LightLab INTERNATIONAL ALLENTOWN LLC

NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA002761-002

Indoor Distribution Photometry Test Report

Catalog Number: CLSP-20PCS-BK 16W/4000K Setting
Pendant mounted, spun black painted aluminum housing,
formed specular plastic faceted reflector, clear glass enclosure.
One white COB LED, switch set for 4000K.
One GIFBK020W LED driver



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

Performance Summary					
Input Voltage	120.0	Vac	Luminous Flux	1633.4	Lumens
Input Current	0.1379	A	Total Efficacy	101.4	Lm/W
Input Power	16.11	W	Downward Flux	1633.4	Lumens
Frequency	60.00	Hz	Downward Flux	100.0	% of Total
Power Factor	0.974				
Current THD	11.2	%			

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

Test date: 09/08/2025
Report date: 09/09/2025

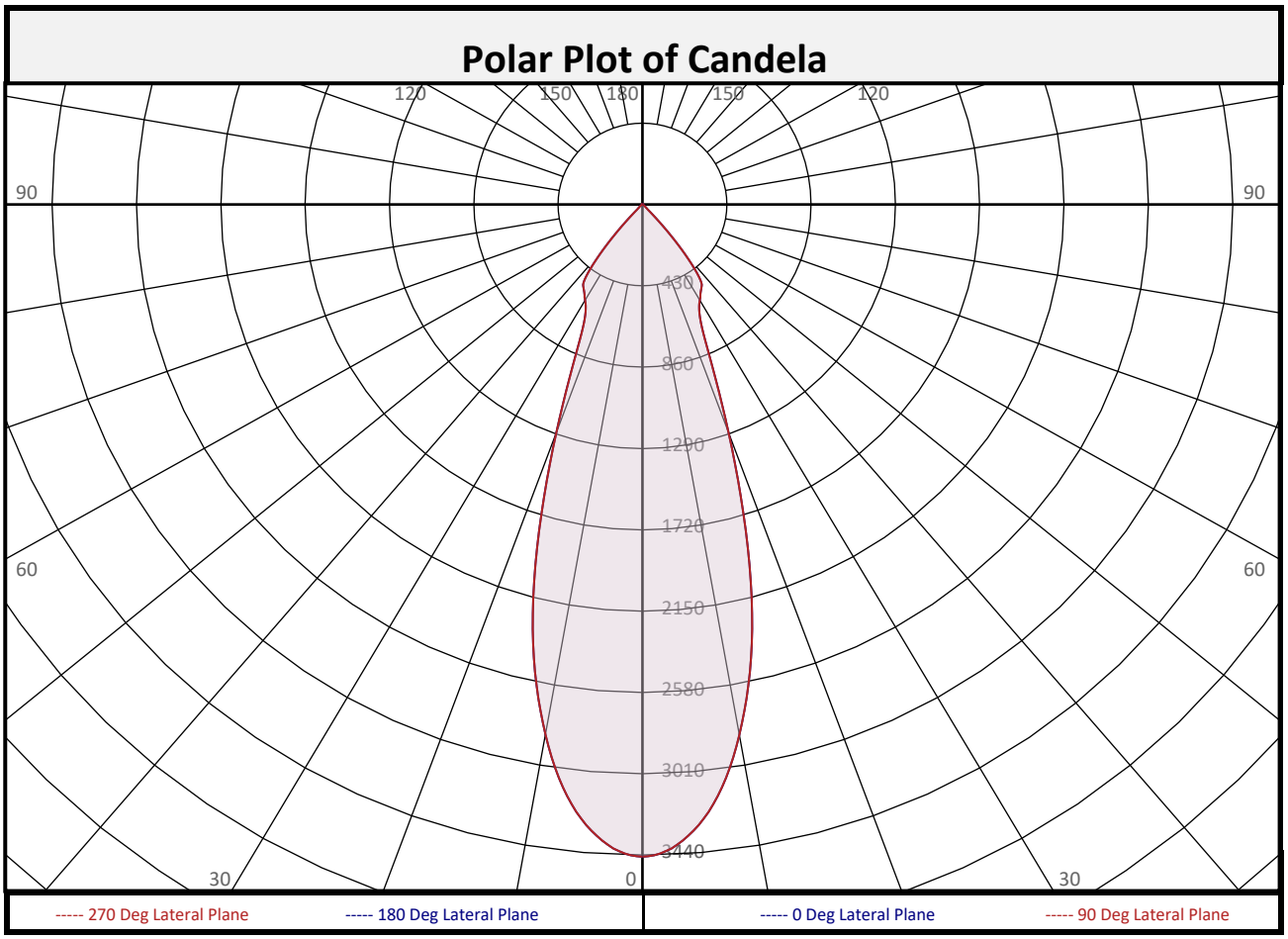
Signed: Michael L. Grather Digitally signed by Michael L. Grather Date: 2025.09.11 16:12:02 -04'00'

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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	300.4	18.4%	90-100	0.0	0.0%	0-20	876.0	53.6%
10-20	575.6	35.2%	100-110	0.0	0.0%	0-30	1235	75.6%
20-30	359.4	22.0%	110-120	0.0	0.0%	0-40	1546	94.6%
30-40	310.2	19.0%	120-130	0.0	0.0%	0-60	1628	99.6%
40-50	70.1	4.3%	130-140	0.0	0.0%	0-80	1633	100.0%
50-60	11.8	0.7%	140-150	0.0	0.0%	10-90	1333	81.6%
60-70	4.4	0.3%	150-160	0.0	0.0%	20-50	739.7	45.3%
70-80	1.1	0.1%	160-170	0.0	0.0%	40-90	87.8	5.4%
80-90	0.4	0.0%	170-180	0.0	0.0%	60-90	5.9	0.4%
0-90	1633	100.0%	90-180	0.0	0.0%	0-180	1633	100.0%

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Luminous Intensity (Candela) Table

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	Lateral (C-Plane) Angles									
	0	22.5	45	67.5	90	112.5	135	157.5	180
0	3449	3449	3449	3449	3449	3449	3449	3449	3449
2.5	3409	3409	3409	3409	3409	3409	3409	3409	3409
5	3294	3294	3294	3294	3294	3294	3294	3294	3294
7.5	3108	3108	3108	3108	3108	3108	3108	3108	3108
10	2847	2847	2847	2847	2847	2847	2847	2847	2847
12.5	2533	2533	2533	2533	2533	2533	2533	2533	2533
15	2153	2153	2153	2153	2153	2153	2153	2153	2153
17.5	1712	1712	1712	1712	1712	1712	1712	1712	1712
20	1285	1285	1285	1285	1285	1285	1285	1285	1285
22.5	938	938	938	938	938	938	938	938	938
25	719	719	719	719	719	719	719	719	719
27.5	627	627	627	627	627	627	627	627	627
30	585	585	585	585	585	585	585	585	585
32.5	552	552	552	552	552	552	552	552	552
35	527	527	527	527	527	527	527	527	527
37.5	456	456	456	456	456	456	456	456	456
40	311	311	311	311	311	311	311	311	311
42.5	153	153	153	153	153	153	153	153	153
45	46	46	46	46	46	46	46	46	46
47.5	26	26	26	26	26	26	26	26	26
50	19	19	19	19	19	19	19	19	19
52.5	16	16	16	16	16	16	16	16	16
55	13	13	13	13	13	13	13	13	13
57.5	10	10	10	10	10	10	10	10	10
60	8	8	8	8	8	8	8	8	8
62.5	6	6	6	6	6	6	6	6	6
65	4	4	4	4	4	4	4	4	4
67.5	3	3	3	3	3	3	3	3	3
70	2	2	2	2	2	2	2	2	2
72.5	1	1	1	1	1	1	1	1	1
75	1	1	1	1	1	1	1	1	1
77.5	1	1	1	1	1	1	1	1	1
80	1	1	1	1	1	1	1	1	1
82.5	1	1	1	1	1	1	1	1	1
85	0	0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0	0	0
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

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	Lateral (C-Plane) Angles								
	0	22.5	45	67.5	90	112.5	135	157.5	180
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	114	111	109	107		112	109	107	105		105	104	102		102	100	99		98	97	96	94
2	109	104	101	98		107	103	99	97		100	97	94		97	94	92		94	92	91	89
3	104	98	94	90		102	97	93	89		94	91	88		92	89	87		90	87	85	84
4	100	93	88	84		98	92	87	83		89	85	82		87	84	81		86	83	80	79
5	95	88	82	78		94	87	82	78		85	81	77		83	80	77		82	79	76	75
6	91	83	78	74		90	82	77	73		81	76	73		79	75	72		78	75	72	71
7	87	79	73	70		86	78	73	69		77	72	69		76	72	69		75	71	68	67
8	84	75	70	66		82	74	69	66		73	69	66		72	68	65		72	68	65	64
9	80	72	66	63		79	71	66	63		70	66	62		69	65	62		69	65	62	61
10	77	68	63	60		76	68	63	60		67	63	59		66	62	59		66	62	59	58

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	95.8	3.48	3.48
8.0	53.9	4.65	4.65
10.0	34.5	5.81	5.81
12.0	24.0	6.97	6.97
14.0	17.6	8.13	8.13
16.0	13.5	9.29	9.29

Spacing Criterion

SC: 0.6

Average Luminance (cd/m^2)

	0 deg Plane	45 deg Plane	90 deg Plane
0	725738	725738	725738
45	13558	13558	13558
55	4782	4782	4782
65	2120	2120	2120
75	811	811	811
85	688	688	688

Beam and Field Angle

0-180 Degree Plane

Beam Angle: 34.9°

Field Angle: 78.9°

90-270 Degree Plane

Beam Angle: 34.9°

Field Angle: 78.9°

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UGR Table - Corrected

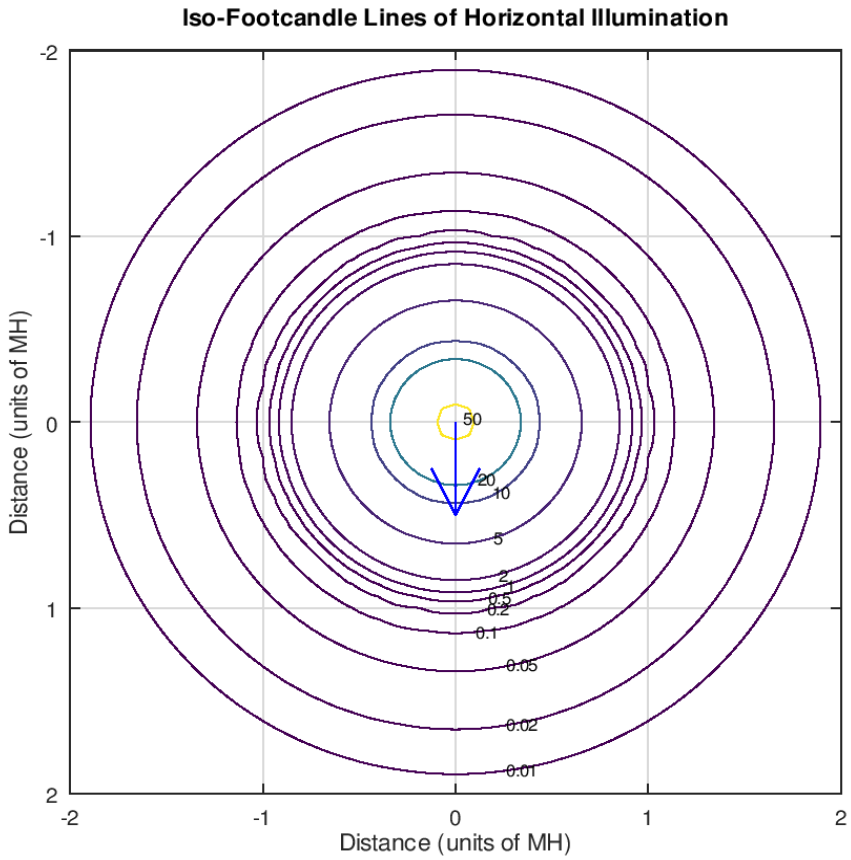
Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	5.6	6.5	5.9	6.8	7.2	5.6	6.5	5.9	6.8	7.2
	3H	5.6	6.5	6.0	6.8	7.2	5.6	6.5	6.0	6.8	7.2
	4H	5.6	6.4	6.0	6.7	7.1	5.6	6.4	6.0	6.7	7.1
	6H	5.6	6.3	6.0	6.7	7.1	5.6	6.3	6.0	6.7	7.1
	8H	5.7	6.3	6.1	6.7	7.1	5.7	6.3	6.1	6.7	7.1
	12H	5.7	6.3	6.1	6.7	7.1	5.7	6.3	6.1	6.7	7.1
4H	2H	5.6	6.4	6.0	6.7	7.1	5.6	6.4	6.0	6.7	7.1
	3H	5.7	6.4	6.1	6.8	7.2	5.7	6.4	6.1	6.8	7.2
	4H	5.7	6.3	6.2	6.7	7.2	5.7	6.3	6.2	6.7	7.2
	6H	5.8	6.3	6.3	6.8	7.2	5.8	6.3	6.3	6.8	7.2
	8H	5.9	6.4	6.4	6.8	7.3	5.9	6.4	6.4	6.8	7.3
	12H	6.0	6.3	6.4	6.8	7.3	6.0	6.3	6.4	6.8	7.3
8H	4H	5.6	6.1	6.1	6.5	7.0	5.6	6.1	6.1	6.5	7.0
	6H	5.8	6.2	6.3	6.7	7.2	5.8	6.2	6.3	6.7	7.2
	8H	6.0	6.4	6.6	6.9	7.4	6.0	6.4	6.6	6.9	7.4
	12H	6.1	6.4	6.6	6.9	7.4	6.1	6.4	6.6	6.9	7.4
12H	4H	5.6	6.0	6.1	6.4	6.9	5.6	6.0	6.1	6.4	6.9
	6H	5.8	6.1	6.3	6.6	7.1	5.8	6.1	6.3	6.6	7.1
	8H	6.1	6.4	6.6	6.9	7.4	6.1	6.4	6.6	6.9	7.4

Maximum UGR = 7.4

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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	24.7 °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-79-24. 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.