



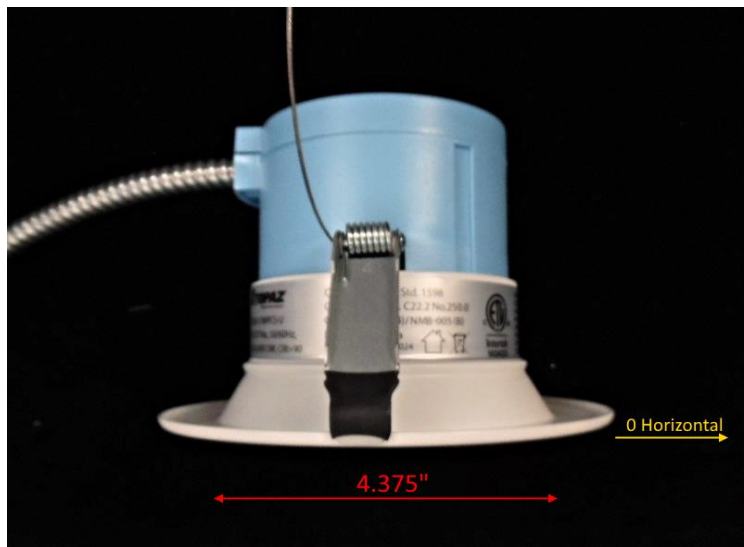
Report of Test

LLIA002379-003

Indoor Distribution Photometry Test Report

Catalog Number: CDL4S-13WPCS-U - 13W 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	1324.8 Lumens
Input Current	0.1057 A	Total Efficacy	106.2 lm/W
Input Power	12.48 W	Downward Flux	1324.8 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.984		
Current THD	8.5 %		

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

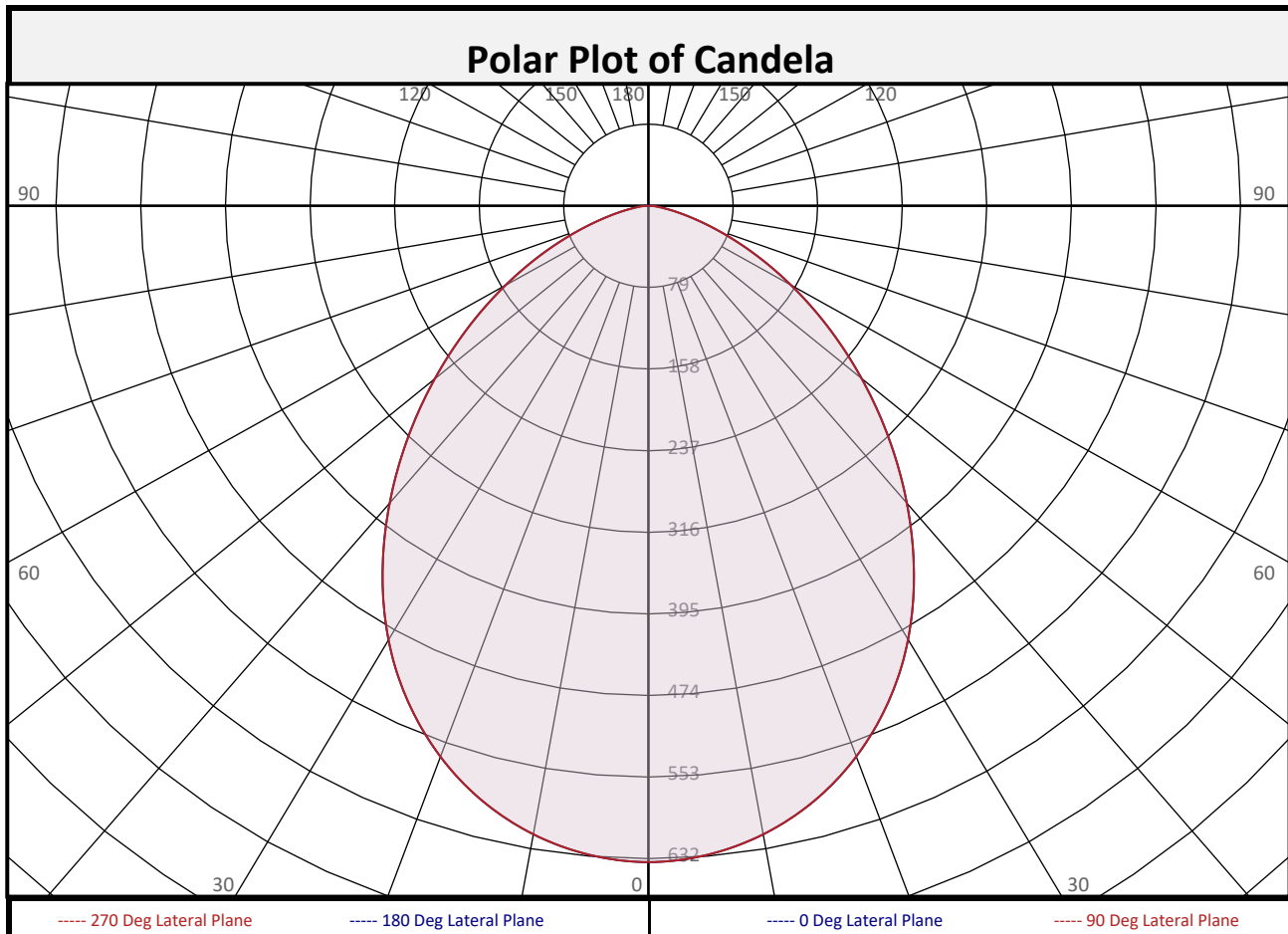
Test date: 05/02/2024
Report date: 05/16/2024

Signed: _____



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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	59.8	4.5%	90-100	0.0	0.0%	0-20	227.8	17.2%
10-20	168.0	12.7%	100-110	0.0	0.0%	0-30	471.5	35.6%
20-30	243.6	18.4%	110-120	0.0	0.0%	0-40	741.3	56.0%
30-40	269.8	20.4%	120-130	0.0	0.0%	0-60	1169	88.3%
40-50	244.5	18.5%	130-140	0.0	0.0%	0-80	1317	99.4%
50-60	183.5	13.9%	140-150	0.0	0.0%	10-90	1265	95.5%
60-70	107.3	8.1%	150-160	0.0	0.0%	20-50	757.9	57.2%
70-80	40.7	3.1%	160-170	0.0	0.0%	40-90	583.6	44.0%
80-90	7.6	0.6%	170-180	0.0	0.0%	60-90	155.5	11.7%
0-90	1325	100.0%	90-180	0.0	0.0%	0-180	1325	100.0%



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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	635	635	635	635	635	635	635	635	635
	2.5	634	634	634	634	634	634	634	634	634
	5	631	631	631	631	631	631	631	631	631
	7.5	625	625	625	625	625	625	625	625	625
	10	618	618	618	618	618	618	618	618	618
	12.5	608	608	608	608	608	608	608	608	608
	15	597	597	597	597	597	597	597	597	597
	17.5	583	583	583	583	583	583	583	583	583
	20	568	568	568	568	568	568	568	568	568
	22.5	550	550	550	550	550	550	550	550	550
	25	530	530	530	530	530	530	530	530	530
	27.5	509	509	509	509	509	509	509	509	509
	30	485	485	485	485	485	485	485	485	485
	32.5	459	459	459	459	459	459	459	459	459
	35	433	433	433	433	433	433	433	433	433
	37.5	404	404	404	404	404	404	404	404	404
	40	375	375	375	375	375	375	375	375	375
	42.5	346	346	346	346	346	346	346	346	346
	45	317	317	317	317	317	317	317	317	317
	47.5	288	288	288	288	288	288	288	288	288
50	260	260	260	260	260	260	260	260	260	
52.5	232	232	232	232	232	232	232	232	232	
55	205	205	205	205	205	205	205	205	205	
57.5	179	179	179	179	179	179	179	179	179	
60	154	154	154	154	154	154	154	154	154	
62.5	130	130	130	130	130	130	130	130	130	
65	108	108	108	108	108	108	108	108	108	
67.5	87	87	87	87	87	87	87	87	87	
70	68	68	68	68	68	68	68	68	68	
72.5	51	51	51	51	51	51	51	51	51	
75	37	37	37	37	37	37	37	37	37	
77.5	26	26	26	26	26	26	26	26	26	
80	16	16	16	16	16	16	16	16	16	
82.5	11	11	11	11	11	11	11	11	11	
85	7	7	7	7	7	7	7	7	7	
87.5	3	3	3	3	3	3	3	3	3	
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

		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	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	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	104	101	98	100	97	95	96	94	92	93	91	89	87			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75			
3	94	85	77	72	92	83	76	71	80	74	70	77	73	69	75	71	67	65			
4	87	76	68	62	84	75	67	62	72	66	61	70	64	60	68	63	59	57			
5	80	69	60	54	78	67	60	54	65	59	53	63	58	53	62	57	52	50			
6	74	62	54	48	73	61	54	48	60	53	47	58	52	47	56	51	47	45			
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40			
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36			
9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33			
10	57	45	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	17.7	6.88	6.88
8.0	9.9	9.18	9.18
10.0	6.4	11.47	11.47
12.0	4.4	13.76	13.76
14.0	3.2	16.06	16.06
16.0	2.5	18.35	18.35

Spacing Criterion	
SC:	1.1

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	65518	65518	65518
45	46256	46256	46256
55	36859	36859	36859
65	26266	26266	26266
75	14638	14638	14638
85	7823	7823	7823

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	89.9°
Field Angle:	141.2°
90-270 Degree Plane	
Beam Angle:	89.9°
Field Angle:	141.2°



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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

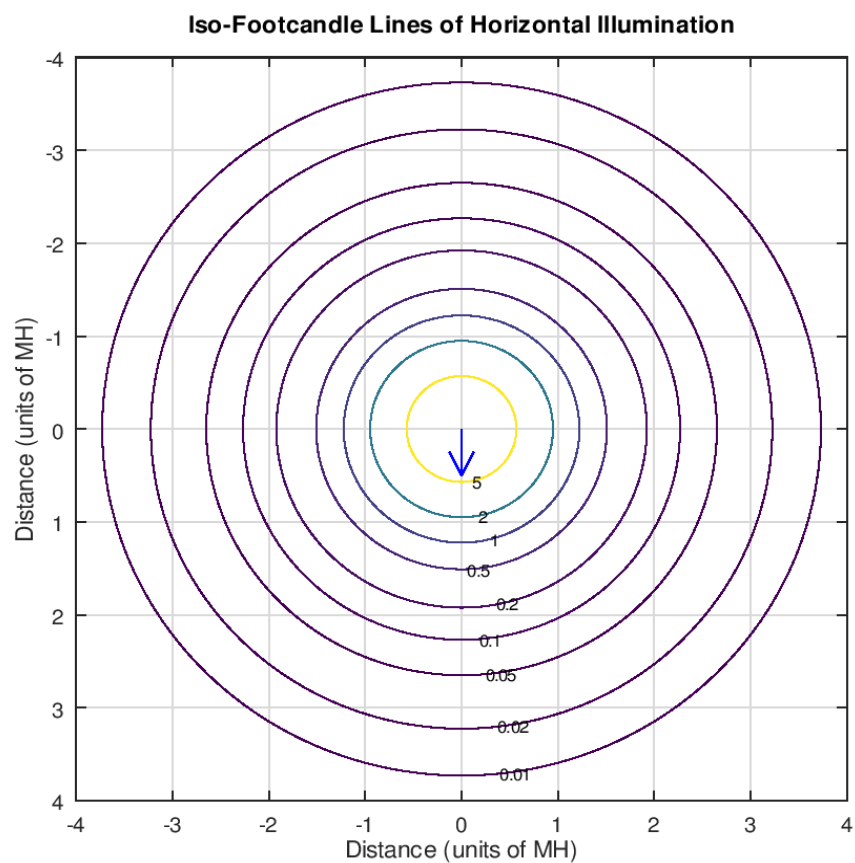
X=2H	Y=2H	23.1	24.6	23.4	24.9	25.2	23.1	24.6	23.4	24.9	25.2
	3H	24.1	25.4	24.4	25.7	26.1	24.1	25.4	24.4	25.7	26.1
	4H	24.3	25.5	24.7	25.9	26.3	24.3	25.5	24.7	25.9	26.3
	6H	24.4	25.5	24.8	25.9	26.3	24.4	25.5	24.8	25.9	26.3
	8H	24.4	25.5	24.8	25.9	26.3	24.4	25.5	24.8	25.9	26.3
	12H	24.4	25.4	24.8	25.8	26.2	24.4	25.4	24.8	25.8	26.2
4H	2H	23.5	24.7	23.9	25.0	25.4	23.5	24.7	23.9	25.0	25.4
	3H	24.6	25.6	25.0	26.0	26.4	24.6	25.6	25.0	26.0	26.4
	4H	24.9	25.8	25.3	26.2	26.7	24.9	25.8	25.3	26.2	26.7
	6H	25.0	25.8	25.5	26.3	26.7	25.0	25.8	25.5	26.3	26.7
	8H	25.0	25.8	25.5	26.2	26.7	25.0	25.8	25.5	26.2	26.7
	12H	25.1	25.7	25.5	26.2	26.7	25.1	25.7	25.5	26.2	26.7
8H	4H	24.9	25.7	25.4	26.1	26.6	24.9	25.7	25.4	26.1	26.6
	6H	25.1	25.7	25.6	26.2	26.7	25.1	25.7	25.6	26.2	26.7
	8H	25.2	25.7	25.7	26.2	26.7	25.2	25.7	25.7	26.2	26.7
	12H	25.2	25.7	25.7	26.2	26.7	25.2	25.7	25.7	26.2	26.7
12H	4H	24.9	25.6	25.4	26.1	26.5	24.9	25.6	25.4	26.1	26.5
	6H	25.1	25.7	25.6	26.1	26.7	25.1	25.7	25.6	26.1	26.7
	8H	25.2	25.7	25.7	26.1	26.7	25.2	25.7	25.7	26.1	26.7

Maximum UGR = 26.7



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Iso-Illuminance Plot

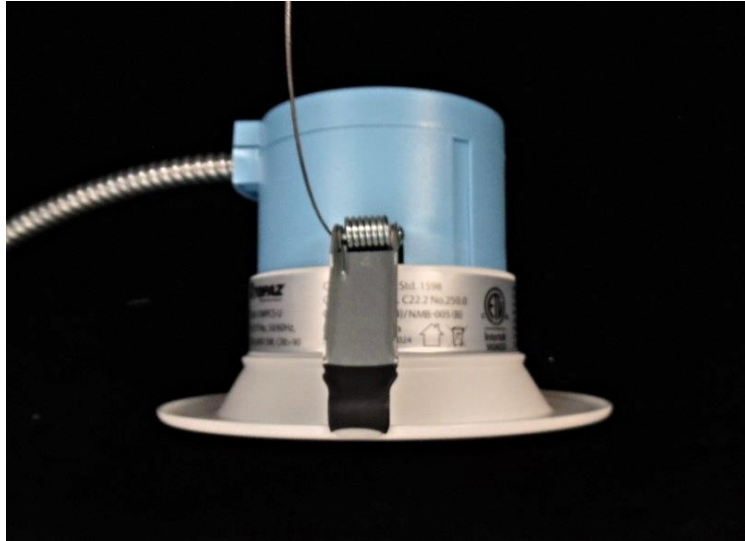


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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Additional Pictures of Test Subject





Report of Test

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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.

North America (issuing laboratory)

Australasia & S.E. Asia