LightLab INTERNATIONAL ALLENTOWN LLC

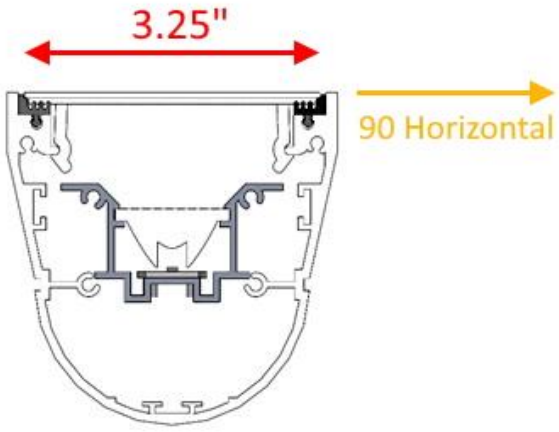
NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA001719-002A

Indoor Distribution Photometry Test Report

Catalog Number: ACC-WL66-MB-HO-K40-4
Indirect pendant mount, aluminum housing and end caps, one-piece diffuse plastic lens above LEDs, white painted aluminum reflector, frosted linear prismatic plastic enclosure.
Osram PrevaLED - 144 white LEDs
One Osram OTi 85/120-277/2A3 DIM-1L LED driver labeled as 1620mA



Prepared For:
Precision Architectural Lighting
4830 Timber Creek Drive
Houston, TX 77017, USA

Performance Summary					
Input Voltage	120.0	Vac	Luminous Flux	3237.4	Lumens
Input Current	0.2822	A	Total Efficacy	97.9	Lm/W
Input Power	33.08	W	Downward Flux	0.0	Lumens
Frequency	60.01	Hz	Downward Flux	0.0	% of Total
Power Factor	0.977				
Current THD	13.5	%			

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

Test date: 04/18/2022
Report date: 04/27/2022

Signed: Michael L. Grather

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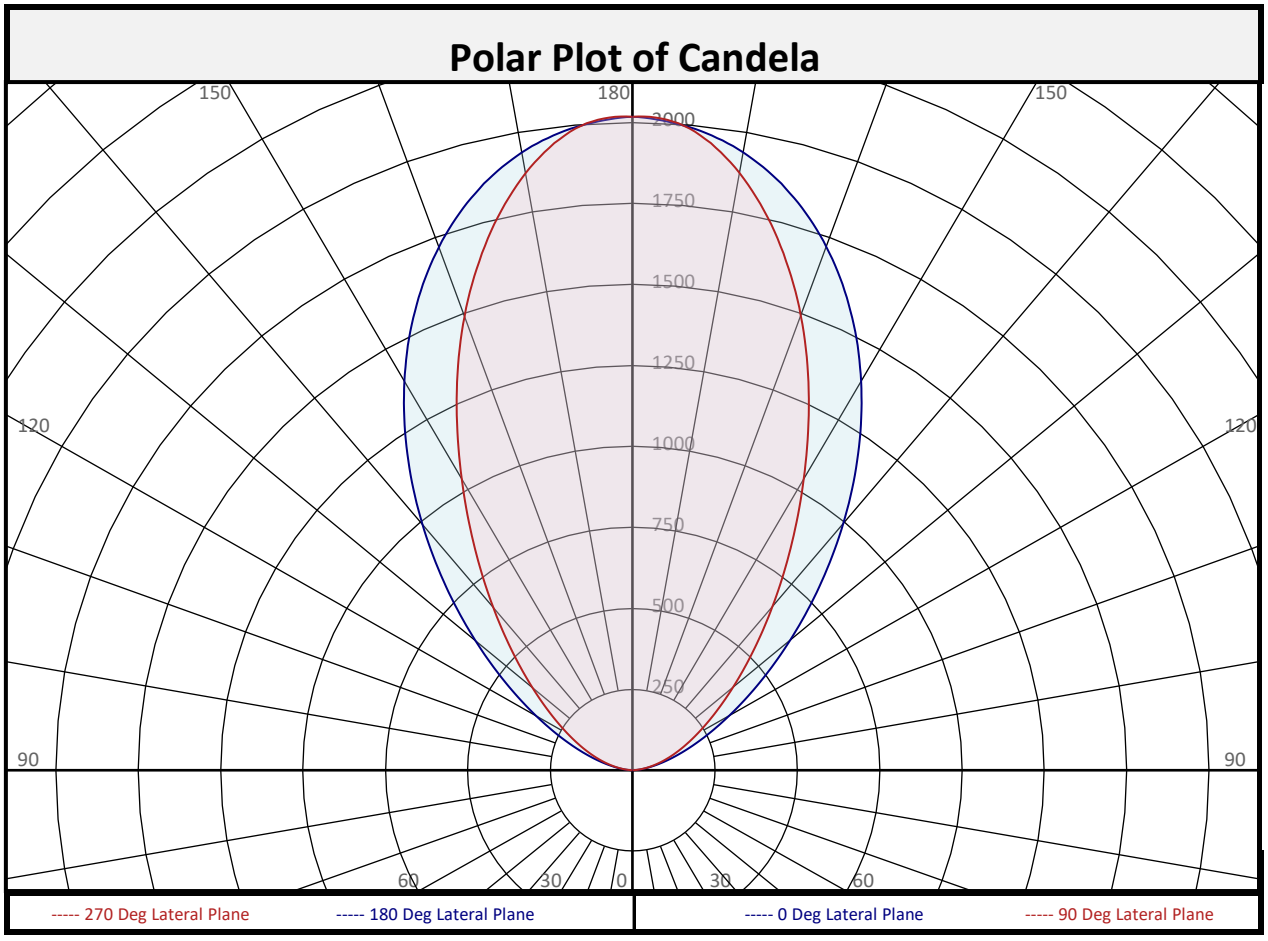

Zonal Flux Summary

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	0.0	0.0%	90-100	23.3	0.7%	0-20	0.0	0.0%
10-20	0.0	0.0%	100-110	108.3	3.3%	0-30	0.0	0.0%
20-30	0.0	0.0%	110-120	229.4	7.1%	0-40	0.0	0.0%
30-40	0.0	0.0%	120-130	375.5	11.6%	0-60	0.0	0.0%
40-50	0.0	0.0%	130-140	527.9	16.3%	0-80	0.0	0.0%
50-60	0.0	0.0%	140-150	641.3	19.8%	10-90	0.0	0.0%
60-70	0.0	0.0%	150-160	649.3	20.1%	20-50	0.0	0.0%
70-80	0.0	0.0%	160-170	495.3	15.3%	40-90	0.0	0.0%
80-90	0.0	0.0%	170-180	187.1	5.8%	60-90	0.0	0.0%
0-90	0.0	0.0%	90-180	3237	100.0%	0-180	3237	100.0%

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Luminous Intensity (Candela) Table

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	Lateral (C-Plane) Angles								
	0	22.5	45	67.5	90	112.5	135	157.5	180
0	0	0	0	0	0	0	0	0	0
2.5	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
7.5	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
12.5	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
17.5	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
22.5	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
27.5	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
32.5	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0
37.5	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
42.5	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0
47.5	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0
52.5	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0
57.5	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0
62.5	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
67.5	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0
72.5	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0
77.5	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0
82.5	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0

Report of Test

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Luminous Intensity (Candela) Table

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	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
92.5	7	8	8	5	5	5	8	8	7
95	17	21	21	17	15	17	21	21	17
97.5	32	39	38	31	29	31	38	39	32
100	50	61	59	47	44	47	59	61	50
102.5	72	88	84	66	61	66	84	88	72
105	97	118	111	86	79	86	111	118	97
107.5	126	152	141	109	100	109	141	152	126
110	159	189	174	133	121	133	174	189	159
112.5	196	231	210	160	145	160	210	231	196
115	239	276	249	189	170	189	249	276	239
117.5	287	326	291	221	199	221	291	326	287
120	342	381	337	256	230	256	337	381	342
122.5	402	440	386	295	265	295	386	440	402
125	469	504	440	339	304	339	440	504	469
127.5	543	573	498	387	348	387	498	573	543
130	624	646	561	441	398	441	561	646	624
132.5	710	724	629	501	453	501	629	724	710
135	801	805	702	566	515	566	702	805	801
137.5	896	890	780	637	585	637	780	890	896
140	994	977	863	716	660	716	863	977	994
142.5	1093	1068	950	801	745	801	950	1068	1093
145	1193	1159	1041	892	835	892	1041	1159	1193
147.5	1290	1251	1135	990	934	990	1135	1251	1290
150	1386	1343	1230	1094	1038	1094	1230	1343	1386
152.5	1478	1433	1325	1202	1150	1202	1325	1433	1478
155	1563	1521	1420	1312	1265	1312	1420	1521	1563
157.5	1645	1605	1512	1420	1381	1420	1512	1605	1645
160	1719	1683	1602	1525	1492	1525	1602	1683	1719
162.5	1786	1755	1687	1625	1599	1625	1687	1755	1786
165	1844	1820	1767	1719	1700	1719	1767	1820	1844
167.5	1895	1876	1838	1804	1791	1804	1838	1876	1895
170	1936	1923	1900	1879	1872	1879	1900	1923	1936
172.5	1968	1960	1950	1941	1938	1941	1950	1960	1968
175	1992	1987	1986	1988	1988	1988	1986	1987	1992
177.5	2008	2007	2009	2013	2014	2013	2009	2007	2008
180	2017	2017	2017	2017	2017	2017	2017	2017	2017

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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	0
RCR																						
0	95	95	95	95		81	81	81	81		56	56	56		32	32	32		10	10	10	0
1	87	83	79	76		74	71	68	65		48	47	45		28	27	26		9	9	8	0
2	79	72	66	62		67	62	57	53		42	40	37		24	23	22		8	7	7	0
3	72	63	57	51		61	54	49	44		37	34	31		21	20	18		7	6	6	0
4	65	56	48	43		56	48	42	37		33	29	26		19	17	16		6	6	5	0
5	60	49	42	36		51	42	36	32		29	25	22		17	15	13		5	5	4	0
6	55	44	36	31		47	38	32	27		26	22	19		15	13	11		5	4	4	0
7	50	39	32	27		43	34	28	23		23	19	17		14	11	10		4	4	3	0
8	47	35	28	23		40	30	24	20		21	17	14		12	10	9		4	3	3	0
9	43	32	25	20		37	27	22	18		19	15	13		11	9	8		4	3	3	0
10	40	29	22	18		34	25	19	16		17	14	11		10	8	7		3	3	2	0

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.

Report of Test

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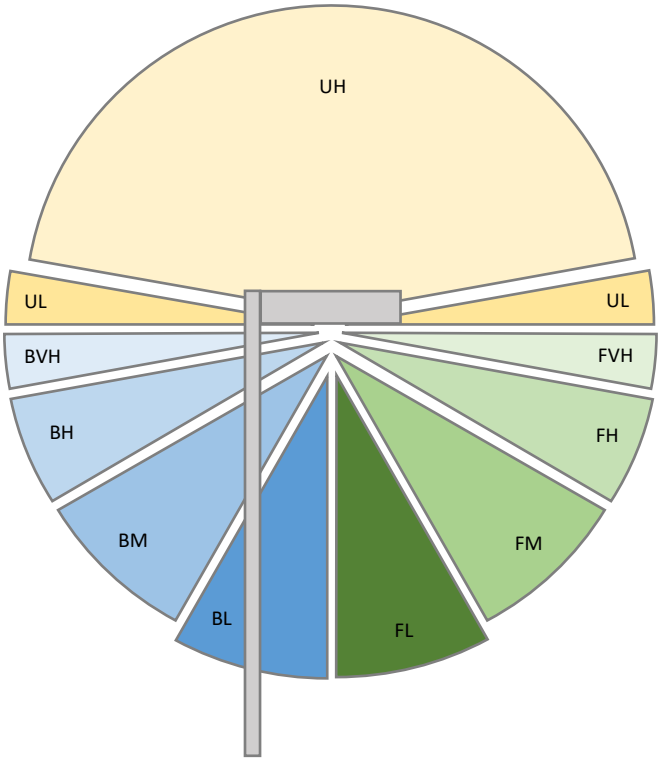
LCS Tables and Bug Classification



Back Light	
BL - Back Low (0°-30°)	0.0 Lm
BM - Back Mid (30°-60°)	0.0 Lm
BH - Back High (60°-80°)	0.0 Lm
BVH - Back Very High (80°-90°)	0.0 Lm

Forward Light	
FL - Forward Low (0°-30°)	0.0 Lm
FM - Forward Mid (30°-60°)	0.0 Lm
FH - Forward High (60°-80°)	0.0 Lm
FVH - Forward Very High (80°-90°)	0.0 Lm

Uplight	
UL - Upward Low (90°-100°)	23.3 Lm
UH - Upward High (100°-180°)	3214.1 Lm

BUG Ratings: B0 - U5 - G0

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Additional Pictures of Test Subject

Report of Test

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Test Distance	9.5 m
Ambient Temperature	24.8 °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 ǂ 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.

LightLab INTERNATIONAL ALLENTOWN LLC

NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA001719-002B

Integrating Sphere Report

Catalog Number: ACC-WL66-MB-HO-K40-4

Indirect pendant mount, aluminum housing and end caps, one-piece diffuse plastic lens above LEDs, white painted aluminum reflector, frosted linear prismatic plastic enclosure.

Osram PrevaLED - 144 white LEDs

One Osram OTi 85/120-277/2A3 DIM-1L LED driver labeled as 1620mA

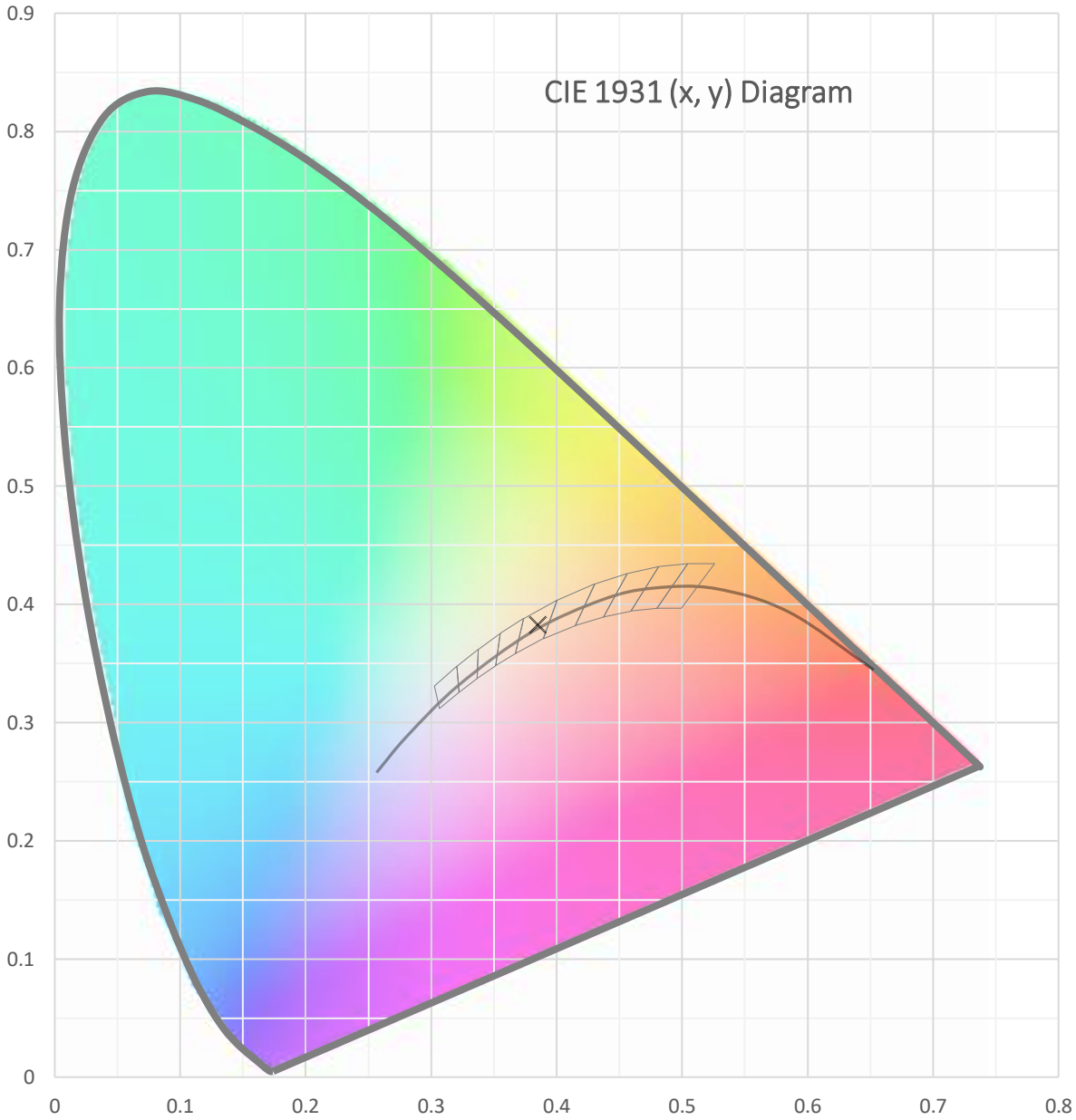
Performance Summary

Voltage	120.0	Vac
Current	0.2812	A
Power	33.07	W
Frequency	59.99	Hz
Power Factor	0.980	
Current THD	13.8	%
Total Luminous Flux	3383.8	lm
Efficacy	102.3	lm/W
Chromaticity (x,y)	(0.3851, 0.3827)	
(u',v')	(0.2258, 0.5049)	
Duv	0.0014	
CCT	3921	K
CRI (Ra)	83	
R9	7	
TM-30: Rf	82	
TM-30: Rg	97	
TM-30: Rcs,h1	-12	

Prepared For:
Precision Architectural Lighting
4830 Timber Creek Drive
Houston, TX 77017, USA

Test date: 04/26/2022
Report date: 04/27/2022

Test Report Number: LLIA001719-002B



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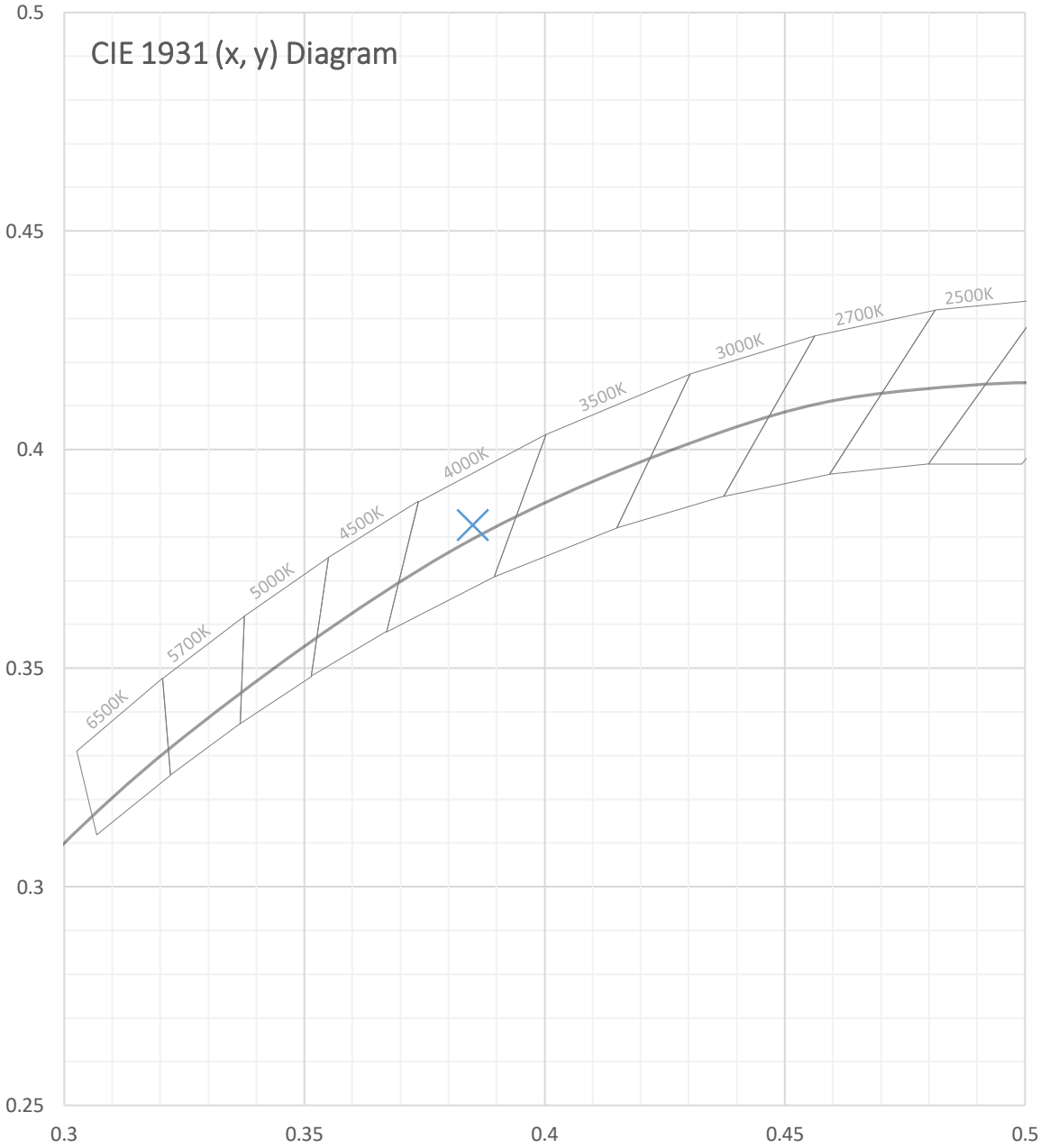


Test Report Number: LLIA001719-002B

Total Radiant Flux	10.16	W
Total Luminous Flux	3383.8	Lm
Chromaticity CIE 1931 (x, y)	(0.3851, 0.3827)	
Chromaticity CIE 1976 (u', v')	(0.2258, 0.5049)	
Correlated Color Temperature (CCT)	3921	K
Color Rendering Index (Ra)	83	
R1	82	
R2	88	
R3	93	
R4	84	
R5	82	
R6	84	
R7	86	
R8	65	
R9	7	
R10	72	
R11	84	
R12	59	
R13	83	
R14	96	
TM-30: Rf	82	
TM-30: Rg	97	
TM-30: Rcs,h1	-12	
Distance from Planckian Locus (Duv)	0.0014	
Scotopic/Photopic Ratio ǂ	1.641	

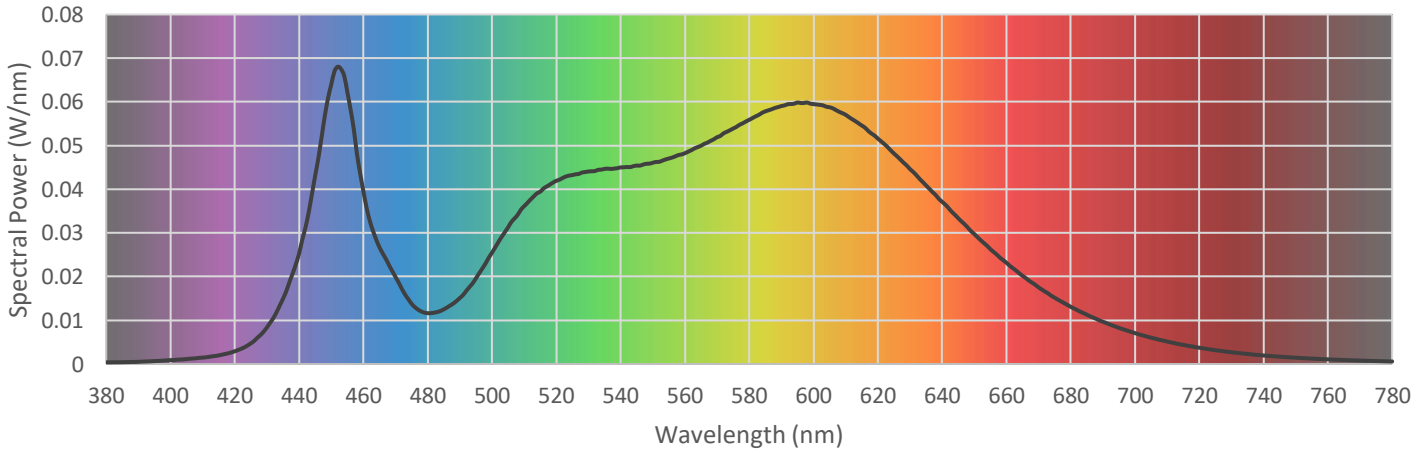
Electrical Data

Voltage	120.0	Vac
Current	0.2812	A
Power	33.07	W
Frequency	59.99	Hz
Power Factor	0.980	
Current THD	13.8	%

Test Report Number: LLIA001719-002B

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

380	0.000380	480	0.011625	580	0.055886	680	0.013080
385	0.000408	485	0.012516	585	0.057814	685	0.011289
390	0.000498	490	0.015107	590	0.059034	690	0.009670
395	0.000667	495	0.019617	595	0.059848	695	0.008272
400	0.000880	500	0.025490	600	0.059479	700	0.007067
405	0.001135	505	0.031297	605	0.058756	705	0.006014
410	0.001457	510	0.036120	610	0.057031	710	0.005132
415	0.001964	515	0.039433	615	0.054586	715	0.004374
420	0.002923	520	0.041923	620	0.051592	720	0.003718
425	0.004736	525	0.043239	625	0.048185	725	0.003156
430	0.008390	530	0.044056	630	0.044609	730	0.002687
435	0.014982	535	0.044649	635	0.040871	735	0.002285
440	0.025337	540	0.044994	640	0.037115	740	0.001946
445	0.043155	545	0.045419	645	0.033373	745	0.001673
450	0.064004	550	0.046057	650	0.029751	750	0.001439
455	0.062171	555	0.047028	655	0.026291	755	0.001231
460	0.039447	560	0.048245	660	0.023171	760	0.001066
465	0.026667	565	0.049954	665	0.020183	765	0.000911
470	0.019889	570	0.051905	670	0.017542	770	0.000781
475	0.013744	575	0.053888	675	0.015178	775	0.000678
						780	0.000582



Test Report Number: LLIA001719-002B

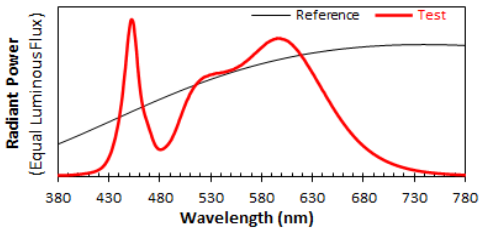
IES TM-30 Details

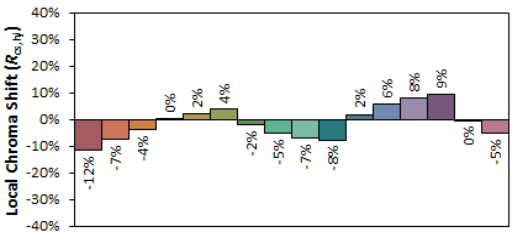
Source: LLIA001719-002B

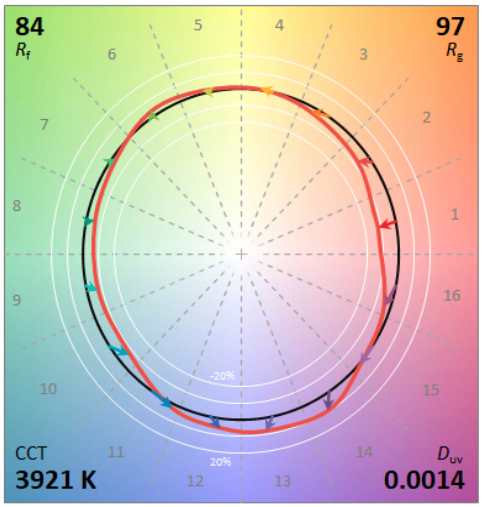
Manufacturer: Precision Architectural Lighting

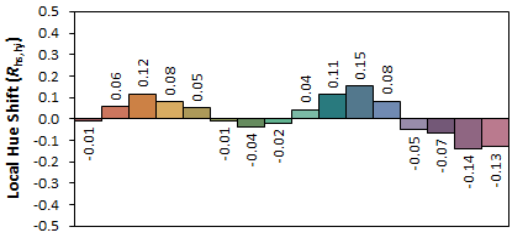
Date: 4/27/2022

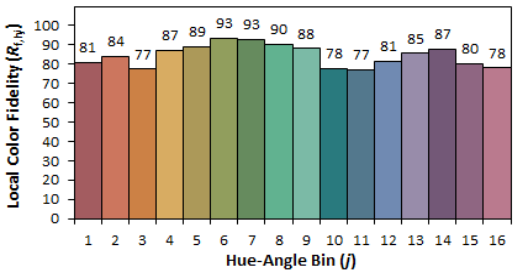
Model: ACC-WL66-MB-HO-K40-4

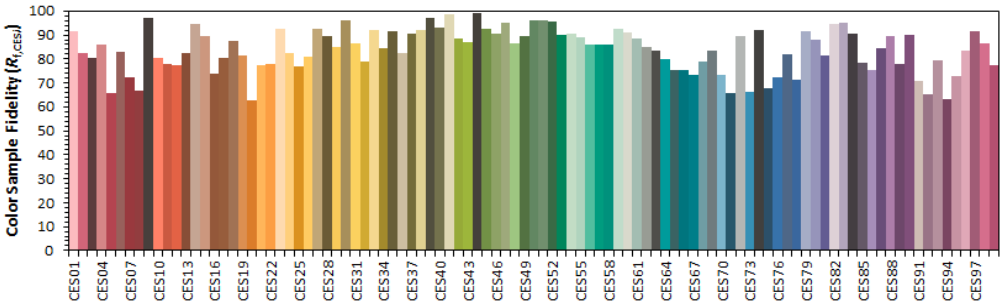












Notes:

x	0.3850
y	0.3826
u'	0.2258
v'	0.5048

CIE 13.3-1995 (CRI)

R_a	83
R_9	7

Test Report Number: LLIA001719-002B

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:	24.5 °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.

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