

Report of Test

LLIA001935-001

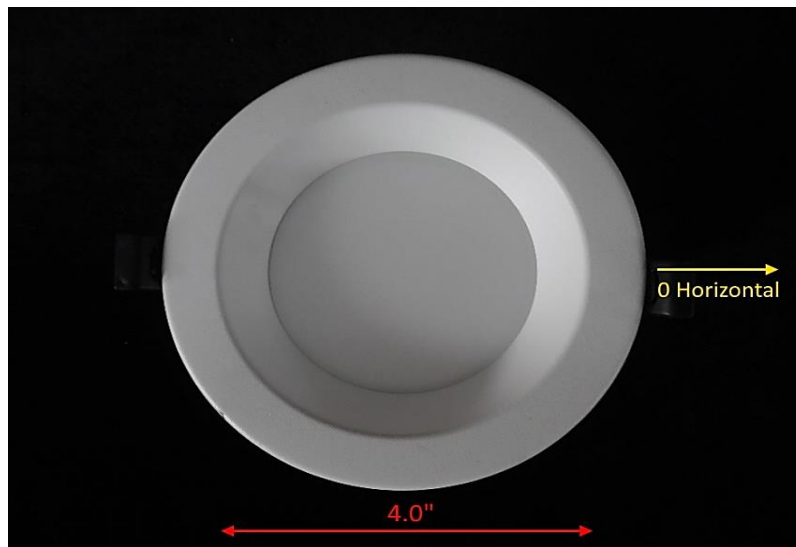
Indoor Distribution Photometry Test Report

Catalog Number: DLD4S-7CS

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

16 white LEDs on AL21023A CRI90 LED board, switch set for 3000K.

One Topaz DLD4S-7CS LED driver in formed steel box.



Prepared For:

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

Performance Summary

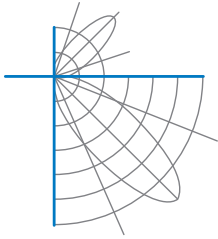
Input Voltage	120.0 Vac	Luminous Flux	689.9 Lumens
Input Current	0.0616 A	Total Efficacy	97.6 Lm/W
Input Power	7.07 W	Downward Flux	689.9 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.957		
Current THD	16.6 %		

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

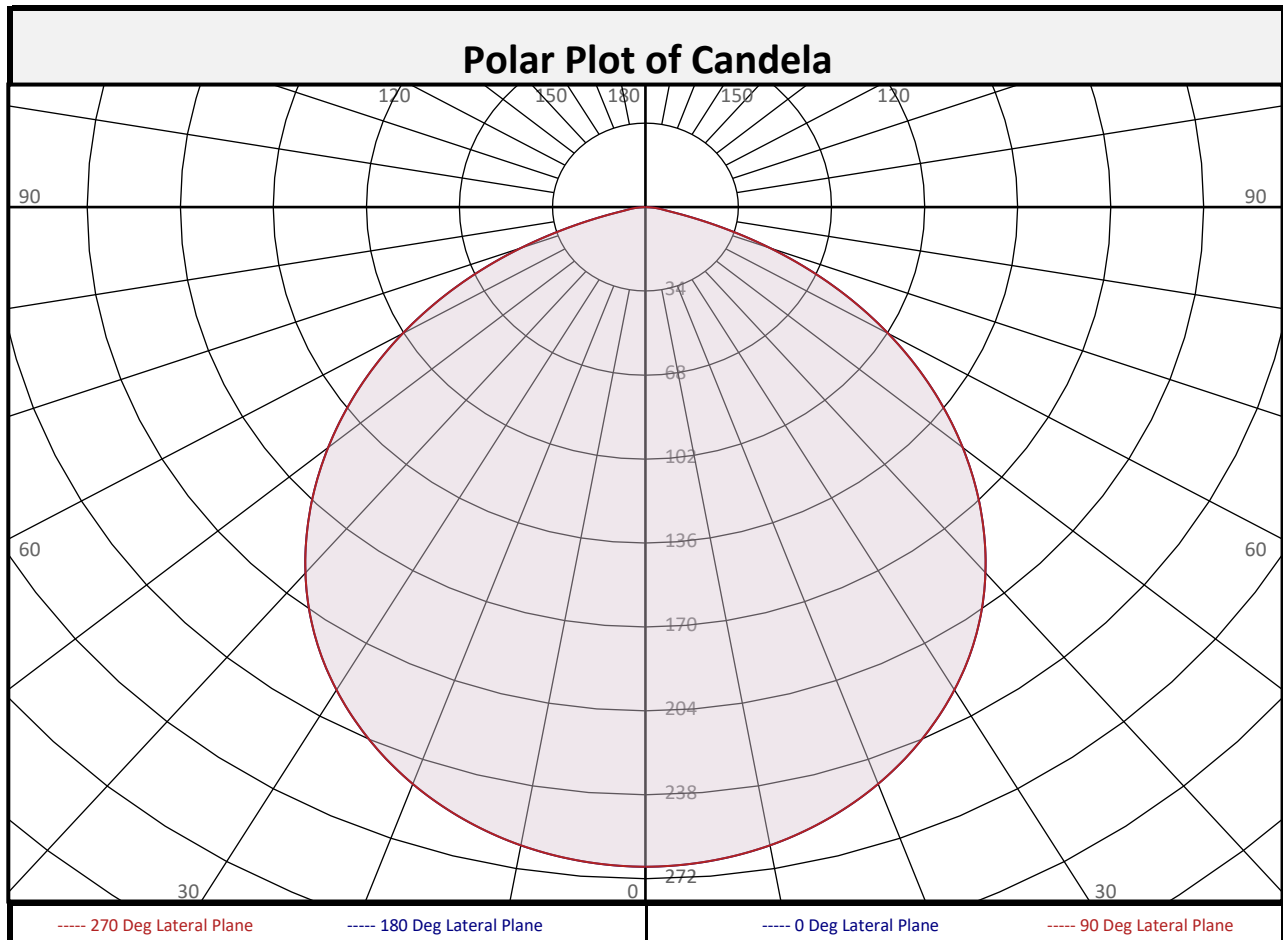
Test date: 01/12/2023

Report date: 01/13/2023

Signed: _____

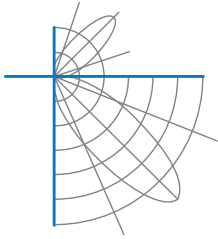


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Zonal Flux Summary

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	25.3	3.7%	90-100	0.0	0.0%	0-20	97.7	14.2%
10-20	72.4	10.5%	100-110	0.0	0.0%	0-30	207.5	30.1%
20-30	109.8	15.9%	110-120	0.0	0.0%	0-40	339.2	49.2%
30-40	131.7	19.1%	120-130	0.0	0.0%	0-60	586.4	85.0%
40-50	133.4	19.3%	130-140	0.0	0.0%	0-80	686.3	99.5%
50-60	113.8	16.5%	140-150	0.0	0.0%	10-90	664.6	96.3%
60-70	74.8	10.8%	150-160	0.0	0.0%	20-50	374.9	54.3%
70-80	25.2	3.6%	160-170	0.0	0.0%	40-90	350.7	50.8%
80-90	3.6	0.5%	170-180	0.0	0.0%	60-90	103.6	15.0%
0-90	689.9	100.0%	90-180	0.0	0.0%	0-180	689.9	100.0%



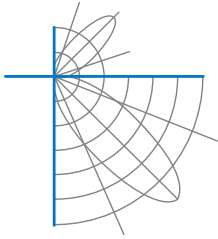
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Luminous Intensity (Candela) Table

		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	267	267	267	267	267	267	267	267	267
	2.5	267	267	267	267	267	267	267	267	267
	5	266	266	266	266	266	266	266	266	266
	7.5	264	264	264	264	264	264	264	264	264
	10	262	262	262	262	262	262	262	262	262
	12.5	260	260	260	260	260	260	260	260	260
	15	257	257	257	257	257	257	257	257	257
	17.5	253	253	253	253	253	253	253	253	253
	20	249	249	249	249	249	249	249	249	249
	22.5	244	244	244	244	244	244	244	244	244
	25	238	238	238	238	238	238	238	238	238
	27.5	232	232	232	232	232	232	232	232	232
	30	226	226	226	226	226	226	226	226	226
	32.5	219	219	219	219	219	219	219	219	219
	35	211	211	211	211	211	211	211	211	211
	37.5	202	202	202	202	202	202	202	202	202
	40	193	193	193	193	193	193	193	193	193
	42.5	183	183	183	183	183	183	183	183	183
	45	173	173	173	173	173	173	173	173	173
	47.5	162	162	162	162	162	162	162	162	162
50	151	151	151	151	151	151	151	151	151	
52.5	140	140	140	140	140	140	140	140	140	
55	128	128	128	128	128	128	128	128	128	
57.5	115	115	115	115	115	115	115	115	115	
60	102	102	102	102	102	102	102	102	102	
62.5	89	89	89	89	89	89	89	89	89	
65	76	76	76	76	76	76	76	76	76	
67.5	62	62	62	62	62	62	62	62	62	
70	48	48	48	48	48	48	48	48	48	
72.5	35	35	35	35	35	35	35	35	35	
75	22	22	22	22	22	22	22	22	22	
77.5	12	12	12	12	12	12	12	12	12	
80	7	7	7	7	7	7	7	7	7	
82.5	5	5	5	5	5	5	5	5	5	
85	3	3	3	3	3	3	3	3	3	
87.5	1	1	1	1	1	1	1	1	1	
90	0	0	0	0	0	0	0	0	0	

16 lateral half-planes of data were acquired, 22.5 degree increments shown.



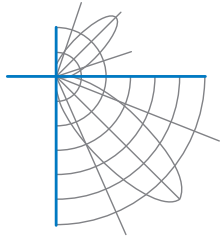
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Luminous Intensity (Candela) Table

		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	106	102	98		107	103	100	97		99	96	94		95	93	91		92	90	88	86
2	101	93	87	82		98	91	85	81		88	83	79		85	80	77		82	78	75	73
3	92	82	75	69		90	81	74	68		78	72	67		75	70	66		73	68	64	62
4	85	73	65	58		82	72	64	58		69	63	57		67	61	56		65	60	56	54
5	78	66	57	51		76	64	56	50		62	55	50		60	54	49		59	53	49	47
6	72	59	50	44		70	58	50	44		56	49	44		55	48	43		53	47	43	41
7	67	54	45	39		65	53	45	39		51	44	39		50	43	38		49	43	38	36
8	62	49	41	35		61	48	40	35		47	40	35		46	39	34		45	39	34	32
9	58	45	37	32		57	44	37	31		43	36	31		42	36	31		41	35	31	29
10	54	42	34	29		53	41	34	29		40	33	28		39	33	28		38	32	28	26

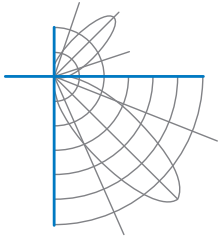
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	7.4	7.53	7.53	
8.0	4.2	10.04	10.04	
10.0	2.7	12.55	12.55	
12.0	1.9	15.06	15.06	
14.0	1.4	17.57	17.57	
16.0	1.0	20.08	20.08	

Spacing Criterion	
SC:	1.3

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	32948	32948	32948
45	30209	30209	30209
55	27429	27429	27429
65	22155	22155	22155
75	10494	10494	10494
85	4542	4542	4542

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	107.5°
Field Angle:	148.0°
90-270 Degree Plane	
Beam Angle:	107.5°
Field Angle:	148.0°



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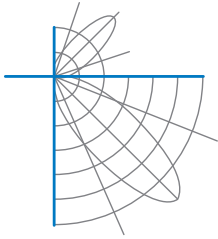
UGR Table - Corrected

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

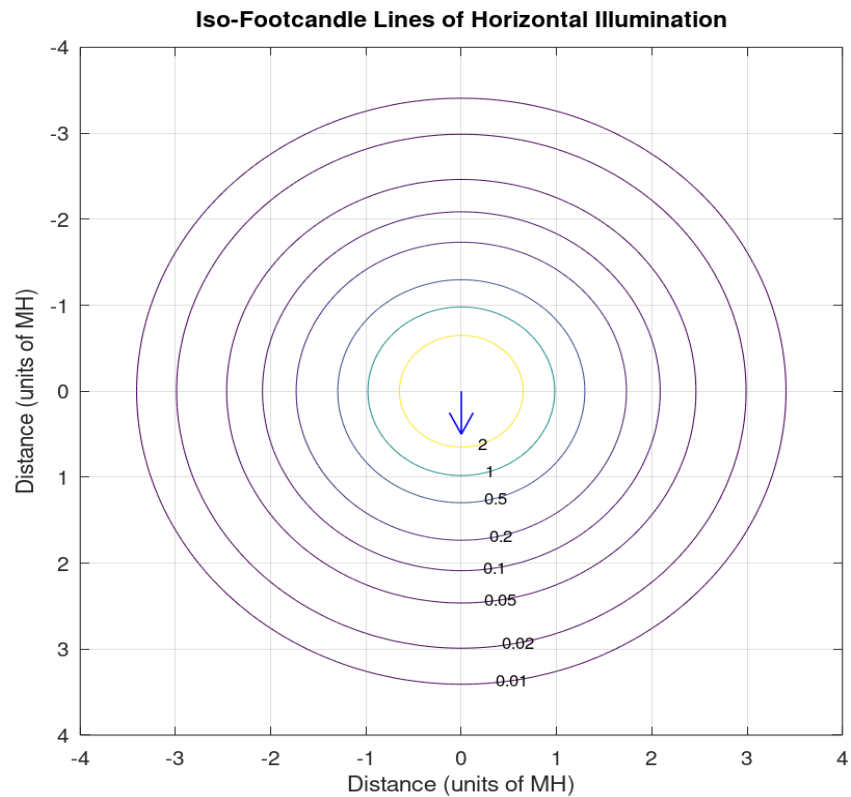
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	22.8	24.4	23.2	24.7	25.0	22.8	24.4	23.2	24.7	25.0
	3H	24.0	25.4	24.4	25.8	26.1	24.0	25.4	24.4	25.8	26.1
	4H	24.2	25.5	24.6	25.9	26.3	24.2	25.5	24.6	25.9	26.3
	6H	24.2	25.5	24.7	25.8	26.2	24.2	25.5	24.7	25.8	26.2
	8H	24.2	25.4	24.6	25.8	26.2	24.2	25.4	24.6	25.8	26.2
	12H	24.2	25.3	24.6	25.7	26.1	24.2	25.3	24.6	25.7	26.1
4H	2H	23.3	24.6	23.7	25.0	25.3	23.3	24.6	23.7	25.0	25.3
	3H	24.7	25.7	25.1	26.1	26.5	24.7	25.7	25.1	26.1	26.5
	4H	24.9	25.9	25.3	26.3	26.7	24.9	25.9	25.3	26.3	26.7
	6H	24.9	25.8	25.4	26.2	26.7	24.9	25.8	25.4	26.2	26.7
	8H	24.9	25.7	25.4	26.2	26.6	24.9	25.7	25.4	26.2	26.6
	12H	24.9	25.6	25.4	26.1	26.6	24.9	25.6	25.4	26.1	26.6
8H	4H	24.9	25.7	25.4	26.2	26.6	24.9	25.7	25.4	26.2	26.6
	6H	25.0	25.6	25.5	26.1	26.6	25.0	25.6	25.5	26.1	26.6
	8H	25.0	25.6	25.5	26.1	26.6	25.0	25.6	25.5	26.1	26.6
	12H	25.0	25.5	25.5	26.0	26.6	25.0	25.5	25.5	26.0	26.6
12H	4H	24.9	25.6	25.4	26.1	26.6	24.9	25.6	25.4	26.1	26.6
	6H	24.9	25.5	25.5	26.0	26.5	24.9	25.5	25.5	26.0	26.5
	8H	25.0	25.5	25.5	26.0	26.5	25.0	25.5	25.5	26.0	26.5

Maximum UGR = 26.7

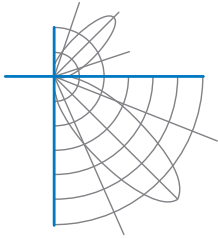


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Iso-Illuminance Plot



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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Test Distance 9.5 m
Ambient Temperature 24.9 °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.