

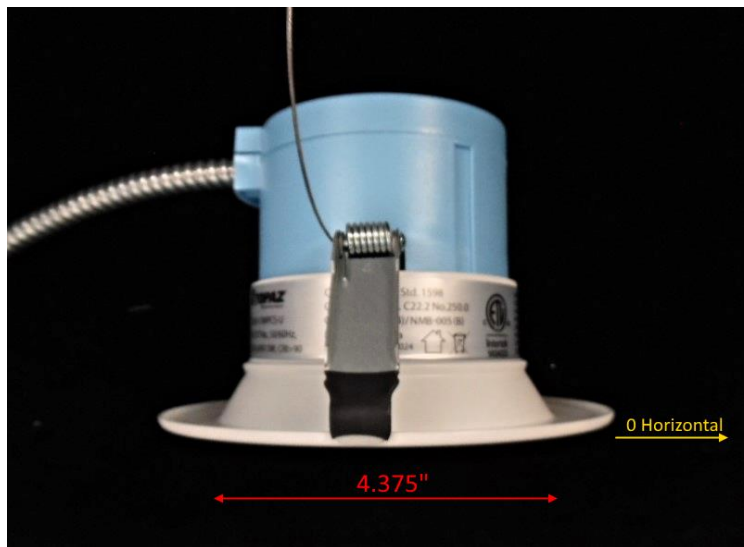
## Report of Test

LLIA002379-002

Indoor Distribution Photometry Test Report

Catalog Number: CDL4S-13WPCS-U - 9W 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:

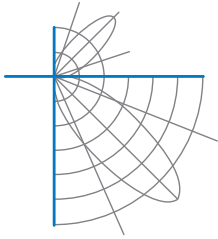
Topaz Lighting, A Southwire Company  
925 Waverly Avenue  
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	975.7 Lumens
Input Current	0.0761 A	Total Efficacy	110.1 lm/W
Input Power	8.86 W	Downward Flux	975.7 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.970		
Current THD	10.8 %		

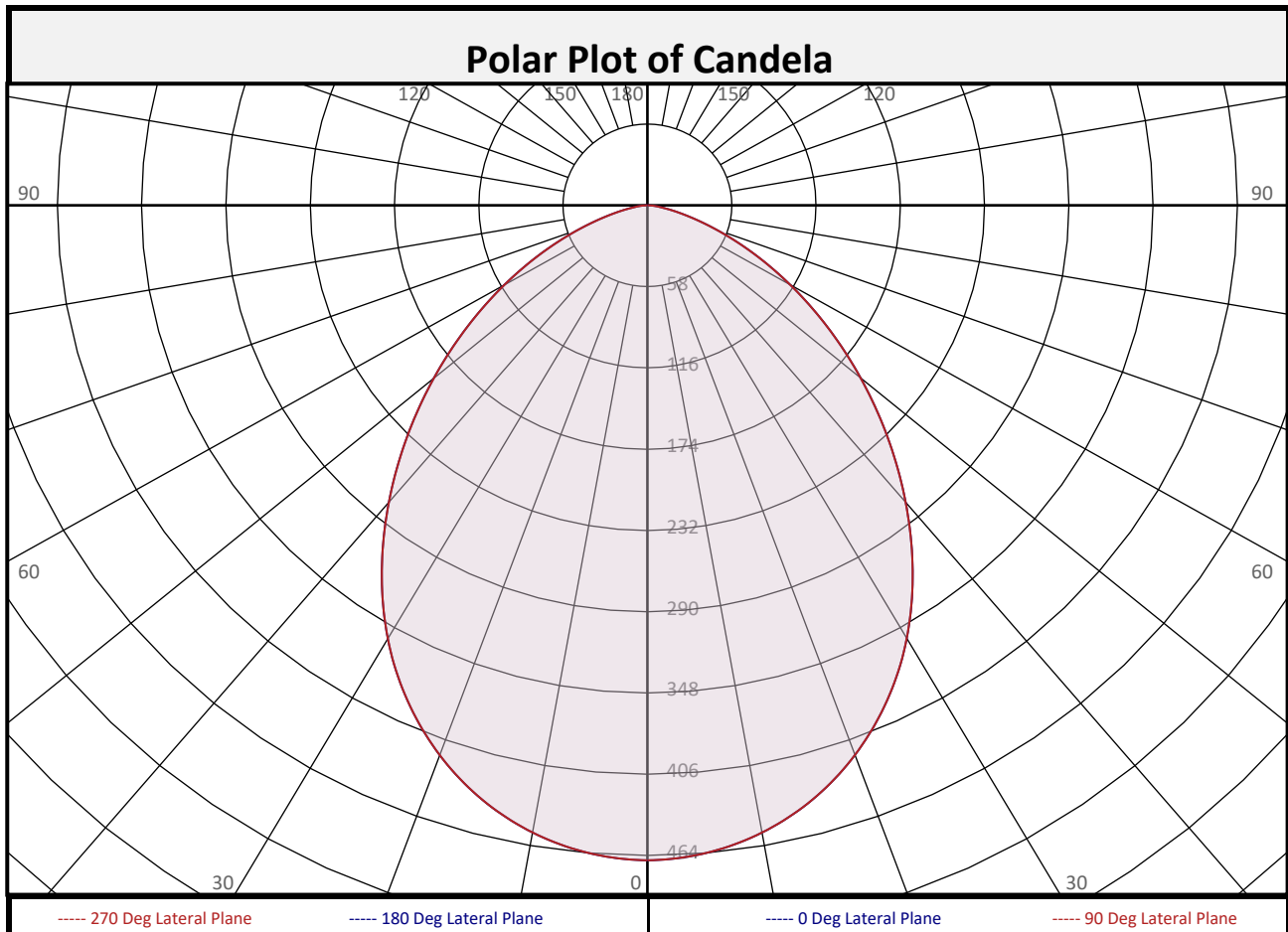
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

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

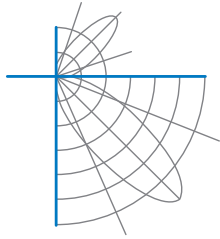
Signed: \_\_\_\_\_



Report of Test  
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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	44.0	4.5%		90-100	0.0	0.0%		0-20	167.6	17.2%
10-20	123.6	12.7%		100-110	0.0	0.0%		0-30	346.9	35.6%
20-30	179.3	18.4%		110-120	0.0	0.0%		0-40	545.5	55.9%
30-40	198.6	20.4%		120-130	0.0	0.0%		0-60	861.0	88.2%
40-50	180.1	18.5%		130-140	0.0	0.0%		0-80	970.1	99.4%
50-60	135.3	13.9%		140-150	0.0	0.0%		10-90	931.7	95.5%
60-70	79.2	8.1%		150-160	0.0	0.0%		20-50	558.0	57.2%
70-80	30.0	3.1%		160-170	0.0	0.0%		40-90	430.2	44.1%
80-90	5.6	0.6%		170-180	0.0	0.0%		60-90	114.7	11.8%
0-90	975.7	100.0%		90-180	0.0	0.0%		0-180	975.7	100.0%



## Report of Test

### LLIA002379-002

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	467	467	467	467	467	467	467	467	467
	2.5	467	467	467	467	467	467	467	467	467
	5	464	464	464	464	464	464	464	464	464
	7.5	460	460	460	460	460	460	460	460	460
	10	455	455	455	455	455	455	455	455	455
	12.5	448	448	448	448	448	448	448	448	448
	15	439	439	439	439	439	439	439	439	439
	17.5	429	429	429	429	429	429	429	429	429
	20	418	418	418	418	418	418	418	418	418
	22.5	405	405	405	405	405	405	405	405	405
	25	390	390	390	390	390	390	390	390	390
	27.5	374	374	374	374	374	374	374	374	374
	30	357	357	357	357	357	357	357	357	357
	32.5	338	338	338	338	338	338	338	338	338
	35	318	318	318	318	318	318	318	318	318
	37.5	298	298	298	298	298	298	298	298	298
	40	277	277	277	277	277	277	277	277	277
	42.5	255	255	255	255	255	255	255	255	255
	45	234	234	234	234	234	234	234	234	234
	47.5	212	212	212	212	212	212	212	212	212
50	192	192	192	192	192	192	192	192	192	
52.5	171	171	171	171	171	171	171	171	171	
55	151	151	151	151	151	151	151	151	151	
57.5	132	132	132	132	132	132	132	132	132	
60	114	114	114	114	114	114	114	114	114	
62.5	96	96	96	96	96	96	96	96	96	
65	79	79	79	79	79	79	79	79	79	
67.5	64	64	64	64	64	64	64	64	64	
70	50	50	50	50	50	50	50	50	50	
72.5	38	38	38	38	38	38	38	38	38	
75	27	27	27	27	27	27	27	27	27	
77.5	19	19	19	19	19	19	19	19	19	
80	12	12	12	12	12	12	12	12	12	
82.5	8	8	8	8	8	8	8	8	8	
85	5	5	5	5	5	5	5	5	5	
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.

**North America (issuing laboratory)**

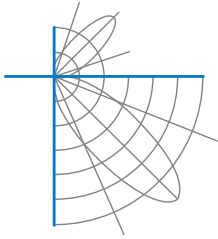
LightLab International Allentown, LLC  
905 Harrison Street, Suite 135  
Allentown, PA 18103 USA

Ph: +1 484-273-0705  
Fx: +1 484-209-5779  
www.lightlaballentown.com

**Australasia & S.E. Asia**

LightLab International  
50 Redcliffe Gardens Drive  
Clontarf - Queensland, 4019, Australia

Ph : +61 7 3283 7862  
Fx : +61 7 3283 8751  
www.lightlabint.com



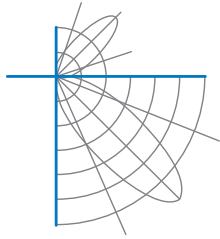
## Report of Test

LLIA002379-002

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 LLIA002379-002

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	68	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	47	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			

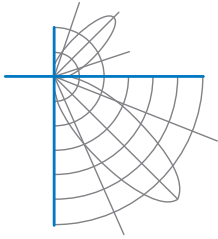
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	13.0	6.88	6.88
8.0	7.3	9.18	9.18
10.0	4.7	11.47	11.47
12.0	3.2	13.77	13.77
14.0	2.4	16.06	16.06
16.0	1.8	18.36	18.36

Spacing Criterion	
SC:	1.1

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	48202	48202	48202
45	34080	34080	34080
55	27168	27168	27168
65	19381	19381	19381
75	10791	10791	10791
85	5732	5732	5732

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	90.0°
Field Angle:	141.2°
90-270 Degree Plane	
Beam Angle:	90.0°
Field Angle:	141.2°



## Report of Test

### LLIA002379-002

#### 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

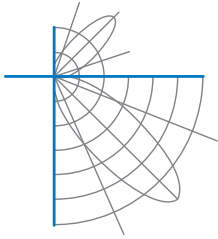
##### Room Size

##### UGR Viewed Crosswise

##### UGR Viewed Endwise

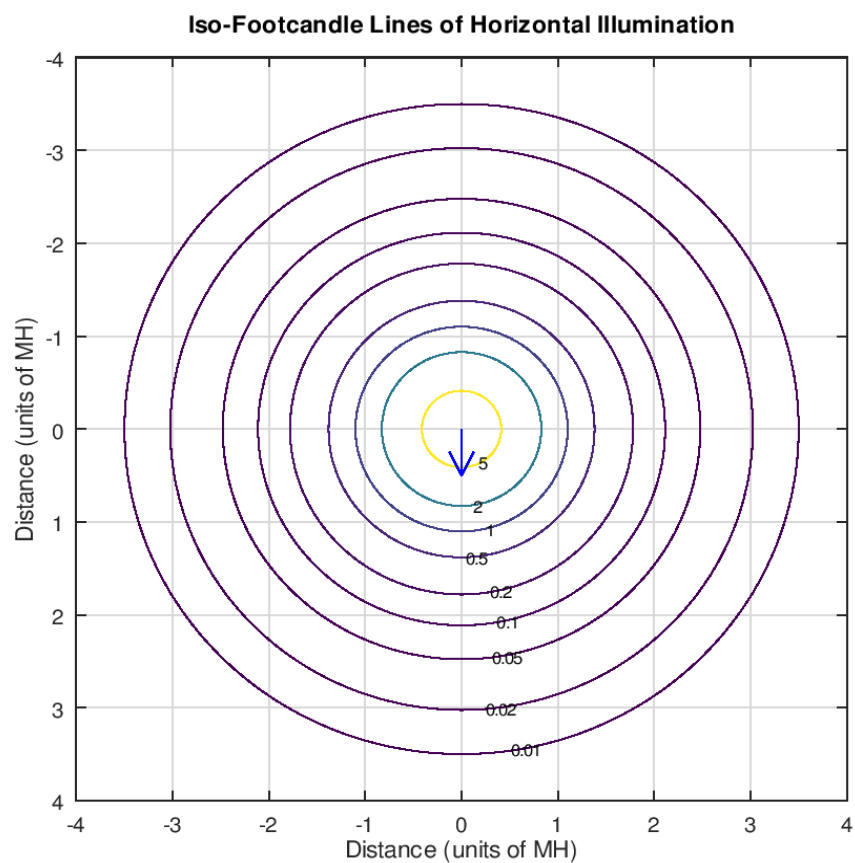
X=2H	Y=2H	22.0	23.5	22.3	23.8	24.1	22.0	23.5	22.3	23.8	24.1
	3H	23.0	24.3	23.4	24.6	25.0	23.0	24.3	23.4	24.6	25.0
	4H	23.2	24.4	23.6	24.8	25.2	23.2	24.4	23.6	24.8	25.2
	6H	23.3	24.4	23.7	24.8	25.2	23.3	24.4	23.7	24.8	25.2
	8H	23.3	24.4	23.7	24.8	25.2	23.3	24.4	23.7	24.8	25.2
	12H	23.3	24.3	23.7	24.7	25.1	23.3	24.3	23.7	24.7	25.1
4H	2H	22.4	23.6	22.8	24.0	24.3	22.4	23.6	22.8	24.0	24.3
	3H	23.5	24.5	23.9	24.9	25.3	23.5	24.5	23.9	24.9	25.3
	4H	23.8	24.7	24.2	25.1	25.6	23.8	24.7	24.2	25.1	25.6
	6H	23.9	24.7	24.4	25.2	25.6	23.9	24.7	24.4	25.2	25.6
	8H	23.9	24.7	24.4	25.1	25.6	23.9	24.7	24.4	25.1	25.6
	12H	24.0	24.6	24.4	25.1	25.6	24.0	24.6	24.4	25.1	25.6
8H	4H	23.9	24.6	24.3	25.0	25.5	23.9	24.6	24.3	25.0	25.5
	6H	24.0	24.6	24.5	25.1	25.6	24.0	24.6	24.5	25.1	25.6
	8H	24.1	24.6	24.6	25.1	25.6	24.1	24.6	24.6	25.1	25.6
	12H	24.1	24.6	24.6	25.1	25.6	24.1	24.6	24.6	25.1	25.6
12H	4H	23.8	24.5	24.3	25.0	25.5	23.8	24.5	24.3	25.0	25.5
	6H	24.0	24.6	24.5	25.0	25.6	24.0	24.6	24.5	25.0	25.6
	8H	24.1	24.6	24.6	25.1	25.6	24.1	24.6	24.6	25.1	25.6

Maximum UGR = 25.6

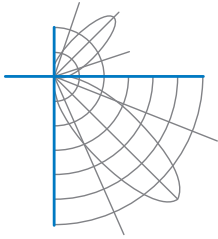


## Report of Test LLIA002379-002

### Iso-Illuminance Plot

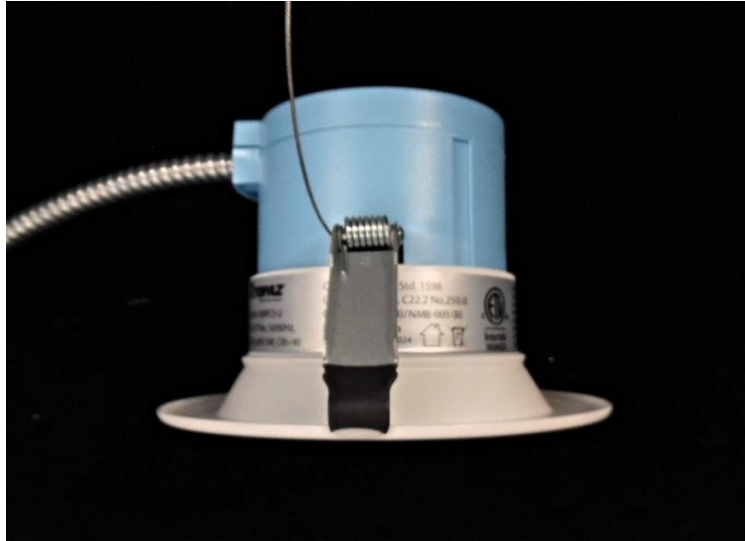


The isofootcandle values shown in the plot above are based on a mounting height of  $h = 8.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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

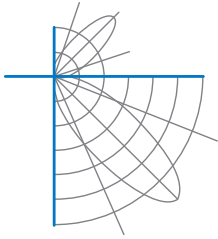


Report of Test  
LLIA002379-002

**Additional Pictures of Test Subject**







## Report of Test

### LLIA002379-002

Test Distance                    9.5 m  
Ambient Temperature        24.5 °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.