

Report of Test

LLIA002055-002

Indoor Distribution Photometry Test Report

Catalog Number: DLD8B-21CS 4000K Setting
Recessed mounted, formed white painted aluminum housing,
white interior reflector, diffuse white plastic enclosure.
40 white LEDs, switch set for 4000K.
One Topaz DLD8B-21CS 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	2038.5 Lumens
Input Current	0.1736 A	Total Efficacy	99.5 lm/W
Input Power	20.48 W	Downward Flux	2038.5 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.983		
Current THD	14.1 %		

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

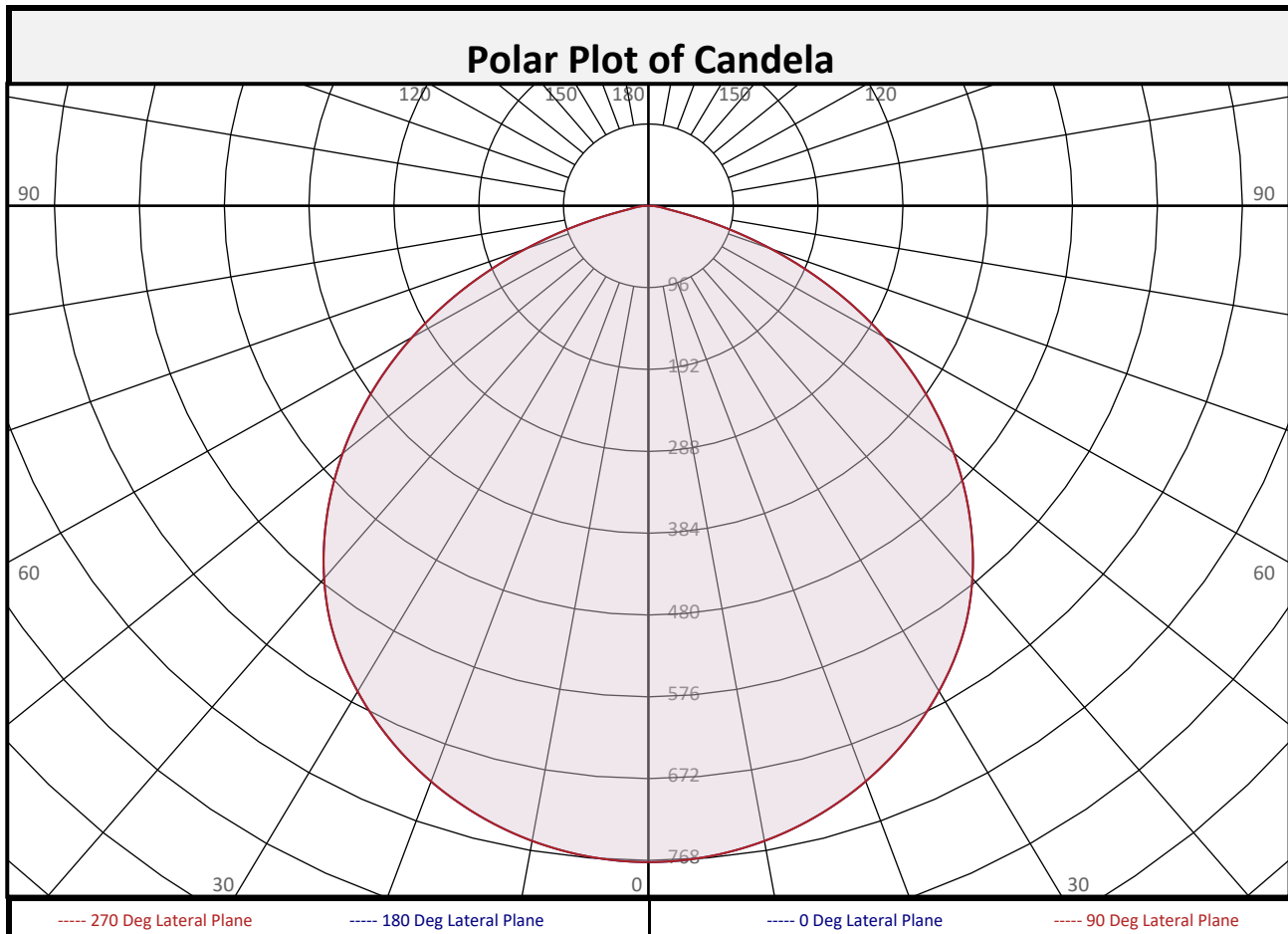
Test date: 03/24/2023
Report date: 03/27/2023

Signed: _____



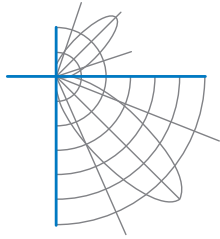
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Zonal Flux Summary

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	72.9	3.6%	90-100	0.0	0.0%	0-20	282.0	13.8%
10-20	209.1	10.3%	100-110	0.0	0.0%	0-30	600.6	29.5%
20-30	318.6	15.6%	110-120	0.0	0.0%	0-40	987.2	48.4%
30-40	386.6	19.0%	120-130	0.0	0.0%	0-60	1724	84.6%
40-50	396.1	19.4%	130-140	0.0	0.0%	0-80	2028	99.5%
50-60	341.1	16.7%	140-150	0.0	0.0%	10-90	1966	96.4%
60-70	226.4	11.1%	150-160	0.0	0.0%	20-50	1101	54.0%
70-80	77.2	3.8%	160-170	0.0	0.0%	40-90	1051	51.6%
80-90	10.6	0.5%	170-180	0.0	0.0%	60-90	314.2	15.4%
0-90	2039	100.0%	90-180	0.0	0.0%	0-180	2039	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	770	770	770	770	770	770	770	770	770
	2.5	769	769	769	769	769	769	769	769	769
	5	767	767	767	767	767	767	767	767	767
	7.5	762	762	762	762	762	762	762	762	762
	10	757	757	757	757	757	757	757	757	757
	12.5	749	749	749	749	749	749	749	749	749
	15	741	741	741	741	741	741	741	741	741
	17.5	730	730	730	730	730	730	730	730	730
	20	719	719	719	719	719	719	719	719	719
	22.5	706	706	706	706	706	706	706	706	706
	25	691	691	691	691	691	691	691	691	691
	27.5	675	675	675	675	675	675	675	675	675
	30	658	658	658	658	658	658	658	658	658
	32.5	639	639	639	639	639	639	639	639	639
	35	619	619	619	619	619	619	619	619	619
	37.5	596	596	596	596	596	596	596	596	596
	40	571	571	571	571	571	571	571	571	571
	42.5	543	543	543	543	543	543	543	543	543
	45	514	514	514	514	514	514	514	514	514
	47.5	484	484	484	484	484	484	484	484	484
50	451	451	451	451	451	451	451	451	451	
52.5	417	417	417	417	417	417	417	417	417	
55	382	382	382	382	382	382	382	382	382	
57.5	346	346	346	346	346	346	346	346	346	
60	309	309	309	309	309	309	309	309	309	
62.5	270	270	270	270	270	270	270	270	270	
65	230	230	230	230	230	230	230	230	230	
67.5	189	189	189	189	189	189	189	189	189	
70	148	148	148	148	148	148	148	148	148	
72.5	107	107	107	107	107	107	107	107	107	
75	68	68	68	68	68	68	68	68	68	
77.5	37	37	37	37	37	37	37	37	37	
80	21	21	21	21	21	21	21	21	21	
82.5	15	15	15	15	15	15	15	15	15	
85	10	10	10	10	10	10	10	10	10	
87.5	4	4	4	4	4	4	4	4	4	
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)

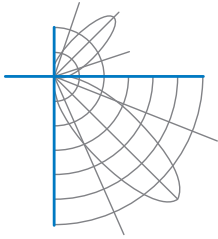
LightLab International Allentown, LLC
905 Harrison Street, Suite 135
Allentown, PA 18103 USA

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



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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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86			
2	101	93	87	81	98	91	85	80	88	83	78	84	80	77	81	78	75	73			
3	92	82	74	68	90	80	73	68	78	71	66	75	70	65	72	68	64	62			
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	40			
7	66	53	45	39	65	52	44	39	51	44	38	50	43	38	48	42	38	36			
8	62	49	40	35	60	48	40	34	47	39	34	45	39	34	44	38	34	32			
9	58	45	37	31	56	44	36	31	43	36	31	42	35	31	41	35	31	29			
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26			

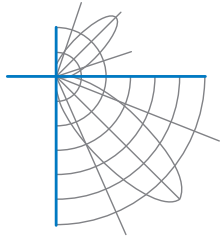
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	21.4	7.62	7.62
8.0	12.0	10.16	10.16
10.0	7.7	12.70	12.70
12.0	5.3	15.24	15.24
14.0	3.9	17.78	17.78
16.0	3.0	20.32	20.32

Spacing Criterion	
SC:	1.3

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	35970	35970	35970
45	33970	33970	33970
55	31150	31150	31150
65	25388	25388	25388
75	12331	12331	12331
85	5123	5123	5123

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	109.6°
Field Angle:	148.8°
90-270 Degree Plane	
Beam Angle:	109.6°
Field Angle:	148.8°



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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

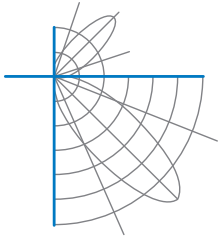
Room Size

UGR Viewed Crosswise

UGR Viewed Endwise

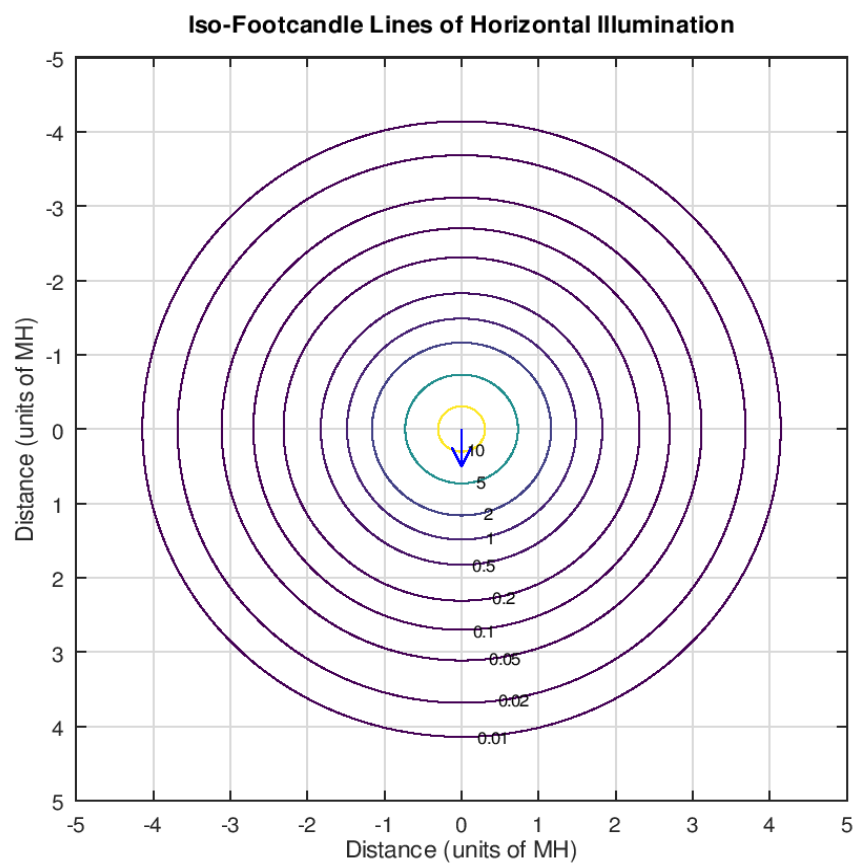
X=2H	Y=2H	23.3	24.9	23.7	25.2	25.5	23.3	24.9	23.7	25.2	25.5
	3H	24.6	26.0	25.0	26.3	26.7	24.6	26.0	25.0	26.3	26.7
	4H	24.8	26.1	25.2	26.5	26.8	24.8	26.1	25.2	26.5	26.8
	6H	24.8	26.0	25.2	26.4	26.8	24.8	26.0	25.2	26.4	26.8
	8H	24.8	26.0	25.2	26.3	26.7	24.8	26.0	25.2	26.3	26.7
	12H	24.8	25.9	25.2	26.3	26.7	24.8	25.9	25.2	26.3	26.7
4H	2H	23.8	25.2	24.2	25.5	25.9	23.8	25.2	24.2	25.5	25.9
	3H	25.2	26.3	25.6	26.7	27.1	25.2	26.3	25.6	26.7	27.1
	4H	25.5	26.4	25.9	26.9	27.3	25.5	26.4	25.9	26.9	27.3
	6H	25.5	26.4	25.9	26.8	27.3	25.5	26.4	25.9	26.8	27.3
	8H	25.5	26.3	25.9	26.7	27.2	25.5	26.3	25.9	26.7	27.2
	12H	25.5	26.2	26.0	26.7	27.1	25.5	26.2	26.0	26.7	27.1
8H	4H	25.5	26.3	26.0	26.8	27.2	25.5	26.3	26.0	26.8	27.2
	6H	25.6	26.2	26.1	26.7	27.2	25.6	26.2	26.1	26.7	27.2
	8H	25.5	26.1	26.1	26.7	27.1	25.5	26.1	26.1	26.7	27.1
	12H	25.6	26.1	26.1	26.6	27.1	25.6	26.1	26.1	26.6	27.1
12H	4H	25.5	26.2	26.0	26.7	27.2	25.5	26.2	26.0	26.7	27.2
	6H	25.5	26.1	26.1	26.6	27.1	25.5	26.1	26.1	26.6	27.1
	8H	25.6	26.1	26.1	26.6	27.1	25.6	26.1	26.1	26.6	27.1

Maximum UGR = 27.3

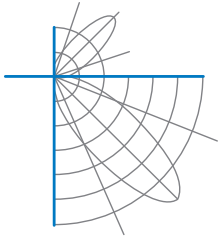


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Iso-Illuminance Plot

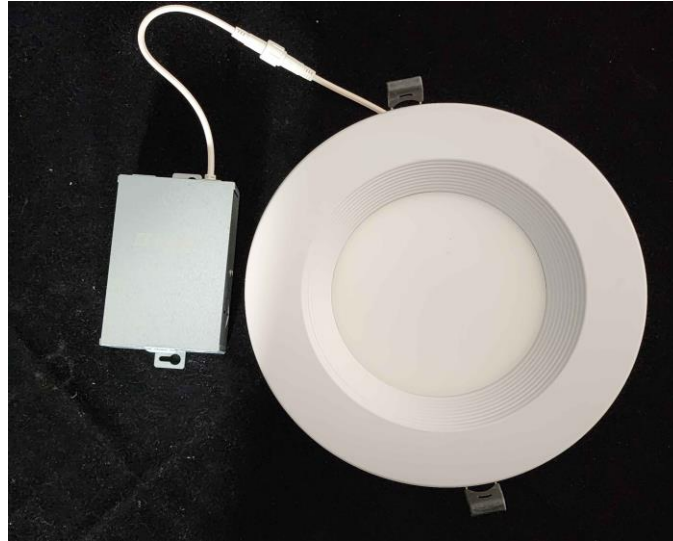


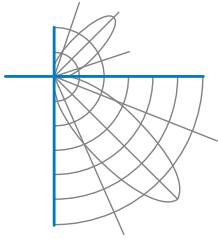
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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Additional Pictures of Test Subject





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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.

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