

Report of Test

LLIA000802-041A

Catalog Number: 3-619-24 Oracle Ceiling Mount

Ceiling mounted, formed steel housing with white enamel steel reflector,
translucent white plastic enclosure with decorative trim.

30 white LEDs, One Harvard Engineering LEDENG-152-930-NL LED board.

One LTF DA12W350C1834D010-0014 dimming LED driver.

120.0Vac, 60.00Hz, 0.1124A, 13.16W, 0.976PF, 8.4%THD(i)



Performance Summary

Total Light Output	1010 lm
Luminaire Power	13.2 W
Luminous Efficacy	76.5 lm/W

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



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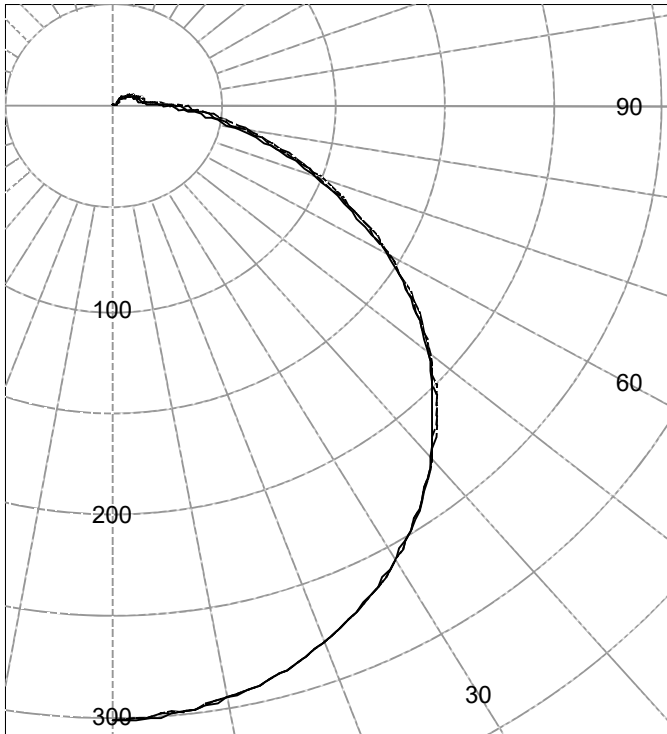
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Legend: C0-Solid, C45-Dashed, C90-Grey (cd)



(Two plane symmetry) C0-C90

AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	1613	1618	1623
55.0	1443	1452	1459
65.0	1228	1244	1258
75.0	966	995	1024
85.0	714	782	841

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	300	300	300	300	300	
5.0	299	299	299	299	299	28
10.0	295	295	295	295	295	
15.0	289	289	289	289	289	82
20.0	280	280	280	280	280	
25.0	269	269	269	269	269	124
30.0	256	256	256	256	257	
35.0	241	241	242	242	242	151
40.0	224	225	225	225	225	
45.0	206	206	207	207	207	159
50.0	186	186	187	187	188	
55.0	165	165	166	166	167	148
60.0	142	143	143	144	145	
65.0	119	120	121	122	122	119
70.0	96	97	98	99	100	
75.0	74	75	77	78	79	81
80.0	55	56	58	60	61	
85.0	39	40	43	45	46	47
90.0	27	28	31	33	34	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	234	N / A	23.2
0-40	385	N / A	38.1
0-60	693	N / A	68.6
0-90	940	N / A	93.1
40-90	555	N / A	55.0
60-90	248	N / A	24.5
90-180	70	N / A	6.9
0-180	1010	N / A	100.0

Total Light Output = 1,010 lm

Spacing Criterion: 0-180 1.3
Spacing Criterion: 90-270 1.3

Signed:

Authorized Signatory

Date of test 16-Aug-2017
Date of report 17-Aug-2017



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	300	300	300	300	300
2.5	300	300	300	300	300
5.0	299	299	299	299	299
7.5	298	297	297	297	297
10.0	295	295	295	295	295
12.5	292	292	292	292	292
15.0	289	289	289	289	289
17.5	285	285	285	285	285
20.0	280	280	280	280	280
22.5	275	275	275	275	275
25.0	269	269	269	269	269
27.5	263	263	263	263	263
30.0	256	256	256	256	257
32.5	249	249	249	249	249
35.0	241	241	242	242	242
37.5	233	233	234	234	234
40.0	224	225	225	225	225
42.5	215	216	216	216	217
45.0	206	206	207	207	207
47.5	196	196	197	197	198
50.0	186	186	187	187	188
52.5	175	176	176	177	177
55.0	165	165	166	166	167
57.5	154	154	155	155	156
60.0	142	143	143	144	145
62.5	131	131	132	133	133
65.0	119	120	121	122	122
67.5	108	108	109	110	111
70.0	96	97	98	99	100
72.5	85	86	87	88	89
75.0	74	75	77	78	79
77.5	64	65	67	69	69
80.0	55	56	58	60	61
82.5	46	48	50	52	53
85.0	39	40	43	45	46
87.5	33	34	36	39	40
90.0	27	28	31	33	34



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	27	28	31	33	34
92.5	22	23	25	27	28
95.0	18	19	21	23	24
97.5	16	16	18	19	20
100.0	14	14	15	16	17
102.5	12	13	14	15	15
105.0	12	12	13	13	14
107.5	11	12	12	13	13
110.0	11	11	12	13	13
112.5	11	11	12	12	13
115.0	10	11	12	12	12
117.5	10	10	11	12	12
120.0	10	10	11	11	12
122.5	9	10	10	11	11
125.0	9	9	10	10	11
127.5	8	9	9	10	10
130.0	8	8	9	9	10
132.5	7	8	8	9	9
135.0	7	7	8	8	8
137.5	6	7	7	8	8
140.0	6	6	7	7	7
142.5	5	6	6	6	7
145.0	5	5	5	6	6
147.5	4	5	5	5	5
150.0	4	4	4	4	5
152.5	4	4	4	4	4
155.0	4	4	4	4	4
157.5	3	3	3	3	3
160.0	3	3	3	3	3
162.5	3	3	3	3	3
165.0	2	3	2	2	2
167.5	2	2	2	2	2
170.0	2	3	2	2	2
172.5	2	2	2	2	2
175.0	2	2	2	2	1
177.5	1	1	1	1	1
180.0	1	1	1	1	1



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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	
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	106	100	96	91	102	97	93	89	92	88	85	87	84	81	82	80	78	75
2	96	87	79	73	92	84	78	72	80	74	69	75	71	66	71	67	64	61
3	87	76	67	60	84	74	66	59	70	63	57	66	60	56	62	58	54	51
4	79	67	58	51	76	65	57	50	62	54	49	58	52	47	56	50	46	43
5	73	60	50	43	70	58	49	43	55	48	42	52	46	41	50	44	40	37
6	67	54	44	38	65	52	44	37	50	42	36	47	41	36	45	39	35	32
7	62	48	39	33	60	47	39	33	45	38	32	43	36	31	41	35	31	29
8	58	44	35	30	56	43	35	29	41	34	29	39	33	28	38	32	27	25
9	54	40	32	26	52	40	32	26	38	31	26	36	30	25	35	29	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	21

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	8.3	7.61	7.62
8.0	4.7	10.15	10.17
10.0	3.0	12.68	12.71
12.0	2.1	15.22	15.25
14.0	1.5	17.76	17.79
16.0	1.2	20.29	20.33



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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

LLIA000802-041B

Integrating Sphere Report

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Performance Summary

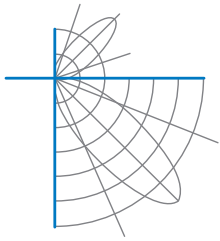
Voltage	120.0 Vac
Current	0.1125 A
Power	13.19 W
Frequency	60.00 Hz
Power Factor	0.977
Current THD	8.3 %

Total Luminous Flux	1016.7 lm
Efficacy	77.1 lm/W
Chromaticity (x,y)	(0.4341, 0.4038)
(u',v')	(0.2488, 0.5209)
Duv	0.0003
CCT	3047 K
CRI (Ra)	93
R9	64

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

Test date: 08/14/2017

Report date: 08/17/2017



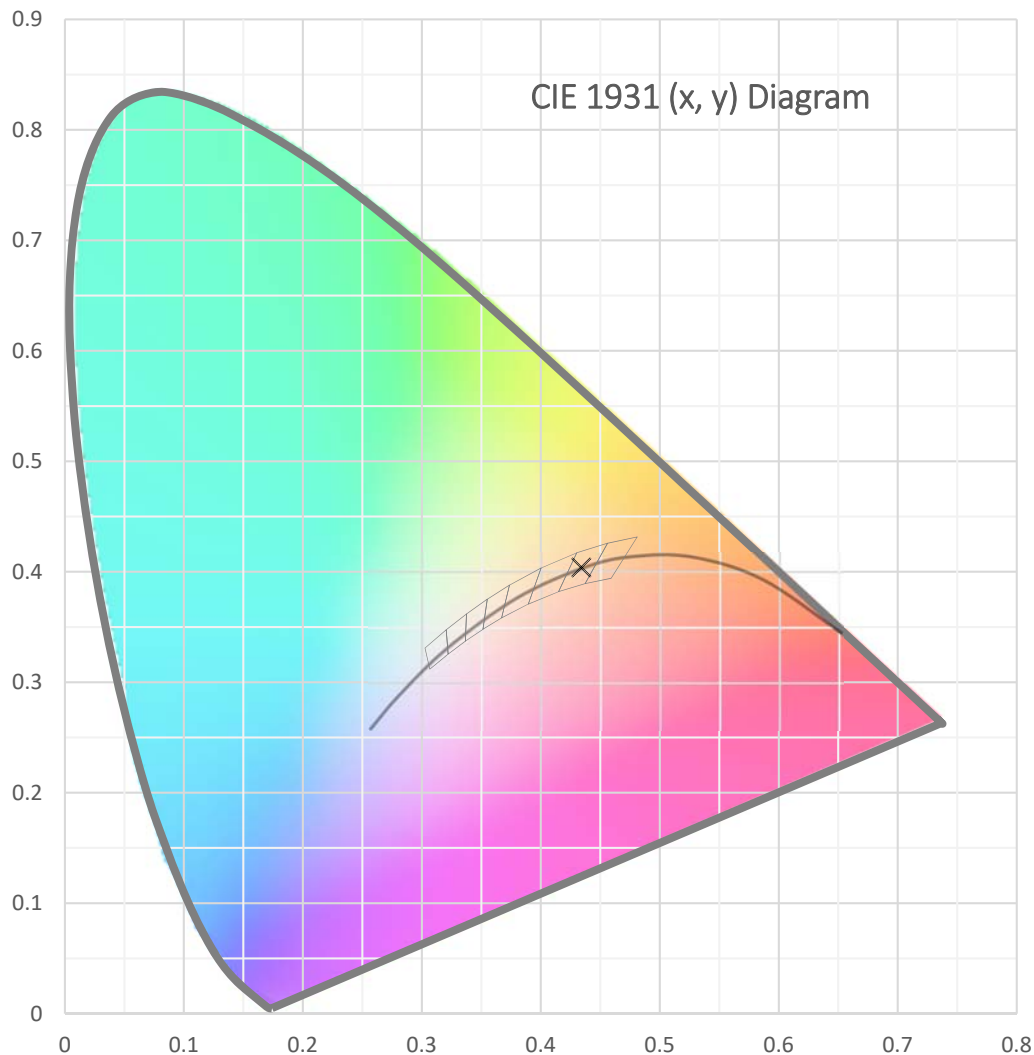
Test Report Number: LLIA000802-041B

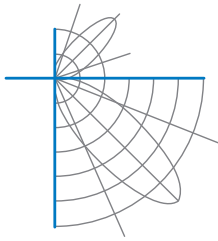
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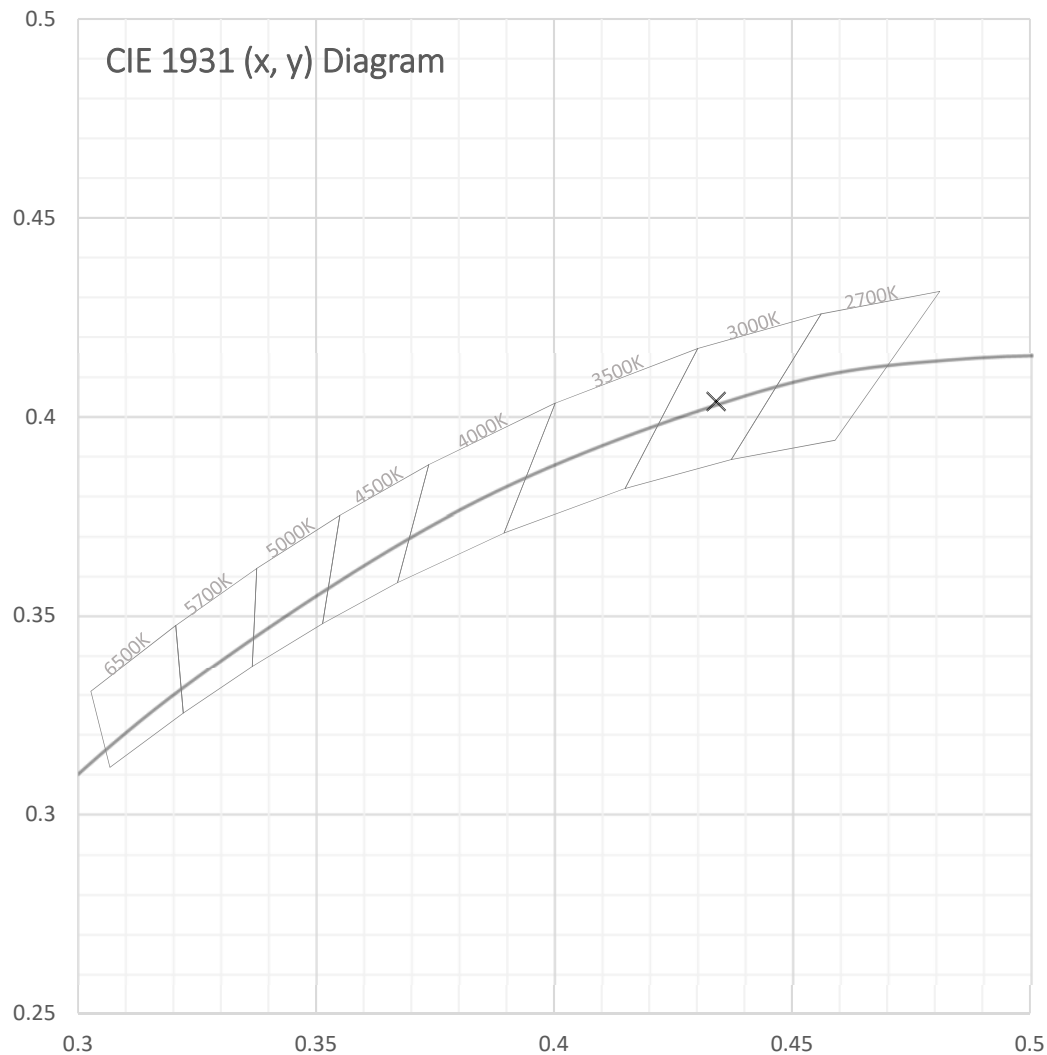
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Spectral Data

Total Radiant Flux	3.575 W
Total Luminous Flux	1016.7 Lm
Chromaticity CIE 1931 (x, y)	(0.4341, 0.4038)
Chromaticity CIE 1976 (u', v')	(0.2488, 0.5209)
Correlated Color Temperature (CCT)	3047 K
Color Rendering Index (Ra)	93
R1	93
R2	95
R3	96
R4	93
R5	92
R6	94
R7	94
R8	85
R9	64
R10	88
R11	94
R12	80
R13	93
R14	97
Distance from Planckian Locus (Duv)	0.0003
Scotopic/Photopic Ratio *	1.420

Electrical Data

Voltage	120.0 Vac
Current	0.1125 A
Power	13.19 W
Frequency	60.00 Hz
Power Factor	0.977
Current THD	8.3 %



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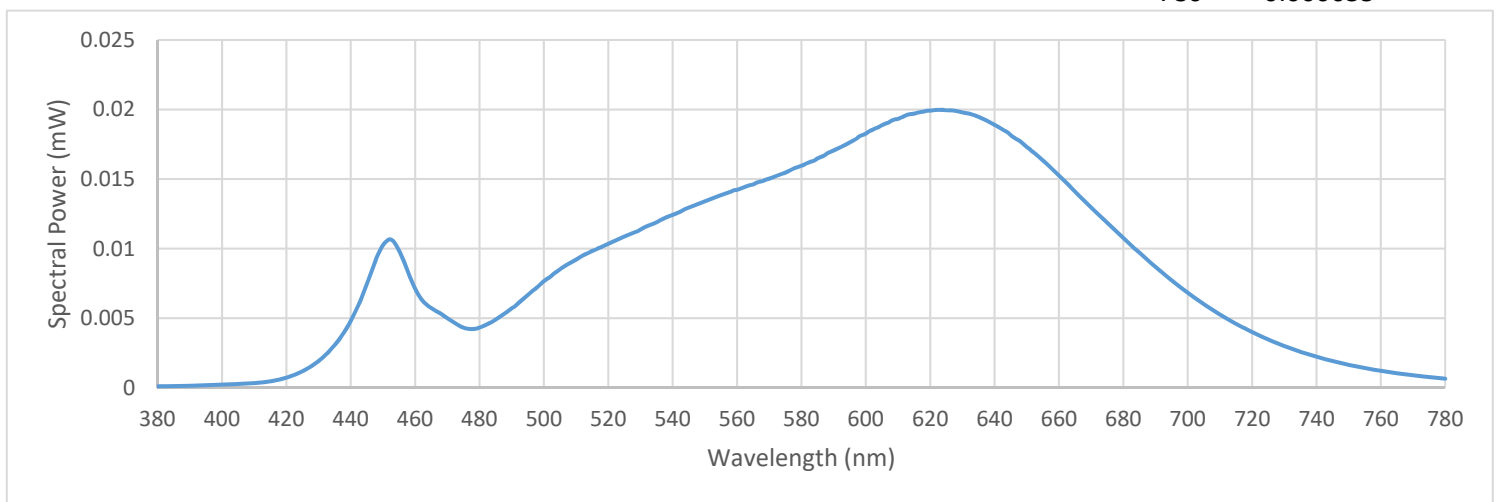
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Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000107	480	0.004322	580	0.015958	680	0.010768
385	0.000116	485	0.004911	585	0.016482	685	0.009712
390	0.000146	490	0.005715	590	0.017060	690	0.008686
395	0.000181	495	0.006657	595	0.017641	695	0.007713
400	0.000225	500	0.007658	600	0.018261	700	0.006843
405	0.000272	505	0.008504	605	0.018874	705	0.006018
410	0.000337	510	0.009203	610	0.019327	710	0.005255
415	0.000462	515	0.009839	615	0.019700	715	0.004605
420	0.000730	520	0.010346	620	0.019921	720	0.004003
425	0.001187	525	0.010871	625	0.019933	725	0.003471
430	0.001937	530	0.011373	630	0.019786	730	0.003005
435	0.003076	535	0.011890	635	0.019465	735	0.002584
440	0.004814	540	0.012417	640	0.018894	740	0.002227
445	0.007460	545	0.012941	645	0.018162	745	0.001920
450	0.010255	550	0.013401	650	0.017310	750	0.001652
455	0.009873	555	0.013835	655	0.016329	755	0.001415
460	0.007161	560	0.014225	660	0.015266	760	0.001225
465	0.005718	565	0.014612	665	0.014090	765	0.001048
470	0.005012	570	0.015022	670	0.012950	770	0.000893
475	0.004320	575	0.015452	675	0.011858	775	0.000768
						780	0.000655





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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: 25.5 °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

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
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