LightLab INTERNATIONAL ALLENTOWN LLC

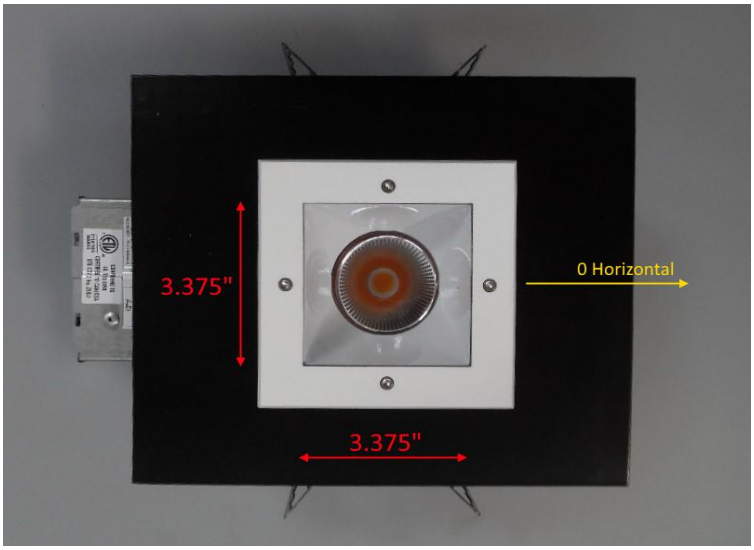
NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA002183-002A

Indoor Distribution Photometry Test Report

Catalog Number: Q-10-R-L263025411CRMT00
Recessed mounted, formed steel housing with aluminum face plate,
formed white painted aluminum reflector with clear glass enclosure.
One white COB LED with faceted specular aluminum reflector
One eldoLED ECOdrive EC0361S3-CA24 350mA LOG LED driver labeled as 300mA



Prepared For:
Designplan Lighting, Inc
79 Trenton Avenue
Frenchtown, NJ 08825, USA

Performance Summary					
Input Voltage	120.0	Vac	Luminous Flux	1003.5	Lumens
Input Current	0.0965	A	Total Efficacy	90.5	Lm/W
Input Power	11.09	W	Downward Flux	1003.5	Lumens
Frequency	60.00	Hz	Downward Flux	100.0	% of Total
Power Factor	0.958				
Current THD	11.1	%			

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

Test date: 08/04/2023
Report date: 08/09/2023

Signed: Michael L. Grather Digitally signed by Michael L. Grather Date: 2023.08.09 11:53:22 -04'00'

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Report of Test

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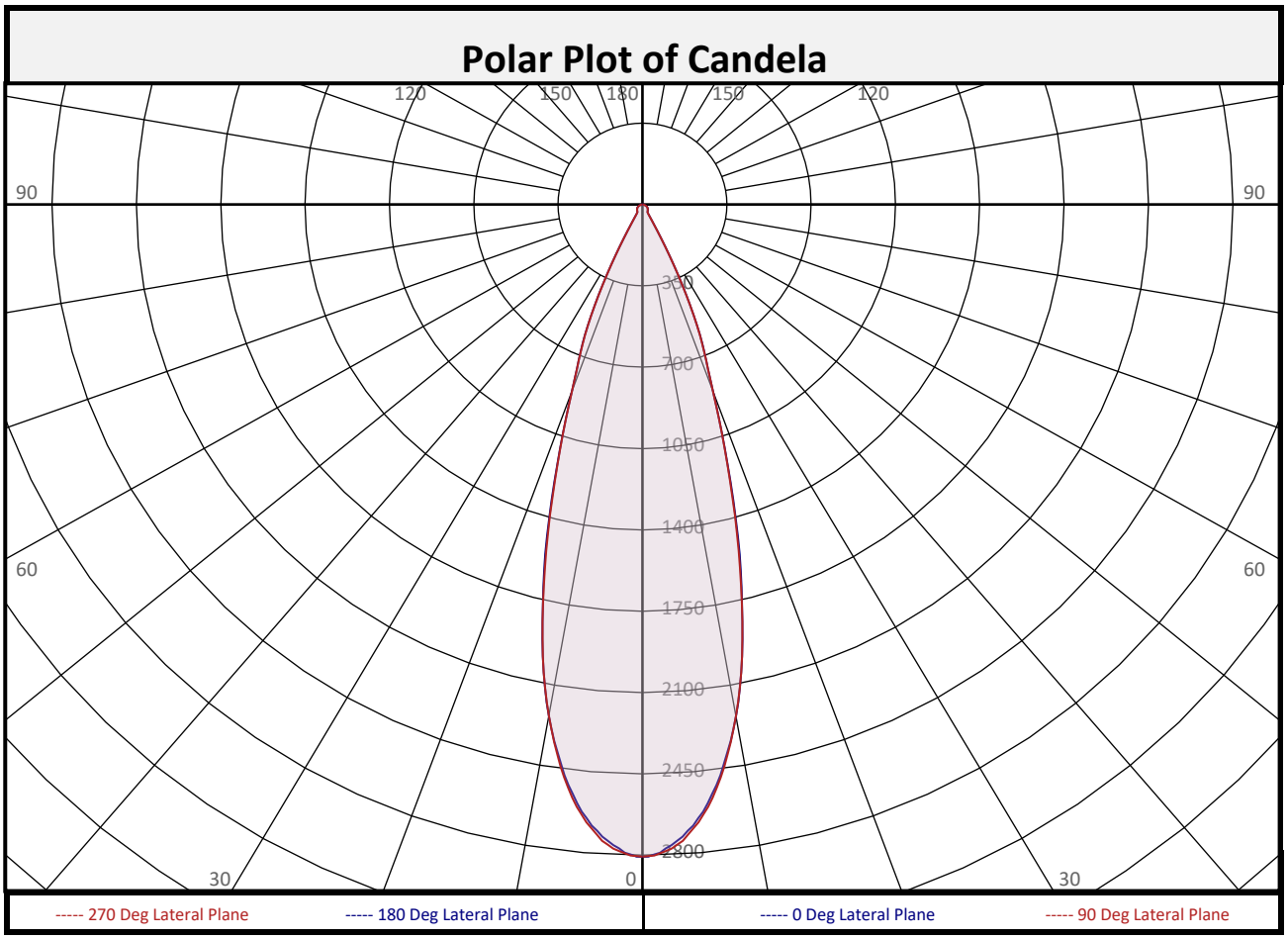

Zonal Flux Summary

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	240.4	24.0%	90-100	0.0	0.0%	0-20	660.5	65.8%
10-20	420.1	41.9%	100-110	0.0	0.0%	0-30	887.3	88.4%
20-30	226.7	22.6%	110-120	0.0	0.0%	0-40	928.8	92.6%
30-40	41.6	4.1%	120-130	0.0	0.0%	0-60	975.3	97.2%
40-50	23.6	2.4%	130-140	0.0	0.0%	0-80	1002	99.8%
50-60	22.8	2.3%	140-150	0.0	0.0%	10-90	763.1	76.0%
60-70	17.7	1.8%	150-160	0.0	0.0%	20-50	291.9	29.1%
70-80	8.9	0.9%	160-170	0.0	0.0%	40-90	74.7	7.4%
80-90	1.6	0.2%	170-180	0.0	0.0%	60-90	28.2	2.8%
0-90	1003	100.0%	90-180	0.0	0.0%	0-180	1003	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	2807	2807	2807	2807	2807	2807	2807	2807	2807
2.5	2760	2766	2769	2775	2775	2775	2769	2766	2760
5	2651	2654	2657	2662	2669	2662	2657	2654	2651
7.5	2477	2476	2480	2483	2487	2483	2480	2476	2477
10	2235	2230	2239	2235	2235	2235	2239	2230	2235
12.5	1917	1918	1922	1923	1914	1923	1922	1918	1917
15	1558	1556	1562	1547	1542	1547	1562	1556	1558
17.5	1175	1202	1212	1195	1171	1195	1212	1202	1175
20	854	900	930	902	854	902	930	900	854
22.5	649	679	717	683	646	683	717	679	649
25	431	523	571	524	429	524	571	523	431
27.5	204	319	480	317	203	317	480	319	204
30	60	129	384	129	61	129	384	129	60
32.5	39	50	234	51	39	51	234	50	39
35	37	37	95	37	37	37	95	37	37
37.5	36	35	37	35	36	35	37	35	36
40	34	33	33	33	34	33	33	33	34
42.5	33	32	31	32	33	32	31	32	33
45	31	31	29	30	31	30	29	31	31
47.5	30	30	28	29	30	29	28	30	30
50	29	29	27	28	29	28	27	29	29
52.5	28	27	27	27	27	27	27	27	28
55	26	26	25	26	26	26	25	26	26
57.5	24	24	24	24	24	24	24	24	24
60	22	23	22	22	22	22	22	23	22
62.5	20	20	20	20	20	20	20	20	20
65	18	18	18	18	18	18	18	18	18
67.5	16	16	15	16	15	16	15	16	16
70	13	13	13	13	13	13	13	13	13
72.5	11	11	10	11	11	11	10	11	11
75	9	9	8	8	9	8	8	9	9
77.5	6	6	6	6	6	6	6	6	6
80	4	4	4	4	4	4	4	4	4
82.5	3	3	2	2	3	2	2	3	3
85	1	1	1	1	1	1	1	1	1
87.5	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0

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

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	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0
107.5	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0
112.5	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0
117.5	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0
122.5	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0
127.5	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0
132.5	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0
137.5	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0
142.5	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0
147.5	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0
152.5	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0
157.5	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0

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

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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	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	114	112	109	107		112	109	107	106		105	104	102		102	100	99		98	97	96	95
2	109	105	101	98		107	103	100	97		100	97	95		97	95	93		94	93	91	90
3	105	99	95	92		103	98	94	91		95	92	89		93	90	88		91	89	87	85
4	101	94	90	86		99	93	89	85		91	87	85		89	86	84		87	85	83	81
5	97	90	85	81		96	89	84	81		87	83	80		86	82	80		84	81	79	78
6	93	86	81	77		92	85	81	77		84	80	77		83	79	76		81	78	76	74
7	90	82	78	74		89	82	77	74		81	77	73		80	76	73		79	75	73	72
8	87	79	74	71		86	79	74	71		78	74	71		77	73	70		76	73	70	69
9	84	76	71	68		83	76	71	68		75	71	68		74	70	68		73	70	67	66
10	82	74	69	66		81	73	69	66		72	68	65		72	68	65		71	68	65	64

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	78.0	3.22	3.19
8.0	43.9	4.29	4.26
10.0	28.1	5.36	5.32
12.0	19.5	6.43	6.39
14.0	14.3	7.51	7.45
16.0	11.0	8.58	8.52

Spacing Criterion

0 deg:	0.5
90 deg:	0.5
180 deg:	0.5
270 deg:	0.5

Average Luminance (cd/m^2)

	0 deg Plane	45 deg Plane	90 deg Plane
0	381934	381934	381934
45	6050	5663	6022
55	6153	6022	6093
65	5754	5686	5730
75	4515	4168	4492
85	1813	1586	1878

Beam and Field Angle

0-180 Degree Plane

Beam Angle: 32.0°

Field Angle: 53.2°

90-270 Degree Plane

Beam Angle: 31.9°

Field Angle: 53.2°

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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	12.6	13.6	13.0	13.9	14.2	12.6	13.6	13.0	13.9	14.2
	3H	14.3	15.2	14.7	15.5	15.9	14.3	15.2	14.7	15.5	15.9
	4H	14.9	15.7	15.3	16.0	16.4	14.8	15.6	15.2	16.0	16.4
	6H	15.1	15.9	15.5	16.2	16.6	15.1	15.8	15.5	16.2	16.6
	8H	15.2	15.9	15.6	16.3	16.7	15.1	15.8	15.5	16.2	16.6
	12H	15.1	15.8	15.6	16.2	16.6	15.1	15.7	15.5	16.1	16.6
4H	2H	13.1	13.9	13.5	14.3	14.7	13.1	13.9	13.5	14.3	14.7
	3H	15.0	15.6	15.4	16.1	16.5	15.0	15.6	15.4	16.1	16.5
	4H	15.6	16.2	16.1	16.6	17.1	15.6	16.1	16.0	16.6	17.0
	6H	15.9	16.5	16.4	16.9	17.4	15.9	16.4	16.3	16.8	17.3
	8H	16.0	16.5	16.5	16.9	17.4	15.9	16.4	16.4	16.9	17.3
	12H	16.0	16.4	16.5	16.9	17.4	15.9	16.3	16.4	16.8	17.3
8H	4H	15.7	16.2	16.2	16.7	17.1	15.7	16.1	16.1	16.6	17.1
	6H	16.1	16.5	16.6	17.0	17.5	16.1	16.5	16.6	17.0	17.4
	8H	16.2	16.6	16.8	17.1	17.6	16.2	16.5	16.7	17.0	17.5
	12H	16.3	16.6	16.8	17.1	17.7	16.2	16.5	16.7	17.0	17.6
12H	4H	15.7	16.1	16.2	16.6	17.1	15.6	16.0	16.1	16.5	17.0
	6H	16.1	16.5	16.7	16.9	17.5	16.1	16.4	16.6	16.9	17.4
	8H	16.3	16.6	16.8	17.1	17.6	16.2	16.5	16.7	17.0	17.6

Maximum UGR = 17.7

Report of Test

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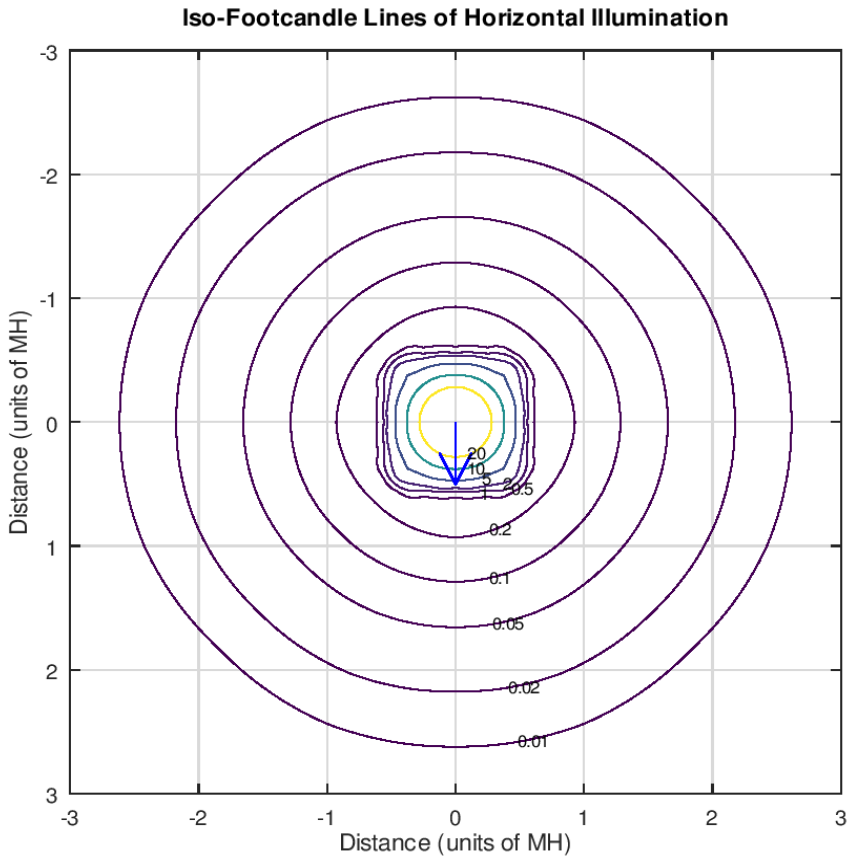
Iso-Illuminance Plot



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

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Test Distance	9.5 m
Ambient Temperature	24.9 °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.

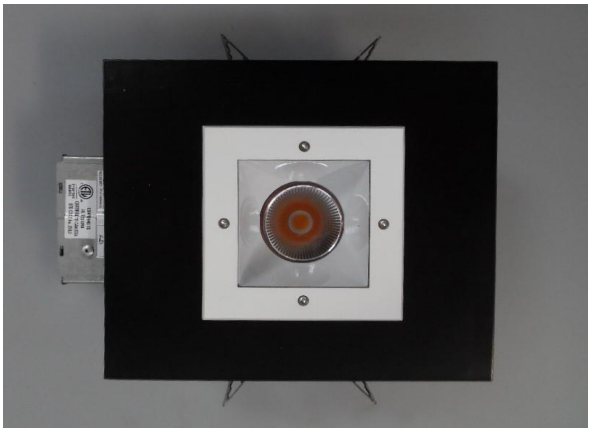
This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with ‡ are not covered.

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

LLIA002183-002B

Integrating Sphere Report
Catalog Number: Q-10-R-L263025411CRMT00
Recessed mounted, formed steel housing with aluminum face plate,
formed white painted aluminum reflector with clear glass enclosure.
One white COB LED with faceted specular aluminum reflector
One eldoLED ECOdrive EC0361S3-CA24 350mA LOG LED driver labeled as 300mA



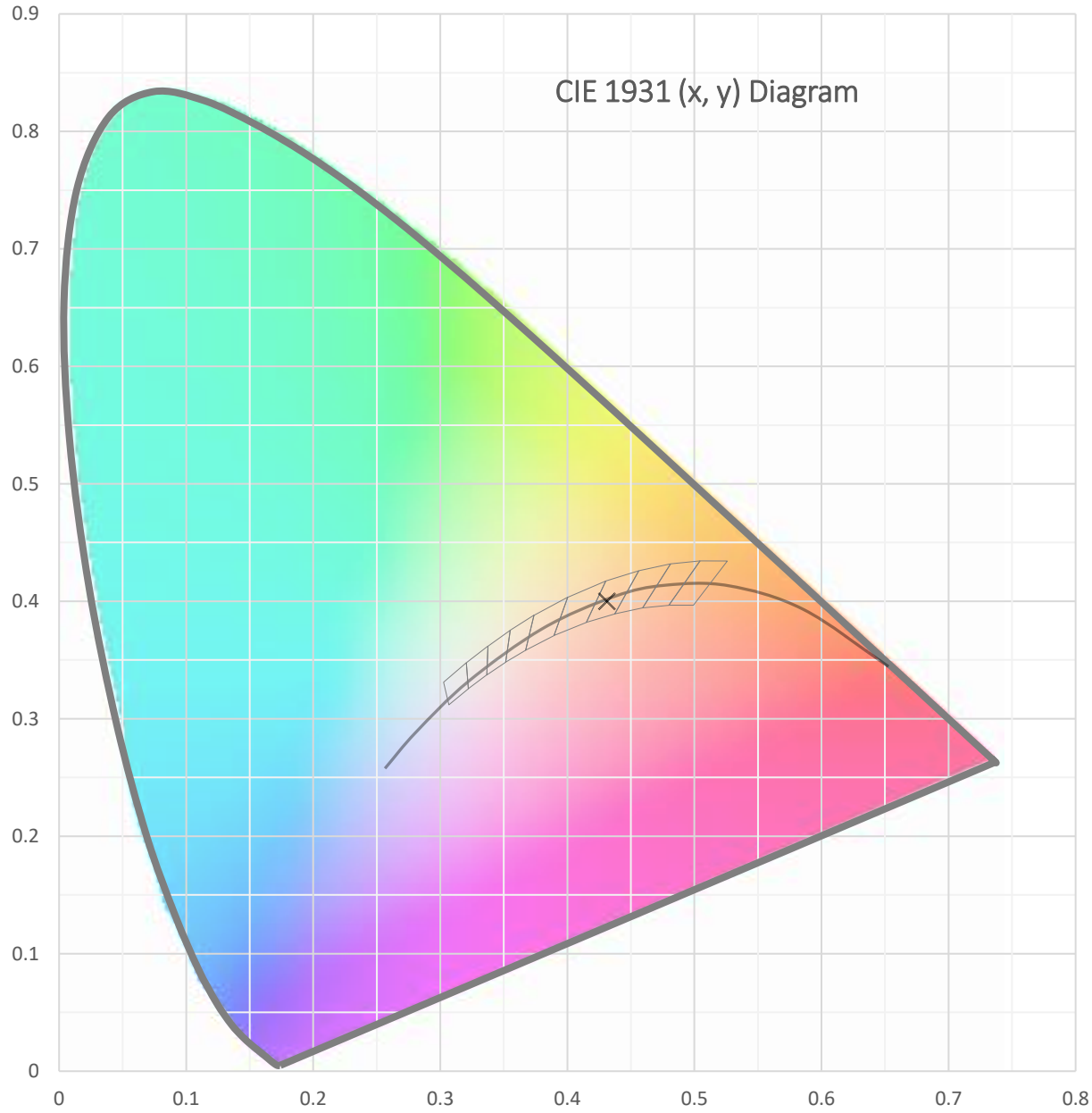
Performance Summary

Voltage	120.0	Vac
Current	0.0953	A
Power	10.95	W
Frequency	59.99	Hz
Power Factor	0.958	
Current THD	11.0	%
Total Luminous Flux	1001.0	lm
Efficacy	91.4	lm/W
Chromaticity (x,y)	(0.4311, 0.3999)	
(u',v')	(0.2486, 0.5189)	
Duv	-0.0009	
CCT	3066	K
CRI (Ra)	95	
R9	66	
TM-30: Rf	93	
TM-30: Rg	100	
TM-30: Rcs,h1	-4	

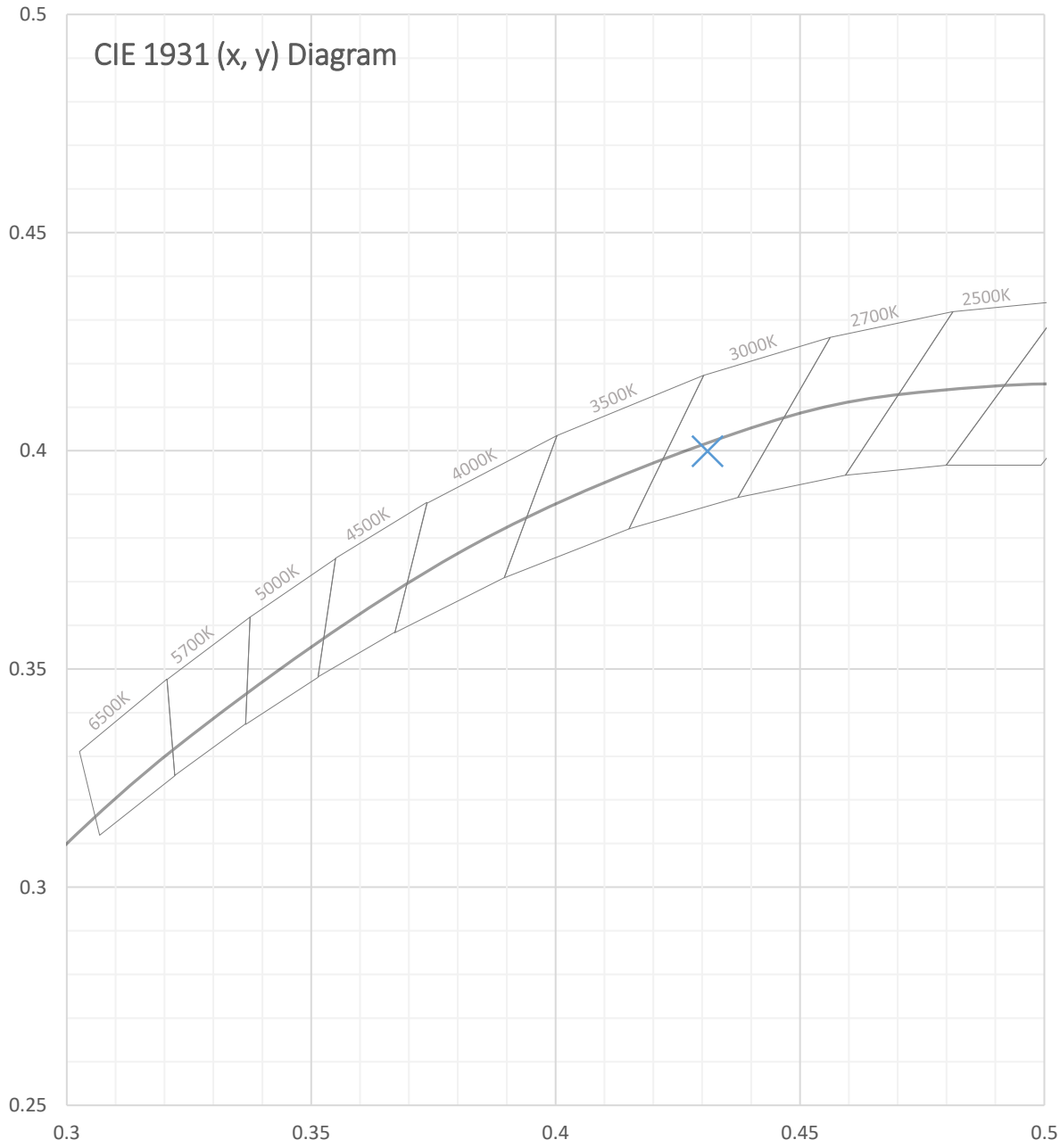
Prepared For:
Designplan Lighting, Inc
79 Trenton Avenue
Frenchtown, NJ 08825, USA

Test date: 08/08/2023
Report date: 08/09/2023

Test Report Number: LLIA002183-002B



Test Report Number: LLIA002183-002B



Test Report Number: LLIA002183-002B

Total Radiant Flux	3.430	W
Total Luminous Flux	1001.0	Lm
Chromaticity CIE 1931 (x, y)	(0.4311, 0.3999)	
Chromaticity CIE 1976 (u', v')	(0.2486, 0.5189)	
Correlated Color Temperature (CCT)	3066	K
Color Rendering Index (Ra)	95	
R1	97	
R2	99	
R3	99	
R4	97	
R5	97	
R6	97	
R7	93	
R8	85	
R9	66	
R10	97	
R11	97	
R12	89	
R13	98	
R14	99	
TM-30: Rf	93	
TM-30: Rg	100	
TM-30: Rcs,h1	-4	
Distance from Planckian Locus (Duv)	-0.0009	
Scotopic/Photopic Ratio ǂ	1.488	

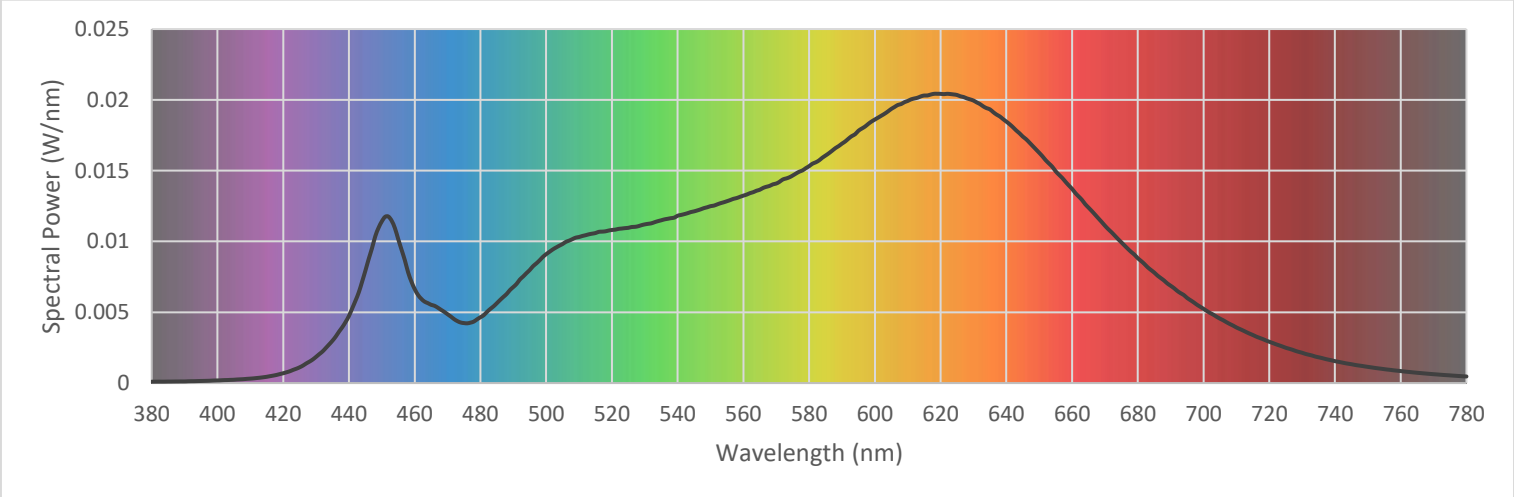
Electrical Data

Voltage	120.0	Vac
Current	0.0953	A
Power	10.95	W
Frequency	59.99	Hz
Power Factor	0.958	
Current THD	11.0	%

Test Report Number: LLIA002183-002B

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

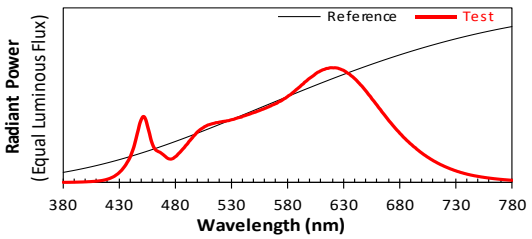
380	0.000097	480	0.004649	580	0.015316	680	0.008817
385	0.000106	485	0.005641	585	0.016065	685	0.007805
390	0.000115	490	0.006782	590	0.016910	690	0.006873
395	0.000148	495	0.007983	595	0.017817	695	0.006012
400	0.000186	500	0.009102	600	0.018609	700	0.005241
405	0.000235	505	0.009820	605	0.019359	705	0.004551
410	0.000314	510	0.010314	610	0.019922	710	0.003928
415	0.000445	515	0.010594	615	0.020306	715	0.003395
420	0.000694	520	0.010811	620	0.020424	720	0.002918
425	0.001114	525	0.010963	625	0.020344	725	0.002495
430	0.001853	530	0.011205	630	0.019950	730	0.002140
435	0.002996	535	0.011494	635	0.019329	735	0.001820
440	0.004745	540	0.011819	640	0.018465	740	0.001548
445	0.007937	545	0.012124	645	0.017408	745	0.001330
450	0.011417	550	0.012492	650	0.016265	750	0.001144
455	0.010156	555	0.012842	655	0.014962	755	0.000982
460	0.006635	560	0.013235	660	0.013715	760	0.000847
465	0.005527	565	0.013652	665	0.012392	765	0.000726
470	0.004859	570	0.014091	670	0.011115	770	0.000626
475	0.004236	575	0.014655	675	0.009939	775	0.000541
						780	0.000464

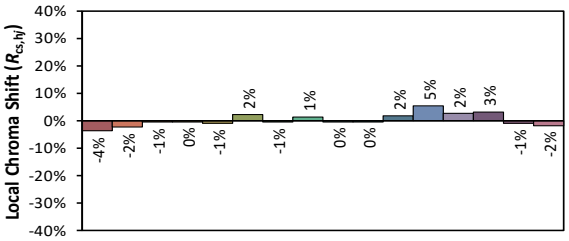


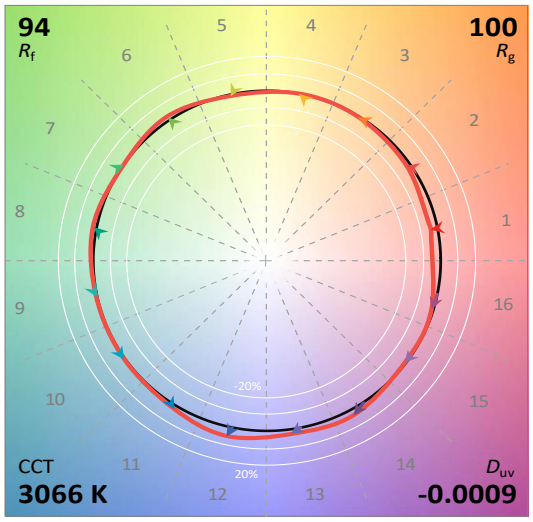
Test Report Number: LLIA002183-002B

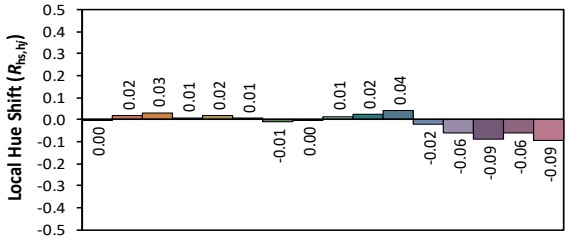
IES TM-30 Details

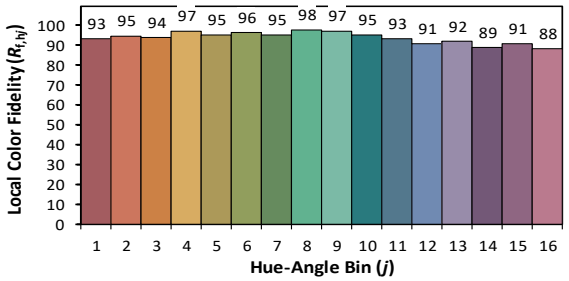
Source:	LLIA002183-002B	**Manufacturer:**	Designplan Lighting, Inc
Date:	8/9/2023	**Model:**	Q-10-R-L263025411CRMT00

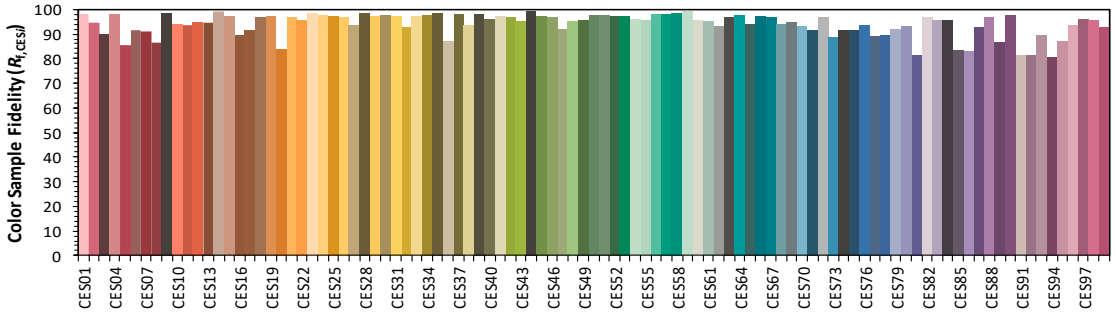












Notes:

x	**0.4311**
y	**0.3999**
u'	**0.2486**
v'	**0.5188**

CIE 13.3-1995 (CRI)

R_a	95
R_9	66

Test Report Number: LLIA002183-002B

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:	25.3 °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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