



Report of Test

LLIA002028-011A

Indoor Distribution Photometry Test Report

Catalog Number: 3-6005-15 SABRE 5LT LED PEND - BK

Pendant mounted, five black painted aluminum housings, clear frosted plastic lenses.

Five multi-chip LEDs on five white circuit boards.

One Novbo NE032120070-2G LED driver



1.563"

Prepared For:

Oxygen Lighting

201 Railhead Road

Fort Worth, TX 76106, USA

Performance Summary

Input Voltage	120.0 Vac	Luminous Flux	1121.5 Lumens
Input Current	0.2296 A	Total Efficacy	42.0 Lm/W
Input Power	26.71 W	Downward Flux	1066.0 Lumens
Frequency	60.00 Hz	Downward Flux	95.1 % of Total
Power Factor	0.969		
Current THD	14.0 %		

This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 03/24/2023

Report date: 03/24/2023

Signed: _____

North America (issuing laboratory)

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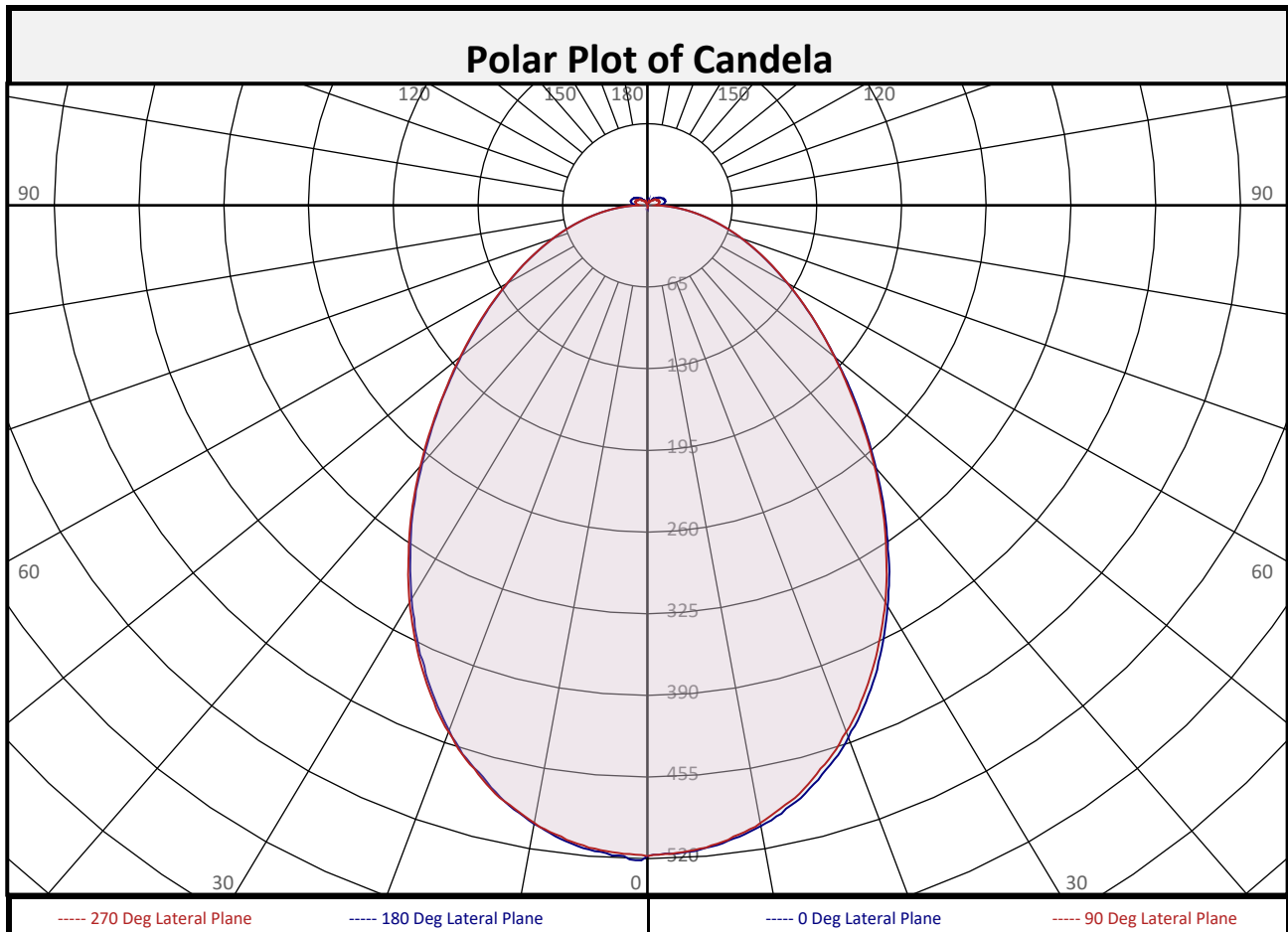
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Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	48.6	4.3%		90-100	11.4	1.0%		0-20	182.7	16.3%
10-20	134.1	12.0%		100-110	13.1	1.2%		0-30	370.4	33.0%
20-30	187.7	16.7%		110-120	11.7	1.0%		0-40	569.1	50.7%
30-40	198.7	17.7%		120-130	8.9	0.8%		0-60	882.1	78.6%
40-50	175.2	15.6%		130-140	5.9	0.5%		0-80	1041	92.8%
50-60	137.8	12.3%		140-150	2.9	0.3%		10-90	1017	90.7%
60-70	98.5	8.8%		150-160	1.2	0.1%		20-50	561.5	50.1%
70-80	60.5	5.4%		160-170	0.4	0.0%		40-90	497.0	44.3%
80-90	24.9	2.2%		170-180	0.1	0.0%		60-90	183.9	16.4%
0-90	1066	95.1%		90-180	55.5	4.9%		0-180	1122	100.0%



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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	0	518	518	518	518	518	518	518	518	518
	2.5	516	517	519	516	516	518	514	516	518
	5	513	513	516	513	513	515	511	511	515
	7.5	508	509	510	507	507	509	505	505	509
	10	502	502	503	499	499	501	497	497	500
	12.5	492	492	493	490	489	491	486	486	489
	15	481	481	481	478	477	478	473	473	475
	17.5	467	467	468	464	463	464	459	458	462
	20	451	451	451	448	446	447	443	441	445
	22.5	433	433	434	430	428	429	424	423	426
	25	414	413	414	410	408	410	404	403	405
	27.5	392	392	393	389	387	388	383	382	384
	30	369	370	371	367	365	365	360	359	362
	32.5	346	346	348	344	341	342	337	336	338
	35	320	322	323	320	318	318	314	313	316
	37.5	297	298	299	295	294	295	290	289	292
	40	273	274	275	272	271	272	267	266	269
	42.5	250	251	252	249	248	249	245	244	246
	45	228	228	230	228	226	227	224	223	225
	47.5	208	208	209	207	206	206	204	203	205
50	188	189	189	188	187	187	185	185	186	
52.5	170	171	171	170	170	170	168	168	169	
55	154	154	155	154	154	154	152	152	153	
57.5	138	139	140	139	139	139	137	137	138	
60	124	125	125	125	124	124	124	123	124	
62.5	111	112	112	111	111	111	111	110	111	
65	99	99	100	99	99	99	99	98	99	
67.5	87	88	88	88	88	88	87	87	87	
70	77	77	77	77	77	77	77	77	77	
72.5	67	67	67	67	67	67	67	67	67	
75	57	57	57	57	57	57	57	57	57	
77.5	48	48	48	48	48	48	48	48	48	
80	39	39	39	39	39	39	39	39	39	
82.5	31	31	31	31	31	31	30	30	30	
85	23	23	23	23	23	22	22	22	22	
87.5	15	15	15	15	15	15	15	15	15	
90	10	10	10	10	8	10	9	8	9	

16 lateral half-planes of data were acquired, 22.5 degree increments shown.



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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	10	10	10	10	8	10	9	8	9
	92.5	11	9	11	11	7	10	10	8	10
	95	12	10	12	12	8	11	11	9	11
	97.5	13	11	12	13	8	12	12	10	12
	100	14	11	13	13	9	13	13	11	13
	102.5	14	12	13	14	9	13	13	11	13
	105	14	12	14	14	9	13	13	11	13
	107.5	14	12	14	14	10	13	13	11	13
	110	14	12	13	14	9	13	13	11	13
	112.5	14	11	13	13	9	13	13	11	13
	115	13	11	12	13	9	13	13	11	12
	117.5	13	11	12	12	9	12	12	11	12
	120	12	10	12	12	9	12	12	10	11
	122.5	11	10	11	11	8	11	11	10	11
	125	11	9	10	11	8	11	11	9	10
	127.5	10	9	10	10	7	10	10	9	10
	130	9	8	9	9	7	9	9	8	9
	132.5	9	8	9	9	6	9	9	8	9
	135	8	7	8	8	6	8	8	7	8
	137.5	8	6	7	8	6	8	8	7	8
	140	7	6	7	7	5	7	7	6	7
	142.5	6	4	5	6	4	5	6	5	5
	145	5	4	4	5	4	5	5	5	5
	147.5	3	4	4	3	4	4	4	4	4
150	3	3	4	3	3	4	3	3	4	
152.5	3	3	3	3	3	4	3	3	4	
155	2	2	3	2	2	3	2	2	3	
157.5	2	2	2	2	2	2	2	2	2	
160	2	2	2	2	2	2	2	2	2	
162.5	1	1	1	2	2	1	2	2	1	
165	1	1	1	1	1	1	1	2	1	
167.5	1	1	1	1	1	1	1	1	1	
170	1	1	1	1	1	1	1	1	1	
172.5	1	1	1	1	1	1	1	1	1	
175	1	1	1	1	1	1	1	1	1	
177.5	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	

16 lateral half-planes of data were acquired, 22.5 degree increments shown.



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Coefficients of Utilization/Room 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	50	30	10	0
RCR																					
0	118	118	118	118	115	115	115	115	108	108	108	103	103	103	97	97	97	95			
1	108	104	100	96	105	101	97	94	96	93	90	91	89	87	87	85	83	81			
2	99	92	85	80	96	89	83	78	85	80	76	81	77	73	77	74	71	69			
3	91	81	74	68	88	79	72	67	76	70	65	72	67	63	69	65	62	59			
4	84	73	65	58	81	71	64	58	68	62	56	65	60	55	63	58	54	52			
5	78	66	57	51	75	64	56	51	62	55	50	59	53	49	57	52	48	46			
6	72	60	51	45	70	58	51	45	56	49	44	54	48	43	52	47	43	41			
7	67	55	46	40	65	53	46	40	52	45	40	50	44	39	48	43	38	36			
8	63	50	42	37	61	49	42	36	47	41	36	46	40	35	44	39	35	33			
9	59	46	38	33	57	45	38	33	44	37	33	43	36	32	41	36	32	30			
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	38	33	29	27			

For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp 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)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	14.4	6.48	6.47
8.0	8.1	8.64	8.62
10.0	5.2	10.80	10.78
12.0	3.6	12.95	12.94
14.0	2.6	15.11	15.09
16.0	2.0	17.27	17.25

Spacing Criterion	
0 deg:	1.1
90 deg:	1.1
180 deg:	1.1
270 deg:	1.1

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	83746	83746	83746
45	49699	49971	49253
55	40481	40716	40415
65	34044	34401	34232
75	29660	30116	30047
85	26595	26605	26418

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	82.2°
Field Angle:	152.5°
90-270 Degree Plane	
Beam Angle:	82.2°
Field Angle:	152.7°



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UGR Table - Corrected

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size

UGR Viewed Crosswise

UGR Viewed Endwise

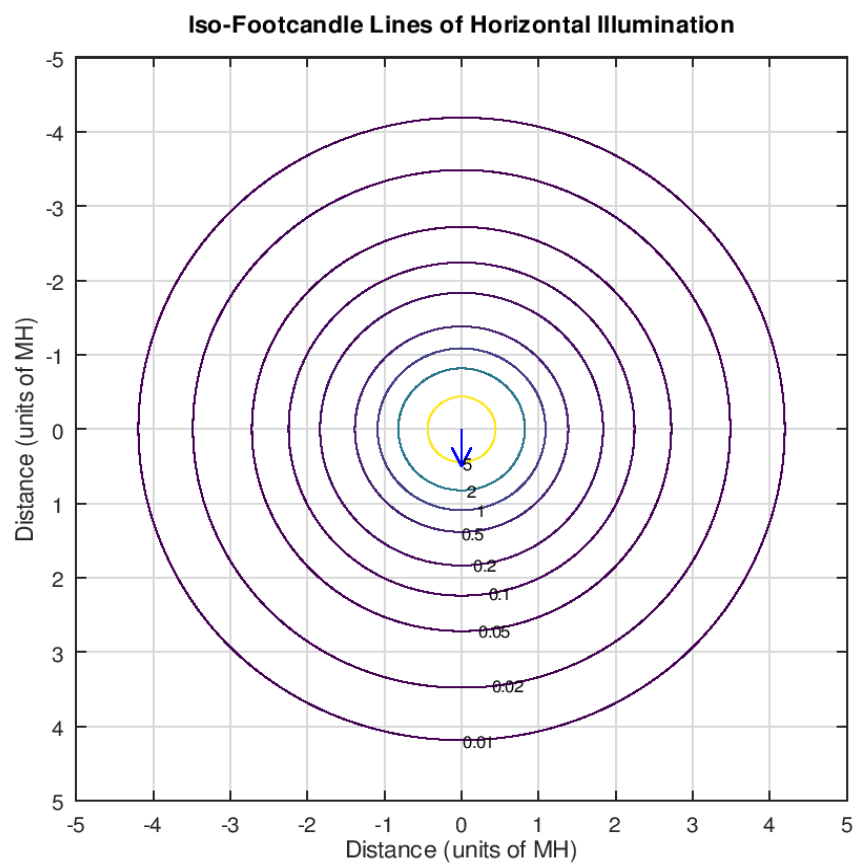
X=2H	Y=2H	13.3	14.7	13.8	15.2	15.6	13.3	14.7	13.7	15.1	15.6
	3H	15.0	16.3	15.5	16.7	17.2	15.0	16.3	15.5	16.7	17.2
	4H	15.7	16.9	16.2	17.4	17.9	15.7	16.9	16.2	17.4	17.9
	6H	16.3	17.4	16.8	17.9	18.4	16.3	17.4	16.8	17.9	18.4
	8H	16.6	17.6	17.1	18.1	18.6	16.6	17.6	17.1	18.1	18.6
	12H	16.8	17.8	17.3	18.3	18.8	16.8	17.8	17.3	18.3	18.8
4H	2H	13.9	15.1	14.4	15.5	16.0	13.9	15.1	14.3	15.5	16.0
	3H	15.8	16.8	16.3	17.3	17.8	15.8	16.8	16.3	17.3	17.8
	4H	16.7	17.6	17.2	18.1	18.6	16.7	17.6	17.2	18.1	18.6
	6H	17.4	18.2	17.9	18.7	19.3	17.4	18.2	17.9	18.7	19.3
	8H	17.7	18.5	18.3	19.0	19.6	17.7	18.5	18.3	19.0	19.6
	12H	18.0	18.7	18.6	19.3	19.8	18.0	18.7	18.6	19.3	19.9
8H	4H	17.0	17.7	17.5	18.3	18.8	17.0	17.7	17.5	18.3	18.8
	6H	17.9	18.5	18.5	19.1	19.7	17.9	18.5	18.5	19.1	19.7
	8H	18.3	18.9	18.9	19.5	20.1	18.3	18.9	18.9	19.5	20.1
	12H	18.8	19.2	19.3	19.8	20.5	18.8	19.3	19.3	19.8	20.5
12H	4H	17.0	17.7	17.6	18.3	18.8	17.0	17.7	17.6	18.3	18.8
	6H	18.0	18.6	18.6	19.1	19.8	18.0	18.6	18.6	19.1	19.8
	8H	18.5	19.0	19.1	19.6	20.2	18.5	19.0	19.1	19.6	20.2

Maximum UGR = 20.5



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Iso-Illuminance Plot



The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.



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Additional Pictures of Test Subject





Report of Test

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Test Distance 9.5 m
Ambient 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 IES LM-79-19. Format of reports and angular increments based on IES LM-41-20 and LM-46-20.

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 C-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

LLIA002028-011B

Integrating Sphere Report

Catalog Number: 3-6005-15 SABRE 5LT LED PEND - BK

Pendant mounted, five black painted aluminum housings, clear frosted plastic lenses.

Five multi-chip LEDs on five white circuit boards.

One Novbo NE032120070-2G LED driver



Performance Summary

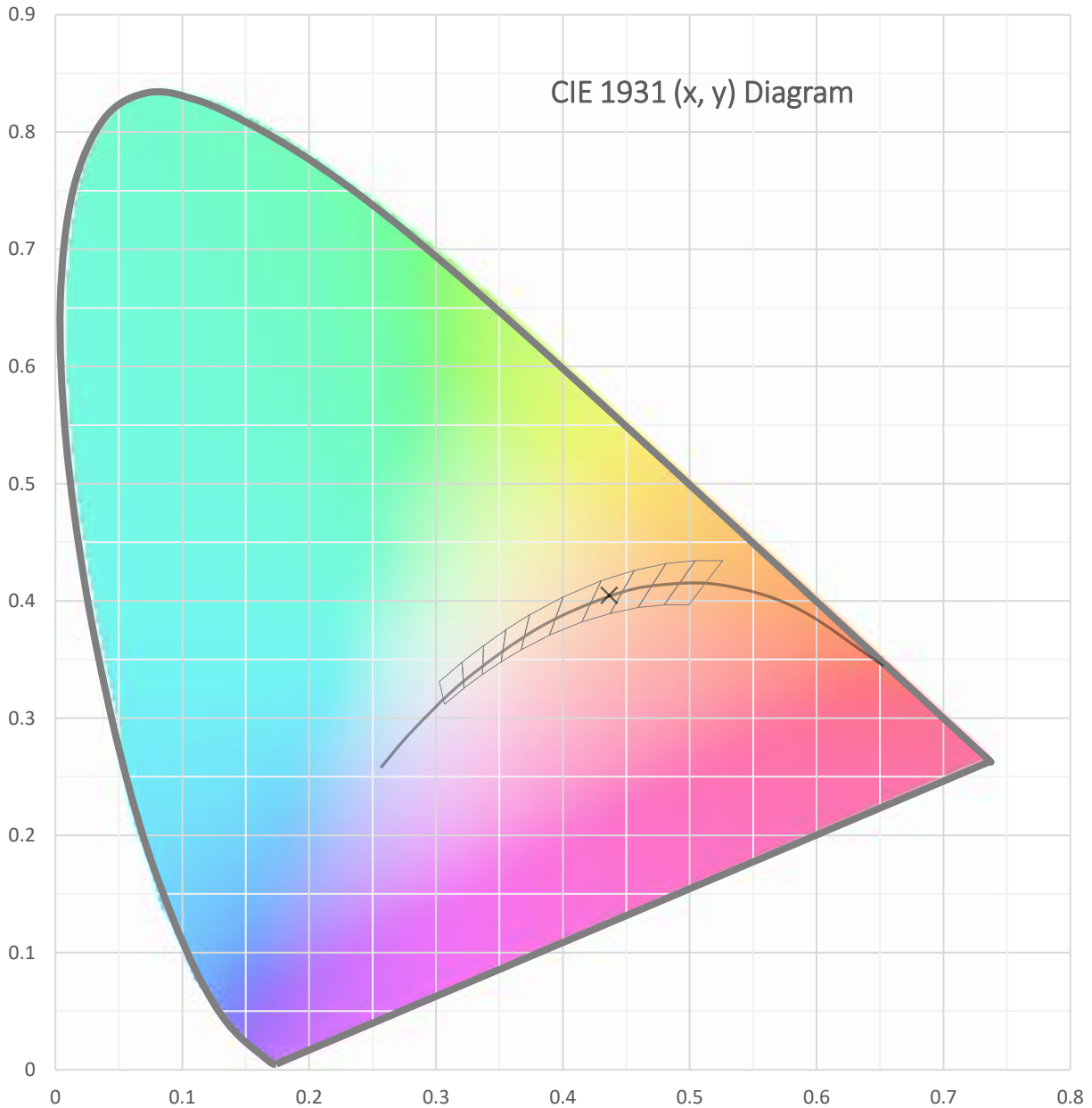
Voltage	120.0 Vac
Current	0.2291 A
Power	26.66 W
Frequency	59.99 Hz
Power Factor	0.970
Current THD	13.9 %
Total Luminous Flux	1143.3 lm
Efficacy	42.9 lm/W
Chromaticity (x,y)	(0.4366, 0.4049)
(u',v')	(0.2500, 0.5216)
Duv	0.0004
CCT	3013 K
CRI (Ra)	95
R9	68
TM-30: Rf	93
TM-30: Rg	99
TM-30: Rcs,h1	-4

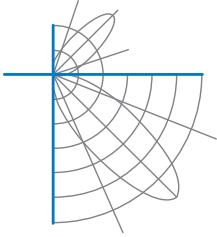
Prepared For:
Oxygen Lighting
201 Railhead Road
Fort Worth, TX 76106, USA

Test date: 03/20/2023
Report date: 03/24/2023

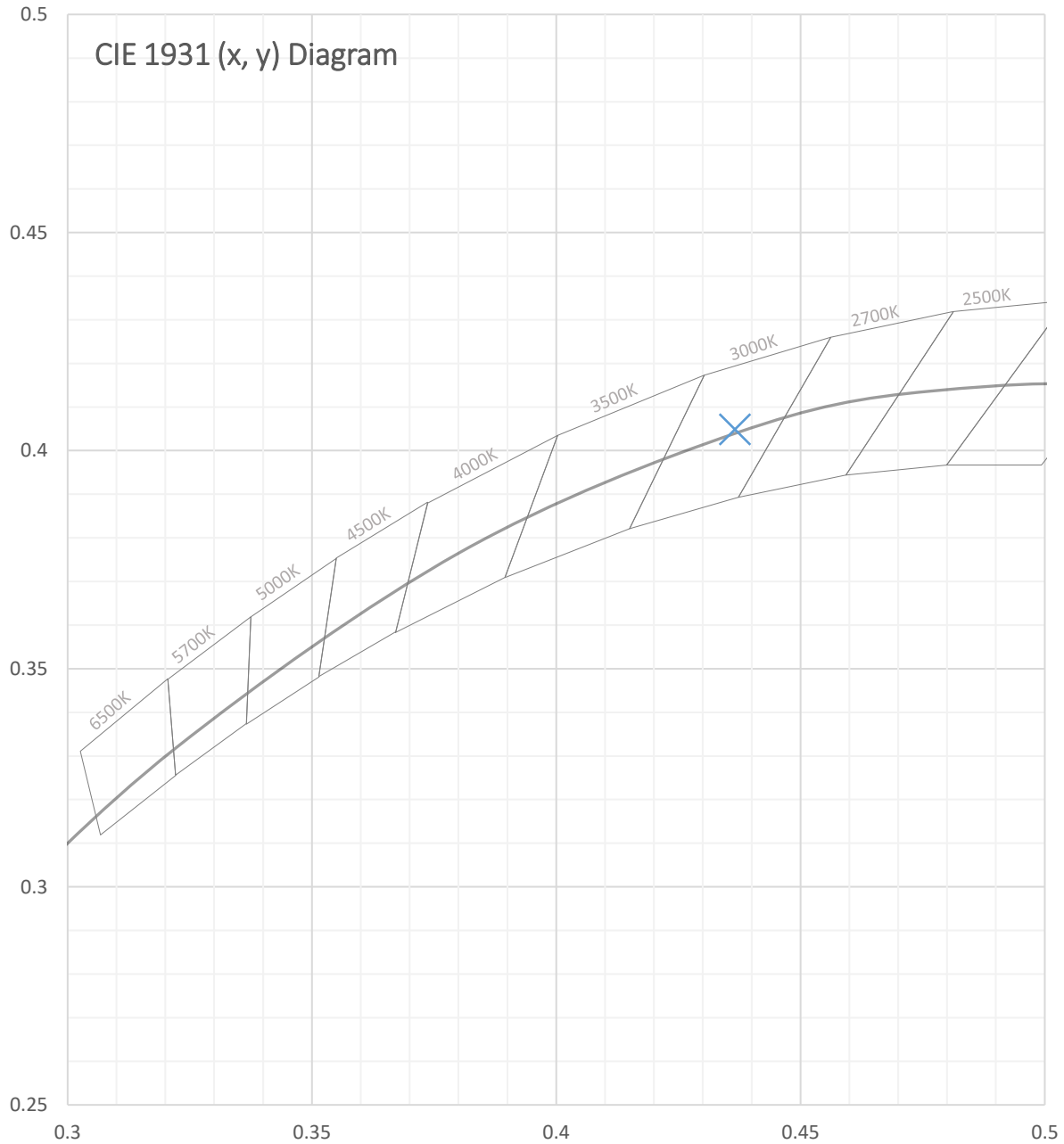


Test Report Number: LLIA002028-011B





Test Report Number: LLIA002028-011B





Test Report Number: LLIA002028-011B

Total Radiant Flux	4.018 W
Total Luminous Flux	1143.3 Lm
Chromaticity CIE 1931 (x, y)	(0.4366, 0.4049)
Chromaticity CIE 1976 (u', v')	(0.2500, 0.5216)
Correlated Color Temperature (CCT)	3013 K
Color Rendering Index (Ra)	95
R1	95
R2	97
R3	98
R4	95
R5	95
R6	97
R7	94
R8	86
R9	68
R10	92
R11	96
R12	84
R13	96
R14	98
TM-30: Rf	93
TM-30: Rg	99
TM-30: Rcs,h1	-4
Distance from Planckian Locus (Duv)	0.0004
Scotopic/Photopic Ratio ‡	1.435

Electrical Data

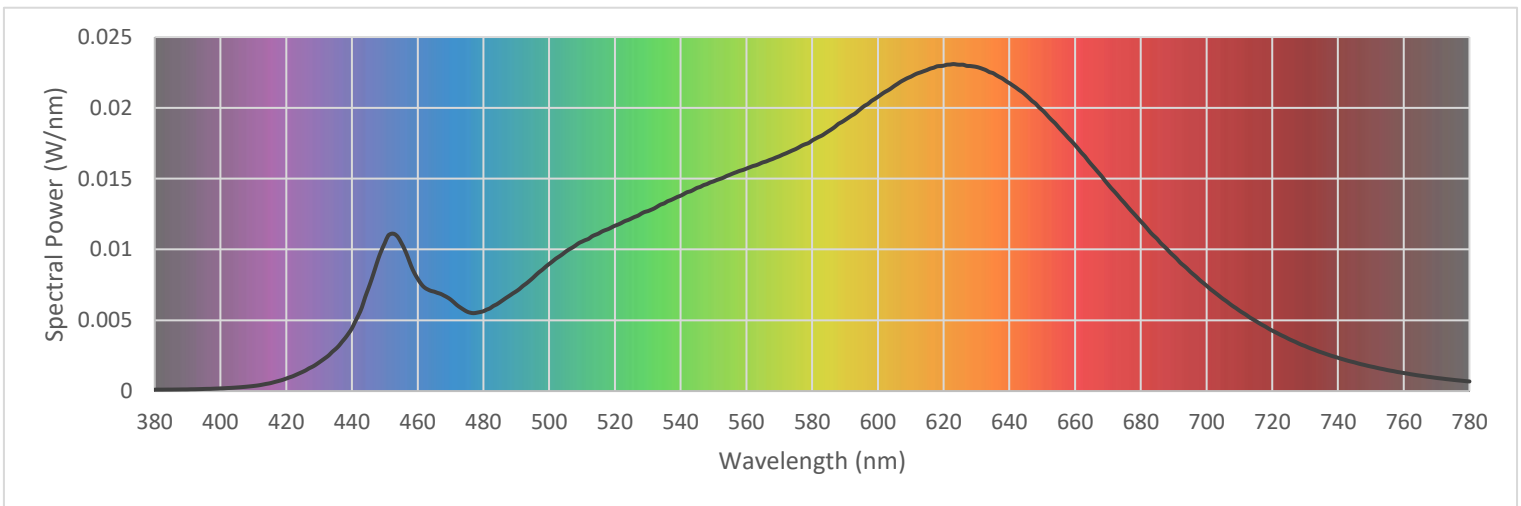
Voltage	120.0 Vac
Current	0.2291 A
Power	26.66 W
Frequency	59.99 Hz
Power Factor	0.970
Current THD	13.9 %

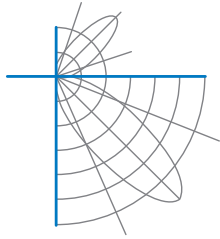


Test Report Number: LLIA002028-011B

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

380	0.000100	480	0.005638	580	0.017692	680	0.011984
385	0.000105	485	0.006273	585	0.018352	685	0.010743
390	0.000118	490	0.007046	590	0.019140	690	0.009554
395	0.000149	495	0.007980	595	0.019972	695	0.008442
400	0.000189	500	0.008975	600	0.020772	700	0.007444
405	0.000254	505	0.009838	605	0.021545	705	0.006511
410	0.000357	510	0.010554	610	0.022196	710	0.005682
415	0.000550	515	0.011121	615	0.022675	715	0.004944
420	0.000883	520	0.011675	620	0.022978	720	0.004267
425	0.001358	525	0.012185	625	0.023043	725	0.003682
430	0.002023	530	0.012705	630	0.022892	730	0.003179
435	0.002964	535	0.013255	635	0.022459	735	0.002731
440	0.004435	540	0.013794	640	0.021749	740	0.002349
445	0.007248	545	0.014348	645	0.020905	745	0.002027
450	0.010455	550	0.014807	650	0.019846	750	0.001736
455	0.010472	555	0.015276	655	0.018626	755	0.001483
460	0.007932	560	0.015709	660	0.017375	760	0.001275
465	0.007021	565	0.016148	665	0.015991	765	0.001088
470	0.006467	570	0.016580	670	0.014605	770	0.000927
475	0.005610	575	0.017089	675	0.013295	775	0.000793
						780	0.000678

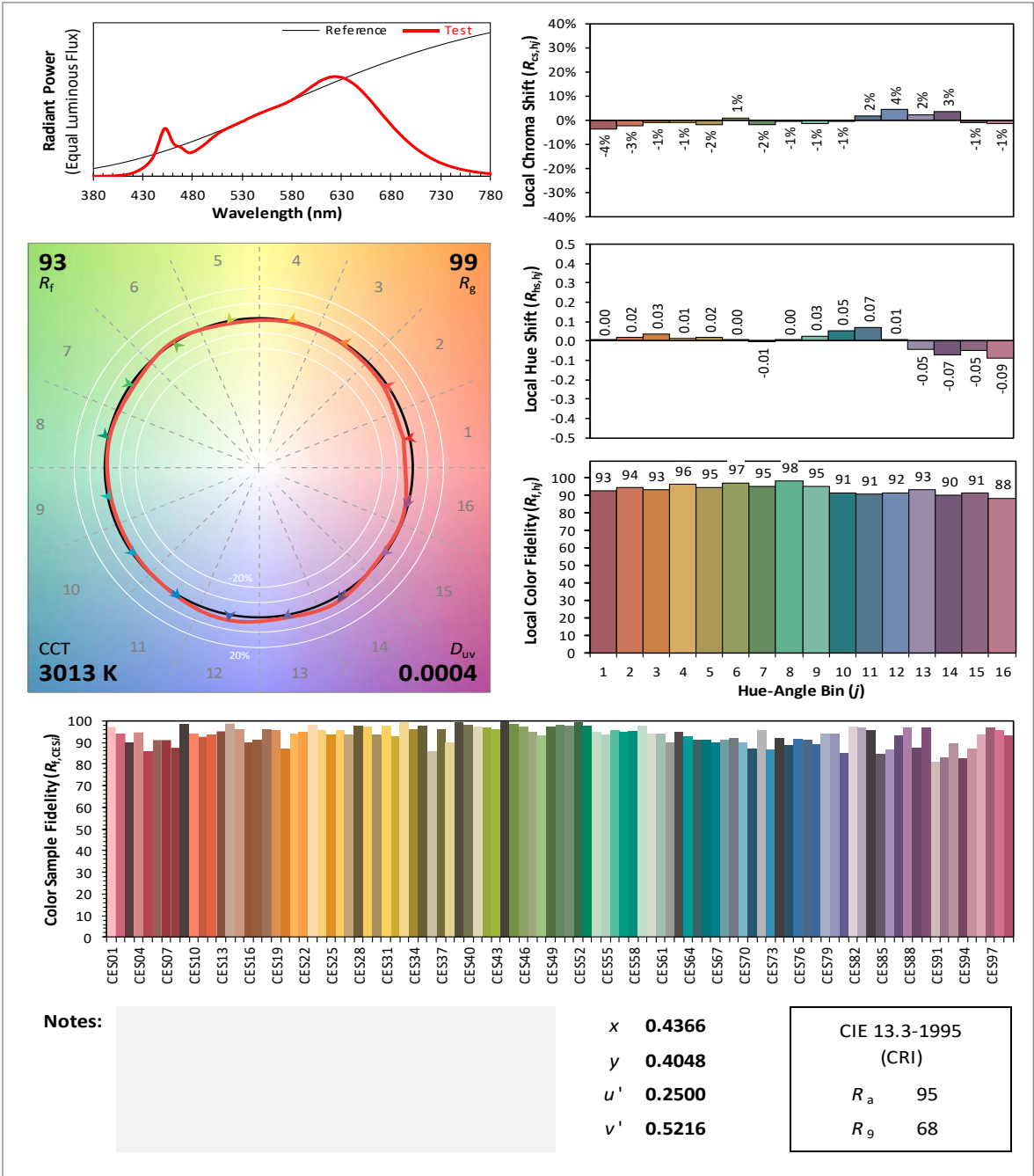




Test Report Number: LLIA002028-011B

IES TM-30 Details

Source: LLIA002028-011B	Manufacturer: Oxygen Lighting
Date: 3/24/2023	Model: 3-6005-15 SABRE SLT LED PEND - BK





Test Report Number: LLIA002028-011B

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: 24.4 °C

Test Procedure: Tested in accordance with the applicable sections of:
LM-79-19, LM-78-20, LM-58-20, ANSI_ANSLG C78.377-2017, TM-30-20

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.

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.