



## Report of Test

LLIA001935-003

Indoor Distribution Photometry Test Report

Catalog Number: DLD6S-13CS

Recessed mounted, formed white painted aluminum housing/lower reflector, white circuit board, white interior reflector, diffuse white plastic enclosure.

24 white LEDs on AL21021A CRI90 1.0 LED board, switch set for 3000K.

One Topaz DLD6S-13CS 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	1219.7 Lumens
Input Current	0.1081 A	Total Efficacy	95.5 Lm/W
Input Power	12.77 W	Downward Flux	1219.7 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.985		
Current THD	10.2 %		

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

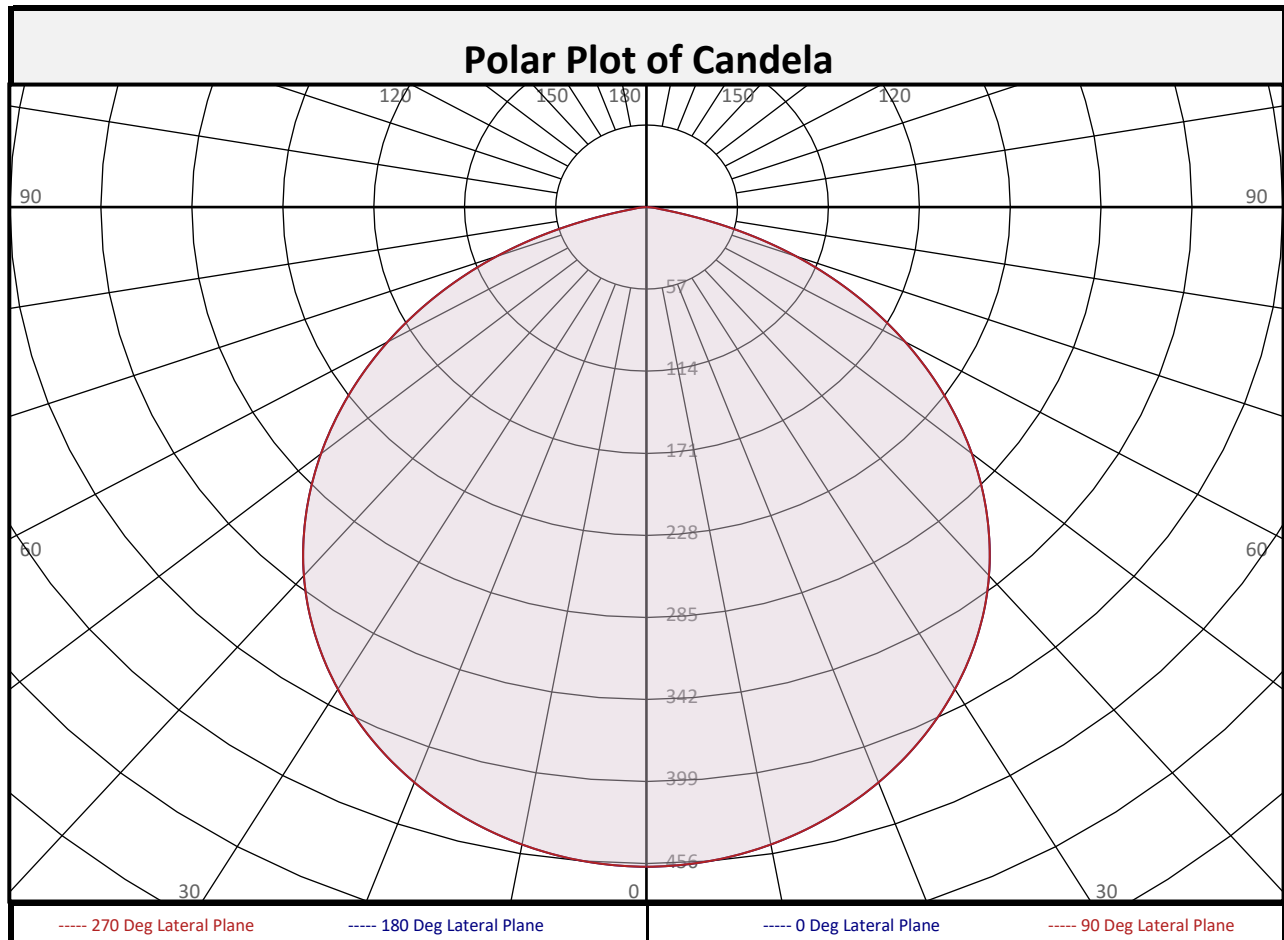
Test date: 01/12/2023

Report date: 01/13/2023

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	43.3	3.6%	90-100	0.0	0.0%	0-20	167.3	13.7%
10-20	124.0	10.2%	100-110	0.0	0.0%	0-30	355.2	29.1%
20-30	187.9	15.4%	110-120	0.0	0.0%	0-40	581.6	47.7%
30-40	226.5	18.6%	120-130	0.0	0.0%	0-60	1017	83.4%
40-50	232.4	19.1%	130-140	0.0	0.0%	0-80	1215	99.6%
50-60	203.3	16.7%	140-150	0.0	0.0%	10-90	1176	96.4%
60-70	142.4	11.7%	150-160	0.0	0.0%	20-50	646.8	53.0%
70-80	55.3	4.5%	160-170	0.0	0.0%	40-90	638.1	52.3%
80-90	4.7	0.4%	170-180	0.0	0.0%	60-90	202.4	16.6%
0-90	1220	100.0%	90-180	0.0	0.0%	0-180	1220	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	458	458	458	458	458	458	458	458	458
	2.5	458	458	458	458	458	458	458	458	458
	5	456	456	456	456	456	456	456	456	456
	7.5	453	453	453	453	453	453	453	453	453
	10	450	450	450	450	450	450	450	450	450
	12.5	445	445	445	445	445	445	445	445	445
	15	439	439	439	439	439	439	439	439	439
	17.5	433	433	433	433	433	433	433	433	433
	20	425	425	425	425	425	425	425	425	425
	22.5	417	417	417	417	417	417	417	417	417
	25	408	408	408	408	408	408	408	408	408
	27.5	398	398	398	398	398	398	398	398	398
	30	387	387	387	387	387	387	387	387	387
	32.5	375	375	375	375	375	375	375	375	375
	35	362	362	362	362	362	362	362	362	362
	37.5	349	349	349	349	349	349	349	349	349
	40	334	334	334	334	334	334	334	334	334
	42.5	318	318	318	318	318	318	318	318	318
	45	302	302	302	302	302	302	302	302	302
	47.5	284	284	284	284	284	284	284	284	284
50	266	266	266	266	266	266	266	266	266	
52.5	247	247	247	247	247	247	247	247	247	
55	228	228	228	228	228	228	228	228	228	
57.5	208	208	208	208	208	208	208	208	208	
60	187	187	187	187	187	187	187	187	187	
62.5	166	166	166	166	166	166	166	166	166	
65	144	144	144	144	144	144	144	144	144	
67.5	122	122	122	122	122	122	122	122	122	
70	100	100	100	100	100	100	100	100	100	
72.5	76	76	76	76	76	76	76	76	76	
75	52	52	52	52	52	52	52	52	52	
77.5	28	28	28	28	28	28	28	28	28	
80	12	12	12	12	12	12	12	12	12	
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	0
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	110	105	102	98		107	103	100	96		99	96	93		95	93	91		92	90	88	86
2	100	93	86	81		98	91	85	80		87	82	78		84	80	76		81	78	74	72
3	92	82	74	68		89	80	73	67		77	71	66		74	69	65		72	67	64	61
4	84	72	64	57		82	71	63	57		69	62	56		66	60	55		64	59	55	53
5	77	65	56	50		75	64	55	49		62	54	49		60	53	48		58	52	48	46
6	71	58	50	43		69	57	49	43		56	48	43		54	47	42		52	47	42	40
7	66	53	44	38		64	52	44	38		51	43	38		49	43	38		48	42	37	35
8	62	48	40	34		60	48	40	34		46	39	34		45	38	34		44	38	33	32
9	58	44	36	31		56	44	36	31		43	35	30		42	35	30		40	35	30	28
10	54	41	33	28		53	40	33	28		39	32	28		38	32	28		38	32	27	26

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	12.7	7.53	7.53	
8.0	7.2	10.04	10.04	
10.0	4.6	12.54	12.54	
12.0	3.2	15.05	15.05	
14.0	2.3	17.56	17.56	
16.0	1.8	20.07	20.07	

Spacing Criterion	
SC:	1.3

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	34433	34433	34433
45	32053	32053	32053
55	29834	29834	29834
65	25676	25676	25676
75	14969	14969	14969
85	3521	3521	3521

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	109.7°
Field Angle:	151.2°
90-270 Degree Plane	
Beam Angle:	109.7°
Field Angle:	151.2°



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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

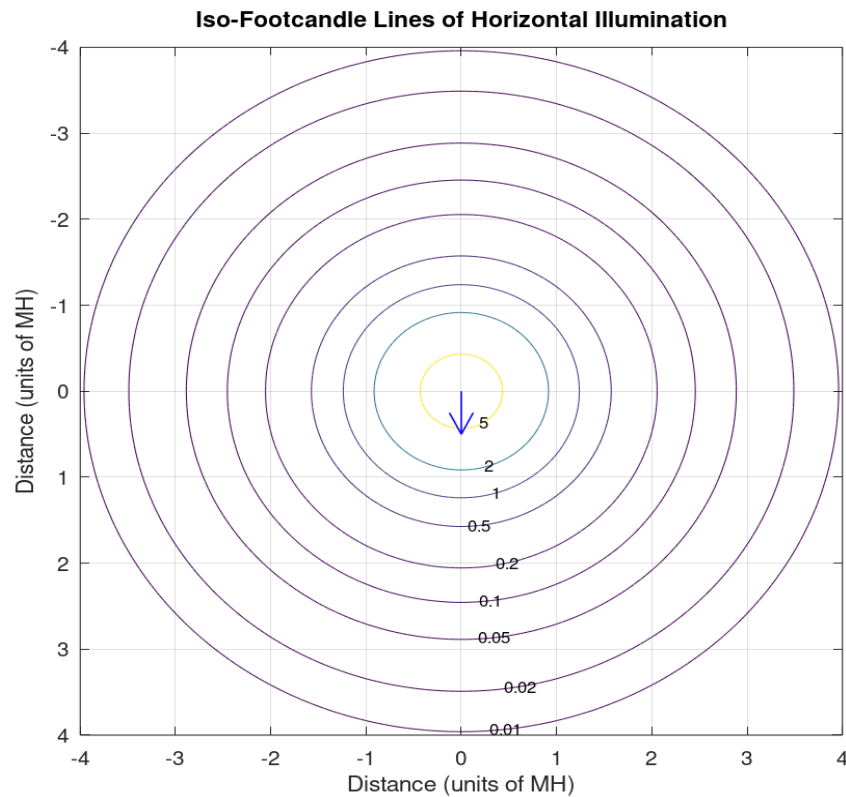
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	23.2	24.8	23.5	25.1	25.4	23.2	24.8	23.5	25.1	25.4
	3H	24.7	26.1	25.0	26.4	26.8	24.7	26.1	25.0	26.4	26.8
	4H	25.0	26.3	25.4	26.7	27.0	25.0	26.3	25.4	26.7	27.0
	6H	25.0	26.3	25.4	26.6	27.0	25.0	26.3	25.4	26.6	27.0
	8H	25.0	26.2	25.4	26.6	27.0	25.0	26.2	25.4	26.6	27.0
	12H	25.0	26.1	25.4	26.5	26.9	25.0	26.1	25.4	26.5	26.9
4H	2H	23.7	25.1	24.1	25.4	25.8	23.7	25.1	24.1	25.4	25.8
	3H	25.4	26.5	25.8	26.9	27.3	25.4	26.5	25.8	26.9	27.3
	4H	25.8	26.8	26.2	27.2	27.6	25.8	26.8	26.2	27.2	27.6
	6H	25.8	26.7	26.3	27.1	27.6	25.8	26.7	26.3	27.1	27.6
	8H	25.8	26.6	26.3	27.1	27.5	25.8	26.6	26.3	27.1	27.5
	12H	25.8	26.5	26.3	27.0	27.5	25.8	26.5	26.3	27.0	27.5
8H	4H	25.9	26.7	26.3	27.1	27.6	25.9	26.7	26.3	27.1	27.6
	6H	25.9	26.6	26.4	27.1	27.6	25.9	26.6	26.4	27.1	27.6
	8H	25.9	26.5	26.4	27.0	27.5	25.9	26.5	26.4	27.0	27.5
	12H	25.9	26.4	26.4	26.9	27.5	25.9	26.4	26.4	26.9	27.5
12H	4H	25.8	26.6	26.3	27.0	27.5	25.8	26.6	26.3	27.0	27.5
	6H	25.9	26.5	26.4	27.0	27.5	25.9	26.5	26.4	27.0	27.5
	8H	25.9	26.4	26.4	26.9	27.5	25.9	26.4	26.4	26.9	27.5

Maximum UGR = 27.6



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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        25.0 °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.

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#### *North America (issuing laboratory)*

#### *Australasia & S.E. Asia*