LightLab INTERNATIONAL ALLENTOWN LLC

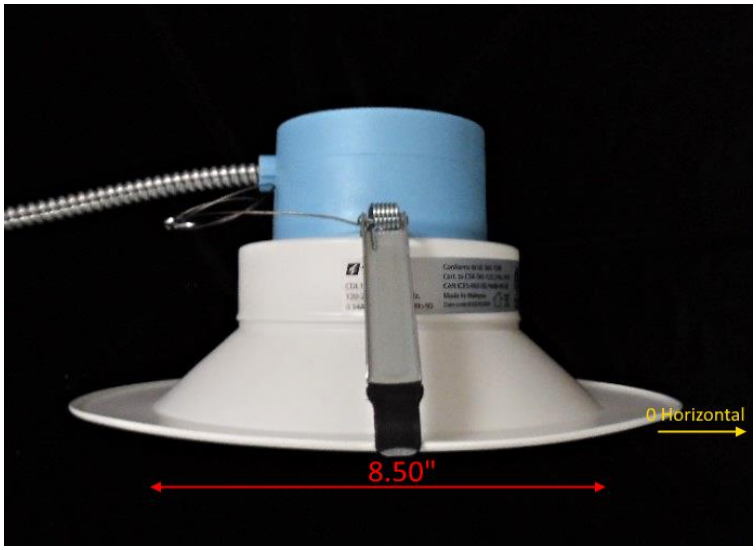
NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA002379-012

Indoor Distribution Photometry Test Report

Catalog Number: CDL10S-36WPCS-U - 36W Setting - 4000K Setting
Recessed mounted, formed white painted aluminum housing,
white interior reflector, diffuse white plastic enclosure.
white LEDs
One unmarked PCB type LED driver mounted on top of fixture housing



Prepared For:
Topaz Lighting, A Southwire Company
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary					
Input Voltage	120.0	Vac	Luminous Flux	3691.7	Lumens
Input Current	0.2925	A	Total Efficacy	106.2	Lm/W
Input Power	34.76	W	Downward Flux	3691.7	Lumens
Frequency	60.00	Hz	Downward Flux	100.0	% of Total
Power Factor	0.990				
Current THD	9.1	%			

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

Test date: 05/03/2024
Report date: 05/16/2024

Signed: Michael L. Grather Digitally signed by Michael L. Grather Date: 2024.05.16 15:17:56 -04'00'

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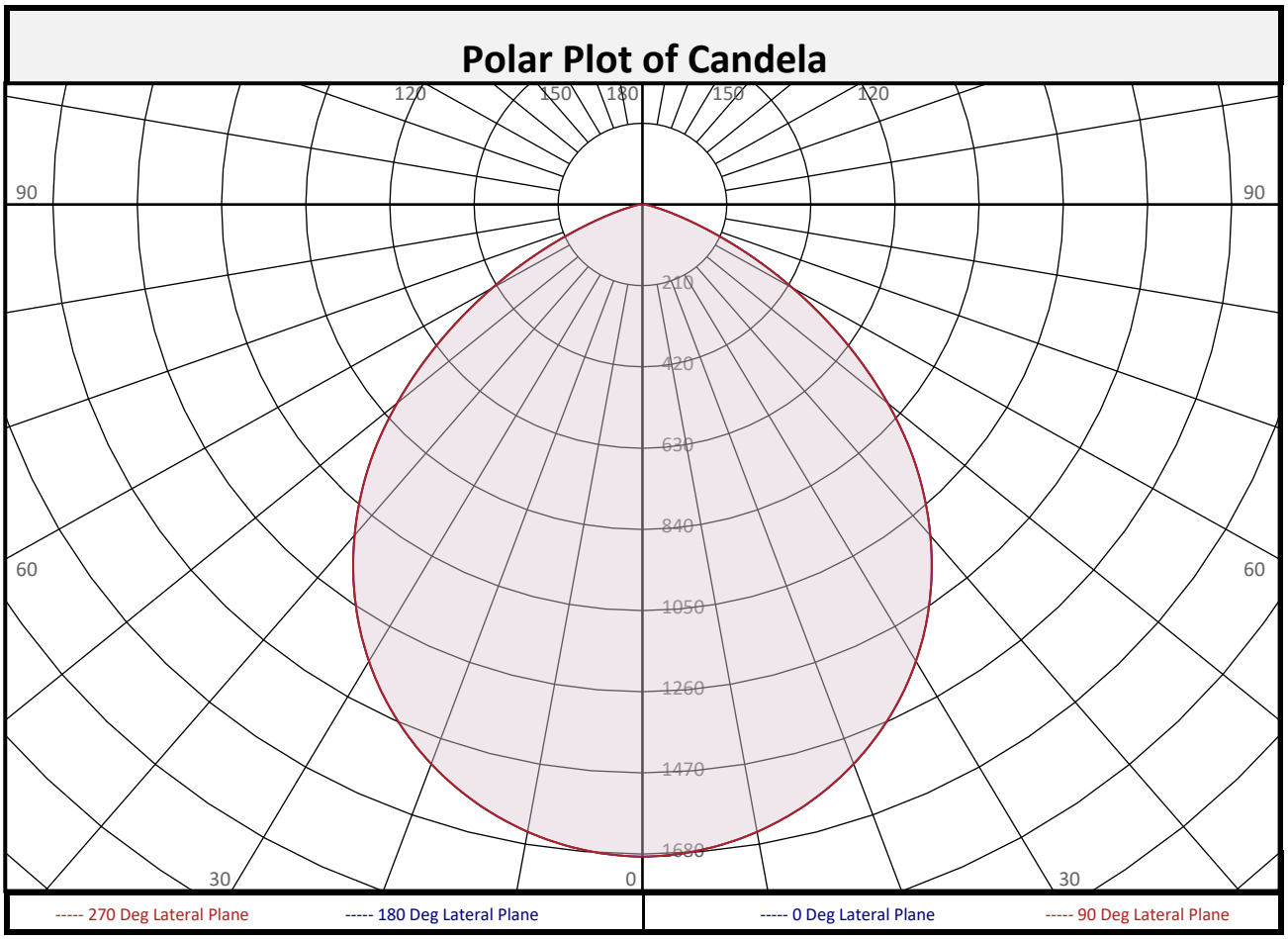

Zonal Flux Summary

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	159.2	4.3%	90-100	0.0	0.0%	0-20	610.8	16.5%
10-20	451.7	12.2%	100-110	0.0	0.0%	0-30	1283	34.8%
20-30	672.2	18.2%	110-120	0.0	0.0%	0-40	2063	55.9%
30-40	779.7	21.1%	120-130	0.0	0.0%	0-60	3355	90.9%
40-50	743.5	20.1%	130-140	0.0	0.0%	0-80	3682	99.7%
50-60	548.8	14.9%	140-150	0.0	0.0%	10-90	3533	95.7%
60-70	264.9	7.2%	150-160	0.0	0.0%	20-50	2195	59.5%
70-80	61.6	1.7%	160-170	0.0	0.0%	40-90	1629	44.1%
80-90	10.1	0.3%	170-180	0.0	0.0%	60-90	336.6	9.1%
0-90	3692	100.0%	90-180	0.0	0.0%	0-180	3692	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	1687	1687	1687	1687	1687	1687	1687	1687	1687
2.5	1683	1683	1683	1683	1683	1683	1683	1683	1683
5	1676	1676	1676	1676	1676	1676	1676	1676	1676
7.5	1664	1664	1664	1664	1664	1664	1664	1664	1664
10	1648	1648	1648	1648	1648	1648	1648	1648	1648
12.5	1627	1627	1627	1627	1627	1627	1627	1627	1627
15	1602	1602	1602	1602	1602	1602	1602	1602	1602
17.5	1573	1573	1573	1573	1573	1573	1573	1573	1573
20	1540	1540	1540	1540	1540	1540	1540	1540	1540
22.5	1502	1502	1502	1502	1502	1502	1502	1502	1502
25	1461	1461	1461	1461	1461	1461	1461	1461	1461
27.5	1415	1415	1415	1415	1415	1415	1415	1415	1415
30	1364	1364	1364	1364	1364	1364	1364	1364	1364
32.5	1309	1309	1309	1309	1309	1309	1309	1309	1309
35	1249	1249	1249	1249	1249	1249	1249	1249	1249
37.5	1185	1185	1185	1185	1185	1185	1185	1185	1185
40	1117	1117	1117	1117	1117	1117	1117	1117	1117
42.5	1045	1045	1045	1045	1045	1045	1045	1045	1045
45	968	968	968	968	968	968	968	968	968
47.5	886	886	886	886	886	886	886	886	886
50	798	798	798	798	798	798	798	798	798
52.5	707	707	707	707	707	707	707	707	707
55	615	615	615	615	615	615	615	615	615
57.5	524	524	524	524	524	524	524	524	524
60	433	433	433	433	433	433	433	433	433
62.5	345	345	345	345	345	345	345	345	345
65	263	263	263	263	263	263	263	263	263
67.5	189	189	189	189	189	189	189	189	189
70	128	128	128	128	128	128	128	128	128
72.5	83	83	83	83	83	83	83	83	83
75	51	51	51	51	51	51	51	51	51
77.5	30	30	30	30	30	30	30	30	30
80	21	21	21	21	21	21	21	21	21
82.5	15	15	15	15	15	15	15	15	15
85	9	9	9	9	9	9	9	9	9
87.5	4	4	4	4	4	4	4	4	4
90	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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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	111	107	104	100		108	105	102	99		101	98	96		97	95	93		93	92	90	88
2	102	95	90	85		100	94	88	84		90	86	82		87	83	80		84	81	78	76
3	94	85	78	73		92	84	77	72		81	75	71		78	73	69		76	72	68	66
4	87	76	69	63		85	75	68	62		73	66	61		71	65	61		68	64	60	58
5	81	69	61	55		79	68	60	55		66	59	54		64	58	53		62	57	53	51
6	75	63	54	48		73	62	54	48		60	53	48		58	52	47		57	51	47	45
7	69	57	49	43		68	56	49	43		55	48	43		53	47	42		52	46	42	40
8	65	52	44	39		63	52	44	39		50	43	38		49	43	38		48	42	38	36
9	61	48	40	35		59	47	40	35		46	40	35		45	39	35		44	39	35	33
10	57	44	37	32		56	44	37	32		43	36	32		42	36	32		41	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	46.9	7.22	7.22
8.0	26.4	9.63	9.63
10.0	16.9	12.04	12.04
12.0	11.7	14.45	14.45
14.0	8.6	16.86	16.86
16.0	6.6	19.27	19.27

Spacing Criterion

SC: 1.2

Average Luminance (cd/m^2)

	0 deg Plane	45 deg Plane	90 deg Plane
0	2270	2270	2270
45	1734	1765	1843
55	1325	1358	1444
65	739	765	838
75	213	226	263
85	78	89	134

Beam and Field Angle

0-180 Degree Plane

Beam Angle: 97.4°

Field Angle: 136.6°

90-270 Degree Plane

Beam Angle: 97.4°

Field Angle: 136.6°

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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	22.3	23.8	22.7	24.1	24.4	22.3	23.8	22.7	24.1	24.4
	3H	22.8	24.1	23.2	24.4	24.8	22.8	24.1	23.2	24.4	24.8
	4H	22.8	24.0	23.2	24.4	24.8	22.8	24.0	23.2	24.4	24.8
	6H	22.8	23.9	23.2	24.3	24.7	22.8	23.9	23.2	24.3	24.7
	8H	22.8	23.8	23.2	24.2	24.6	22.8	23.8	23.2	24.2	24.6
	12H	22.7	23.7	23.1	24.1	24.6	22.7	23.7	23.1	24.1	24.6
4H	2H	22.5	23.8	22.9	24.1	24.5	22.5	23.8	22.9	24.1	24.5
	3H	23.1	24.1	23.5	24.5	24.9	23.1	24.1	23.5	24.5	24.9
	4H	23.1	24.0	23.6	24.4	24.9	23.1	24.0	23.6	24.4	24.9
	6H	23.1	23.9	23.6	24.3	24.8	23.1	23.9	23.6	24.3	24.8
	8H	23.1	23.8	23.5	24.2	24.7	23.1	23.8	23.5	24.2	24.7
	12H	23.1	23.7	23.5	24.2	24.7	23.1	23.7	23.5	24.2	24.7
8H	4H	23.1	23.8	23.5	24.2	24.7	23.1	23.8	23.5	24.2	24.7
	6H	23.1	23.6	23.6	24.1	24.6	23.1	23.6	23.6	24.1	24.6
	8H	23.0	23.6	23.5	24.1	24.6	23.0	23.6	23.5	24.1	24.6
	12H	23.0	23.5	23.5	24.0	24.5	23.0	23.5	23.5	24.0	24.5
12H	4H	23.0	23.7	23.5	24.2	24.6	23.0	23.7	23.5	24.2	24.6
	6H	23.0	23.5	23.5	24.0	24.6	23.0	23.5	23.5	24.0	24.6
	8H	23.0	23.5	23.5	24.0	24.5	23.0	23.5	23.5	24.0	24.5

Maximum UGR = 24.9

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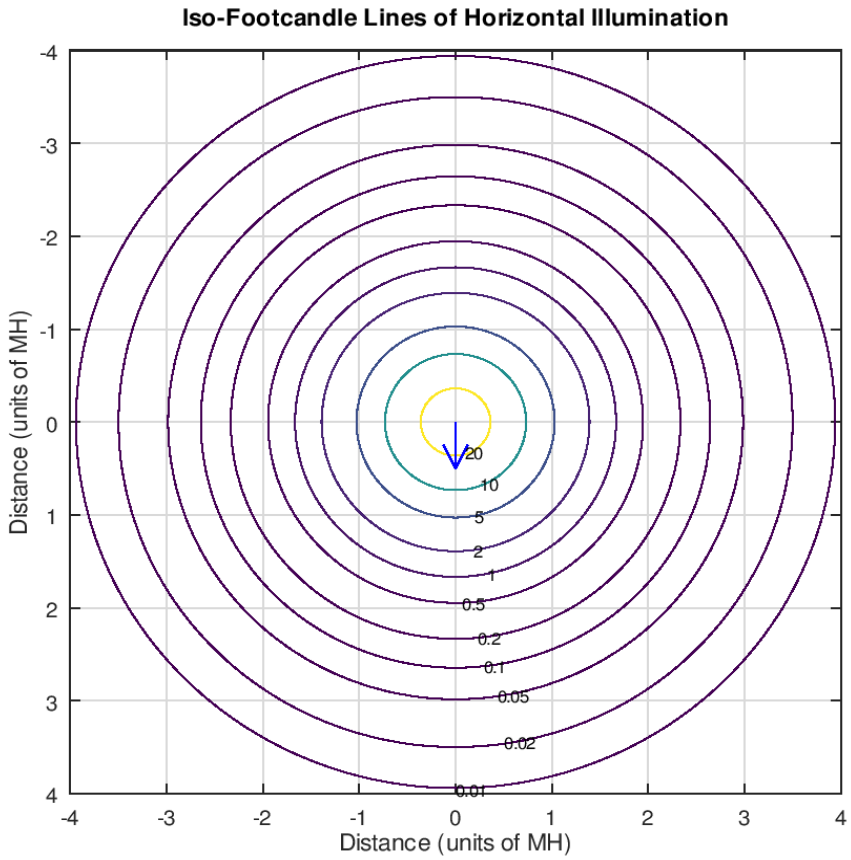
Iso-Illuminance Plot



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.

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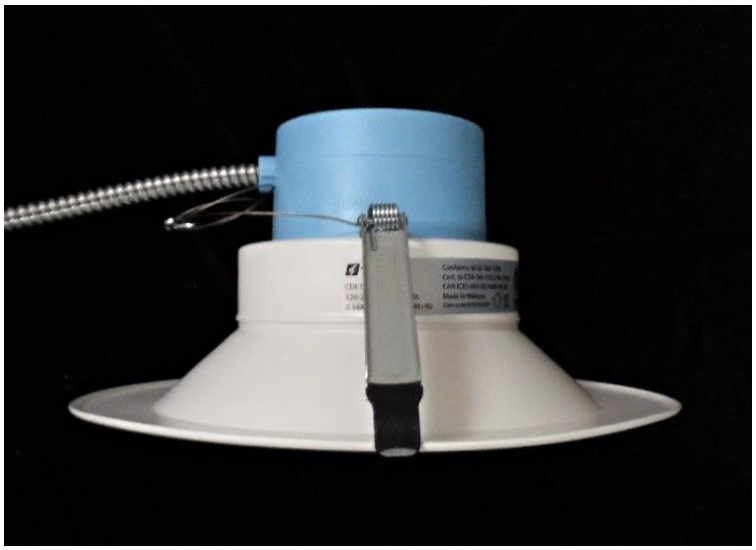
Additional Pictures of Test Subject



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Test Distance	9.5 m
Ambient Temperature	24.7 °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.