



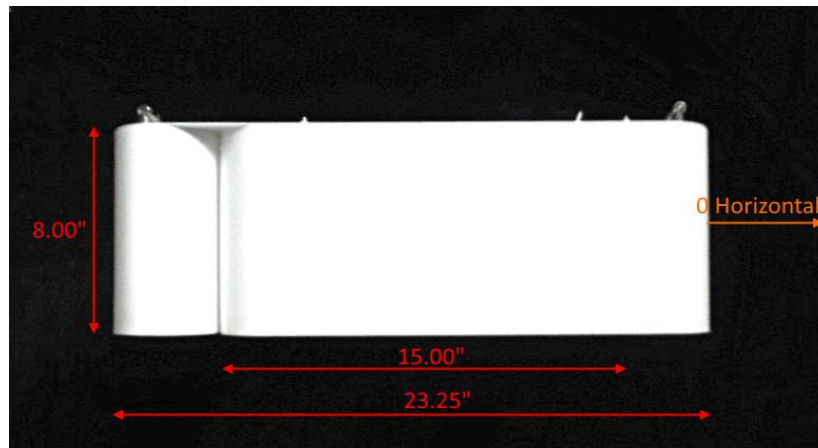
Report of Test

LLIA002228-003A-R01*

Indoor Distribution Photometry Test Report

Catalog Number: Brink 23" X 8" Pendant | BP52308

Suspended/pendant mounted, formed white painted steel canopy, painted white aluminum housing/reflector, diffuse white "Luminate®" perimeters with diffuse white acrylic bottom enclosures. 168 white LEDs on four Q-Tran 3500K LED strips
One ERP VZM060W-24 LED driver



Prepared For:
Lumetta, Inc
33 Minnesota Avenue
Warwick, RI 02888, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	1768.1 Lumens
Input Current	0.2256 A	Total Efficacy	66.9 Lm/W
Input Power	26.41 W	Downward Flux	1275.0 Lumens
Frequency	60.00 Hz	Downward Flux	72.1 % of Total
Power Factor	0.976		
Current THD	14.3 %		

*This test report supersedes previous versions - see the end of this report for a list of revisions

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

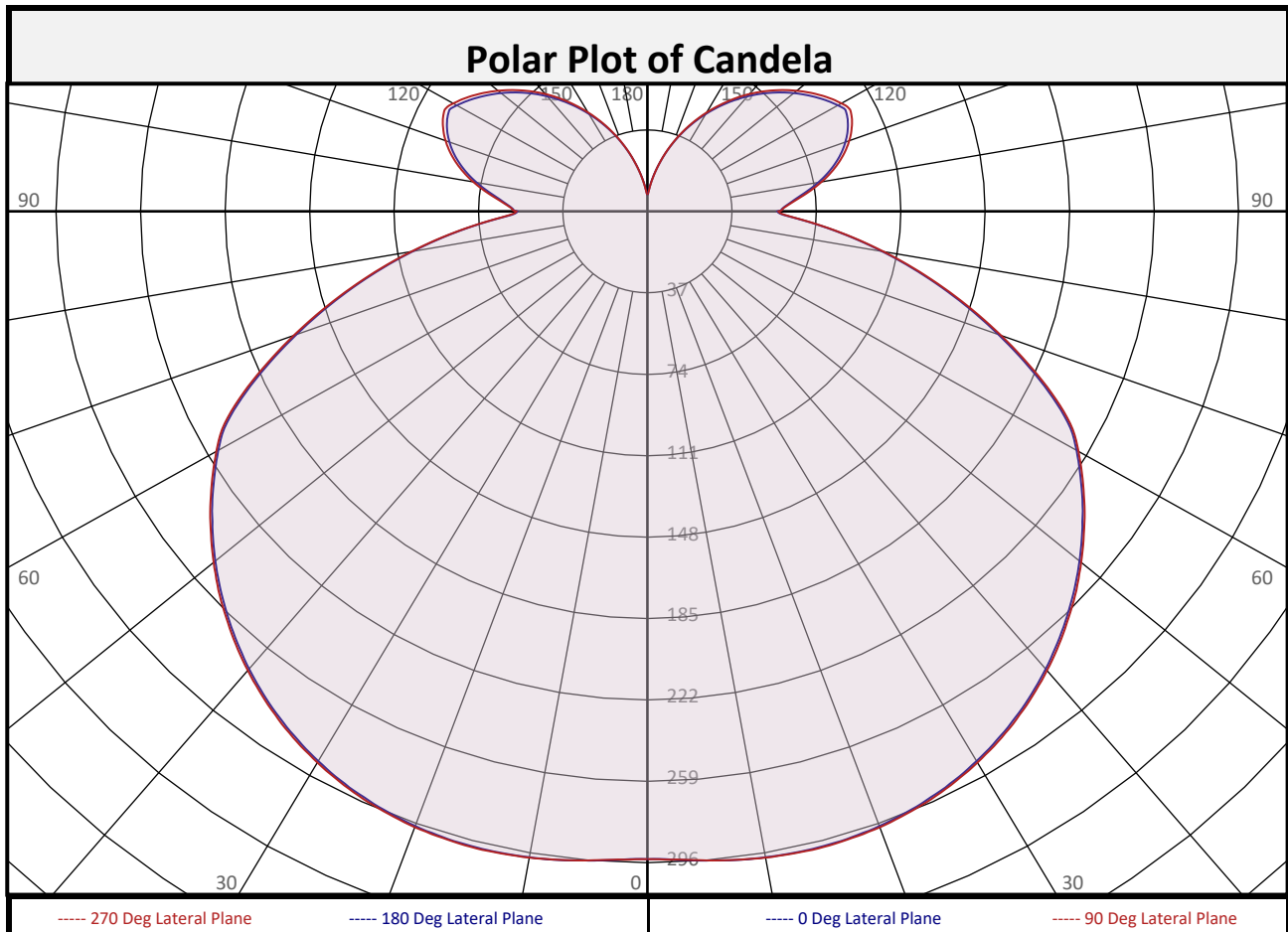
Test date: 10/04/2023
Report date: 10/11/2023

Signed: _____



Report of Test

LLIA002228-003A-R01



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	28.4	1.6%		90-100	77.8	4.4%		0-20	113.5	6.4%
10-20	85.1	4.8%		100-110	94.8	5.4%		0-30	250.8	14.2%
20-30	137.4	7.8%		110-120	99.3	5.6%		0-40	429.8	24.3%
30-40	179.0	10.1%		120-130	85.5	4.8%		0-60	845.5	47.8%
40-50	204.6	11.6%		130-140	63.8	3.6%		0-80	1185	67.0%
50-60	211.0	11.9%		140-150	41.2	2.3%		10-90	1247	70.5%
60-70	193.3	10.9%		150-160	21.6	1.2%		20-50	521.0	29.5%
70-80	145.9	8.3%		160-170	7.9	0.4%		40-90	845.2	47.8%
80-90	90.4	5.1%		170-180	1.3	0.1%		60-90	429.6	24.3%
0-90	1275	72.1%		90-180	493.1	27.9%		0-180	1768	100.0%



Report of Test

LLIA002228-003A-R01

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	294	294	294	294	294	294	294	294	294
	2.5	295	295	295	295	295	295	295	295	295
	5	296	296	296	296	296	296	296	296	296
	7.5	297	298	298	298	297	298	298	298	297
	10	298	299	300	299	298	299	300	299	298
	12.5	298	300	301	300	299	300	301	300	298
	15	299	300	302	301	299	301	302	300	299
	17.5	298	301	302	301	299	301	302	301	298
	20	297	300	302	300	298	300	302	300	297
	22.5	296	299	301	299	296	299	301	299	296
	25	294	298	300	298	295	298	300	298	294
	27.5	291	296	298	296	292	296	298	296	291
	30	288	293	295	293	289	293	295	293	288
	32.5	285	290	292	290	286	290	292	290	285
	35	281	286	289	286	282	286	289	286	281
	37.5	276	282	285	282	277	282	285	282	276
	40	271	277	280	277	272	277	280	277	271
	42.5	266	271	274	272	267	272	274	271	266
	45	260	265	268	266	261	266	268	265	260
	47.5	254	259	261	259	255	259	261	259	254
50	247	252	254	252	248	252	254	252	247	
52.5	240	244	246	245	241	245	246	244	240	
55	233	236	238	236	234	236	238	236	233	
57.5	225	228	228	228	226	228	228	228	225	
60	217	218	218	219	218	219	218	218	217	
62.5	208	209	208	209	209	209	208	209	208	
65	194	197	196	197	195	197	196	197	194	
67.5	179	183	184	183	180	183	184	183	179	
70	164	168	170	168	165	168	170	168	164	
72.5	148	153	156	153	150	153	156	153	148	
75	133	138	141	139	134	139	141	138	133	
77.5	119	124	127	124	120	124	127	124	119	
80	104	110	112	110	105	110	112	110	104	
82.5	90	96	99	96	91	96	99	96	90	
85	77	83	85	83	77	83	85	83	77	
87.5	64	70	73	70	64	70	73	70	64	
90	57	64	66	64	57	64	66	64	57	

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

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Report of Test

LLIA002228-003A-R01

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	57	64	66	64	57	64	66	64	57
	92.5	61	67	70	67	61	67	70	67	61
	95	65	71	74	72	66	72	74	71	65
	97.5	71	77	79	77	72	77	79	77	71
	100	76	81	84	82	78	82	84	81	76
	102.5	81	86	89	87	83	87	89	86	81
	105	85	90	93	91	87	91	93	90	85
	107.5	89	94	96	95	91	95	96	94	89
	110	92	97	99	98	94	98	99	97	92
	112.5	95	99	101	100	97	100	101	99	95
	115	97	101	102	102	99	102	102	101	97
	117.5	98	101	102	103	100	103	102	101	98
	120	96	100	101	101	98	101	101	100	96
	122.5	93	98	100	99	95	99	100	98	93
	125	90	96	98	97	92	97	98	96	90
	127.5	87	93	96	94	89	94	96	93	87
	130	84	90	93	91	85	91	93	90	84
	132.5	80	86	90	87	82	87	90	86	80
	135	76	83	86	84	78	84	86	83	76
	137.5	72	79	82	80	74	80	82	79	72
	140	68	74	78	75	70	75	78	74	68
	142.5	64	70	74	71	65	71	74	70	64
	145	60	66	69	66	61	66	69	66	60
	147.5	55	61	64	62	56	62	64	61	55
150	51	56	59	57	52	57	59	56	51	
152.5	47	51	54	52	47	52	54	51	47	
155	42	46	49	47	43	47	49	46	42	
157.5	38	41	43	42	38	42	43	41	38	
160	33	36	38	37	34	37	38	36	33	
162.5	29	32	33	32	29	32	33	32	29	
165	25	27	28	27	25	27	28	27	25	
167.5	21	22	23	22	21	22	23	22	21	
170	17	18	19	18	17	18	19	18	17	
172.5	14	14	15	14	14	14	15	14	14	
175	11	11	11	11	11	11	11	11	11	
177.5	9	9	9	8	8	8	9	9	9	
180	8	8	8	8	8	8	8	8	8	

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



Report of Test

LLIA002228-003A-R01

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	70	50	30	10	70	50	30	10	70	50	30	10	0
RCR																					
0	112	112	112	112	107	107	107	107	96	96	96	96	86	86	86	86	76	76	76	76	72
1	100	95	90	85	95	90	85	81	80	77	74	74	72	69	66	66	64	62	60	60	56
2	90	81	74	67	85	77	70	64	69	63	59	59	61	57	53	53	54	51	48	48	44
3	81	70	61	55	76	66	59	52	59	53	48	48	53	48	43	43	47	43	39	39	36
4	74	61	52	45	69	58	50	43	52	45	40	40	47	41	36	36	41	37	33	33	30
5	68	54	45	38	64	52	43	37	46	39	34	34	41	36	31	31	37	32	28	28	25
6	62	49	39	33	58	46	38	32	41	34	29	29	37	31	27	27	33	28	24	24	22
7	57	44	35	28	54	41	33	27	37	30	25	25	34	28	23	23	30	25	21	21	19
8	53	40	31	25	50	38	30	24	34	27	22	22	31	25	21	21	27	22	19	19	17
9	49	36	28	22	47	34	27	21	31	24	20	20	28	22	18	18	25	20	17	17	15
10	46	33	25	20	44	31	24	19	29	22	18	18	26	20	16	16	23	19	15	15	13

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	8.2	8.75	8.77
8.0	4.6	11.67	11.70
10.0	2.9	14.59	14.62
12.0	2.0	17.50	17.55
14.0	1.5	20.42	20.47
16.0	1.1	23.34	23.40

Spacing Criterion	
0 deg:	1.5
90 deg:	1.5
180 deg:	1.5
270 deg:	1.5

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	1446	1446	1446
45	917	785	920
55	836	688	840
65	732	579	737
75	548	437	552
85	357	288	360

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	144.7°
Field Angle:	323.9°
90-270 Degree Plane	
Beam Angle:	145.0°
Field Angle:	324.2°



Report of Test

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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	9.2	10.4	9.9	11.2	12.1	9.2	10.4	10.0	11.2	12.1
	3H	11.4	12.5	12.1	13.3	14.2	11.4	12.5	12.1	13.3	14.2
	4H	12.3	13.3	13.0	14.1	15.0	12.3	13.3	13.0	14.1	15.1
	6H	13.0	14.0	13.8	14.7	15.7	13.0	14.0	13.8	14.8	15.7
	8H	13.3	14.2	14.1	15.0	16.0	13.3	14.2	14.1	15.1	16.0
	12H	13.5	14.4	14.3	15.2	16.2	13.6	14.5	14.4	15.3	16.3
4H	2H	9.9	10.9	10.6	11.7	12.7	9.9	10.9	10.7	11.7	12.7
	3H	12.2	13.1	13.0	14.0	14.9	12.3	13.2	13.0	14.0	14.9
	4H	13.2	14.1	14.0	14.9	15.9	13.3	14.1	14.1	14.9	15.9
	6H	14.1	14.9	14.9	15.7	16.7	14.2	14.9	15.0	15.7	16.7
	8H	14.5	15.2	15.3	16.0	17.0	14.5	15.2	15.3	16.0	17.1
	12H	14.8	15.5	15.7	16.3	17.3	14.9	15.5	15.7	16.3	17.4
8H	4H	13.6	14.3	14.4	15.1	16.1	13.6	14.3	14.4	15.1	16.2
	6H	14.7	15.2	15.5	16.1	17.1	14.7	15.3	15.5	16.1	17.2
	8H	15.2	15.7	16.0	16.5	17.6	15.2	15.7	16.0	16.6	17.6
	12H	15.6	16.1	16.5	16.9	18.0	15.6	16.1	16.5	17.0	18.0
12H	4H	13.7	14.3	14.5	15.1	16.2	13.7	14.3	14.5	15.1	16.2
	6H	14.8	15.3	15.6	16.1	17.2	14.8	15.3	15.6	16.2	17.2
	8H	15.3	15.8	16.2	16.7	17.7	15.4	15.8	16.2	16.7	17.8

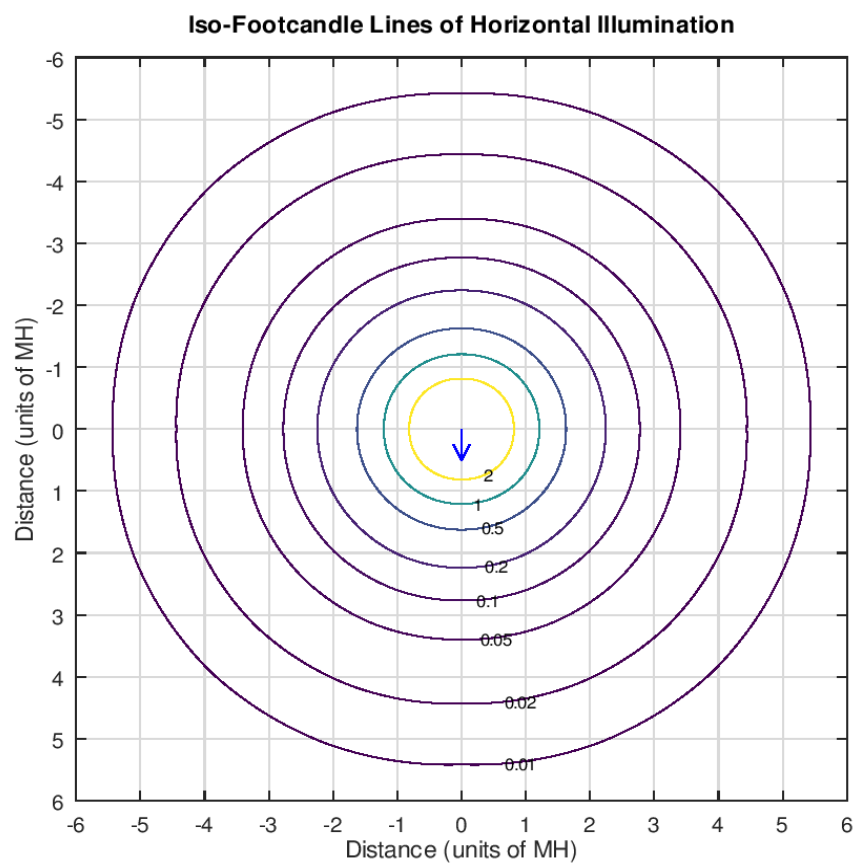
Maximum UGR = 18.0



Report of Test

LLIA002228-003A-R01

Iso-Illuminance Plot

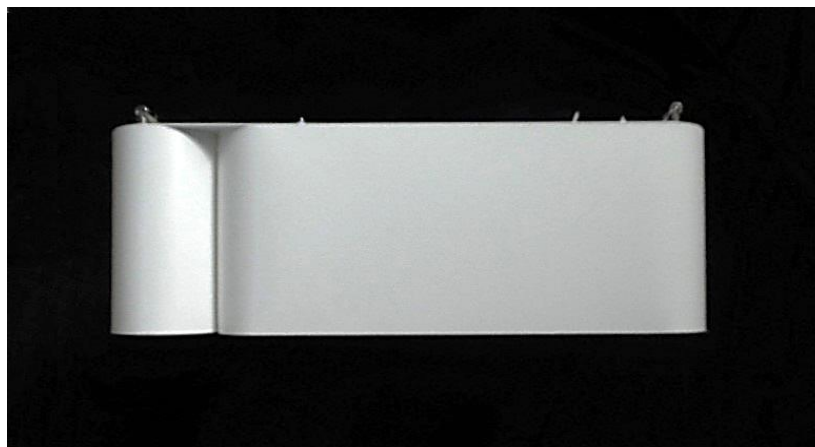


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test
LLIA002228-003A-R01

Additional Pictures of Test Subject





Report of Test

LLIA002228-003A-R01

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.

Revision History: R01 - 10/11/2023 - Added "Lumenate" in description



Report of Test

LLIA002228-003B-R01*

Integrating Sphere Report

Catalog Number: Brink 23" X 8" Pendant | BP52308

Suspended/pendant mounted, formed white painted steel canopy, painted white aluminum housing/
reflector, diffuse white "Luminate®" perimeters with diffuse white acrylic bottom enclosures.

168 white LEDs on four Q-Tran 3500K LED strips

One ERP VZM060W-24 LED driver



Performance Summary

Voltage	120.0 Vac
Current	0.2246 A
Power	26.36 W
Frequency	59.99 Hz
Power Factor	0.978
Current THD	14.2 %
Total Luminous Flux	1734.1 lm
Efficacy	65.8 lm/W
Chromaticity (x,y)	(0.4132, 0.4020)
(u',v')	(0.2362, 0.5170)
Duv	0.0032
CCT	3424 K
CRI (Ra)	98
R9	87
TM-30: Rf	96
TM-30: Rg	100
TM-30: Rcs,h1	-2

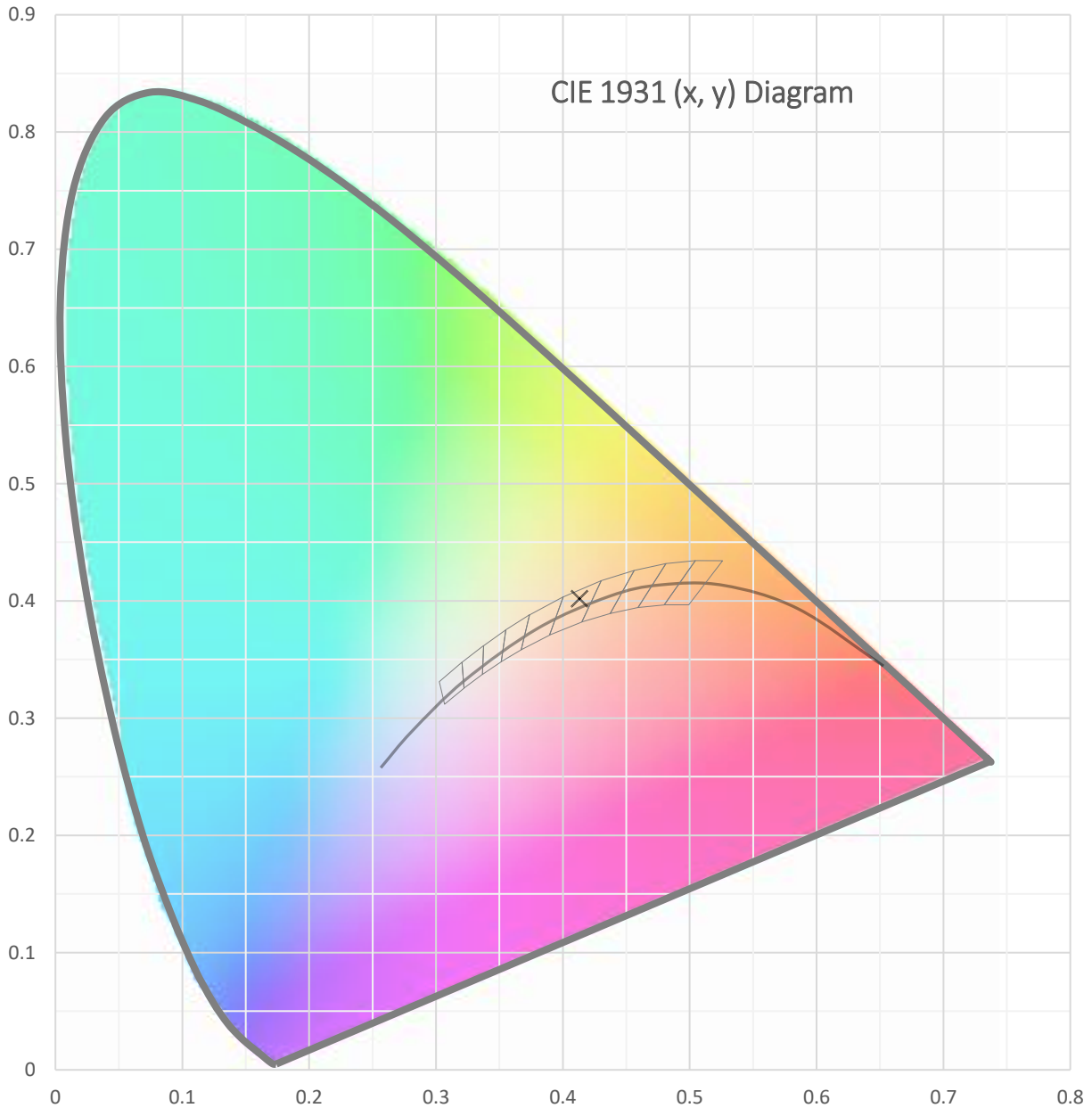
Prepared For:
Lumetta, Inc
33 Minnesota Avenue
Warwick, RI 02888, USA

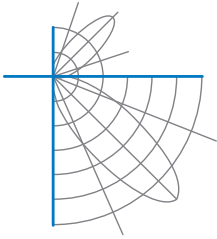
*This test report supersedes previous versions - see the end of this report for a list of revisions

Test date: 10/05/2023
Report date: 10/11/2023

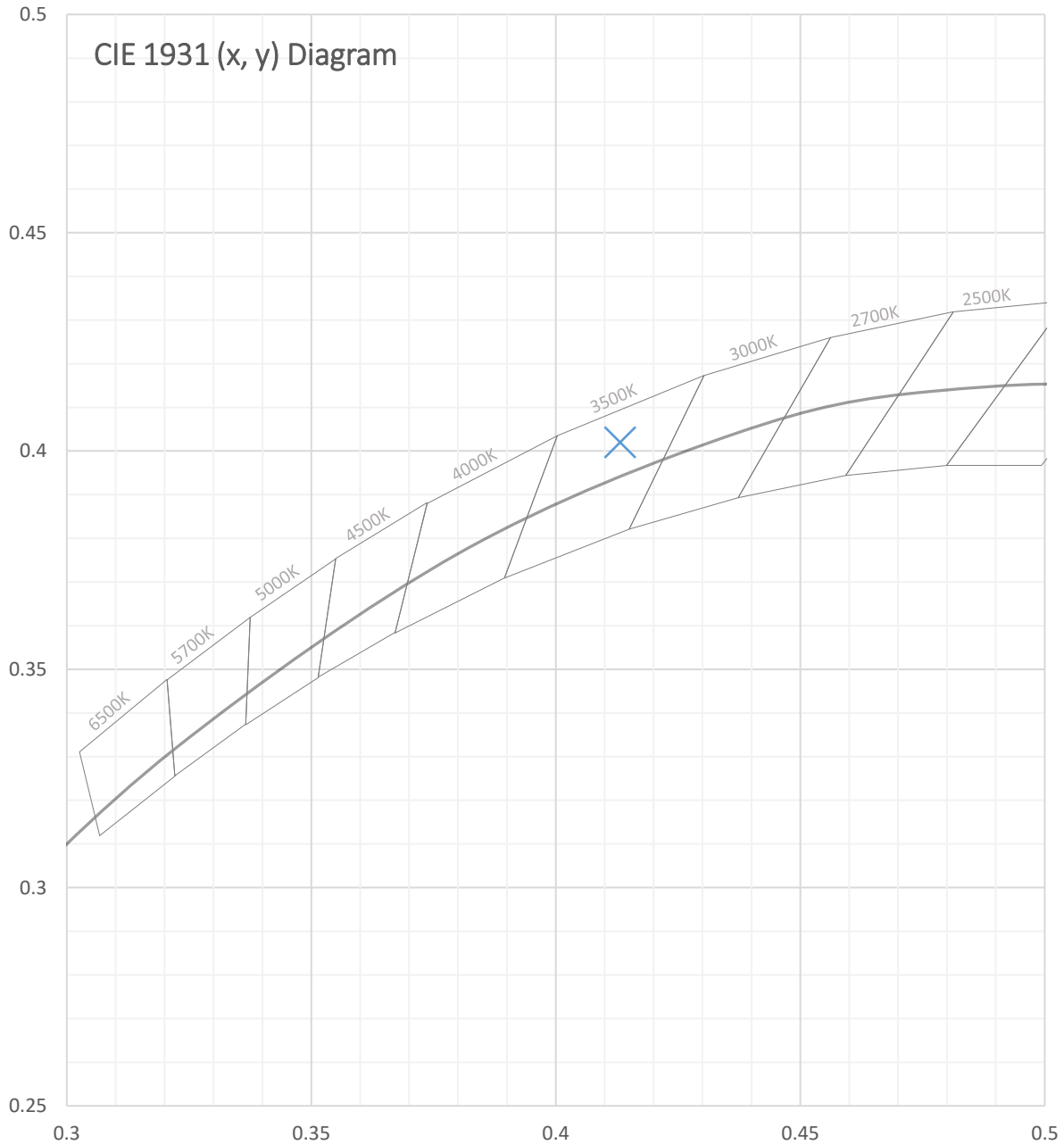


Test Report Number: LLIA002228-003B-R01





Test Report Number: LLIA002228-003B-R01





Test Report Number: LLIA002228-003B-R01

Total Radiant Flux	6.339 W
Total Luminous Flux	1734.1 Lm
Chromaticity CIE 1931 (x, y)	(0.4132, 0.4020)
Chromaticity CIE 1976 (u', v')	(0.2362, 0.5170)
Correlated Color Temperature (CCT)	3424 K
Color Rendering Index (Ra)	98
R1	98
R2	98
R3	98
R4	99
R5	98
R6	98
R7	99
R8	95
R9	87
R10	96
R11	98
R12	88
R13	98
R14	98
TM-30: Rf	96
TM-30: Rg	100
TM-30: Rcs,h1	-2
Distance from Planckian Locus (Duv)	0.0032
Scotopic/Photopic Ratio ‡	1.629

Electrical Data

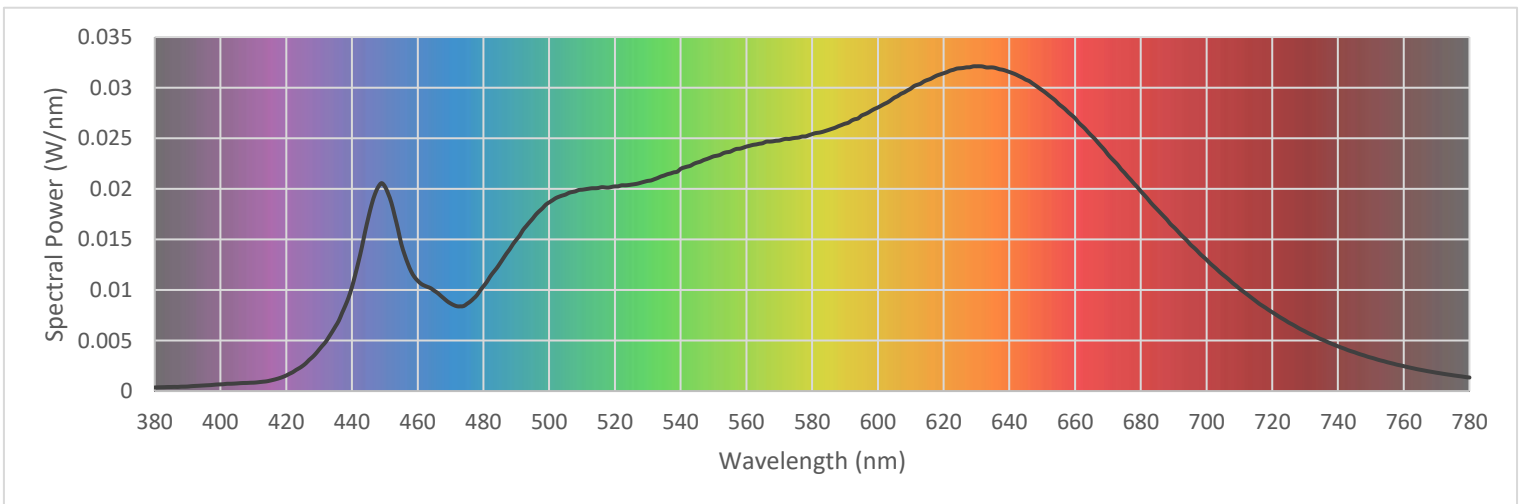
Voltage	120.0 Vac
Current	0.2246 A
Power	26.36 W
Frequency	59.99 Hz
Power Factor	0.978
Current THD	14.2 %



Test Report Number: LLIA002228-003B-R01

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

380	0.000354	480	0.010360	580	0.025398	680	0.019755
385	0.000402	485	0.012607	585	0.025815	685	0.017957
390	0.000447	490	0.014953	590	0.026435	690	0.016224
395	0.000556	495	0.017057	595	0.027230	695	0.014516
400	0.000660	500	0.018654	600	0.028032	700	0.012989
405	0.000756	505	0.019427	605	0.029005	705	0.011496
410	0.000829	510	0.019907	610	0.029896	710	0.010135
415	0.001026	515	0.020081	615	0.030746	715	0.008900
420	0.001540	520	0.020238	620	0.031423	720	0.007795
425	0.002490	525	0.020411	625	0.031912	725	0.006772
430	0.004097	530	0.020778	630	0.032108	730	0.005900
435	0.006404	535	0.021313	635	0.031995	735	0.005109
440	0.010290	540	0.021971	640	0.031546	740	0.004426
445	0.017165	545	0.022589	645	0.030786	745	0.003840
450	0.020237	550	0.023204	650	0.029744	750	0.003311
455	0.014562	555	0.023656	655	0.028390	755	0.002852
460	0.010907	560	0.024173	660	0.026981	760	0.002463
465	0.009927	565	0.024503	665	0.025251	765	0.002107
470	0.008664	570	0.024765	670	0.023392	770	0.001813
475	0.008627	575	0.025033	675	0.021603	775	0.001560
						780	0.001339

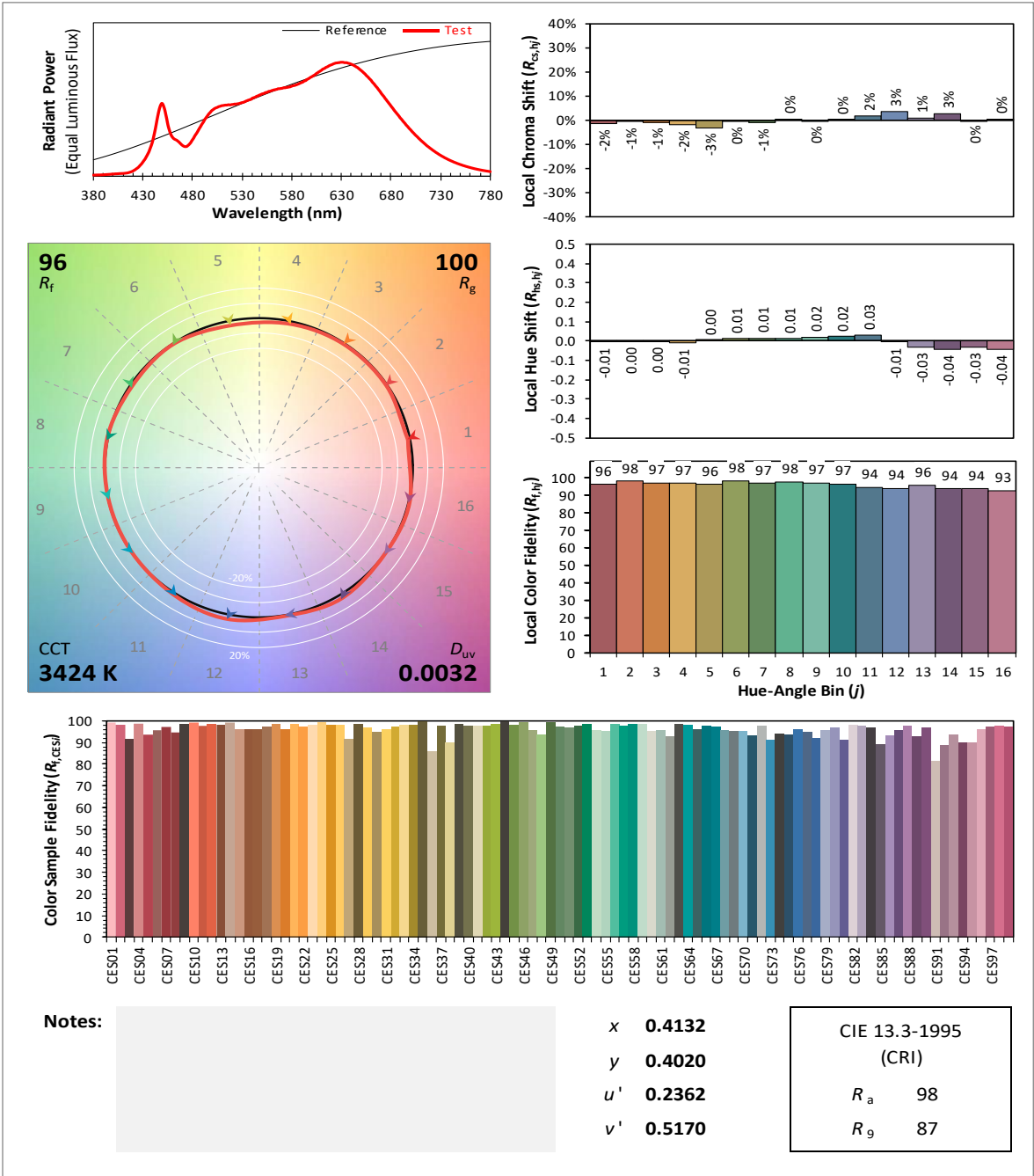


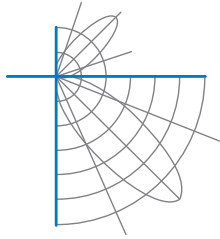


Test Report Number: LLIA002228-003B-R01

IES TM-30 Details

Source: LLIA002228-003B-R01	Manufacturer: Lumetta, Inc
Date: 10/11/2023	Model: Brink 23" X 8" Pendant BP52308





Test Report Number: LLIA002228-003B-R01

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: 25.2 °C

Test Procedure: Tested in accordance with the applicable sections of:
LM-79-19, LM-78-20, LM-58-20, ANSI_ANSI 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.

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Revision History: R01 - 10/11/2023 - Added "Lumenate" in description