

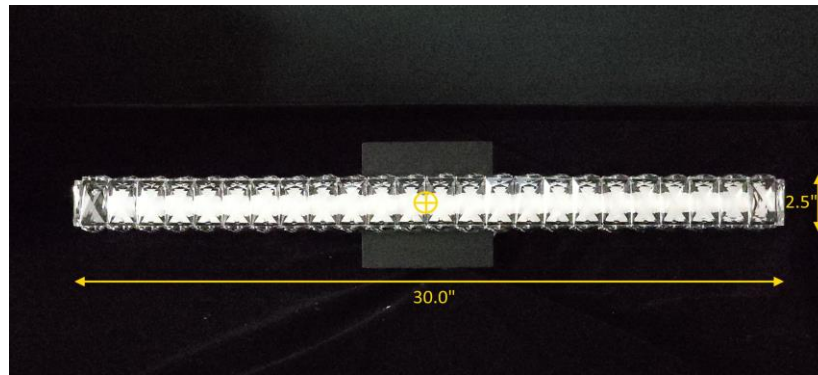


## Report of Test

**LLIA002028-005A**

Indoor Distribution Photometry Test Report

Catalog Number: 3-574-15 ELAN 30" CCT LED WLMT - BK  
Wall mounted, black painted formed steel housing,  
translucent white LED enclosure with faceted glass enclosure.  
156 white LEDs.  
One Novbo NE024120060-2G LED driver



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

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	1727.7 Lumens
Input Current	0.2045 A	Total Efficacy	71.6 lm/W
Input Power	24.12 W	Downward Flux	833.2 Lumens
Frequency	60.00 Hz	Downward Flux	48.2 % of Total
Power Factor	0.983		
Current THD	14.3 %		

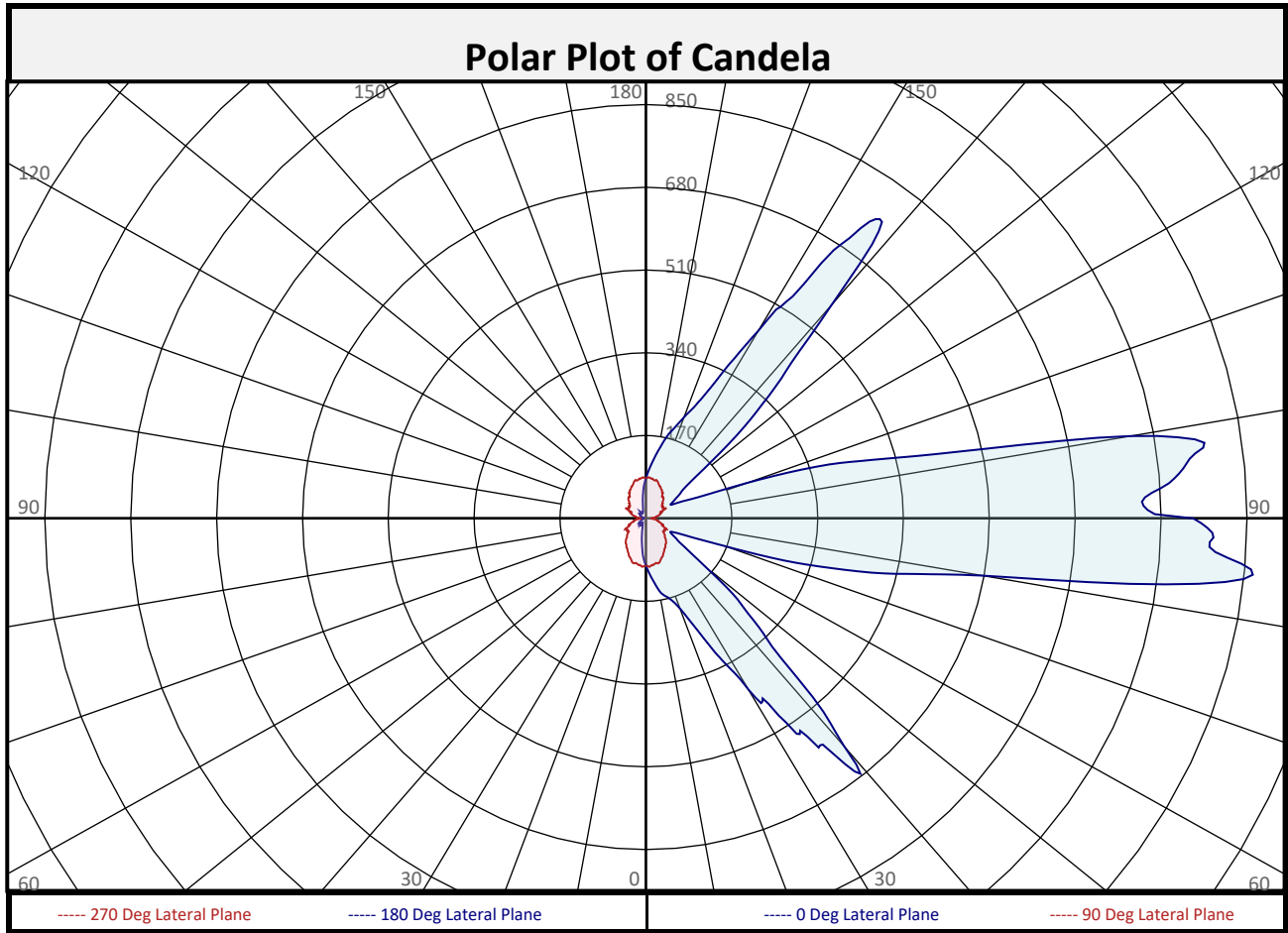
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 03/10/2023  
Report date: 03/14/2023

Signed: \_\_\_\_\_



Report of Test  
LLIA002028-005A



### 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	9.2	0.5%	90-100	307.6	17.8%	0-20	36.3	2.1%
10-20	27.0	1.6%	100-110	124.1	7.2%	0-30	86.7	5.0%
20-30	50.5	2.9%	110-120	68.3	4.0%	0-40	186.0	10.8%
30-40	99.3	5.7%	120-130	81.4	4.7%	0-60	376.5	21.8%
40-50	108.9	6.3%	130-140	114.0	6.6%	0-80	547.1	31.7%
50-60	81.6	4.7%	140-150	113.7	6.6%	10-90	824.0	47.7%
60-70	64.6	3.7%	150-160	51.8	3.0%	20-50	258.7	15.0%
70-80	106.0	6.1%	160-170	25.6	1.5%	40-90	647.2	37.5%
80-90	286.1	16.6%	170-180	8.0	0.5%	60-90	456.7	26.4%
0-90	833.2	48.2%	90-180	894.5	51.8%	0-180	1728	100.0%



## Report of Test

### LLIA002028-005A

#### 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	97	97	97	97	97	97	97	97	97
	2.5	109	107	105	101	98	93	89	87	86
	5	121	118	114	107	99	90	81	75	73
	7.5	135	131	123	110	96	82	70	62	58
	10	150	144	132	114	95	77	58	50	46
	12.5	161	154	140	118	93	68	49	40	37
	15	168	161	148	123	95	62	40	32	30
	17.5	179	171	153	127	92	56	33	26	24
	20	197	186	159	129	88	50	28	22	20
	22.5	228	212	165	130	85	45	26	18	17
	25	273	240	174	131	81	40	24	16	15
	27.5	331	276	189	134	77	34	21	14	15
	30	406	313	219	141	73	31	18	14	14
	32.5	451	370	249	139	71	29	18	14	12
	35	532	459	284	138	67	25	18	14	12
	37.5	609	480	292	146	65	22	17	15	13
	40	610	475	322	164	62	21	17	16	13
	42.5	441	467	310	182	58	21	17	15	15
	45	317	391	277	172	53	21	16	14	15
	47.5	246	281	299	205	50	20	16	13	13
50	150	217	298	178	46	21	17	12	13	
52.5	97	196	267	169	43	23	17	12	15	
55	75	187	235	181	45	24	16	11	16	
57.5	62	144	197	189	43	22	15	12	16	
60	56	95	177	195	44	22	14	12	14	
62.5	61	74	162	163	44	22	12	12	12	
65	76	71	148	161	36	22	12	11	11	
67.5	107	83	137	149	35	19	12	10	10	
70	166	125	128	129	34	16	10	8	8	
72.5	288	186	128	99	30	15	9	7	8	
75	408	273	139	95	26	14	9	6	7	
77.5	526	360	181	96	24	11	10	6	6	
80	677	465	245	106	23	11	9	6	6	
82.5	1037	688	333	124	20	11	9	5	6	
85	1202	996	441	158	15	11	9	5	5	
87.5	1117	1108	623	191	12	12	9	5	5	
90	1084	1031	762	211	11	12	8	5	5	

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

**North America (issuing laboratory)**

**Australasia & S.E. Asia**



## Report of Test

### LLIA002028-005A

#### 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	1084	1031	762	211	11	12	8	5	5
	92.5	989	1007	748	211	12	11	8	5	5
	95	1059	1046	567	178	15	12	8	5	5
	97.5	1113	907	405	145	19	11	9	5	5
	100	975	622	277	128	22	13	9	5	6
	102.5	634	422	206	107	24	13	9	6	6
	105	465	298	168	108	27	14	10	6	6
	107.5	353	208	145	121	30	17	11	6	7
	110	214	158	142	128	32	19	11	7	8
	112.5	119	117	140	143	34	20	10	8	9
	115	87	87	144	165	33	23	13	9	10
	117.5	68	79	165	182	44	26	14	10	13
	120	56	83	183	188	40	24	14	11	13
	122.5	63	93	210	215	40	25	16	12	13
	125	74	138	234	209	40	26	18	13	13
	127.5	87	202	272	192	41	25	17	13	14
	130	109	243	303	205	41	19	17	13	15
	132.5	197	284	341	209	44	21	17	14	15
	135	309	349	354	208	46	20	17	14	16
	137.5	410	450	374	182	51	21	16	14	14
	140	570	569	419	163	54	19	17	16	15
	142.5	768	630	352	146	55	20	17	18	16
	145	704	579	319	141	55	21	17	16	14
	147.5	541	448	278	140	61	24	16	15	14
150	445	363	239	136	64	27	17	16	13	
152.5	357	304	208	129	66	27	17	15	14	
155	287	261	190	126	69	33	20	14	15	
157.5	246	231	176	124	71	38	22	15	15	
160	222	204	165	124	74	42	23	17	16	
162.5	199	186	155	121	78	44	26	20	19	
165	182	171	144	114	81	49	31	24	23	
167.5	162	154	132	107	80	55	38	30	28	
170	142	137	122	102	81	62	46	39	36	
172.5	124	121	112	98	82	67	56	49	46	
175	109	107	102	94	84	75	66	60	59	
177.5	95	95	92	88	83	78	74	71	71	
180	82	82	82	82	82	82	82	82	82	

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

**North America (issuing laboratory)**

**Australasia & S.E. Asia**



## Report of Test

### LLIA002028-005A

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	0
RCR																						
0	107	107	107	107		98	98	98	98		82	82	82		68	68	68		54	54	54	48
1	91	84	78	72		83	76	71	66		63	58	54		50	46	43		38	36	33	27
2	81	71	63	56		74	65	58	51		53	47	42		42	38	34		32	28	25	20
3	74	62	53	45		67	56	48	42		46	40	34		36	31	27		27	24	21	16
4	67	54	45	38		61	50	41	35		40	34	29		32	27	23		24	20	17	13
5	62	48	39	32		56	44	36	29		36	29	24		29	23	19		22	18	15	11
6	57	43	34	27		51	39	31	25		32	26	21		26	21	17		20	16	13	9
7	52	39	30	24		47	35	27	22		29	23	18		23	18	15		18	14	11	8
8	48	35	26	21		44	32	24	19		26	20	16		21	16	13		16	12	10	7
9	45	32	24	18		41	29	22	17		24	18	14		19	15	11		15	11	9	6
10	42	29	21	16		38	27	19	15		22	16	12		18	13	10		14	10	8	6

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	2.7	7.95	6.83
8.0	1.5	10.60	9.11
10.0	1.0	13.25	11.39
12.0	0.7	15.90	13.67
14.0	0.5	18.55	15.94
16.0	0.4	21.20	18.22

Spacing Criterion	
0 deg:	2.3
90 deg:	1.1
180 deg:	0.3
270 deg:	1.1

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	1998	1998	1998
45	4638	4582	1420
55	1109	4045	1455
65	1179	2736	1503
75	6890	2879	1613
85	22939	10729	1766



## Report of Test

### LLIA002028-005A

#### 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

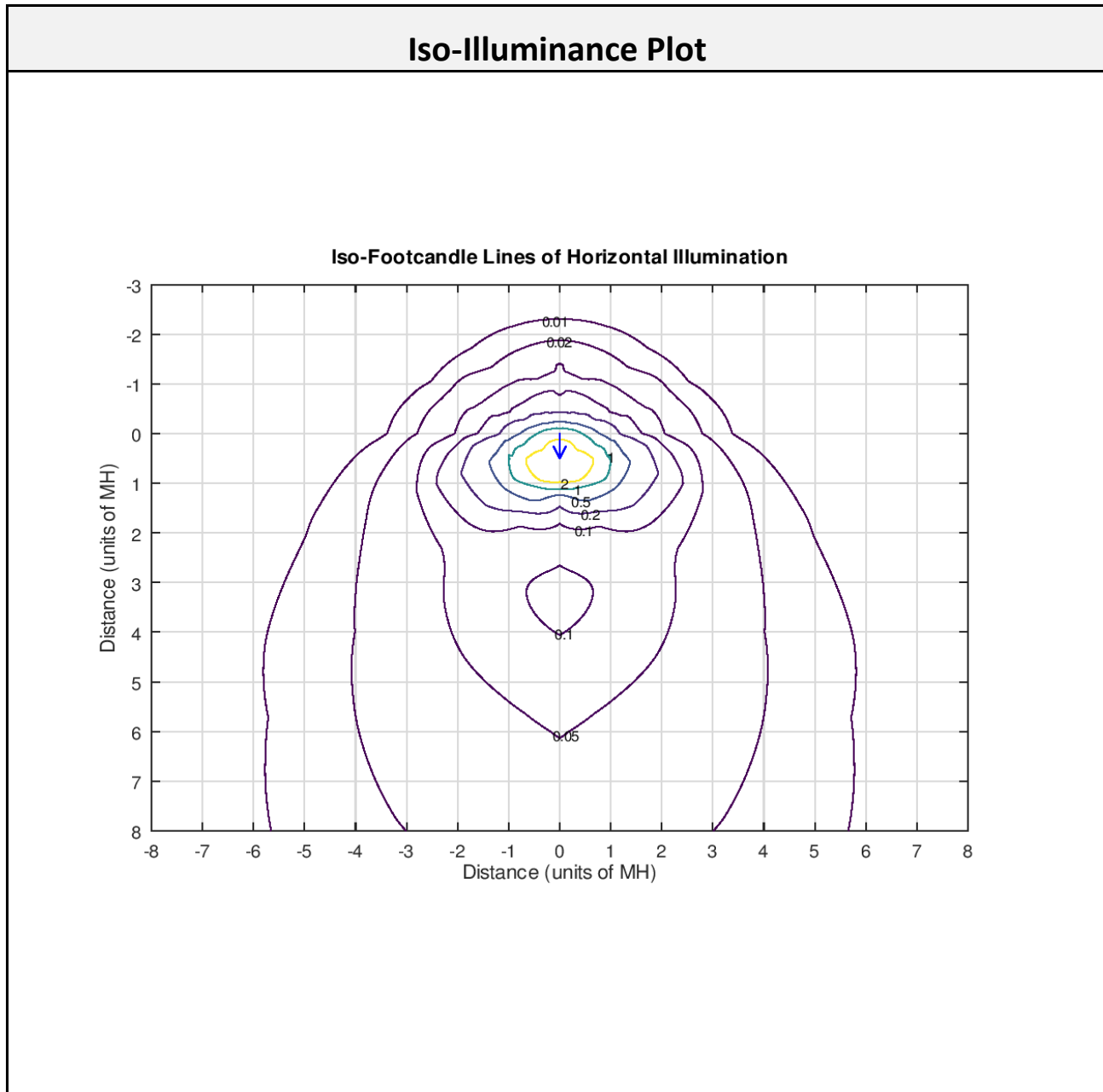
X=2H	Y=2H	11.6	12.6	12.5	13.5	14.8	9.5	10.5	10.5	11.5	12.8
	3H	14.5	15.4	15.4	16.4	17.7	10.7	11.6	11.6	12.5	13.9
	4H	20.9	21.8	21.9	22.8	24.1	10.9	11.7	11.8	12.7	14.1
	6H	26.8	27.6	27.7	28.6	29.9	11.1	11.9	12.1	12.9	14.3
	8H	30.2	31.0	31.2	32.0	33.3	11.2	12.0	12.2	13.0	14.3
	12H	33.4	34.2	34.4	35.2	36.6	11.3	12.1	12.3	13.1	14.4
4H	2H	12.5	13.3	13.4	14.3	15.7	10.3	11.2	11.3	12.2	13.5
	3H	15.6	16.4	16.6	17.4	18.7	11.9	12.6	12.8	13.6	15.0
	4H	21.7	22.4	22.7	23.5	24.8	12.4	13.1	13.4	14.1	15.5
	6H	27.6	28.3	28.6	29.3	30.7	12.9	13.6	13.9	14.6	16.0
	8H	31.2	31.8	32.2	32.8	34.2	13.2	13.8	14.2	14.9	16.2
	12H	34.6	35.2	35.6	36.2	37.6	13.5	14.0	14.5	15.1	16.4
8H	4H	21.9	22.6	22.9	23.6	25.0	14.1	14.7	15.1	15.8	17.1
	6H	28.0	28.5	29.0	29.6	31.0	15.3	15.9	16.4	17.0	18.3
	8H	31.7	32.2	32.7	33.3	34.6	15.9	16.4	16.9	17.5	18.9
	12H	35.4	35.8	36.4	36.9	38.3	16.5	16.9	17.5	18.0	19.4
12H	4H	22.0	22.5	23.0	23.6	24.9	15.9	16.5	16.9	17.5	18.9
	6H	28.0	28.5	29.1	29.6	31.0	17.5	18.0	18.5	19.0	20.4
	8H	31.8	32.3	32.8	33.3	34.7	18.3	18.7	19.3	19.8	21.2

Maximum UGR = 38.3



## Report of Test LLIA002028-005A

### Iso-Illuminance Plot

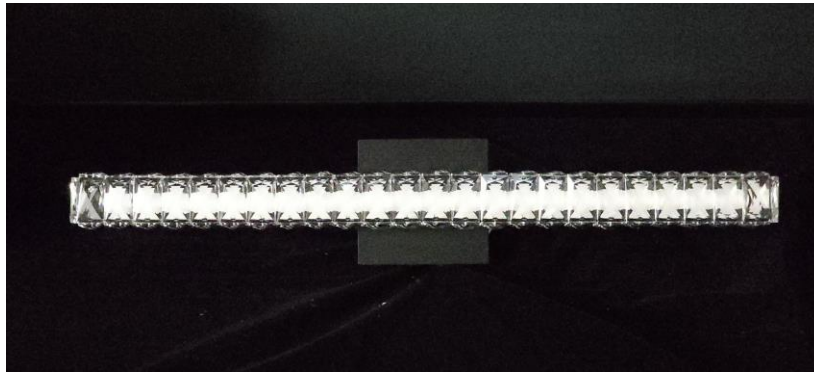


The isofootcandle values shown in the plot above are based on a mounting height of  $h = 8.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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



Report of Test  
LLIA002028-005A

**Additional Pictures of Test Subject**







## Report of Test

### LLIA002028-005A

Test Distance                    9.5 m  
Ambient Temperature        25.0 °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

**LLIA002028-005B**

Integrating Sphere Report

Catalog Number: 3-574-15 ELAN 30" CCT LED WLMT - BK

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

156 white LEDs.

One Novbo NE024120060-2G LED driver



### Performance Summary

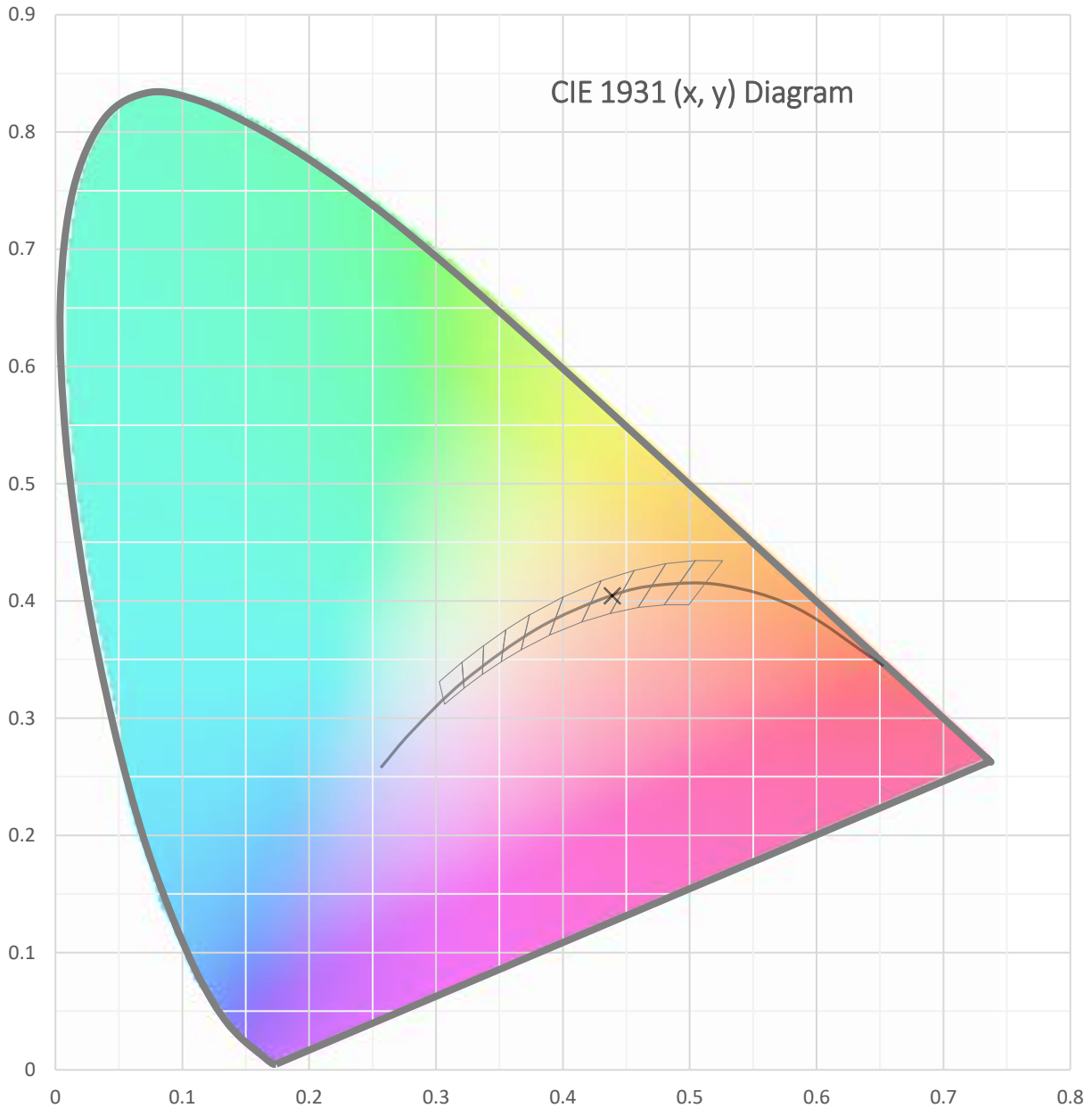
Voltage	120.0 Vac
Current	0.2046 A
Power	24.15 W
Frequency	59.99 Hz
Power Factor	0.983
Current THD	14.3 %
Total Luminous Flux	1733.6 lm
Efficacy	71.8 lm/W
Chromaticity (x,y)	(0.4390, 0.4043)
(u',v')	(0.2518, 0.5218)
Duv	-0.0002
CCT	2967 K
CRI (Ra)	93
R9	61
TM-30: Rf	90
TM-30: Rg	99
TM-30: Rcs,h1	-5

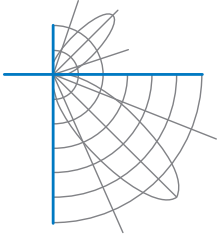
Prepared For:  
Oxygen Lighting  
201 Railhead Road  
Fort Worth, TX 76106, USA

Test date: 03/08/2023  
Report date: 03/14/2023

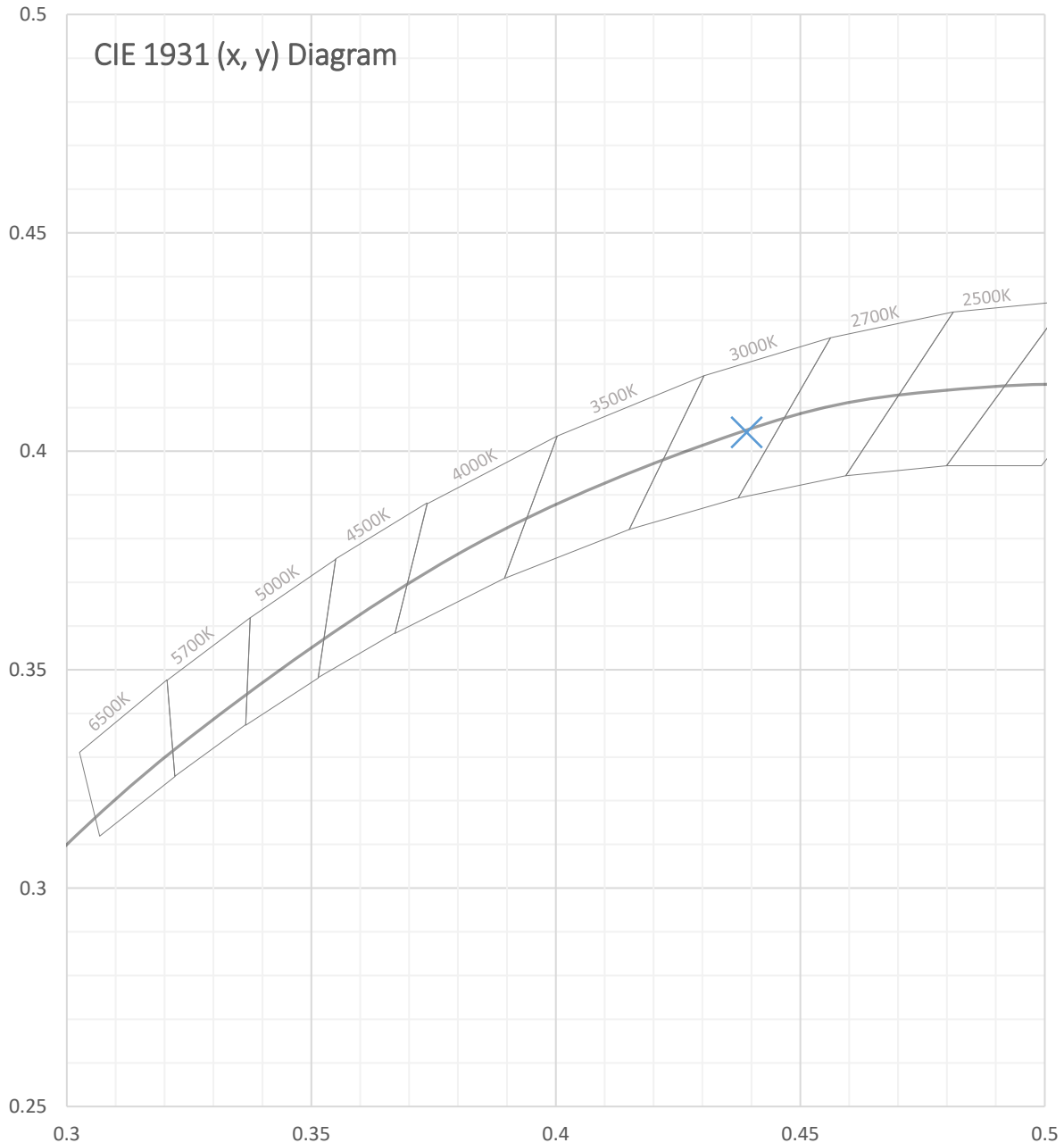


Test Report Number: LLIA002028-005B





Test Report Number: LLIA002028-005B





Test Report Number: LLIA002028-005B

Total Radiant Flux	6.080 W
Total Luminous Flux	1733.6 Lm
Chromaticity CIE 1931 (x, y)	(0.4390, 0.4043)
Chromaticity CIE 1976 (u', v')	(0.2518, 0.5218)
Correlated Color Temperature (CCT)	2967 K
Color Rendering Index (Ra)	93
R1	93
R2	96
R3	97
R4	92
R5	92
R6	95
R7	93
R8	83
R9	61
R10	89
R11	92
R12	79
R13	94
R14	98
TM-30: Rf	90
TM-30: Rg	99
TM-30: Rcs,h1	-5
Distance from Planckian Locus (Duv)	-0.0002
Scotopic/Photopic Ratio ‡	1.395

**Electrical Data**

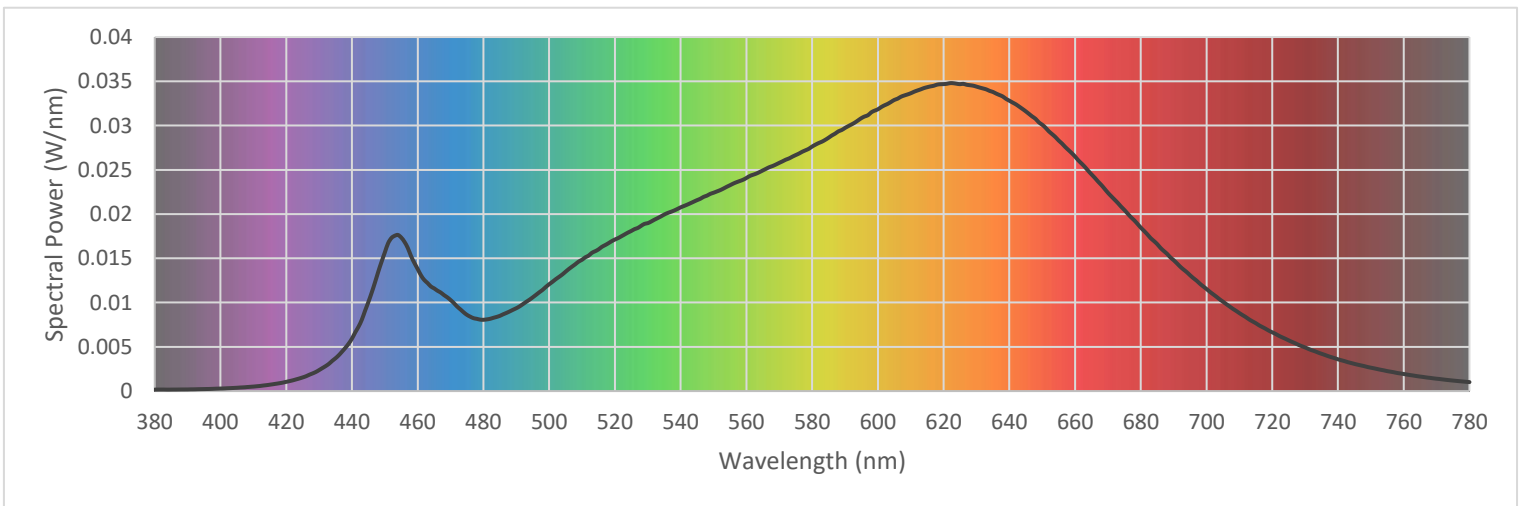
Voltage	120.0 Vac
Current	0.2046 A
Power	24.15 W
Frequency	59.99 Hz
Power Factor	0.983
Current THD	14.3 %



Test Report Number: LLIA002028-005B

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

380	0.000165	480	0.008054	580	0.027626	680	0.018464
385	0.000167	485	0.008499	585	0.028622	685	0.016605
390	0.000184	490	0.009360	590	0.029728	690	0.014788
395	0.000225	495	0.010589	595	0.030841	695	0.013085
400	0.000286	500	0.012071	600	0.031833	700	0.011531
405	0.000374	505	0.013487	605	0.032893	705	0.010100
410	0.000506	510	0.014837	610	0.033647	710	0.008808
415	0.000718	515	0.016004	615	0.034333	715	0.007669
420	0.001042	520	0.017121	620	0.034681	720	0.006636
425	0.001541	525	0.018094	625	0.034676	725	0.005726
430	0.002370	530	0.018973	630	0.034403	730	0.004929
435	0.003709	535	0.019942	635	0.033799	735	0.004210
440	0.005928	540	0.020756	640	0.032812	740	0.003587
445	0.010064	545	0.021574	645	0.031607	745	0.003071
450	0.015662	550	0.022407	650	0.030097	750	0.002640
455	0.017344	555	0.023254	655	0.028316	755	0.002253
460	0.013783	560	0.024073	660	0.026499	760	0.001931
465	0.011604	565	0.024929	665	0.024485	765	0.001638
470	0.010288	570	0.025785	670	0.022407	770	0.001395
475	0.008607	575	0.026664	675	0.020467	775	0.001187
						780	0.001011



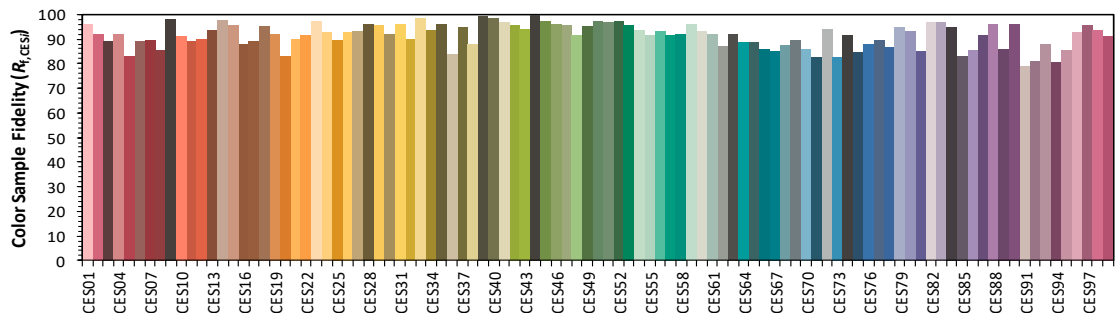
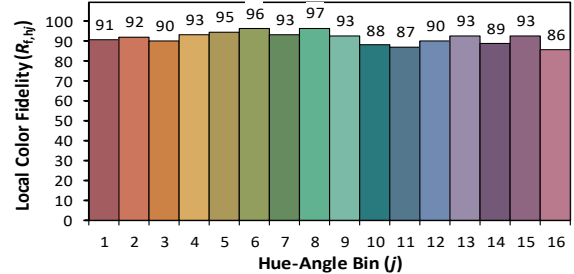
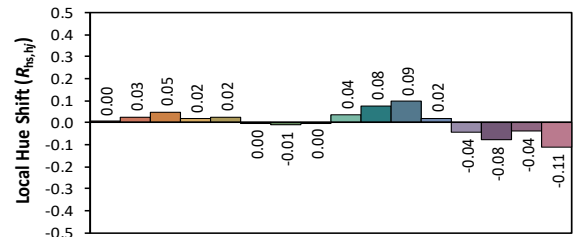
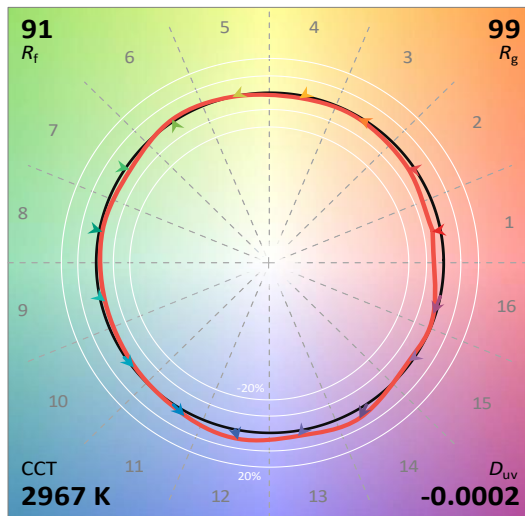
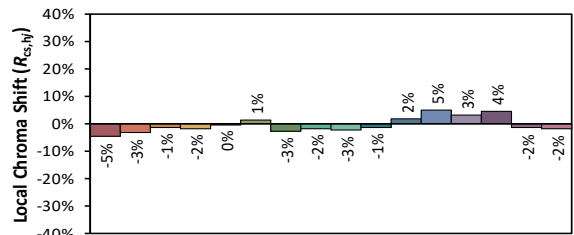
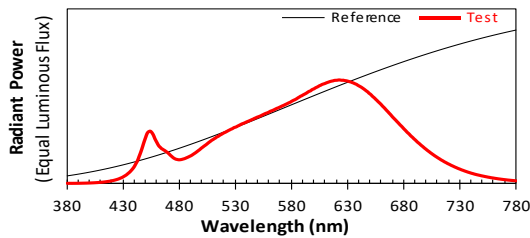


Test Report Number: LLIA002028-005B

IES TM-30 Details

**Source:** LLIA002028-005B      **Manufacturer:** Oxygen Lighting

**Date:** 3/14/2023      **Model:** 3-574-15 ELAN 30" CCT LED WLMT - BK



Notes:

x 0.4390  
y 0.4043  
u' 0.2518  
v' 0.5218

CIE 13.3-1995  
(CRI)  
 $R_a$  93  
 $R_g$  62



## Test Report Number: LLIA002028-005B

**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:** 25.1 °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.

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