

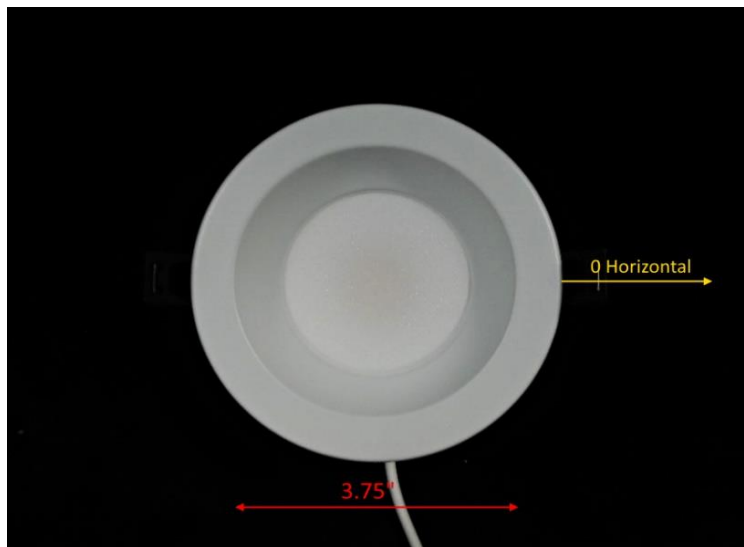


## Report of Test

LLIA002379-015

Indoor Distribution Photometry Test Report

Catalog Number: CDL4S-RM-12WPCS-U -12W 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	1199.0 Lumens
Input Current	0.0958 A	Total Efficacy	111.0 Lm/W
Input Power	10.80 W	Downward Flux	1199.0 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.939		
Current THD	6.4 %		

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

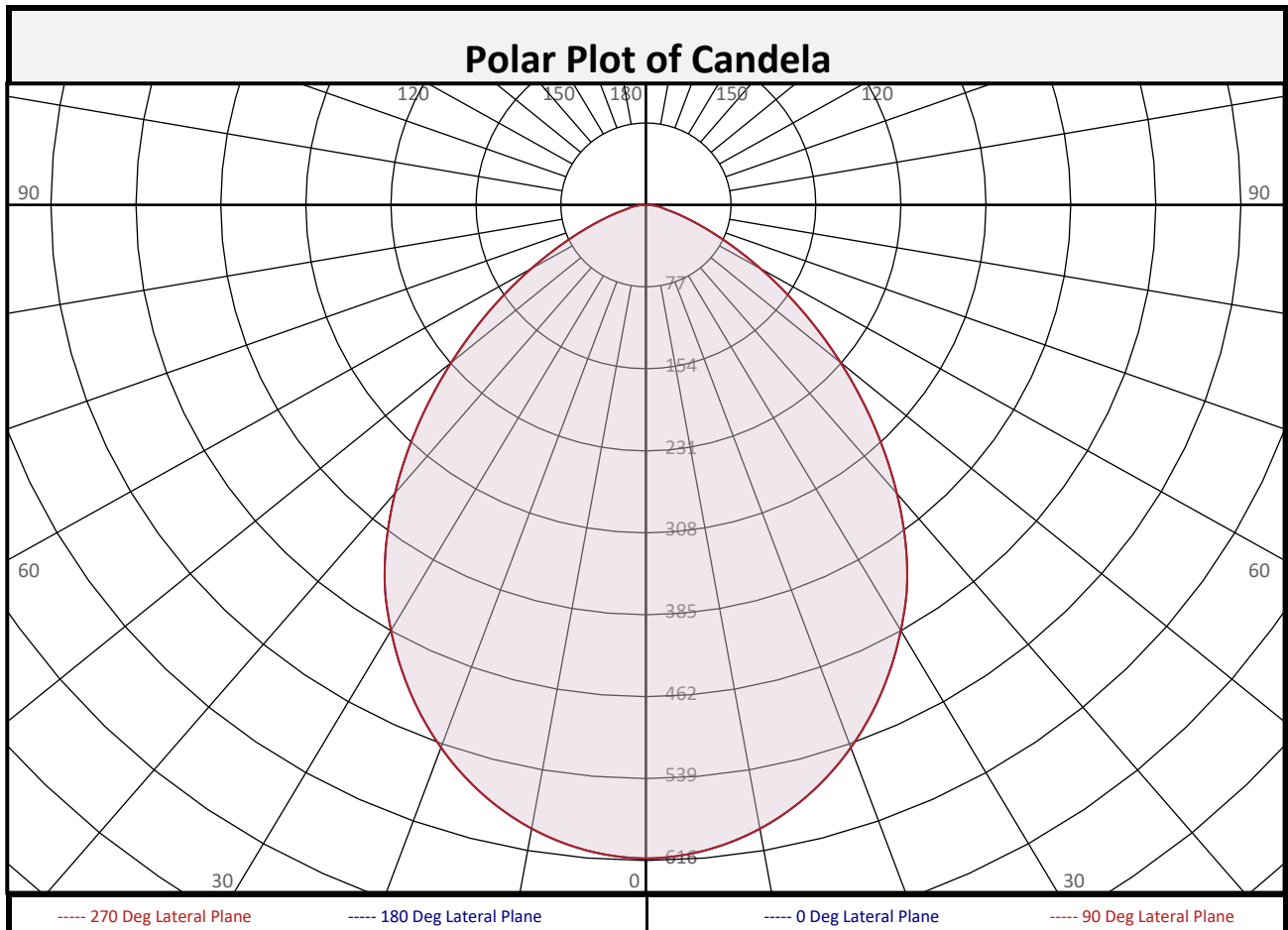
Test date: 04/29/2024  
Report date: 05/16/2024

Signed: \_\_\_\_\_



## Report of Test

### LLIA002379-015



### 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	57.7	4.8%	90-100	0.0	0.0%	0-20	218.9	18.3%
10-20	161.2	13.4%	100-110	0.0	0.0%	0-30	451.1	37.6%
20-30	232.2	19.4%	110-120	0.0	0.0%	0-40	707.7	59.0%
30-40	256.6	21.4%	120-130	0.0	0.0%	0-60	1086	90.6%
40-50	224.3	18.7%	130-140	0.0	0.0%	0-80	1191	99.4%
50-60	154.1	12.9%	140-150	0.0	0.0%	10-90	1141	95.2%
60-70	77.8	6.5%	150-160	0.0	0.0%	20-50	713.1	59.5%
70-80	27.3	2.3%	160-170	0.0	0.0%	40-90	491.3	41.0%
80-90	7.6	0.6%	170-180	0.0	0.0%	60-90	112.8	9.4%
0-90	1199	100.0%	90-180	0.0	0.0%	0-180	1199	100.0%



## Report of Test

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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	614	614	614	614	614	614	614	614	614
	2.5	613	613	613	613	613	613	613	613	613
	5	609	609	609	609	609	609	609	609	609
	7.5	603	603	603	603	603	603	603	603	603
	10	595	595	595	595	595	595	595	595	595
	12.5	585	585	585	585	585	585	585	585	585
	15	573	573	573	573	573	573	573	573	573
	17.5	559	559	559	559	559	559	559	559	559
	20	543	543	543	543	543	543	543	543	543
	22.5	525	525	525	525	525	525	525	525	525
	25	505	505	505	505	505	505	505	505	505
	27.5	484	484	484	484	484	484	484	484	484
	30	462	462	462	462	462	462	462	462	462
	32.5	439	439	439	439	439	439	439	439	439
	35	412	412	412	412	412	412	412	412	412
	37.5	384	384	384	384	384	384	384	384	384
	40	354	354	354	354	354	354	354	354	354
	42.5	323	323	323	323	323	323	323	323	323
	45	291	291	291	291	291	291	291	291	291
	47.5	260	260	260	260	260	260	260	260	260
50	230	230	230	230	230	230	230	230	230	
52.5	200	200	200	200	200	200	200	200	200	
55	172	172	172	172	172	172	172	172	172	
57.5	145	145	145	145	145	145	145	145	145	
60	120	120	120	120	120	120	120	120	120	
62.5	97	97	97	97	97	97	97	97	97	
65	77	77	77	77	77	77	77	77	77	
67.5	60	60	60	60	60	60	60	60	60	
70	45	45	45	45	45	45	45	45	45	
72.5	34	34	34	34	34	34	34	34	34	
75	24	24	24	24	24	24	24	24	24	
77.5	17	17	17	17	17	17	17	17	17	
80	14	14	14	14	14	14	14	14	14	
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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## Report of Test

LLIA002379-015

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.



## Report of Test

### LLIA002379-015

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	49	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	37	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	17.1	6.80	6.80
8.0	9.6	9.06	9.06
10.0	6.1	11.33	11.33
12.0	4.3	13.60	13.60
14.0	3.1	15.86	15.86
16.0	2.4	18.13	18.13

Spacing Criterion	
SC:	1.1

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	86177	86177	86177
45	57831	57831	57831
55	42047	42047	42047
65	25577	25577	25577
75	13000	13000	13000
85	11412	11412	11412

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	87.5°
Field Angle:	134.4°
90-270 Degree Plane	
Beam Angle:	87.5°
Field Angle:	134.4°



## Report of Test

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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

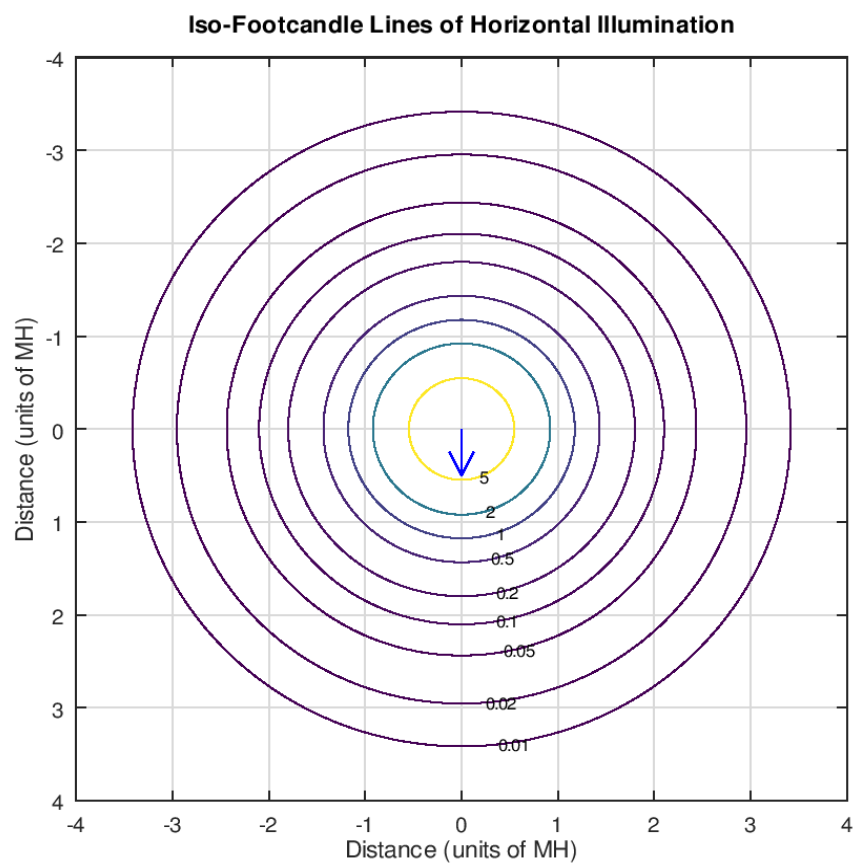
X=2H	Y=2H	23.0	24.5	23.4	24.8	25.1	23.0	24.5	23.4	24.8	25.1
		3H	23.7	25.0	24.1	25.3	25.7	23.7	25.0	24.1	25.3
	4H	23.8	25.1	24.2	25.4	25.8	23.8	25.1	24.2	25.4	25.8
	6H	23.9	25.0	24.3	25.4	25.8	23.9	25.0	24.3	25.4	25.8
	8H	23.9	25.0	24.4	25.4	25.8	23.9	25.0	24.4	25.4	25.8
	12H	24.0	25.0	24.4	25.4	25.8	24.0	25.0	24.4	25.4	25.8
4H	2H	23.3	24.5	23.7	24.8	25.2	23.3	24.5	23.7	24.8	25.2
	3H	24.1	25.1	24.5	25.5	25.9	24.1	25.1	24.5	25.5	25.9
	4H	24.3	25.2	24.7	25.6	26.0	24.3	25.2	24.7	25.6	26.0
	6H	24.4	25.2	24.9	25.6	26.1	24.4	25.2	24.9	25.6	26.1
	8H	24.5	25.2	25.0	25.6	26.1	24.5	25.2	25.0	25.6	26.1
	12H	24.5	25.2	25.0	25.6	26.1	24.5	25.2	25.0	25.6	26.1
8H	4H	24.3	25.0	24.8	25.5	25.9	24.3	25.0	24.8	25.5	25.9
	6H	24.5	25.1	25.0	25.6	26.1	24.5	25.1	25.0	25.6	26.1
	8H	24.6	25.1	25.1	25.6	26.1	24.6	25.1	25.1	25.6	26.1
	12H	24.7	25.2	25.2	25.7	26.2	24.7	25.2	25.2	25.7	26.2
12H	4H	24.3	24.9	24.8	25.4	25.9	24.3	24.9	24.8	25.4	25.9
	6H	24.5	25.0	25.0	25.5	26.0	24.5	25.0	25.0	25.5	26.0
	8H	24.6	25.1	25.1	25.6	26.2	24.6	25.1	25.1	25.6	26.2

Maximum UGR = 26.2

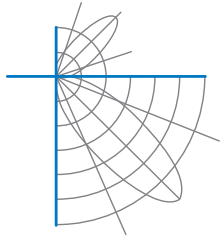


## Report of Test LLIA002379-015

### 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

### LLIA002379-015

Test Distance                    9.5 m  
Ambient Temperature        25.3 °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.

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