



Report of Test

LLIA000802-042A

Catalog Number: 3-620-24 Oracle Ceiling Mount
Ceiling mounted, formed steel housing with white enamel steel reflector,
translucent white plastic enclosure with decorative trim.
60 white LEDs, Two Harvard Engineering LEDENG-152-930-NL LED boards with 30 LEDs each
Two LTF DA12W350C1834D010-0014 dimming LED drivers.
120.0Vac, 60.00Hz, 0.2241A, 26.26W, 0.976PF, 8.9%THD(i)



Performance Summary

Total Light Output	1952 lm
Luminaire Power	26.3 W
Luminous Efficacy	74.2 lm/W

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



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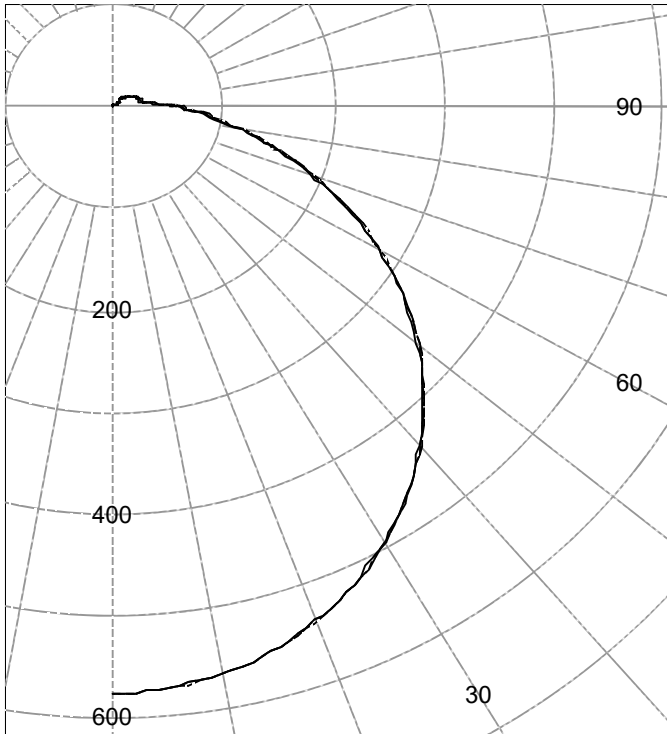
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Legend: C0-Solid, C45-Dashed, C90-Grey (cd)



(Two plane symmetry) C0-C90

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	576	576	576	576	576	
5.0	573	573	573	574	574	55
10.0	566	566	566	566	567	
15.0	554	554	554	555	555	156
20.0	538	538	538	538	539	
25.0	517	517	517	518	518	239
30.0	492	492	493	493	493	
35.0	464	464	465	465	466	291
40.0	432	433	433	434	434	
45.0	398	398	398	399	399	307
50.0	360	360	361	361	362	
55.0	319	319	320	321	321	286
60.0	276	277	278	279	279	
65.0	233	233	234	235	235	232
70.0	189	189	190	191	192	
75.0	147	148	149	150	151	159
80.0	111	112	113	115	115	
85.0	82	83	84	86	86	93
90.0	58	59	61	62	63	

AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	3113	3120	3127
55.0	2797	2807	2816
65.0	2399	2413	2426
75.0	1915	1940	1962
85.0	1496	1541	1579

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	450	N / A	23.0
0-40	740	N / A	37.9
0-60	1334	N / A	68.3
0-90	1817	N / A	93.1
40-90	1077	N / A	55.1
60-90	483	N / A	24.7
90-180	135	N / A	6.9
0-180	1952	N / A	100.0

Total Light Output = 1,952 lm

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

Signed:

Authorized Signatory

Date of test 15-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	576	576	576	576	576
2.5	575	575	575	575	576
5.0	573	573	573	574	574
7.5	570	570	570	571	571
10.0	566	566	566	566	567
12.5	560	561	561	561	561
15.0	554	554	554	555	555
17.5	546	546	547	547	547
20.0	538	538	538	538	539
22.5	528	528	528	529	529
25.0	517	517	517	518	518
27.5	505	505	506	506	506
30.0	492	492	493	493	493
32.5	478	479	479	480	480
35.0	464	464	465	465	466
37.5	449	449	449	450	450
40.0	432	433	433	434	434
42.5	415	416	416	417	417
45.0	398	398	398	399	399
47.5	379	379	380	381	381
50.0	360	360	361	361	362
52.5	340	340	341	342	342
55.0	319	319	320	321	321
57.5	298	298	299	300	300
60.0	276	277	278	279	279
62.5	255	255	256	257	257
65.0	233	233	234	235	235
67.5	211	211	212	213	213
70.0	189	189	190	191	192
72.5	168	168	169	171	171
75.0	147	148	149	150	151
77.5	128	129	131	132	133
80.0	111	112	113	115	115
82.5	96	96	98	99	100
85.0	82	83	84	86	86
87.5	69	70	72	73	74
90.0	58	59	61	62	63



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	58	59	61	62	63
92.5	49	49	51	52	53
95.0	41	41	42	43	44
97.5	34	35	36	37	37
100.0	30	30	31	31	32
102.5	26	27	27	28	28
105.0	24	25	25	26	26
107.5	23	24	24	25	25
110.0	23	23	24	24	24
112.5	23	23	23	24	24
115.0	22	22	23	23	23
117.5	21	21	22	22	23
120.0	20	20	21	21	22
122.5	19	19	20	20	20
125.0	18	18	19	19	19
127.5	17	17	18	18	18
130.0	16	16	17	17	17
132.5	15	15	16	16	16
135.0	14	14	14	15	15
137.5	13	13	13	14	14
140.0	12	12	12	12	12
142.5	10	11	11	11	11
145.0	9	9	9	10	10
147.5	8	8	8	9	9
150.0	7	7	7	7	8
152.5	6	6	6	6	7
155.0	6	6	5	6	6
157.5	5	5	5	5	5
160.0	5	5	5	5	5
162.5	4	4	4	4	4
165.0	4	4	4	4	4
167.5	3	3	3	3	3
170.0	3	3	3	3	3
172.5	2	3	3	3	2
175.0	2	2	2	3	2
177.5	2	2	2	2	2
180.0	2	2	2	2	2



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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	95	91	102	97	93	89	92	88	85	87	84	81	82	80	77	75
2	96	87	79	73	92	84	77	72	79	74	69	75	70	66	71	67	64	61
3	87	76	67	60	84	74	66	59	70	63	57	66	60	55	62	58	54	51
4	79	67	58	51	76	65	56	50	62	54	48	58	52	47	55	50	46	43
5	73	59	50	43	70	58	49	43	55	47	42	52	46	41	50	44	39	37
6	67	53	44	38	65	52	43	37	50	42	36	47	41	35	45	39	35	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	31	28
8	58	44	35	29	56	43	35	29	41	34	29	39	33	28	38	32	27	25
9	54	40	32	26	52	39	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	26	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.

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	16.0	7.62	7.64
8.0	9.0	10.16	10.19
10.0	5.8	12.71	12.74
12.0	4.0	15.25	15.29
14.0	2.9	17.79	17.83
16.0	2.2	20.33	20.38



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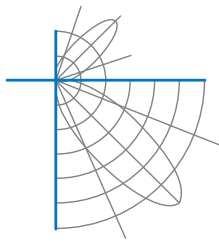
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Test Distance 9.5 m
Test Temperature 24.9 °C

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

LLIA000802-042B

Integrating Sphere Report

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Performance Summary

Voltage	120.0 Vac
Current	0.2241 A
Power	26.26 W
Frequency	60.00 Hz
Power Factor	0.976
Current THD	8.8 %

Total Luminous Flux	1971.5 lm
Efficacy	75.1 lm/W
Chromaticity (x,y)	(0.4320, 0.4027)
(u',v')	(0.2480, 0.5201)
Duv	0.0001
CCT	3073 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



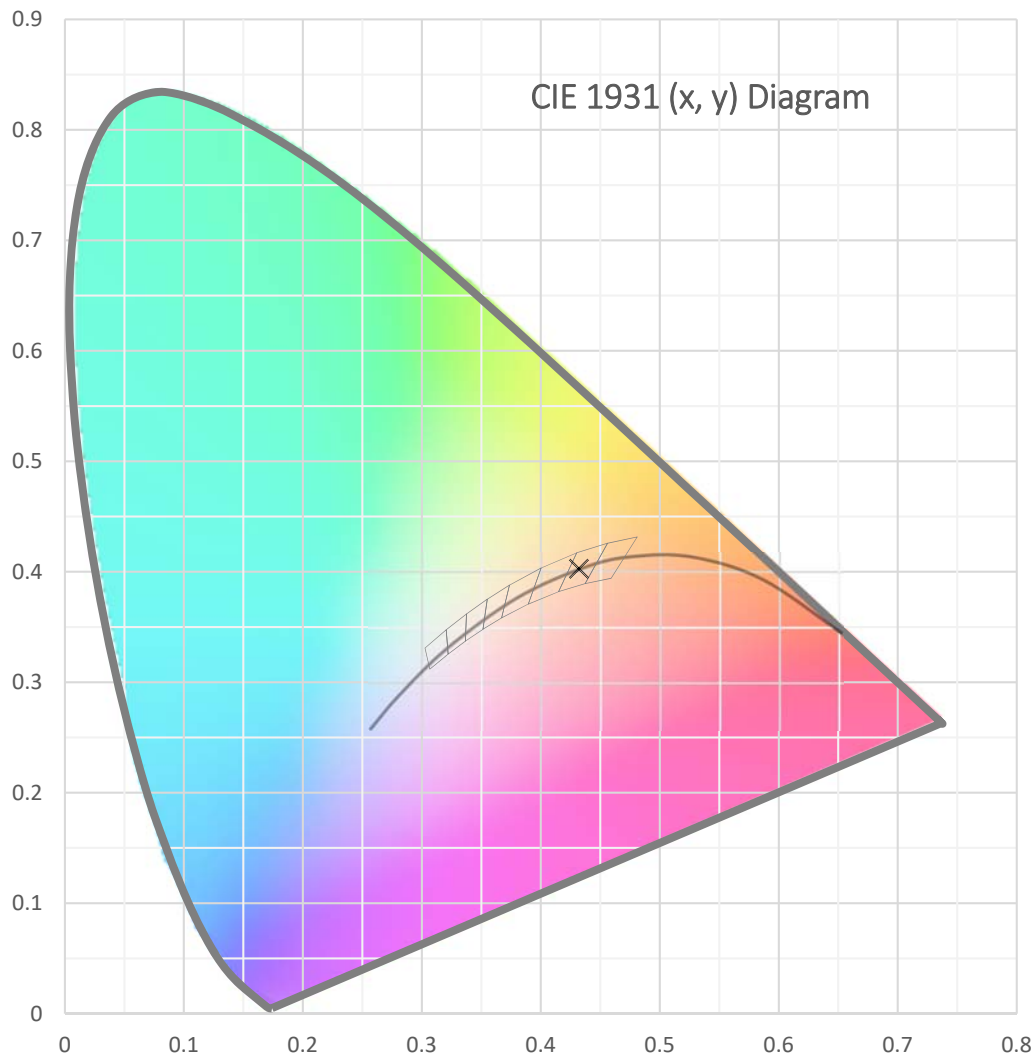
Test Report Number: LLIA000802-042B

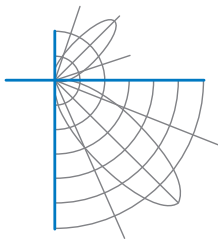
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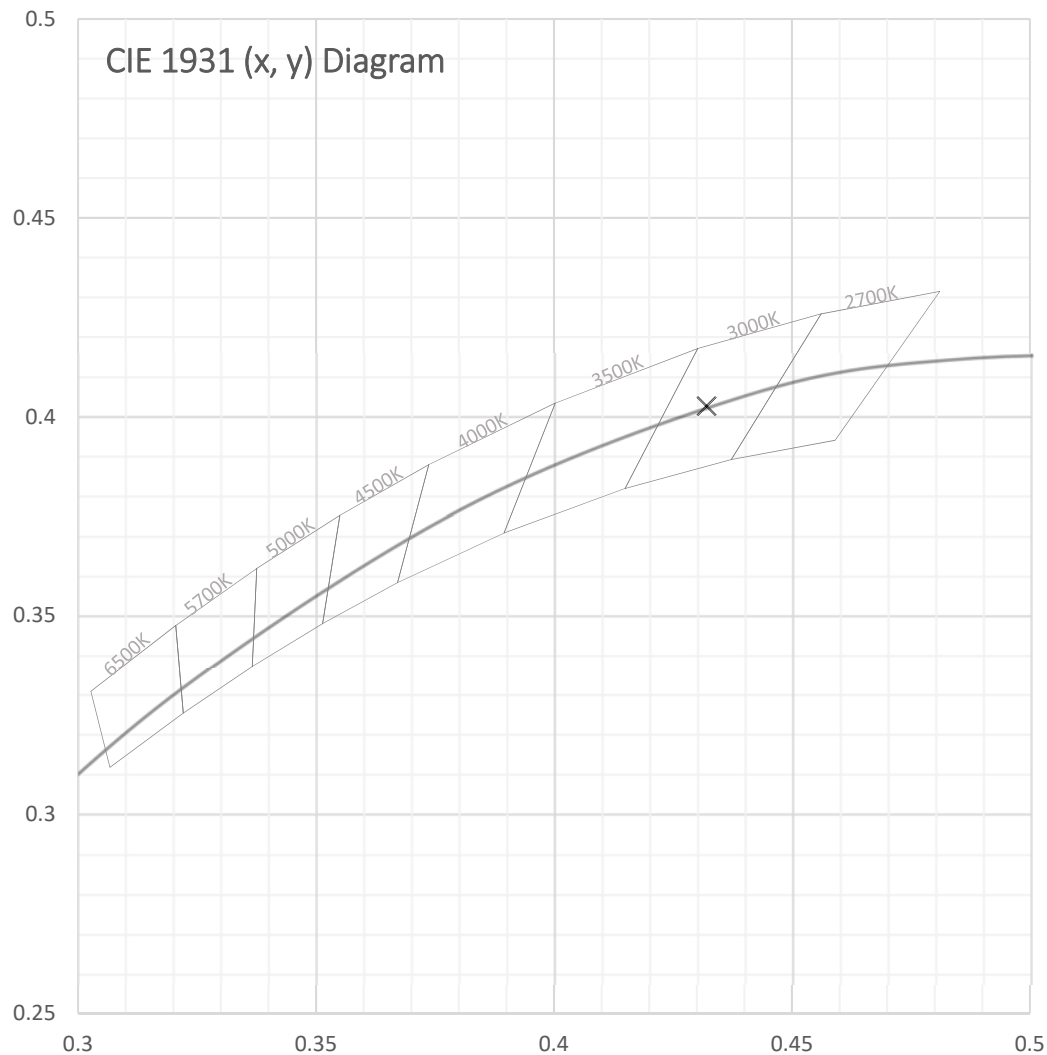
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Spectral Data

Total Radiant Flux	6.942 W
Total Luminous Flux	1971.5 Lm
Chromaticity CIE 1931 (x, y)	(0.4320, 0.4027)
Chromaticity CIE 1976 (u', v')	(0.2480, 0.5201)
Correlated Color Temperature (CCT)	3073 K
Color Rendering Index (Ra)	93
R1	93
R2	95
R3	96
R4	93
R5	93
R6	94
R7	94
R8	85
R9	64
R10	88
R11	94
R12	80
R13	94
R14	97
Distance from Planckian Locus (Duv)	0.0001
Scotopic/Photopic Ratio *	1.433

Electrical Data

Voltage	120.0 Vac
Current	0.2241 A
Power	26.26 W
Frequency	60.00 Hz
Power Factor	0.976
Current THD	8.8 %



Test Report Number: LLIA000802-042B

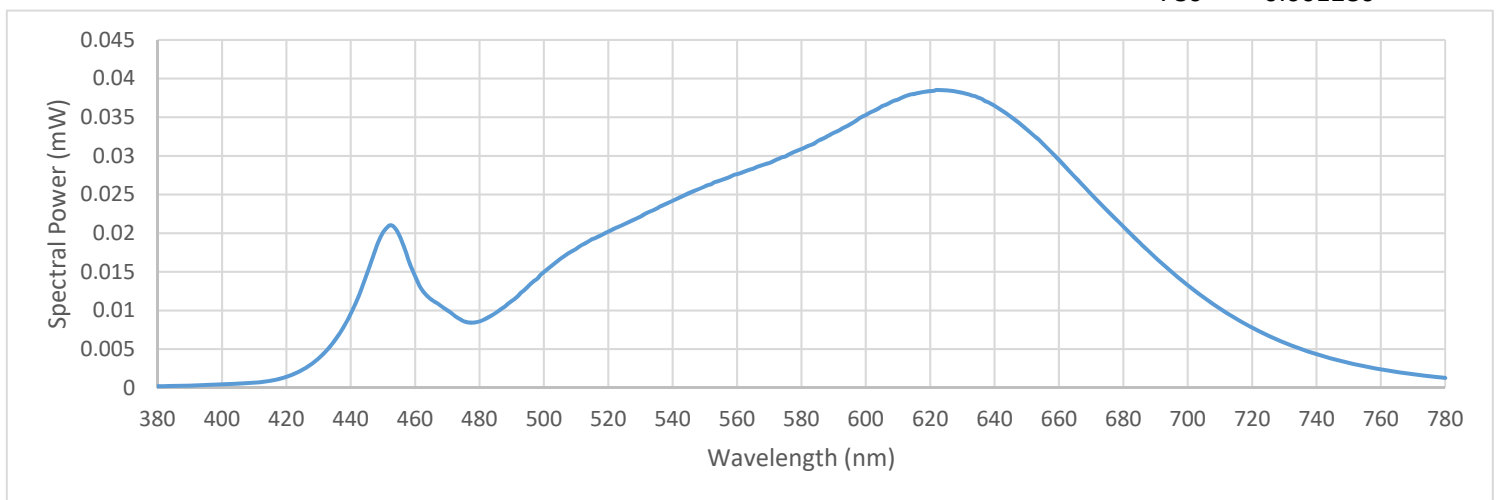
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Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000207	480	0.008582	580	0.030882	680	0.020851
385	0.000226	485	0.009689	585	0.031916	685	0.018816
390	0.000283	490	0.011226	590	0.033000	690	0.016837
395	0.000356	495	0.013064	595	0.034054	695	0.014956
400	0.000440	500	0.014982	600	0.035270	700	0.013286
405	0.000531	505	0.016645	605	0.036420	705	0.011704
410	0.000651	510	0.017971	610	0.037288	710	0.010237
415	0.000889	515	0.019226	615	0.037997	715	0.008942
420	0.001419	520	0.020201	620	0.038365	720	0.007785
425	0.002334	525	0.021162	625	0.038478	725	0.006749
430	0.003832	530	0.022140	630	0.038158	730	0.005848
435	0.006116	535	0.023149	635	0.037518	735	0.005035
440	0.009576	540	0.024179	640	0.036482	740	0.004335
445	0.014726	545	0.025175	645	0.035074	745	0.003737
450	0.020100	550	0.026065	650	0.033411	750	0.003220
455	0.019799	555	0.026857	655	0.031547	755	0.002770
460	0.014421	560	0.027637	660	0.029512	760	0.002392
465	0.011429	565	0.028344	665	0.027246	765	0.002050
470	0.010016	570	0.029075	670	0.025041	770	0.001750
475	0.008609	575	0.029920	675	0.022913	775	0.001502
						780	0.001280





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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
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