LightLab INTERNATIONAL ALLENTOWN LLC

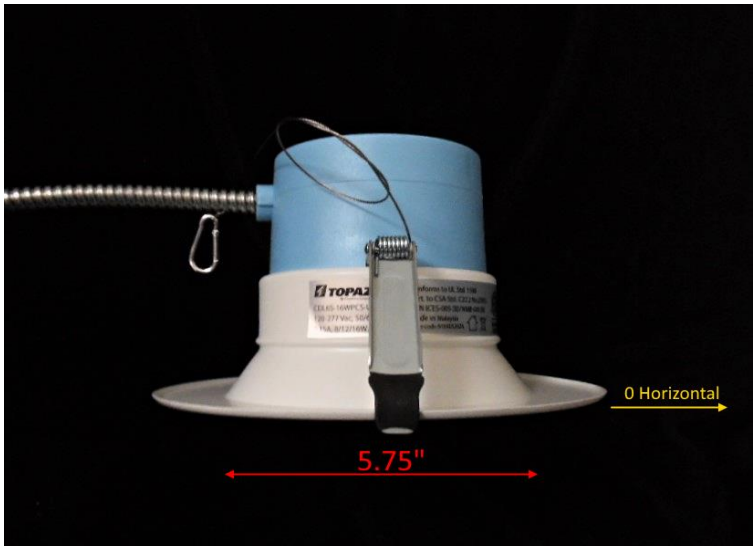
NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA002379-004

Indoor Distribution Photometry Test Report

Catalog Number: CDL6S-16WPCS-U - 8W 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	900.2	Lumens
Input Current	0.0684	A	Total Efficacy	114.2	Lm/W
Input Power	7.88	W	Downward Flux	900.2	Lumens
Frequency	60.00	Hz	Downward Flux	100.0	% of Total
Power Factor	0.961				
Current THD	11.1	%			

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

Test date: 05/02/2024
Report date: 05/16/2024

Signed: Michael L. Grather Digitally signed by Michael L. Grather Date: 2024.05.16 15:06:51 -04'00'

North America (issuing laboratory)
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905 Harrison Street, Suite 135
Allentown, PA 18103 USA
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Fx: +1 484-209-5779
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Australasia & S.E. Asia
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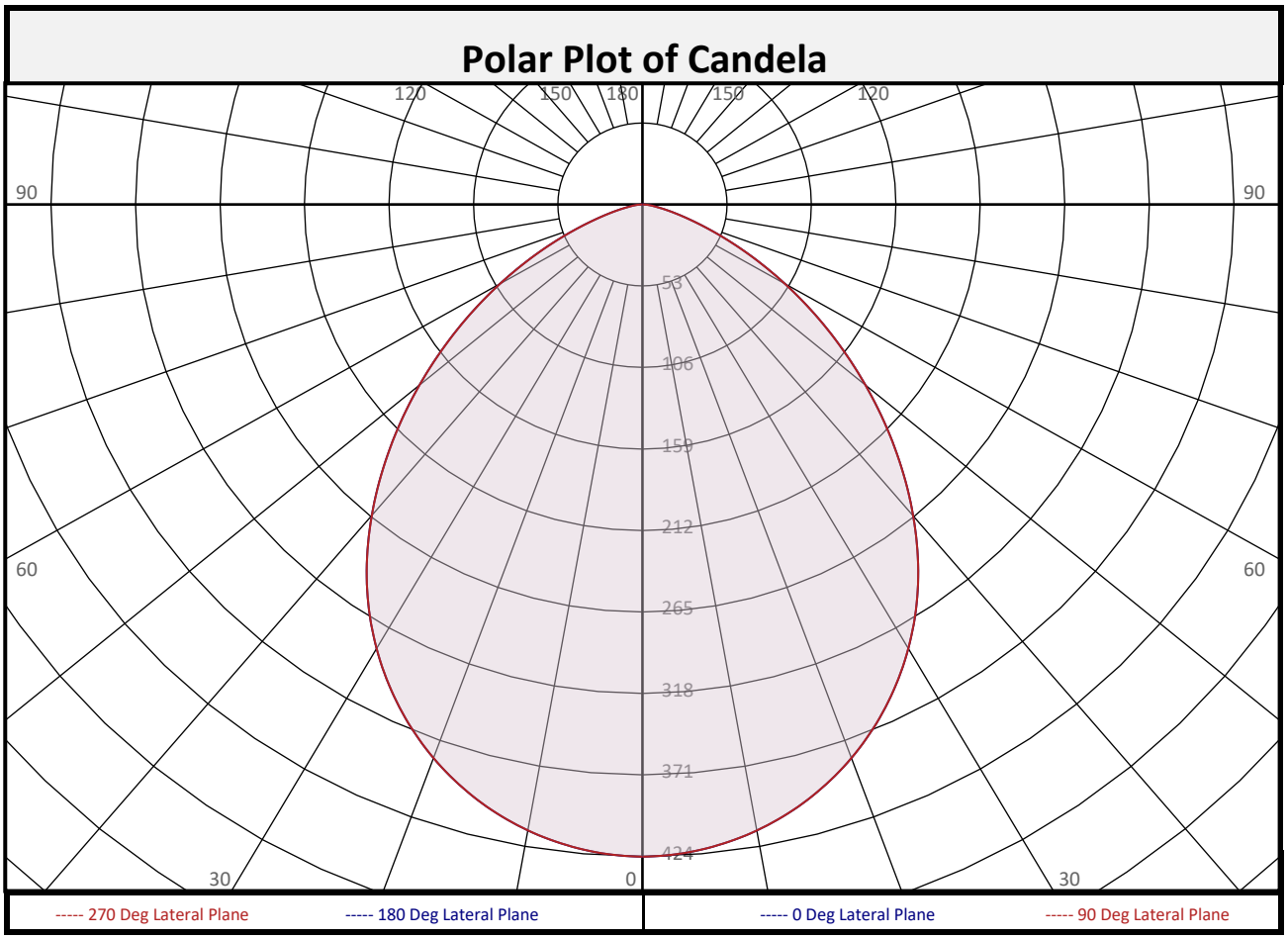

Zonal Flux Summary

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	40.0	4.4%	90-100	0.0	0.0%	0-20	152.9	17.0%
10-20	112.9	12.5%	100-110	0.0	0.0%	0-30	318.8	35.4%
20-30	165.9	18.4%	110-120	0.0	0.0%	0-40	506.7	56.3%
30-40	187.9	20.9%	120-130	0.0	0.0%	0-60	805.8	89.5%
40-50	172.3	19.1%	130-140	0.0	0.0%	0-80	896.1	99.5%
50-60	126.8	14.1%	140-150	0.0	0.0%	10-90	860.2	95.6%
60-70	68.1	7.6%	150-160	0.0	0.0%	20-50	526.1	58.4%
70-80	22.1	2.5%	160-170	0.0	0.0%	40-90	393.5	43.7%
80-90	4.1	0.5%	170-180	0.0	0.0%	60-90	94.4	10.5%
0-90	900.2	100.0%	90-180	0.0	0.0%	0-180	900.2	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	424	424	424	424	424	424	424	424	424
	2.5	423	423	423	423	423	423	423	423	423
	5	421	421	421	421	421	421	421	421	421
	7.5	418	418	418	418	418	418	418	418	418
	10	413	413	413	413	413	413	413	413	413
	12.5	408	408	408	408	408	408	408	408	408
	15	401	401	401	401	401	401	401	401	401
	17.5	393	393	393	393	393	393	393	393	393
	20	383	383	383	383	383	383	383	383	383
	22.5	373	373	373	373	373	373	373	373	373
	25	361	361	361	361	361	361	361	361	361
	27.5	348	348	348	348	348	348	348	348	348
	30	334	334	334	334	334	334	334	334	334
	32.5	318	318	318	318	318	318	318	318	318
	35	301	301	301	301	301	301	301	301	301
	37.5	283	283	283	283	283	283	283	283	283
	40	264	264	264	264	264	264	264	264	264
	42.5	244	244	244	244	244	244	244	244	244
	45	224	224	224	224	224	224	224	224	224
	47.5	203	203	203	203	203	203	203	203	203
	50	183	183	183	183	183	183	183	183	183
	52.5	162	162	162	162	162	162	162	162	162
	55	142	142	142	142	142	142	142	142	142
	57.5	122	122	122	122	122	122	122	122	122
	60	103	103	103	103	103	103	103	103	103
	62.5	85	85	85	85	85	85	85	85	85
	65	68	68	68	68	68	68	68	68	68
	67.5	53	53	53	53	53	53	53	53	53
	70	39	39	39	39	39	39	39	39	39
	72.5	28	28	28	28	28	28	28	28	28
	75	20	20	20	20	20	20	20	20	20
	77.5	13	13	13	13	13	13	13	13	13
	80	9	9	9	9	9	9	9	9	9
	82.5	6	6	6	6	6	6	6	6	6
	85	4	4	4	4	4	4	4	4	4
	87.5	1	1	1	1	1	1	1	1	1
	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	103	100		108	105	101	98		100	98	95		97	94	92		93	91	90	88
2	102	95	89	84		100	93	88	83		90	85	81		87	83	80		84	81	78	76
3	94	85	78	72		92	83	77	71		81	75	70		78	73	69		75	71	68	66
4	87	76	68	62		85	75	68	62		73	66	61		70	65	60		68	64	60	58
5	80	69	61	55		78	68	60	54		66	59	54		64	58	53		62	57	53	51
6	75	62	54	48		73	62	54	48		60	53	48		58	52	47		57	51	47	45
7	70	57	49	43		68	56	49	43		55	48	43		53	47	43		52	46	42	40
8	65	52	44	39		63	52	44	39		50	43	39		49	43	38		48	42	38	36
9	61	48	40	35		59	48	40	35		47	40	35		45	39	35		45	39	35	33
10	57	45	37	32		56	44	37	32		43	37	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	11.8	7.05	7.05
8.0	6.6	9.40	9.40
10.0	4.2	11.75	11.75
12.0	2.9	14.10	14.10
14.0	2.2	16.45	16.45
16.0	1.7	18.80	18.80

Spacing Criterion

SC: 1.2

Average Luminance (cd/m^2)

	0 deg Plane	45 deg Plane	90 deg Plane
0	25325	25325	25325
45	18895	18895	18895
55	14752	14752	14752
65	9607	9607	9607
75	4544	4544	4544
85	2430	2430	2430

Beam and Field Angle

0-180 Degree Plane

Beam Angle: 92.8°

Field Angle: 138.7°

90-270 Degree Plane

Beam Angle: 92.8°

Field Angle: 138.7°

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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	19.8	21.3	20.2	21.6	21.9	19.8	21.3	20.2	21.6	21.9
	3H	20.6	21.9	21.0	22.2	22.6	20.6	21.9	21.0	22.2	22.6
	4H	20.7	21.9	21.1	22.3	22.7	20.7	21.9	21.1	22.3	22.7
	6H	20.7	21.9	21.2	22.2	22.6	20.7	21.9	21.2	22.2	22.6
	8H	20.7	21.8	21.2	22.2	22.6	20.7	21.8	21.2	22.2	22.6
	12H	20.7	21.8	21.2	22.1	22.6	20.7	21.8	21.2	22.1	22.6
4H	2H	20.1	21.4	20.5	21.7	22.1	20.1	21.4	20.5	21.7	22.1
	3H	21.0	22.0	21.4	22.4	22.8	21.0	22.0	21.4	22.4	22.8
	4H	21.2	22.1	21.6	22.5	22.9	21.2	22.1	21.6	22.5	22.9
	6H	21.3	22.0	21.7	22.5	23.0	21.3	22.0	21.7	22.5	23.0
	8H	21.3	22.0	21.7	22.4	22.9	21.3	22.0	21.7	22.4	22.9
	12H	21.2	21.9	21.7	22.4	22.9	21.2	21.9	21.7	22.4	22.9
8H	4H	21.2	21.9	21.7	22.4	22.8	21.2	21.9	21.7	22.4	22.8
	6H	21.3	21.9	21.8	22.4	22.9	21.3	21.9	21.8	22.4	22.9
	8H	21.3	21.8	21.8	22.4	22.8	21.3	21.8	21.8	22.4	22.8
	12H	21.3	21.8	21.8	22.3	22.9	21.3	21.8	21.8	22.3	22.9
12H	4H	21.2	21.8	21.6	22.3	22.8	21.2	21.8	21.6	22.3	22.8
	6H	21.3	21.8	21.8	22.3	22.8	21.3	21.8	21.8	22.3	22.8
	8H	21.3	21.8	21.8	22.3	22.8	21.3	21.8	21.8	22.3	22.8

Maximum UGR = 23.0

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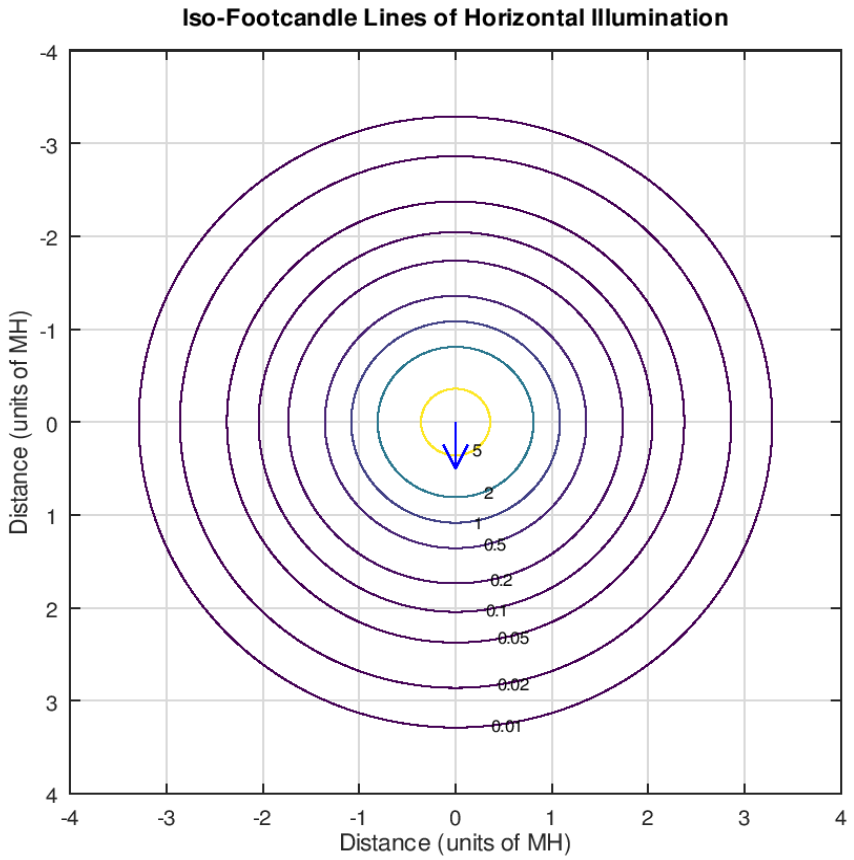
Iso-Illuminance Plot



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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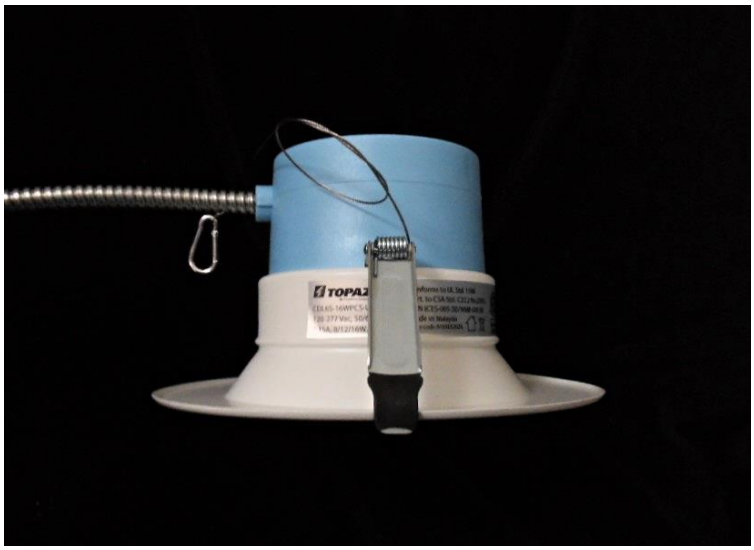
Additional Pictures of Test Subject



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Test Distance	9.5 m
Ambient Temperature	25.0 °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.