

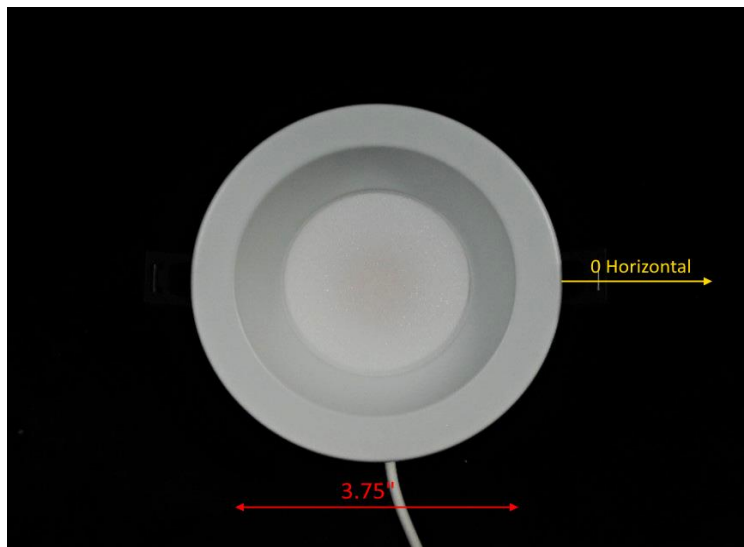


Report of Test

LLIA002379-013

Indoor Distribution Photometry Test Report

Catalog Number: CDL4S-RM-12WPCS-U - 6W 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 in formed steel box.



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

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	607.5 Lumens
Input Current	0.0461 A	Total Efficacy	116.4 Lm/W
Input Power	5.22 W	Downward Flux	607.5 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.945		
Current THD	15.6 %		

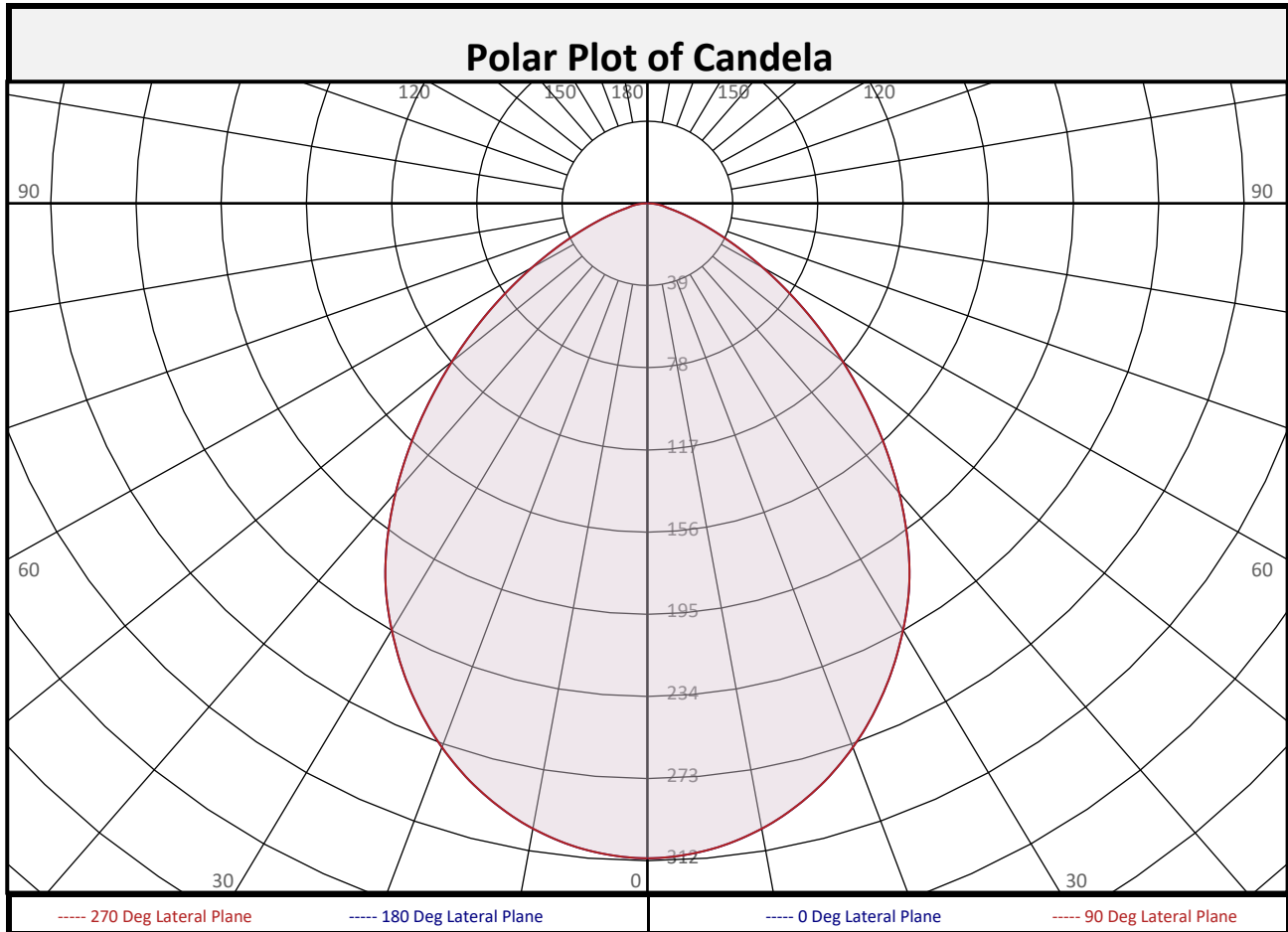
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 04/29/2024
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	29.2	4.8%		90-100	0.0	0.0%		0-20	110.9	18.2%
10-20	81.6	13.4%		100-110	0.0	0.0%		0-30	228.4	37.6%
20-30	117.6	19.4%		110-120	0.0	0.0%		0-40	358.4	59.0%
30-40	130.0	21.4%		120-130	0.0	0.0%		0-60	550.3	90.6%
40-50	113.7	18.7%		130-140	0.0	0.0%		0-80	603.6	99.4%
50-60	78.1	12.9%		140-150	0.0	0.0%		10-90	578.3	95.2%
60-70	39.5	6.5%		150-160	0.0	0.0%		20-50	361.3	59.5%
70-80	13.9	2.3%		160-170	0.0	0.0%		40-90	249.1	41.0%
80-90	3.9	0.6%		170-180	0.0	0.0%		60-90	57.3	9.4%
0-90	607.5	100.0%		90-180	0.0	0.0%		0-180	607.5	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	311	311	311	311	311	311	311	311	311
	2.5	310	310	310	310	310	310	310	310	310
	5	308	308	308	308	308	308	308	308	308
	7.5	305	305	305	305	305	305	305	305	305
	10	301	301	301	301	301	301	301	301	301
	12.5	296	296	296	296	296	296	296	296	296
	15	290	290	290	290	290	290	290	290	290
	17.5	283	283	283	283	283	283	283	283	283
	20	275	275	275	275	275	275	275	275	275
	22.5	266	266	266	266	266	266	266	266	266
	25	256	256	256	256	256	256	256	256	256
	27.5	245	245	245	245	245	245	245	245	245
	30	234	234	234	234	234	234	234	234	234
	32.5	222	222	222	222	222	222	222	222	222
	35	209	209	209	209	209	209	209	209	209
	37.5	194	194	194	194	194	194	194	194	194
	40	179	179	179	179	179	179	179	179	179
	42.5	163	163	163	163	163	163	163	163	163
	45	148	148	148	148	148	148	148	148	148
	47.5	132	132	132	132	132	132	132	132	132
50	117	117	117	117	117	117	117	117	117	
52.5	101	101	101	101	101	101	101	101	101	
55	87	87	87	87	87	87	87	87	87	
57.5	74	74	74	74	74	74	74	74	74	
60	61	61	61	61	61	61	61	61	61	
62.5	49	49	49	49	49	49	49	49	49	
65	39	39	39	39	39	39	39	39	39	
67.5	30	30	30	30	30	30	30	30	30	
70	23	23	23	23	23	23	23	23	23	
72.5	17	17	17	17	17	17	17	17	17	
75	12	12	12	12	12	12	12	12	12	
77.5	9	9	9	9	9	9	9	9	9	
80	7	7	7	7	7	7	7	7	7	
82.5	6	6	6	6	6	6	6	6	6	
85	4	4	4	4	4	4	4	4	4	
87.5	2	2	2	2	2	2	2	2	2	
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	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47			
7	71	58	50	45	69	57	50	45	56	49	44	55	49	44	53	48	44	42			
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34			
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32			

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	8.6	6.80	6.80	
8.0	4.9	9.07	9.07	
10.0	3.1	11.33	11.33	
12.0	2.2	13.60	13.60	
14.0	1.6	15.87	15.87	
16.0	1.2	18.13	18.13	

Spacing Criterion	
SC:	1.1

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	43626	43626	43626
45	29309	29309	29309
55	21325	21325	21325
65	12973	12973	12973
75	6600	6600	6600
85	5827	5827	5827

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	87.6°
Field Angle:	134.5°
90-270 Degree Plane	
Beam Angle:	87.6°
Field Angle:	134.5°



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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

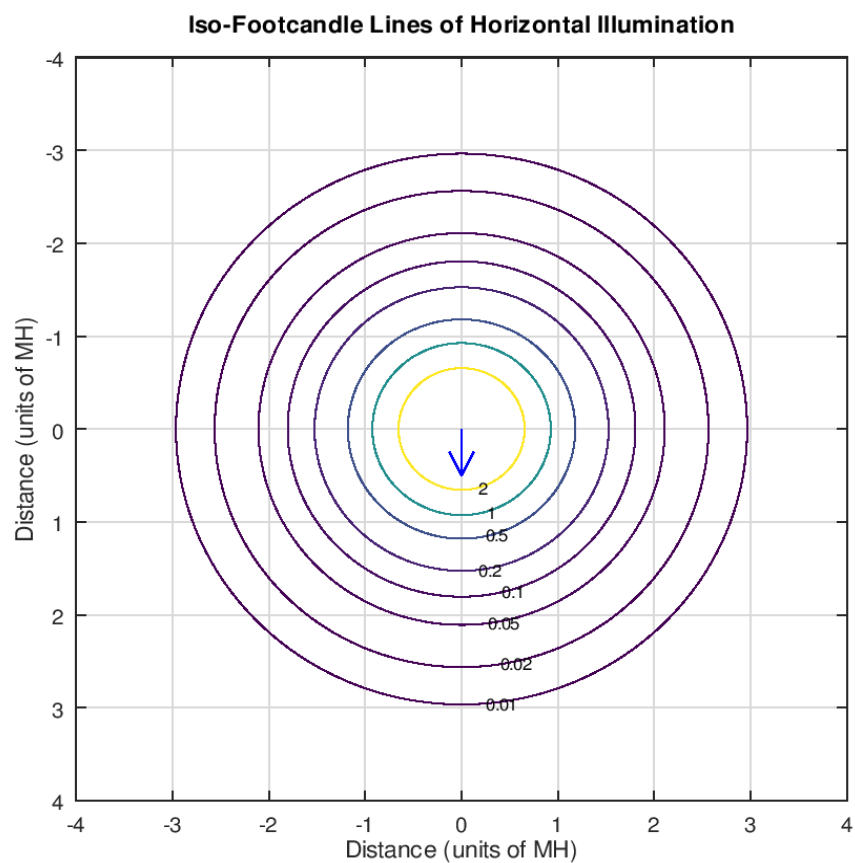
X=2H	Y=2H	20.7	22.2	21.1	22.5	22.8	20.7	22.2	21.1	22.5	22.8
	3H	21.4	22.7	21.8	23.0	23.4	21.4	22.7	21.8	23.0	23.4
	4H	21.6	22.8	22.0	23.1	23.5	21.6	22.8	22.0	23.1	23.5
	6H	21.6	22.7	22.0	23.1	23.5	21.6	22.7	22.0	23.1	23.5
	8H	21.7	22.7	22.1	23.1	23.5	21.7	22.7	22.1	23.1	23.5
	12H	21.7	22.7	22.1	23.1	23.5	21.7	22.7	22.1	23.1	23.5
4H	2H	21.0	22.2	21.4	22.5	22.9	21.0	22.2	21.4	22.5	22.9
	3H	21.8	22.8	22.2	23.2	23.6	21.8	22.8	22.2	23.2	23.6
	4H	22.0	22.9	22.4	23.3	23.7	22.0	22.9	22.4	23.3	23.7
	6H	22.1	22.9	22.6	23.3	23.8	22.1	22.9	22.6	23.3	23.8
	8H	22.2	22.9	22.7	23.4	23.8	22.2	22.9	22.7	23.4	23.8
	12H	22.2	22.9	22.7	23.4	23.8	22.2	22.9	22.7	23.4	23.8
8H	4H	22.0	22.7	22.5	23.2	23.6	22.0	22.7	22.5	23.2	23.6
	6H	22.2	22.8	22.7	23.3	23.8	22.2	22.8	22.7	23.3	23.8
	8H	22.3	22.8	22.8	23.3	23.8	22.3	22.8	22.8	23.3	23.8
	12H	22.4	22.9	22.9	23.4	23.9	22.4	22.9	22.9	23.4	23.9
12H	4H	22.0	22.6	22.5	23.1	23.6	22.0	22.6	22.5	23.1	23.6
	6H	22.2	22.7	22.7	23.2	23.7	22.2	22.7	22.7	23.2	23.7
	8H	22.3	22.8	22.8	23.3	23.9	22.3	22.8	22.8	23.3	23.9

Maximum UGR = 23.9



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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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Test Distance 9.5 m
Ambient Temperature 25.1 °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