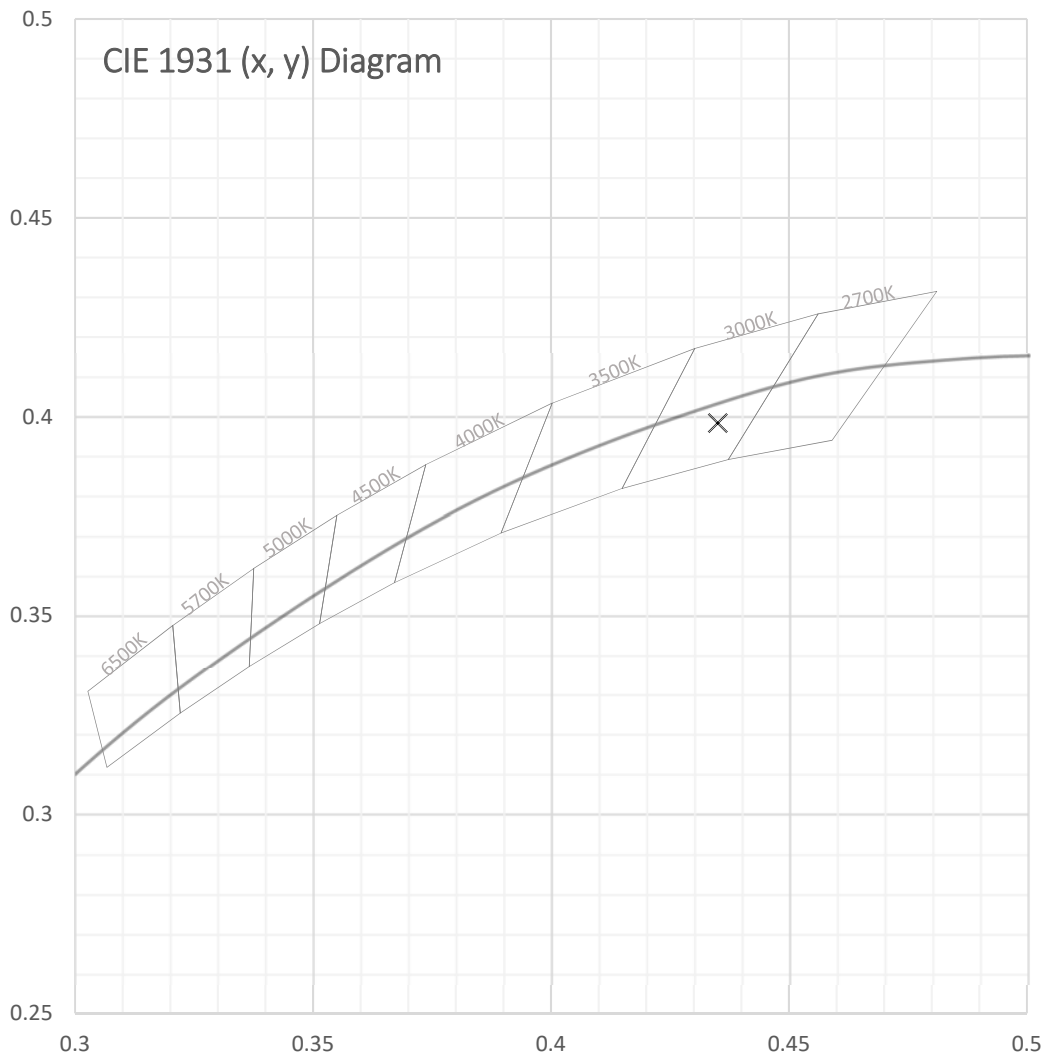
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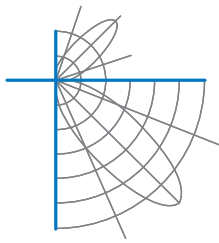
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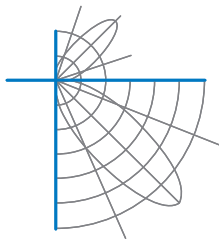
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<b>Spectral Data</b>	Total Radiant Flux	1.488 W
	Total Luminous Flux	397.5 Lm
	Chromaticity CIE 1931 (x, y)	(0.4350, 0.3984)
	Chromaticity CIE 1976 (u', v')	(0.2518, 0.5188)
	Correlated Color Temperature (CCT)	2985 K
	Color Rendering Index (Ra)	97
	R1	99
	R2	99
	R3	96
	R4	98
	R5	98
	R6	97
	R7	97
	R8	94
	R9	86
	R10	95
	R11	97
	R12	85
	R13	99
	R14	97
	Distance from Planckian Locus (Duv)	-0.0020
	Scotopic/Photopic Ratio *	1.444

**Electrical Data**

Voltage	120.1 Vac
Current	0.0588 A
Power	6.57 W
Frequency	60.00 Hz
Power Factor	0.931
Current THD	10.7 %



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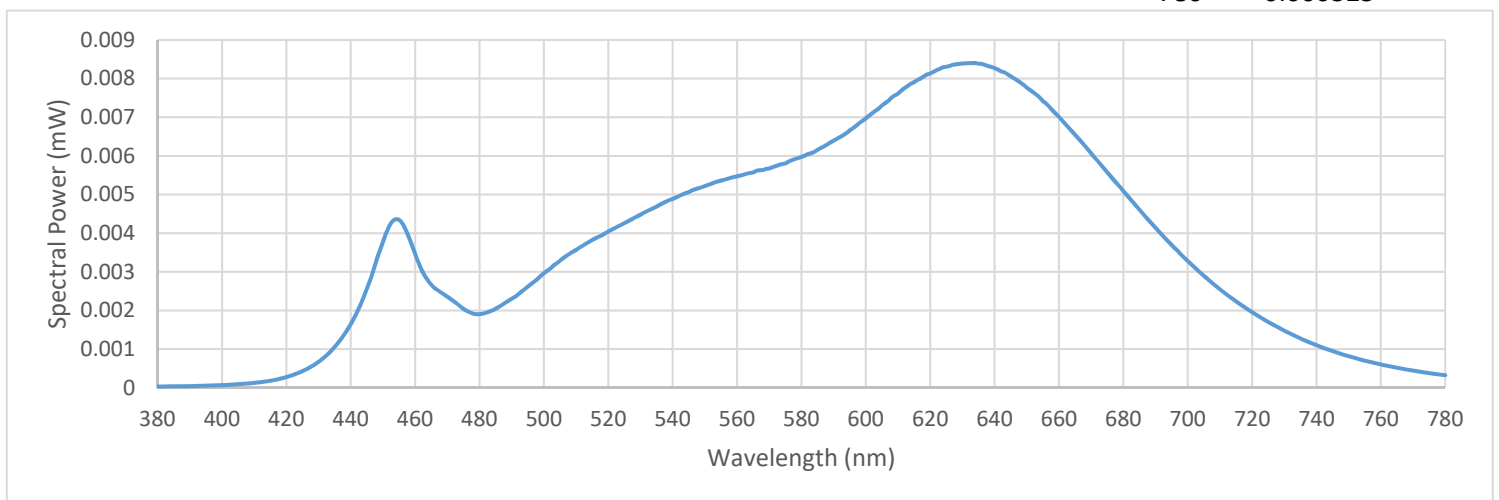
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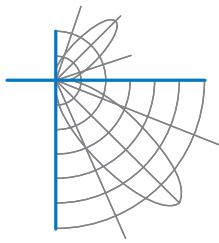
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Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000033	480	0.001905	580	0.005968	680	0.005087
385	0.000035	485	0.002043	585	0.006158	685	0.004611
390	0.000043	490	0.002301	590	0.006397	690	0.004139
395	0.000053	495	0.002612	595	0.006657	695	0.003686
400	0.000069	500	0.002961	600	0.006968	700	0.003285
405	0.000091	505	0.003287	605	0.007304	705	0.002904
410	0.000125	510	0.003567	610	0.007613	710	0.002546
415	0.000180	515	0.003824	615	0.007906	715	0.002238
420	0.000277	520	0.004042	620	0.008132	720	0.001954
425	0.000431	525	0.004258	625	0.008306	725	0.001700
430	0.000676	530	0.004476	630	0.008389	730	0.001482
435	0.001058	535	0.004687	635	0.008385	735	0.001277
440	0.001648	540	0.004884	640	0.008272	740	0.001099
445	0.002563	545	0.005062	645	0.008062	745	0.000948
450	0.003779	550	0.005222	650	0.007765	750	0.000815
455	0.004346	555	0.005361	655	0.007420	755	0.000701
460	0.003471	560	0.005469	660	0.007016	760	0.000606
465	0.002666	565	0.005571	665	0.006547	765	0.000519
470	0.002357	570	0.005674	670	0.006065	770	0.000443
475	0.002039	575	0.005803	675	0.005572	775	0.000380
						780	0.000325





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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 $\pi$ geometry
Test Temperature:	24.2 °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
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.