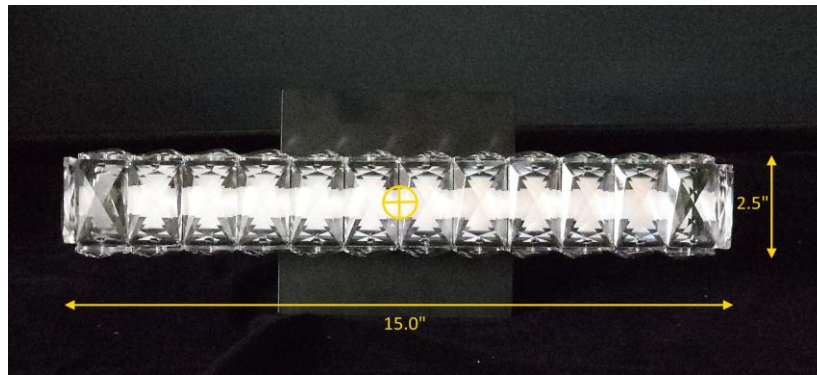


Report of Test

LLIA002028-003A

Indoor Distribution Photometry Test Report

Catalog Number: 3-572-15 ELAN 15" CCT LED WLMT - BK
Wall mounted, black painted formed steel housing,
translucent white ribbed LED enclosure with faceted glass enclosure.
96 white LEDs.
One Novbo NE0070400 18-6G LED driver



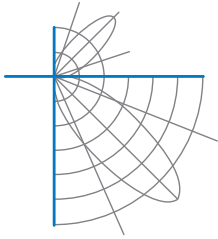
Prepared For:
Oxygen Lighting
201 Railhead Road
Fort Worth, TX 76106, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	551.9 Lumens
Input Current	0.0618 A	Total Efficacy	76.2 lm/W
Input Power	7.24 W	Downward Flux	282.8 Lumens
Frequency	60.00 Hz	Downward Flux	51.2 % of Total
Power Factor	0.977		
Current THD	12.7 %		

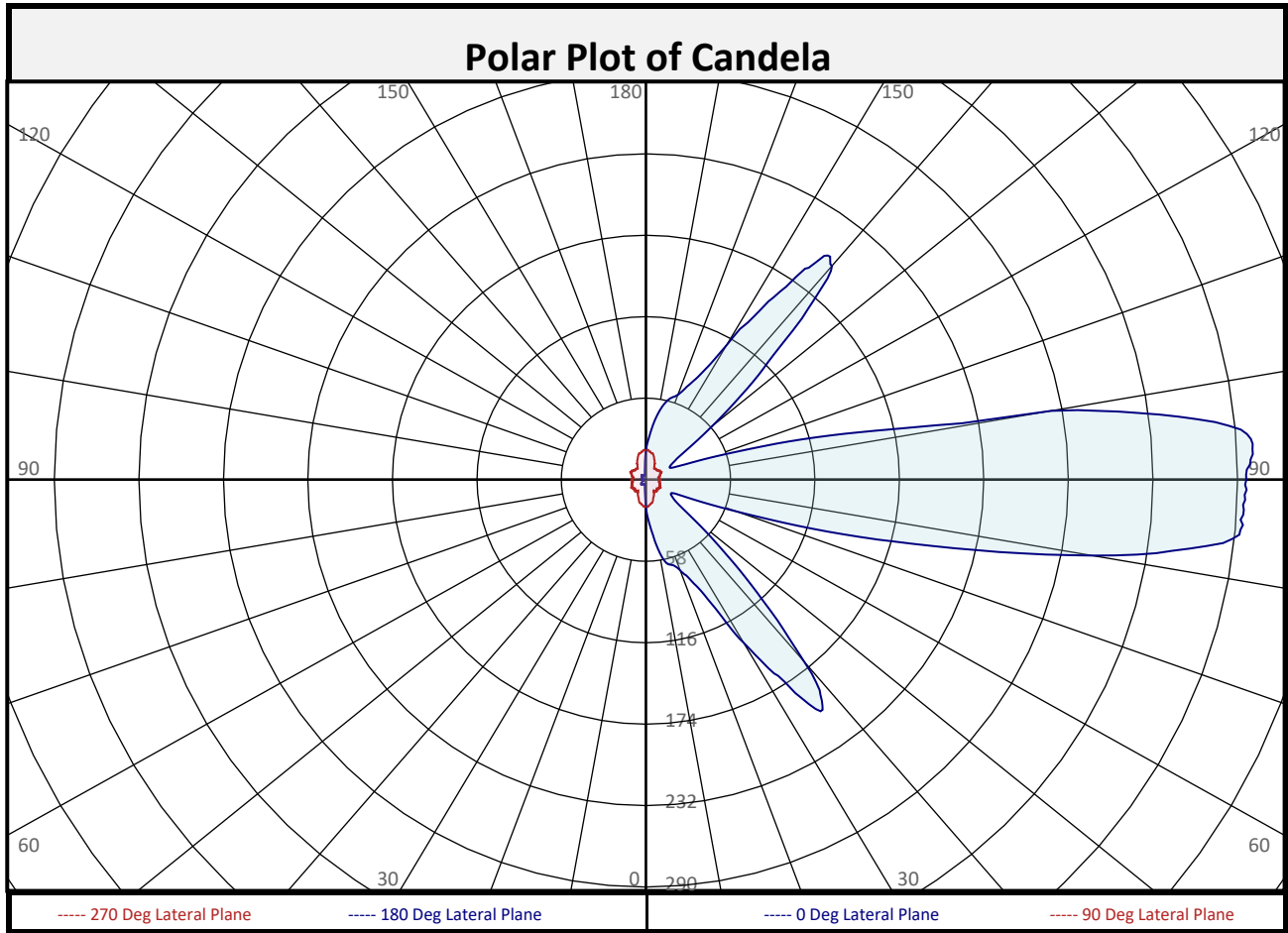
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 03/08/2023
Report date: 03/15/2023

Signed: _____

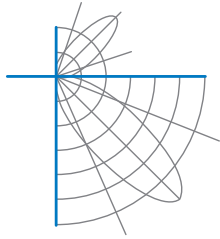


Report of Test
LLIA002028-003A



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	2.0	0.4%	90-100	101.5	18.4%	0-20	9.4	1.7%
10-20	7.4	1.3%	100-110	32.6	5.9%	0-30	24.7	4.5%
20-30	15.3	2.8%	110-120	20.3	3.7%	0-40	56.3	10.2%
30-40	31.6	5.7%	120-130	26.7	4.8%	0-60	112.7	20.4%
40-50	32.2	5.8%	130-140	35.0	6.3%	0-80	176.0	31.9%
50-60	24.2	4.4%	140-150	29.4	5.3%	10-90	280.8	50.9%
60-70	20.9	3.8%	150-160	14.3	2.6%	20-50	79.1	14.3%
70-80	42.3	7.7%	160-170	7.2	1.3%	40-90	226.5	41.0%
80-90	106.8	19.4%	170-180	2.0	0.4%	60-90	170.0	30.8%
0-90	282.8	51.2%	90-180	269.1	48.8%	0-180	551.9	100.0%



Report of Test

LLIA002028-003A

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	20	20	20	20	20	20	20	20	20
	2.5	27	26	25	22	19	16	14	12	12
	5	33	32	29	25	19	14	10	9	8
	7.5	42	39	34	27	18	11	8	7	6
	10	52	48	39	29	18	9	6	5	4
	12.5	59	56	46	31	17	8	5	4	3
	15	63	59	52	34	17	7	4	3	3
	17.5	64	62	57	37	16	6	4	3	3
	20	69	67	59	38	15	6	4	3	3
	22.5	75	73	61	40	14	6	4	3	4
	25	85	80	63	42	13	6	4	4	4
	27.5	104	88	66	45	12	5	4	4	4
	30	134	108	72	48	11	5	4	4	4
	32.5	164	133	80	50	10	5	5	4	4
	35	195	154	90	50	9	5	5	4	4
	37.5	198	154	100	52	10	5	5	4	4
	40	168	147	103	55	11	5	5	4	4
	42.5	126	129	96	56	11	5	5	4	5
	45	90	107	95	59	11	5	5	4	4
	47.5	61	85	94	60	10	5	5	3	4
50	38	73	90	57	10	6	5	3	4	
52.5	27	60	81	58	11	6	4	3	4	
55	23	44	71	63	11	6	4	3	4	
57.5	21	31	64	64	11	6	4	3	3	
60	20	24	56	61	11	7	4	3	3	
62.5	21	22	50	56	11	7	4	3	3	
65	27	26	45	52	10	7	4	3	2	
67.5	42	35	43	48	10	6	3	2	2	
70	66	48	43	43	10	6	3	2	2	
72.5	109	67	47	37	10	5	3	2	2	
75	165	101	56	34	10	5	3	2	2	
77.5	231	154	72	35	10	6	4	2	2	
80	311	219	101	38	9	6	4	2	2	
82.5	376	286	145	44	9	6	4	2	2	
85	410	334	199	55	9	7	4	2	2	
87.5	410	367	230	66	10	8	4	2	2	
90	412	372	240	69	10	9	4	2	2	

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

North America (issuing laboratory)

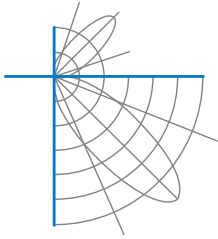
LightLab International Allentown, LLC
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Report of Test

LLIA002028-003A

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	412	372	240	69	10	9	4	2	2
	92.5	417	362	214	64	9	7	4	2	2
	95	410	321	173	53	9	6	4	2	2
	97.5	355	261	120	43	9	6	4	2	2
	100	282	192	83	37	9	5	3	2	2
	102.5	161	106	54	33	9	5	3	2	2
	105	111	72	45	33	9	5	3	2	2
	107.5	69	49	42	37	10	5	3	2	2
	110	43	35	42	44	11	5	3	2	2
	112.5	27	26	44	49	11	6	3	2	2
	115	21	22	46	53	11	7	3	2	2
	117.5	19	24	53	58	12	7	3	3	3
	120	19	34	59	61	11	7	3	3	3
	122.5	22	49	67	64	11	7	3	3	3
	125	26	63	77	61	11	7	4	3	3
	127.5	37	74	86	56	11	6	4	3	4
	130	59	86	93	60	11	6	4	3	4
	132.5	88	104	94	62	10	5	4	3	4
	135	119	123	94	57	10	5	4	3	4
	137.5	164	141	100	54	10	5	4	3	4
	140	199	153	103	53	10	5	4	4	4
	142.5	201	154	93	50	10	4	4	4	4
	145	168	138	82	48	10	4	4	4	3
	147.5	138	112	74	47	11	5	4	4	3
150	110	89	68	46	12	5	4	4	3	
152.5	89	79	63	43	13	5	3	4	4	
155	78	74	60	41	14	6	4	3	4	
157.5	70	68	58	40	15	6	4	3	3	
160	64	62	56	39	16	6	4	3	3	
162.5	62	58	53	36	18	7	4	3	3	
165	59	56	49	34	19	8	4	3	3	
167.5	54	52	44	31	19	8	5	4	4	
170	48	46	39	29	20	10	7	5	4	
172.5	40	39	34	27	20	12	8	7	6	
175	33	32	29	26	21	16	11	9	9	
177.5	27	26	25	23	21	18	16	14	14	
180	21	21	21	21	21	21	21	21	21	

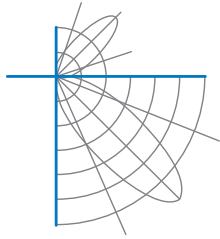
16 lateral half-planes of data were acquired, 22.5 degree increments shown.

North America (issuing laboratory)

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Report of Test

LLIA002028-003A

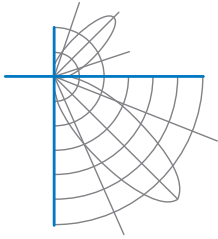
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																					
Effective Floor Cavity Reflectance 0.20																					
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51			
1	90	83	76	70	82	76	70	64	62	57	53	50	46	43	38	36	33	27			
2	81	70	61	54	73	64	56	49	52	46	41	42	37	33	32	28	25	20			
3	73	61	51	43	66	55	47	40	45	38	33	36	31	26	27	23	20	15			
4	66	53	43	36	60	48	40	33	40	33	27	32	26	22	24	20	16	12			
5	61	47	37	30	55	43	34	28	35	28	23	28	23	18	21	17	14	10			
6	56	42	33	26	51	38	30	24	32	25	20	25	20	16	19	15	12	9			
7	52	38	29	22	47	34	26	21	29	22	17	23	18	14	18	14	10	8			
8	48	34	25	19	43	31	23	18	26	19	15	21	16	12	16	12	9	7			
9	44	31	23	17	40	28	21	16	24	17	13	19	14	11	15	11	8	6			
10	41	28	20	15	38	26	19	14	22	16	12	18	13	9	14	10	7	5			

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	0.5	7.58	5.49
8.0	0.3	10.10	7.32
10.0	0.2	12.63	9.15
12.0	0.1	15.15	10.98
14.0	0.1	17.68	12.80
16.0	0.1	20.20	14.63

Spacing Criterion	
0 deg:	2.4
90 deg:	0.9
180 deg:	0.1
270 deg:	0.9

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	806	806	806
45	2645	3036	538
55	676	2348	632
65	834	1602	753
75	5566	2184	1006
85	15627	9037	1508



Report of Test

LLIA002028-003A

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

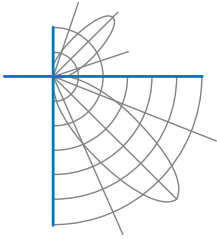
Room Size

UGR Viewed Crosswise

UGR Viewed Endwise

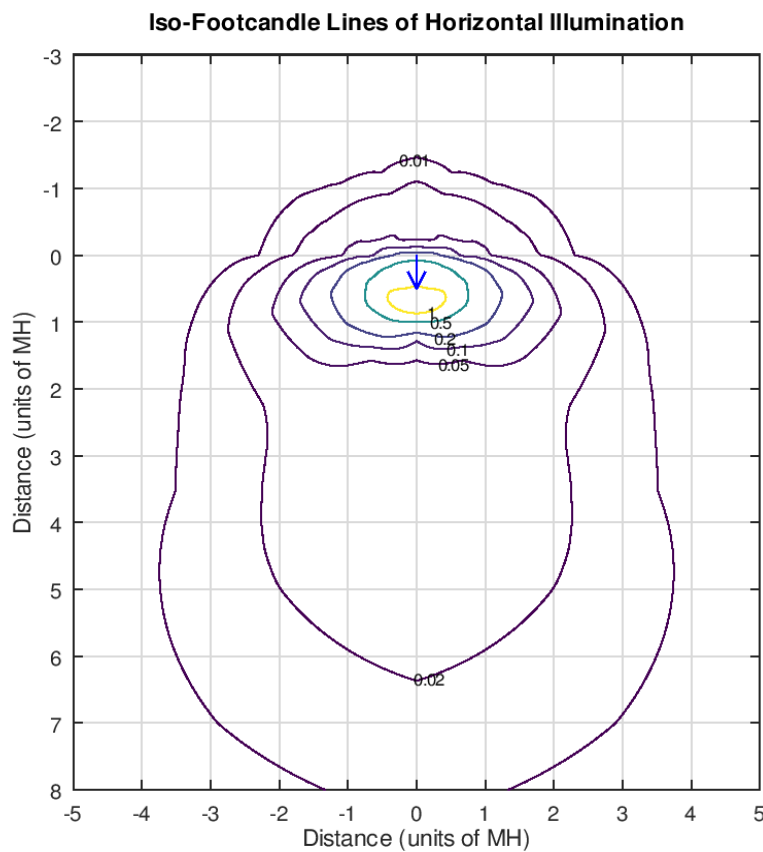
X=2H	Y=2H	7.4	8.5	8.4	9.4	10.7	8.1	9.1	9.0	10.1	11.3
	3H	13.0	14.0	13.9	14.9	16.2	9.1	10.1	10.0	11.0	12.3
	4H	20.1	21.0	21.0	22.0	23.2	9.4	10.4	10.4	11.3	12.6
	6H	26.8	27.6	27.7	28.6	29.9	9.8	10.7	10.7	11.6	12.9
	8H	29.6	30.4	30.5	31.4	32.7	10.0	10.8	10.9	11.8	13.1
	12H	32.0	32.8	32.9	33.8	35.1	10.2	11.0	11.2	12.0	13.3
4H	2H	9.1	10.0	10.1	11.0	12.3	8.7	9.7	9.7	10.6	11.9
	3H	14.2	15.1	15.2	16.1	17.3	10.3	11.2	11.3	12.2	13.5
	4H	20.9	21.6	21.8	22.6	23.9	11.0	11.8	12.0	12.8	14.1
	6H	27.7	28.4	28.7	29.4	30.7	11.7	12.4	12.7	13.5	14.7
	8H	30.7	31.3	31.6	32.3	33.7	12.1	12.8	13.1	13.8	15.1
	12H	33.2	33.9	34.2	34.9	36.2	12.5	13.1	13.5	14.1	15.4
8H	4H	21.1	21.8	22.1	22.8	24.1	13.2	13.9	14.2	14.9	16.2
	6H	28.1	28.7	29.1	29.8	31.1	14.6	15.2	15.6	16.3	17.6
	8H	31.3	31.8	32.3	32.9	34.2	15.3	15.8	16.2	16.8	18.2
	12H	34.1	34.6	35.1	35.6	37.0	15.8	16.3	16.8	17.3	18.7
12H	4H	21.2	21.8	22.1	22.8	24.1	15.6	16.2	16.6	17.2	18.6
	6H	28.2	28.7	29.2	29.7	31.1	17.3	17.8	18.3	18.9	20.2
	8H	31.4	31.9	32.4	32.9	34.3	18.2	18.7	19.2	19.7	21.1

Maximum UGR = 37.0

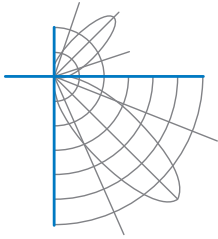


Report of Test
LLIA002028-003A

Iso-Illuminance Plot

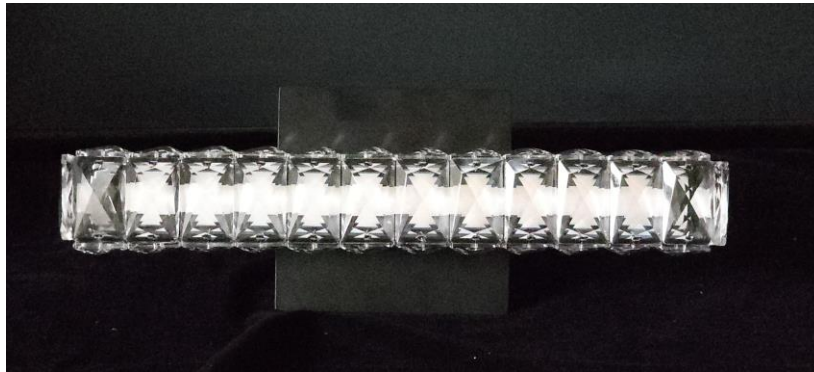


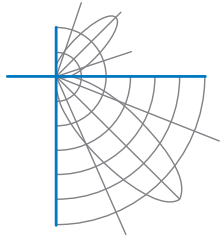
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test
LLIA002028-003A

Additional Pictures of Test Subject





Report of Test

LLIA002028-003A

Test Distance 9.5 m
Ambient Temperature 25.5 °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.

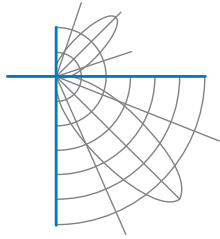
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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

LLIA002028-003B

Integrating Sphere Report

Catalog Number: 3-572-15 ELAN 15" CCT LED WLMT - BK

Wall mounted, black painted formed steel housing,
translucent white ribbed LED enclosure with faceted glass enclosure.

96 white LEDs.

One Novbo NE0070400 18-6G LED driver

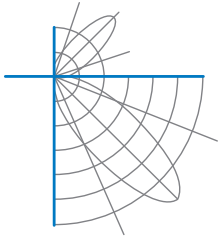


Performance Summary

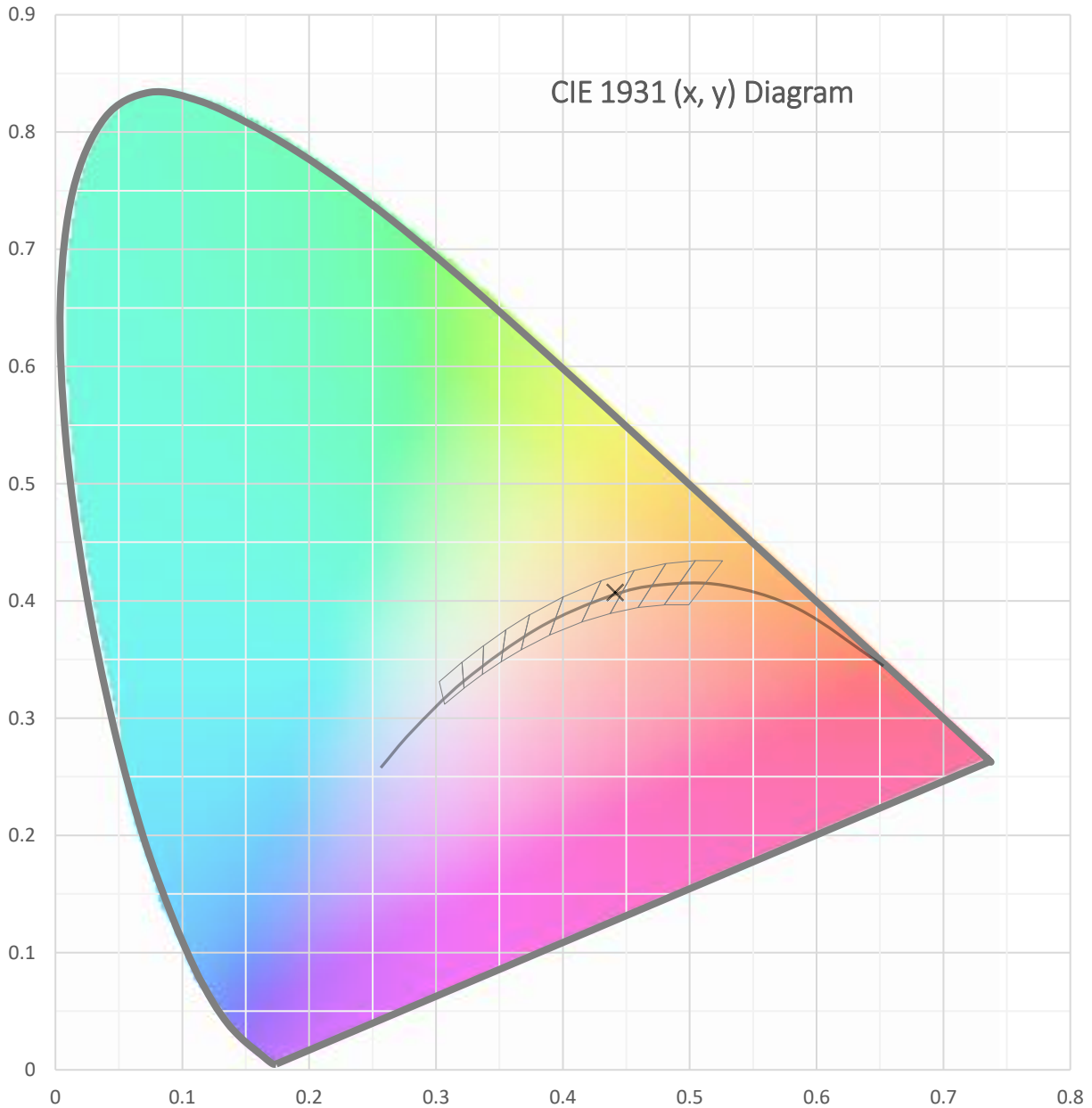
Voltage	120.0 Vac
Current	0.0619 A
Power	7.25 W
Frequency	59.99 Hz
Power Factor	0.977
Current THD	12.7 %
Total Luminous Flux	561.9 lm
Efficacy	77.5 lm/W
Chromaticity (x,y)	(0.4413, 0.4074)
(u',v')	(0.2519, 0.5233)
Duv	0.0007
CCT	2955 K
CRI (Ra)	93
R9	62
TM-30: Rf	90
TM-30: Rg	98
TM-30: Rcs,h1	-5

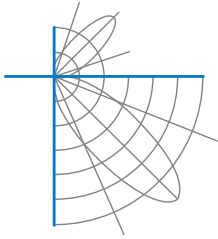
Prepared For:
Oxygen Lighting
201 Railhead Road
Fort Worth, TX 76106, USA

Test date: 03/08/2023
Report date: 03/10/2023

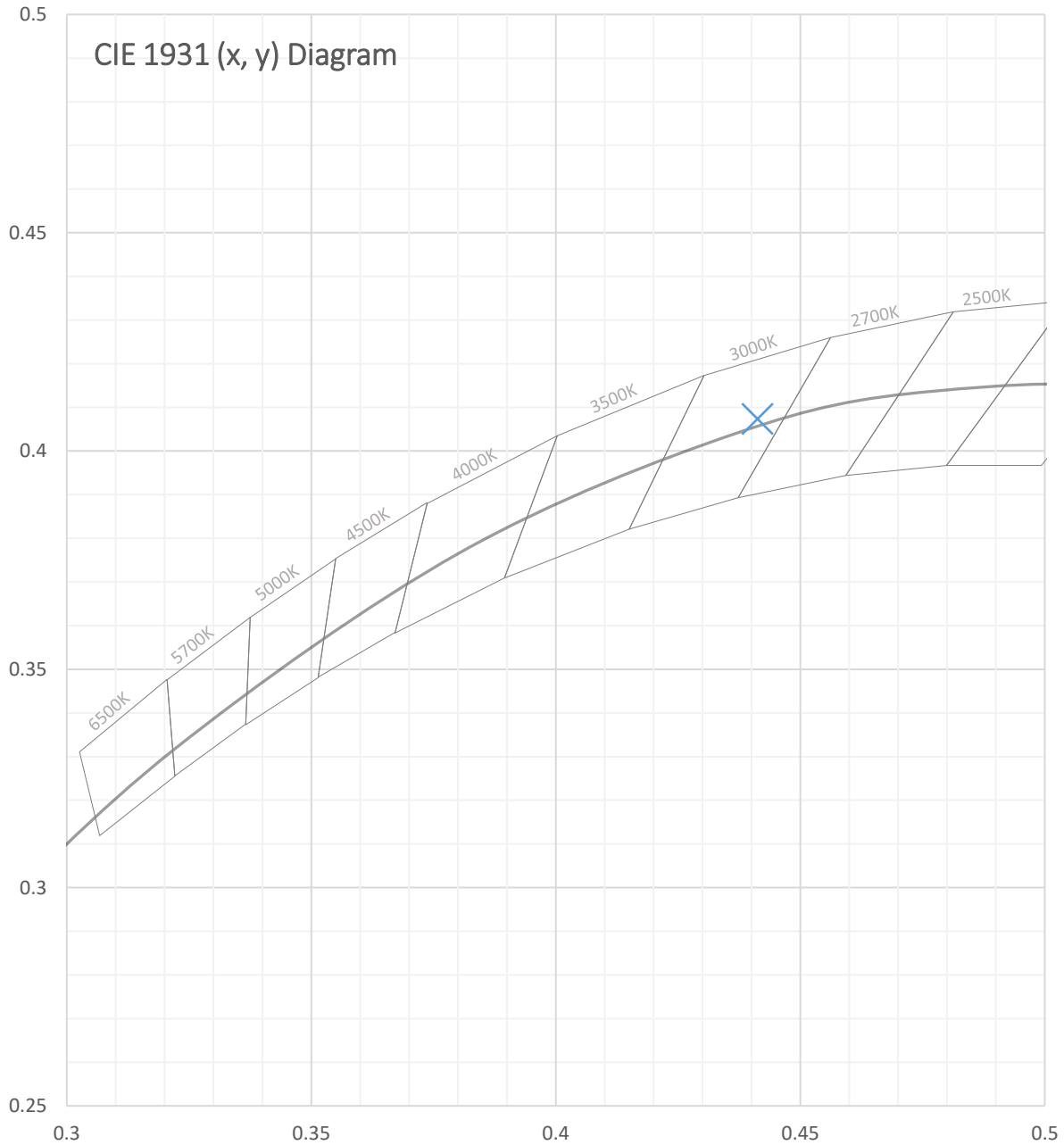


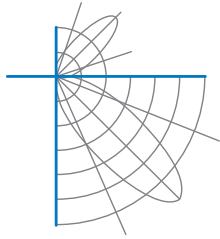
Test Report Number: LLIA002028-003B





Test Report Number: LLIA002028-003B



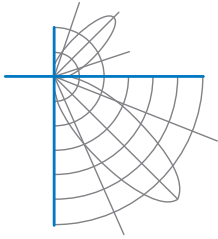


Test Report Number: LLIA002028-003B

Total Radiant Flux	1.970 W
Total Luminous Flux	561.9 Lm
Chromaticity CIE 1931 (x, y)	(0.4413, 0.4074)
Chromaticity CIE 1976 (u', v')	(0.2519, 0.5233)
Correlated Color Temperature (CCT)	2955 K
Color Rendering Index (Ra)	93
R1	93
R2	96
R3	97
R4	92
R5	92
R6	94
R7	93
R8	83
R9	62
R10	89
R11	92
R12	78
R13	93
R14	98
TM-30: Rf	90
TM-30: Rg	98
TM-30: Rcs,h1	-5
Distance from Planckian Locus (Duv)	0.0007
Scotopic/Photopic Ratio ‡	1.383

Electrical Data

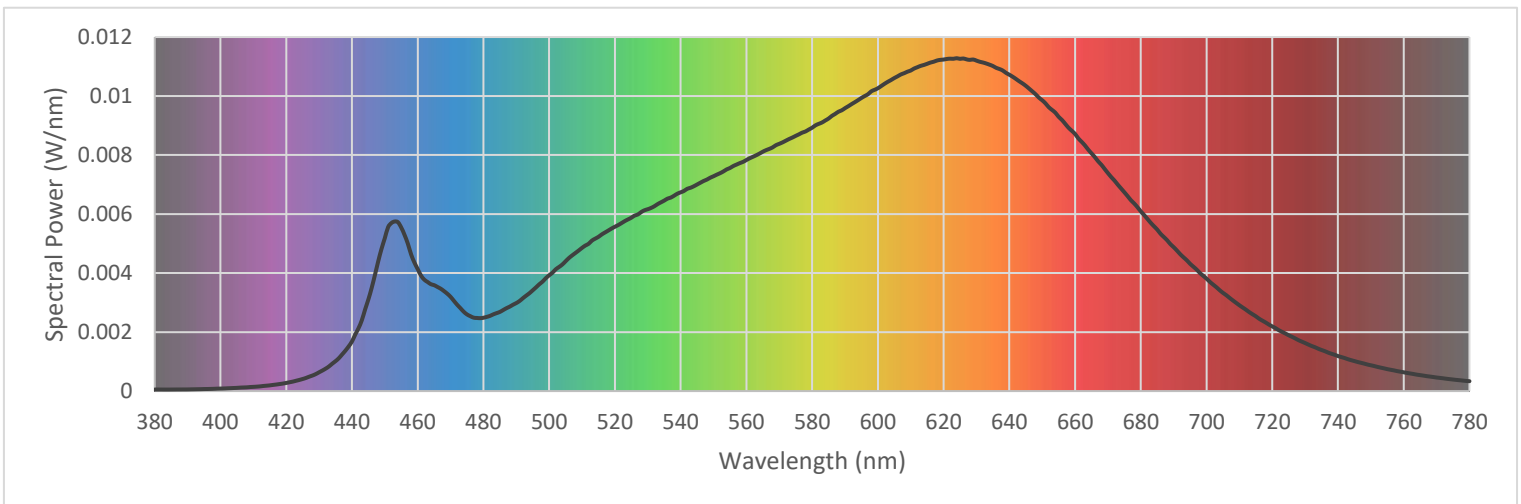
Voltage	120.0 Vac
Current	0.0619 A
Power	7.25 W
Frequency	59.99 Hz
Power Factor	0.977
Current THD	12.7 %

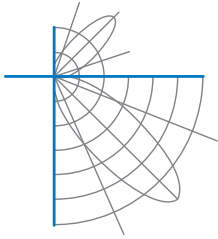


Test Report Number: LLIA002028-003B

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

380	0.000052	480	0.002485	580	0.008925	680	0.006091
385	0.000052	485	0.002683	585	0.009237	685	0.005474
390	0.000056	490	0.002983	590	0.009588	690	0.004878
395	0.000068	495	0.003417	595	0.009935	695	0.004315
400	0.000085	500	0.003924	600	0.010264	700	0.003811
405	0.000109	505	0.004400	605	0.010610	705	0.003330
410	0.000142	510	0.004854	610	0.010865	710	0.002909
415	0.000193	515	0.005228	615	0.011093	715	0.002535
420	0.000275	520	0.005570	620	0.011237	720	0.002192
425	0.000409	525	0.005876	625	0.011261	725	0.001891
430	0.000637	530	0.006164	630	0.011201	730	0.001627
435	0.001014	535	0.006457	635	0.011018	735	0.001392
440	0.001681	540	0.006737	640	0.010724	740	0.001187
445	0.003109	545	0.007002	645	0.010348	745	0.001017
450	0.005184	550	0.007282	650	0.009858	750	0.000874
455	0.005543	555	0.007561	655	0.009297	755	0.000744
460	0.004134	560	0.007832	660	0.008716	760	0.000636
465	0.003590	565	0.008113	665	0.008058	765	0.000541
470	0.003195	570	0.008381	670	0.007389	770	0.000459
475	0.002597	575	0.008650	675	0.006739	775	0.000391
						780	0.000334



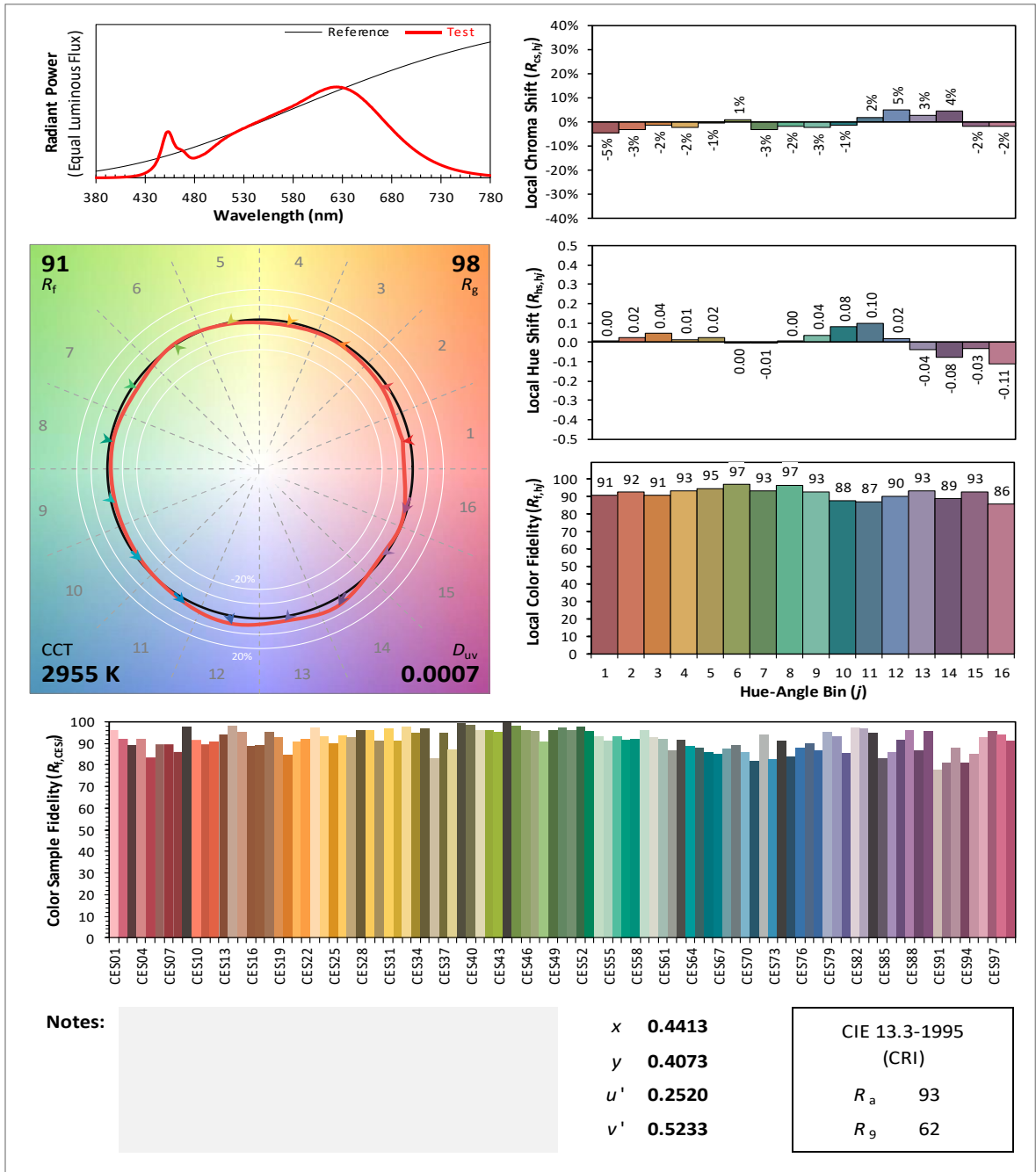


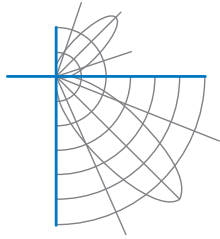
Test Report Number: LLIA002028-003B

IES TM-30 Details

Source: LLIA002028-003B **Manufacturer:** Oxygen Lighting

Date: 3/10/2023 **Model:** 3-572-15 ELAN 15" CCT LED WLMT - BK





Test Report Number: LLIA002028-003B

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: 25.5 °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

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