



Report of Test

LLIA001799-001A

Indoor Distribution Photometry Test Report

Catalog Number: L1.3X-1-DMX

Yoke mounted, formed aluminum housing, formed semi-specular aluminum reflector/heatsink, frosted plastic enclosure, frosted side out.

476 white LEDs on two white circuit boards with 238 LEDs each.

Two Advance Xitanium XI075C-200V054BST1 LED drivers, one Feno DMX controller.



Prepared For:

Brightline L.P.

580 Mayer Street

Suite 7

Bridgeville, PA 15017, USA

Performance Summary

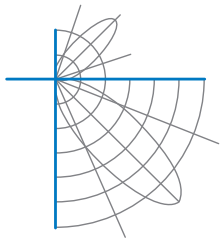
Input Voltage	120.0 Vac	Luminous Flux	13351.5 Lumens
Input Current	1.246 A	Total Efficacy	89.7 Lm/W
Input Power	148.9 W	Downward Flux	13351.5 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.996		
Current THD	8.1 %		

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

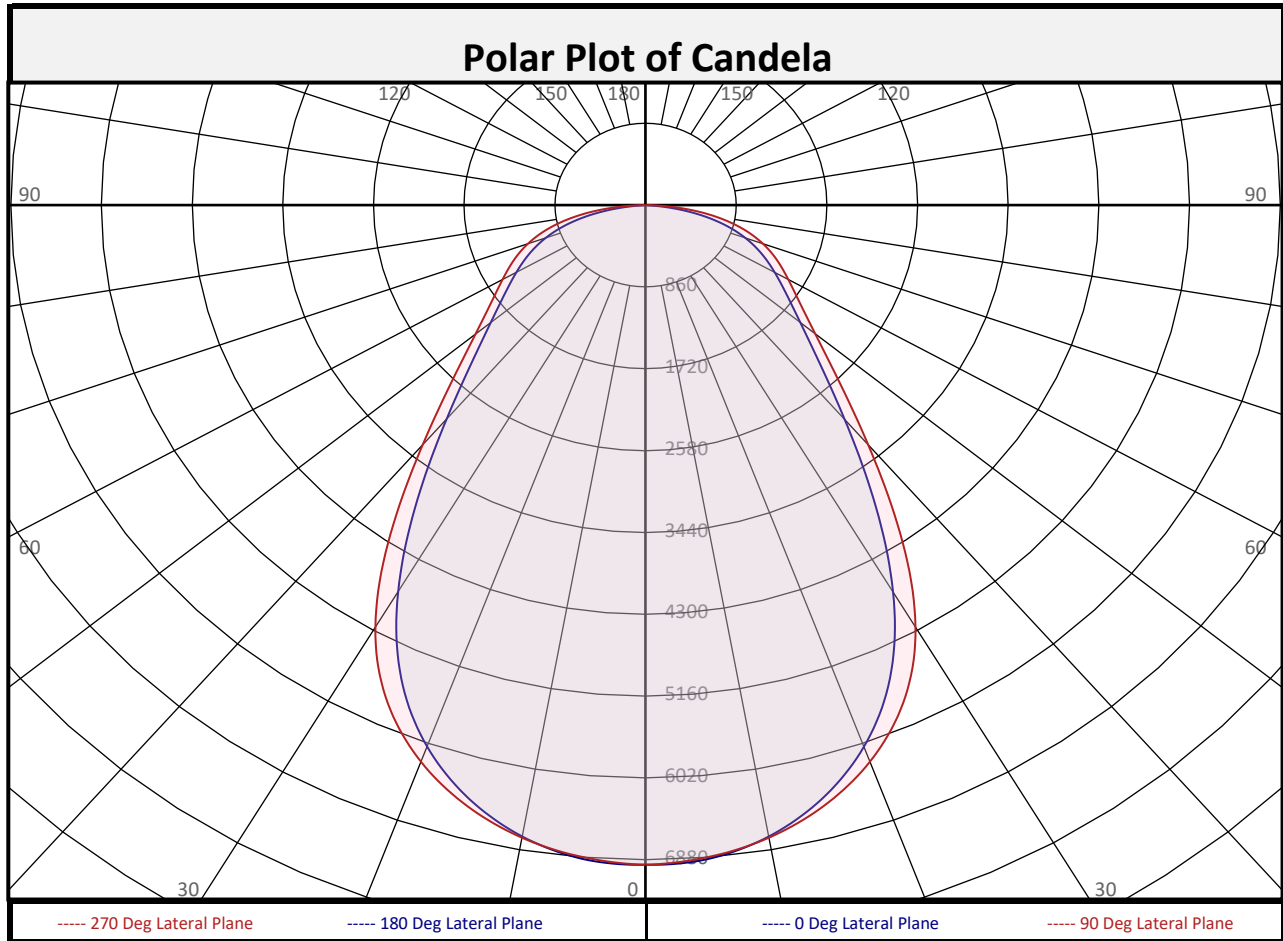
Test date: 07/12/2022

Report date: 07/12/2022

Signed: _____



Report of Test
LLIA001799-001A



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	653.2	4.9%	90-100	0.0	0.0%	0-20	2481	18.6%
10-20	1828	13.7%	100-110	0.0	0.0%	0-30	5050	37.8%
20-30	2569	19.2%	110-120	0.0	0.0%	0-40	7526	56.4%
30-40	2476	18.5%	120-130	0.0	0.0%	0-60	10963	82.1%
40-50	1904	14.3%	130-140	0.0	0.0%	0-80	13119	98.3%
50-60	1533	11.5%	140-150	0.0	0.0%	10-90	12698	95.1%
60-70	1277	9.6%	150-160	0.0	0.0%	20-50	6949	52.0%
70-80	878.7	6.6%	160-170	0.0	0.0%	40-90	5826	43.6%
80-90	232.5	1.7%	170-180	0.0	0.0%	60-90	2389	17.9%
0-90	13351	100.0%	90-180	0.0	0.0%	0-180	13351	100.0%

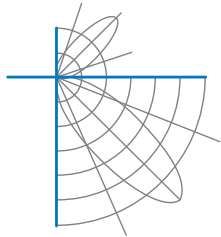


Report of Test

LLIA001799-001A

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	6933	6933	6933	6933	6933	6933	6933	6933	6933
	2.5	6929	6926	6920	6916	6915	6916	6920	6926	6929
	5	6898	6894	6883	6879	6878	6879	6883	6894	6898
	7.5	6832	6831	6825	6825	6825	6825	6825	6831	6832
	10	6739	6741	6742	6748	6751	6748	6742	6741	6739
	12.5	6615	6622	6634	6649	6656	6649	6634	6622	6615
	15	6464	6474	6499	6527	6538	6527	6499	6474	6464
	17.5	6278	6295	6333	6378	6395	6378	6333	6295	6278
	20	6058	6081	6136	6200	6225	6200	6136	6081	6058
	22.5	5798	5827	5901	5987	6022	5987	5901	5827	5798
	25	5487	5523	5619	5732	5779	5732	5619	5523	5487
	27.5	5120	5163	5280	5422	5483	5422	5280	5163	5120
	30	4696	4743	4877	5043	5120	5043	4877	4743	4696
	32.5	4238	4285	4425	4604	4689	4604	4425	4285	4238
	35	3772	3815	3951	4127	4211	4127	3951	3815	3772
	37.5	3331	3371	3493	3653	3729	3653	3493	3371	3331
	40	2936	2971	3078	3215	3282	3215	3078	2971	2936
	42.5	2603	2633	2723	2840	2898	2840	2723	2633	2603
	45	2326	2352	2428	2525	2576	2525	2428	2352	2326
	47.5	2101	2122	2186	2269	2313	2269	2186	2122	2101
50	1916	1934	1990	2060	2100	2060	1990	1934	1916	
52.5	1762	1778	1828	1890	1926	1890	1828	1778	1762	
55	1632	1648	1695	1750	1785	1750	1695	1648	1632	
57.5	1519	1535	1580	1633	1667	1633	1580	1535	1519	
60	1416	1433	1478	1529	1564	1529	1478	1433	1416	
62.5	1317	1336	1382	1433	1470	1433	1382	1336	1317	
65	1219	1241	1288	1340	1379	1340	1288	1241	1219	
67.5	1116	1140	1190	1243	1285	1243	1190	1140	1116	
70	1007	1032	1085	1140	1184	1140	1085	1032	1007	
72.5	887	913	968	1026	1073	1026	968	913	887	
75	755	780	838	899	949	899	838	780	755	
77.5	609	635	692	757	811	757	692	635	609	
80	451	475	532	601	657	601	532	475	451	
82.5	282	302	357	430	488	430	357	302	282	
85	111	126	174	246	305	246	174	126	111	
87.5	10	11	21	68	113	68	21	11	10	
90	0	0	0	0	0	0	0	0	0	



Report of Test

LLIA001799-001A

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
	0	22.5	45	67.5	90	112.5	135	157.5	180	
90	0	0	0	0	0	0	0	0	0	0
92.5	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0
107.5	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0
112.5	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0
117.5	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0
122.5	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0
127.5	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0
132.5	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0
137.5	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0
142.5	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0
147.5	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0
152.5	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0
157.5	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.



Report of Test

LLIA001799-001A

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	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	110	105	101	98		107	103	99	96		99	96	93		95	92	90		91	89	87	85
2	101	93	87	81		98	91	85	80		88	83	78		84	80	77		81	78	75	73
3	93	83	75	69		90	81	74	69		78	72	67		76	71	66		73	69	65	63
4	86	74	66	60		83	73	66	60		71	64	59		68	63	58		66	61	57	55
5	79	67	59	53		77	66	59	53		64	57	52		62	56	52		61	55	51	49
6	74	61	53	47		72	61	53	47		59	52	47		57	51	46		56	50	46	44
7	69	56	48	42		67	56	48	42		54	47	42		53	46	42		51	46	41	40
8	65	52	44	39		63	51	44	38		50	43	38		49	43	38		48	42	38	36
9	61	48	40	35		59	48	40	35		46	40	35		45	39	35		44	39	35	33
10	57	45	37	32		56	44	37	32		43	37	32		42	36	32		42	36	32	30

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	192.6	6.38	6.74	
8.0	108.3	8.51	8.98	
10.0	69.3	10.64	11.23	
12.0	48.1	12.77	13.47	
14.0	35.4	14.89	15.72	
16.0	27.1	17.02	17.96	

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	69000	69000	69000
45	32736	34167	36253
55	28320	29402	30965
65	28701	30323	32481
75	29012	32203	36506
85	12642	19872	34802

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	73.4°
Field Angle:	152.1°
90-270 Degree Plane	
Beam Angle:	77.8°
Field Angle:	158.8°



Report of Test

LLIA001799-001A

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

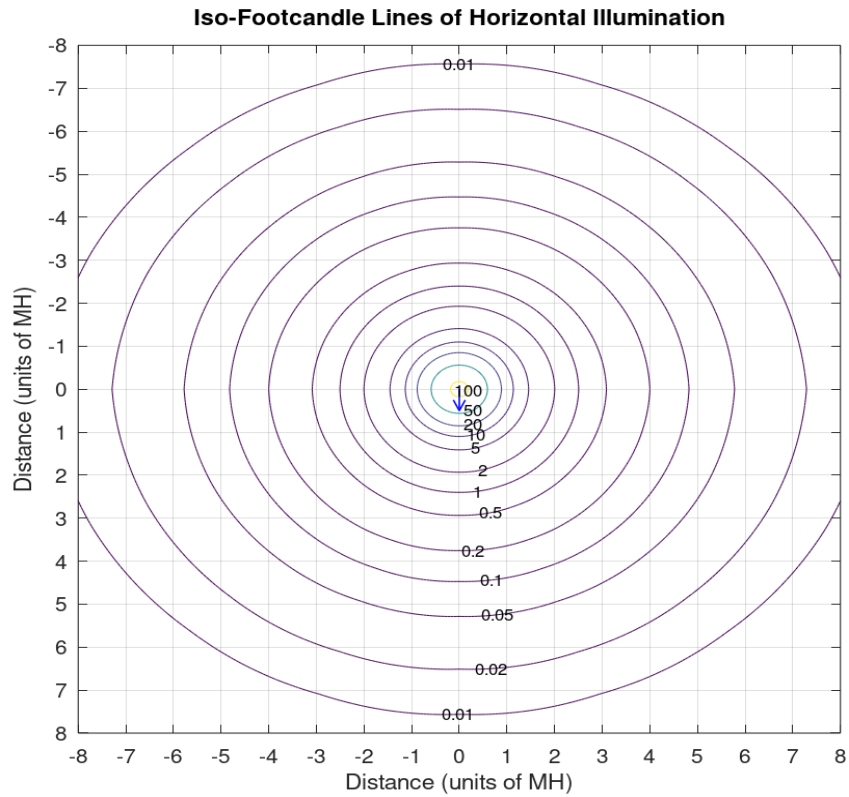
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	22.7	24.2	23.0	24.5	24.8	23.1	24.7	23.5	25.0	25.3
	3H	24.9	26.3	25.3	26.6	27.0	25.6	26.9	25.9	27.2	27.6
	4H	25.8	27.1	26.2	27.4	27.8	26.6	27.9	27.0	28.2	28.6
	6H	26.4	27.6	26.9	28.0	28.4	27.5	28.7	27.9	29.1	29.4
	8H	26.6	27.7	27.0	28.1	28.5	27.8	29.0	28.2	29.3	29.7
	12H	26.7	27.7	27.1	28.1	28.5	28.1	29.1	28.5	29.5	29.9
4H	2H	23.5	24.8	23.9	25.1	25.5	23.8	25.1	24.2	25.5	25.8
	3H	25.9	27.0	26.3	27.4	27.8	26.5	27.6	26.9	28.0	28.4
	4H	26.9	27.9	27.4	28.3	28.8	27.7	28.7	28.1	29.1	29.5
	6H	27.7	28.6	28.2	29.0	29.5	28.7	29.6	29.2	30.0	30.5
	8H	27.9	28.7	28.4	29.2	29.6	29.1	29.9	29.6	30.3	30.8
	12H	28.0	28.7	28.5	29.2	29.7	29.4	30.1	29.9	30.6	31.0
8H	4H	27.4	28.2	27.9	28.7	29.1	28.1	28.8	28.5	29.3	29.8
	6H	28.3	29.0	28.8	29.5	30.0	29.2	29.9	29.7	30.4	30.9
	8H	28.6	29.2	29.1	29.7	30.2	29.7	30.3	30.2	30.8	31.3
	12H	28.7	29.2	29.2	29.7	30.3	30.1	30.6	30.6	31.1	31.6
12H	4H	27.5	28.2	28.0	28.7	29.2	28.1	28.8	28.6	29.3	29.7
	6H	28.4	29.0	29.0	29.5	30.0	29.3	29.9	29.8	30.4	30.9
	8H	28.8	29.3	29.3	29.8	30.3	29.8	30.3	30.3	30.8	31.4

Maximum UGR = 31.6

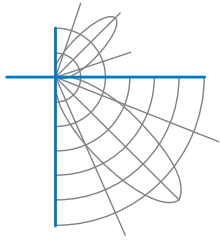


Report of Test
LLIA001799-001A

Iso-Illuminance Plot

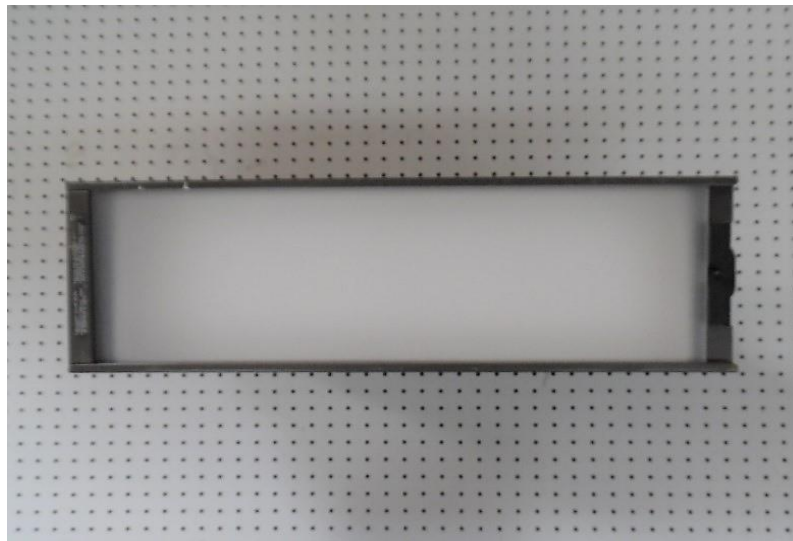


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test
LLIA001799-001A

Additional Pictures of Test Subject





Report of Test

LLIA001799-001A

Test Distance 9.5 m
Ambient Temperature 25.3 °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.

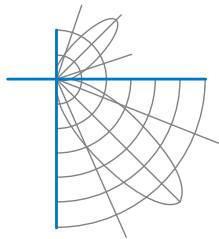
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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

LLIA001799-001B

Integrating Sphere Report

Catalog Number: L1.3X-1-DMX

Yoke mounted, formed aluminum housing, formed semi-specular aluminum reflector/heatsink, frosted plastic enclosure, frosted side out.

476 white LEDs on two white circuit boards with 238 LEDs each.

Two Advance Xitanium XI075C-200V054BST1 LED drivers, one Feno DMX controller.



Performance Summary

Voltage	120.0 Vac
Current	1.244 A
Power	148.7 W
Frequency	59.99 Hz
Power Factor	0.996
Current THD	8.2 %
Total Luminous Flux	13896.7 lm
Efficacy	93.5 lm/W
Chromaticity (x,y)	(0.3348, 0.3403)
(u',v')	(0.2088, 0.4775)
Duv	-0.0014
CCT	5398 K
CRI (Ra)	95
R9	95
TM-30: Rf	89
TM-30: Rg	98
TM-30: Rcs,h1	-1

Prepared For:

Brightline L.P.

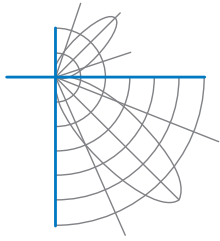
580 Mayer Street

Suite 7

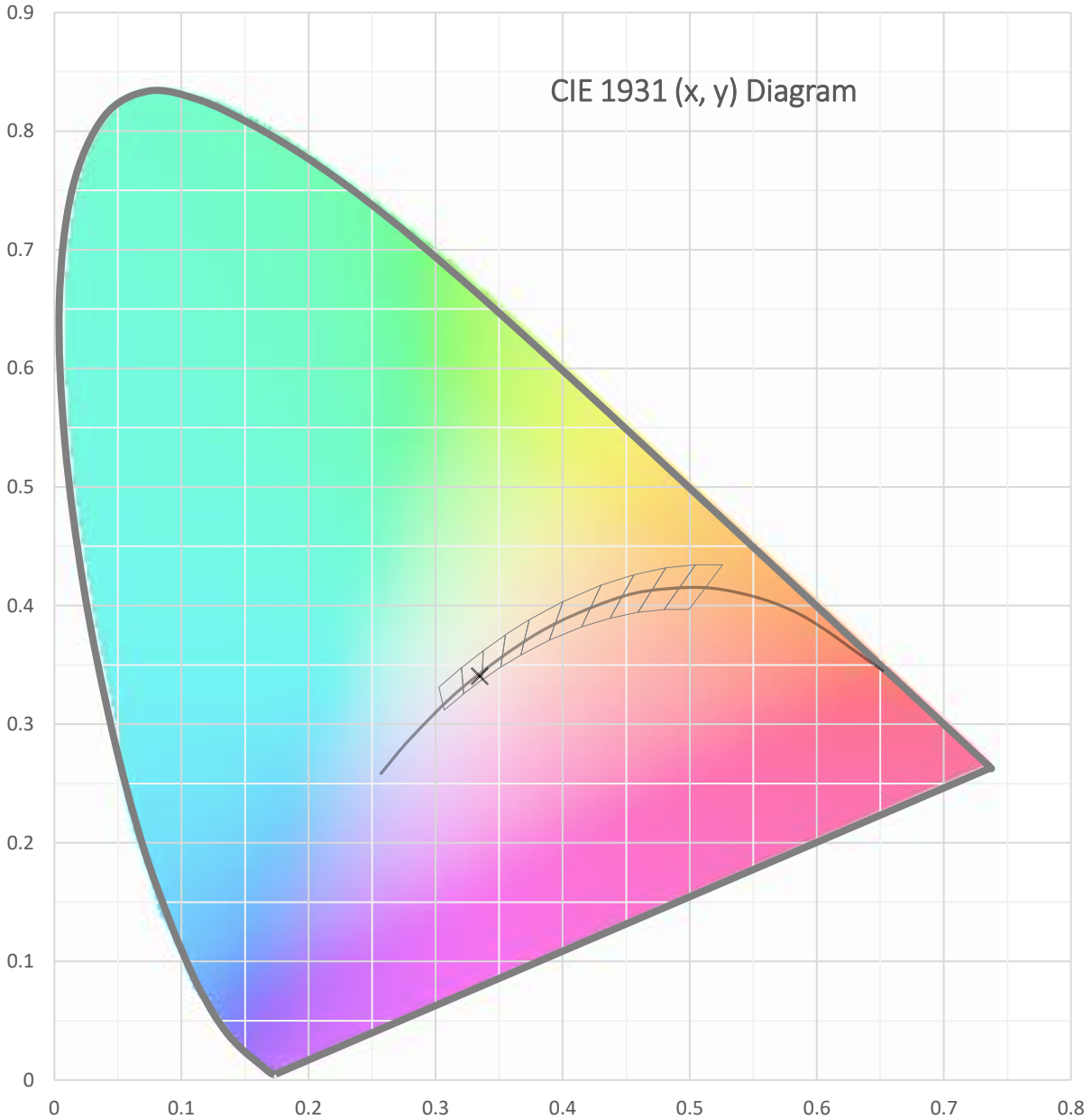
Bridgeville, PA 15017, USA

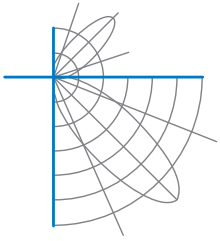
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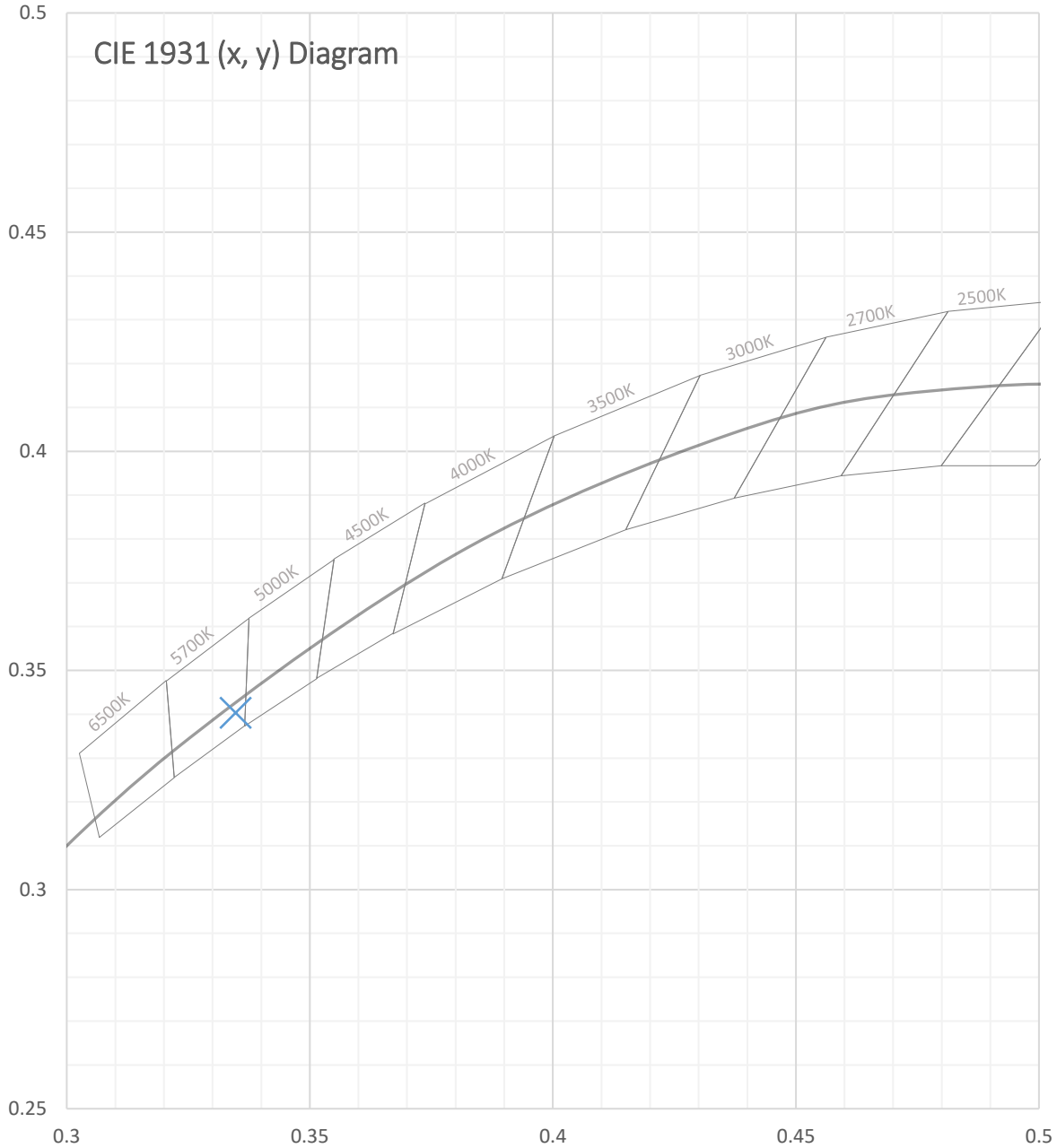


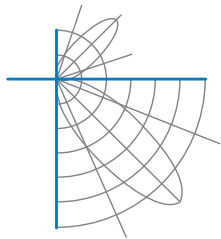
Test Report Number: LLIA001799-001B





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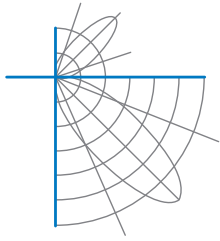


Test Report Number: LLIA001799-001B

Total Radiant Flux	52.01 W
Total Luminous Flux	13896.7 Lm
Chromaticity CIE 1931 (x, y)	(0.3348, 0.3403)
Chromaticity CIE 1976 (u', v')	(0.2088, 0.4775)
Correlated Color Temperature (CCT)	5398 K
Color Rendering Index (Ra)	95
R1	96
R2	96
R3	98
R4	93
R5	94
R6	94
R7	94
R8	95
R9	95
R10	95
R11	96
R12	74
R13	96
R14	100
TM-30: Rf	89
TM-30: Rg	98
TM-30: Rcs,h1	-1
Distance from Planckian Locus (Duv)	-0.0014
Scotopic/Photopic Ratio ‡	2.257

Electrical Data

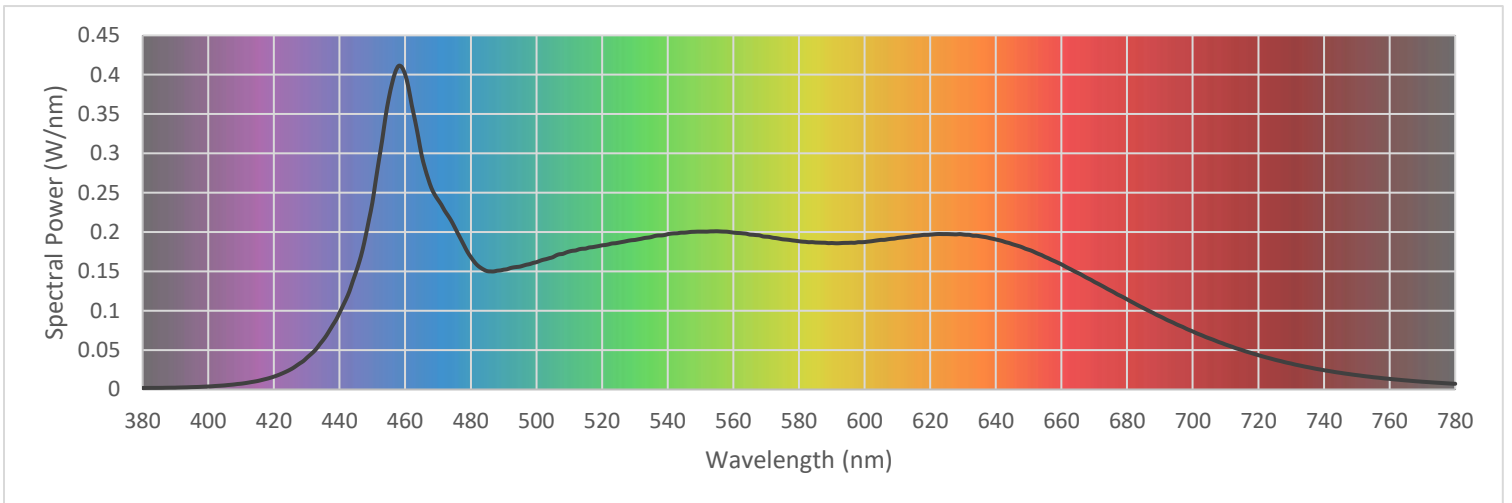
Voltage	120.0 Vac
Current	1.244 A
Power	148.7 W
Frequency	59.99 Hz
Power Factor	0.996
Current THD	8.2 %



Test Report Number: LLIA001799-001B

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

380	0.001886	480	0.168342	580	0.188374	680	0.114490
385	0.002024	485	0.150342	585	0.186801	685	0.103411
390	0.002308	490	0.152202	590	0.186136	690	0.092936
395	0.002968	495	0.156155	595	0.186322	695	0.082872
400	0.003800	500	0.161746	600	0.187329	700	0.073775
405	0.005204	505	0.168065	605	0.190089	705	0.065054
410	0.007345	510	0.175327	610	0.192463	710	0.057132
415	0.010736	515	0.179016	615	0.195119	715	0.050095
420	0.016334	520	0.183180	620	0.196711	720	0.043598
425	0.025303	525	0.186516	625	0.197490	725	0.037841
430	0.040107	530	0.189983	630	0.196945	730	0.032948
435	0.062828	535	0.193695	635	0.194806	735	0.028405
440	0.097433	540	0.197337	640	0.190610	740	0.024476
445	0.149057	545	0.199272	645	0.184696	745	0.021147
450	0.237405	550	0.200587	650	0.177574	750	0.018223
455	0.369861	555	0.201053	655	0.168490	755	0.015593
460	0.400114	560	0.199400	660	0.159007	760	0.013473
465	0.297970	565	0.196859	665	0.148087	765	0.011512
470	0.241127	570	0.194145	670	0.136803	770	0.009833
475	0.206885	575	0.190843	675	0.125649	775	0.008433
						780	0.007219

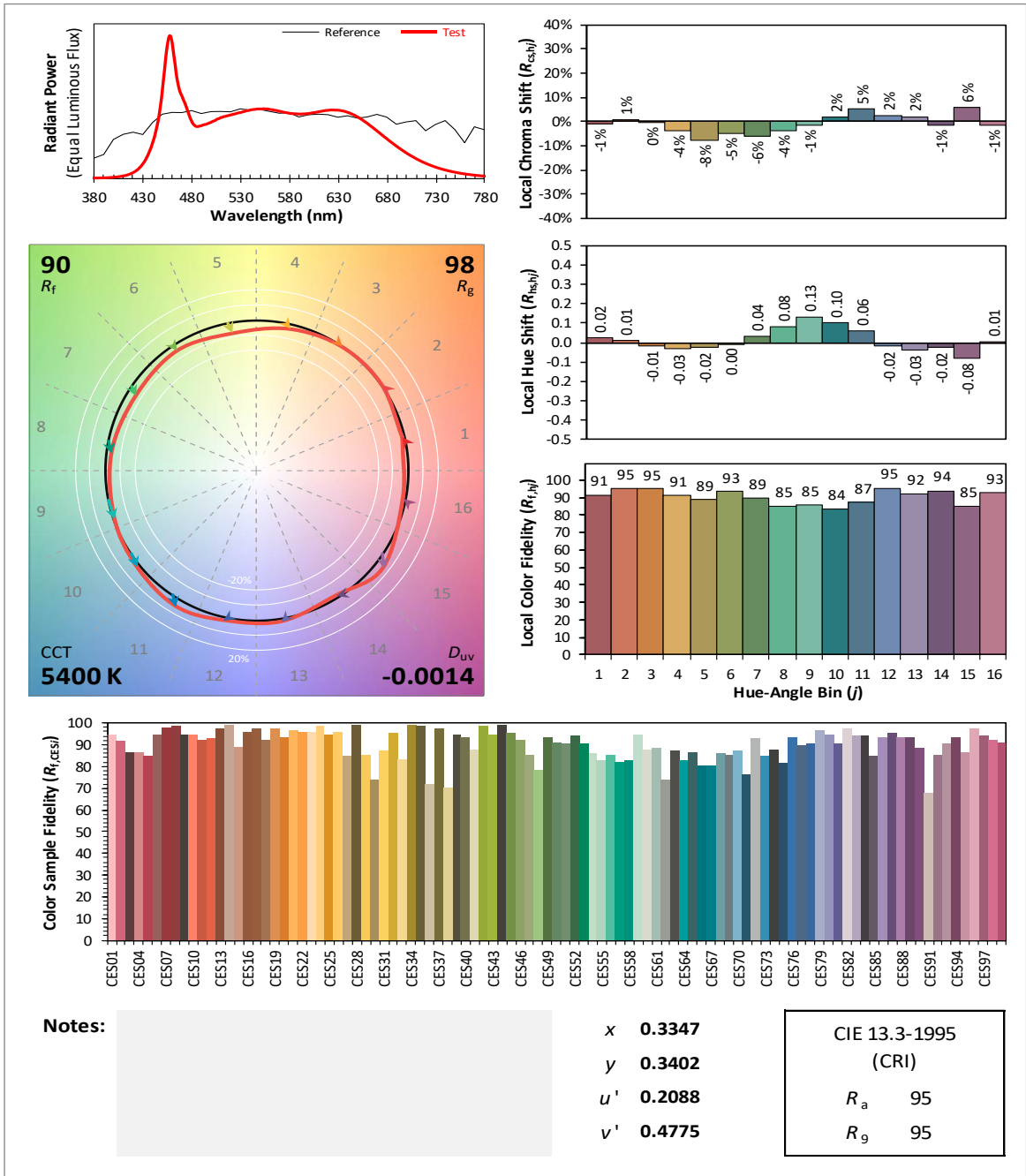


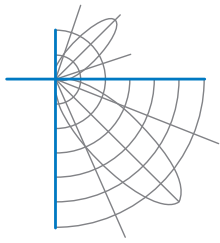


Test Report Number: LLIA001799-001B

IES TM-30 Details

Source: LLIA001799-001B Manufacturer: Brightline L.P.
Date: 7/12/2022 Model: L1.3X-1-DMX





Test Report Number: LLIA001799-001B

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

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.