LightLab INTERNATIONAL ALLENTOWN LLC

NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA002547-003

Indoor Distribution Photometry Test Report

Catalog Number: GCP-100PCS-WH (50W - Downlight - 4000K)
Surface or bracket mounted, cast aluminum housing, lightly frosted prismatic plastic direct enclosure, frosted plastic indirect enclosure. 128 LEDs (64CW and 64WW) on two E502083 LED boards in direct section and 24 unenergized LEDs (12CW and 12WW) on two boards in uplight section. One Moso N7L-120M260A12 LED driver

Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary					
Input Voltage	120.0	Vac	Luminous Flux	7347.0	Lumens
Input Current	0.4054	A	Total Efficacy	153.2	Lm/W
Input Power	47.96	W	Downward Flux	7128.5	Lumens
Frequency	60.00	Hz	Downward Flux	97.0	% of Total
Power Factor	0.986				
Current THD	5.5	%			

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

Test date: 01/15/2025
Report date: 01/16/2025

Signed: Michael L. Grather Digitally signed by Michael L. Grather Date: 2025.01.17 12:17:10 -05'00'

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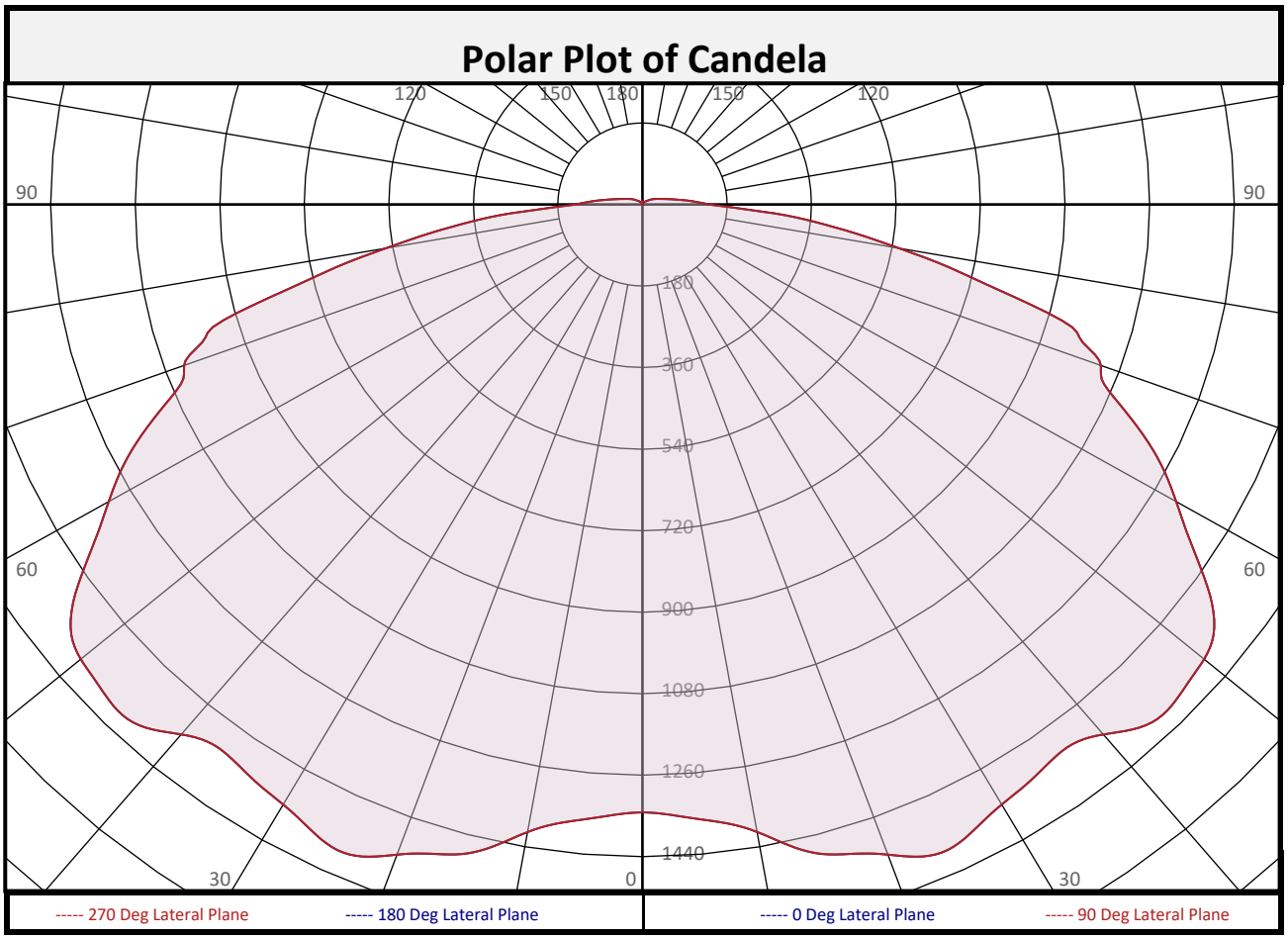

Zonal Flux Summary									
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	131.4	1.8%	90-100	108.3	1.5%	0-20	551.7	7.5%
10-20	420.3	5.7%	100-110	51.2	0.7%	0-30	1269	17.3%
20-30	717.7	9.8%	110-120	28.7	0.4%	0-40	2220	30.2%
30-40	950.4	12.9%	120-130	15.3	0.2%	0-60	4737	64.5%
40-50	1213	16.5%	130-140	7.8	0.1%	0-80	6771	92.2%
50-60	1304	17.8%	140-150	4.1	0.1%	10-90	6997	95.2%
60-70	1153	15.7%	150-160	2.0	0.0%	20-50	2882	39.2%
70-80	880.4	12.0%	160-170	0.9	0.0%	40-90	4909	66.8%
80-90	357.7	4.9%	170-180	0.2	0.0%	60-90	2391	32.5%
0-90	7128	97.0%	90-180	218.5	3.0%	0-180	7347	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	1342	1342	1342	1342	1342	1342	1342	1342	1342
2.5	1349	1349	1349	1349	1349	1349	1349	1349	1349
5	1362	1362	1362	1362	1362	1362	1362	1362	1362
7.5	1378	1378	1378	1378	1378	1378	1378	1378	1378
10	1407	1407	1407	1407	1407	1407	1407	1407	1407
12.5	1450	1450	1450	1450	1450	1450	1450	1450	1450
15	1485	1485	1485	1485	1485	1485	1485	1485	1485
17.5	1503	1503	1503	1503	1503	1503	1503	1503	1503
20	1528	1528	1528	1528	1528	1528	1528	1528	1528
22.5	1558	1558	1558	1558	1558	1558	1558	1558	1558
25	1565	1565	1565	1565	1565	1565	1565	1565	1565
27.5	1547	1547	1547	1547	1547	1547	1547	1547	1547
30	1530	1530	1530	1530	1530	1530	1530	1530	1530
32.5	1519	1519	1519	1519	1519	1519	1519	1519	1519
35	1507	1507	1507	1507	1507	1507	1507	1507	1507
37.5	1503	1503	1503	1503	1503	1503	1503	1503	1503
40	1527	1527	1527	1527	1527	1527	1527	1527	1527
42.5	1566	1566	1566	1566	1566	1566	1566	1566	1566
45	1580	1580	1580	1580	1580	1580	1580	1580	1580
47.5	1571	1571	1571	1571	1571	1571	1571	1571	1571
50	1562	1562	1562	1562	1562	1562	1562	1562	1562
52.5	1535	1535	1535	1535	1535	1535	1535	1535	1535
55	1468	1468	1468	1468	1468	1468	1468	1468	1468
57.5	1383	1383	1383	1383	1383	1383	1383	1383	1383
60	1312	1312	1312	1312	1312	1312	1312	1312	1312
62.5	1245	1245	1245	1245	1245	1245	1245	1245	1245
65	1163	1163	1163	1163	1163	1163	1163	1163	1163
67.5	1074	1074	1074	1074	1074	1074	1074	1074	1074
70	1039	1039	1039	1039	1039	1039	1039	1039	1039
72.5	976	976	976	976	976	976	976	976	976
75	858	858	858	858	858	858	858	858	858
77.5	694	694	694	694	694	694	694	694	694
80	553	553	553	553	553	553	553	553	553
82.5	435	435	435	435	435	435	435	435	435
85	329	329	329	329	329	329	329	329	329
87.5	209	209	209	209	209	209	209	209	209
90	142	142	142	142	142	142	142	142	142

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	142	142	142	142	142	142	142	142	142
	92.5	118	118	118	118	118	118	118	118	118
	95	98	98	98	98	98	98	98	98	98
	97.5	79	79	79	79	79	79	79	79	79
	100	65	65	65	65	65	65	65	65	65
	102.5	55	55	55	55	55	55	55	55	55
	105	47	47	47	47	47	47	47	47	47
	107.5	41	41	41	41	41	41	41	41	41
	110	36	36	36	36	36	36	36	36	36
	112.5	32	32	32	32	32	32	32	32	32
	115	29	29	29	29	29	29	29	29	29
	117.5	26	26	26	26	26	26	26	26	26
	120	22	22	22	22	22	22	22	22	22
	122.5	20	20	20	20	20	20	20	20	20
	125	16	16	16	16	16	16	16	16	16
	127.5	14	14	14	14	14	14	14	14	14
	130	13	13	13	13	13	13	13	13	13
	132.5	11	11	11	11	11	11	11	11	11
	135	10	10	10	10	10	10	10	10	10
	137.5	9	9	9	9	9	9	9	9	9
	140	8	8	8	8	8	8	8	8	8
	142.5	7	7	7	7	7	7	7	7	7
	145	6	6	6	6	6	6	6	6	6
	147.5	6	6	6	6	6	6	6	6	6
	150	5	5	5	5	5	5	5	5	5
	152.5	5	5	5	5	5	5	5	5	5
	155	4	4	4	4	4	4	4	4	4
	157.5	4	4	4	4	4	4	4	4	4
	160	4	4	4	4	4	4	4	4	4
	162.5	3	3	3	3	3	3	3	3	3
	165	3	3	3	3	3	3	3	3	3
	167.5	3	3	3	3	3	3	3	3	3
	170	3	3	3	3	3	3	3	3	3
	172.5	3	3	3	3	3	3	3	3	3
	175	2	2	2	2	2	2	2	2	2
	177.5	2	2	2	2	2	2	2	2	2
	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	118	118	118	118		115	115	115	115		109	109	109		104	104	104		99	99	99	97
1	105	99	94	89		102	97	92	88		92	88	84		87	84	81		83	81	78	76
2	94	84	76	69		91	82	75	68		78	72	66		74	69	64		70	66	62	60
3	85	72	63	55		82	70	62	55		67	59	53		64	57	52		61	55	50	48
4	77	63	53	45		74	61	52	45		58	50	44		55	48	43		53	47	42	39
5	70	55	45	38		67	54	45	38		51	43	37		49	42	36		47	40	35	33
6	64	49	39	32		62	48	39	32		46	38	31		44	36	31		42	35	30	28
7	59	44	35	28		57	43	34	28		41	33	27		40	32	27		38	31	26	24
8	55	40	31	24		53	39	30	24		37	30	24		36	29	24		35	28	23	21
9	51	36	28	22		49	36	27	21		34	27	21		33	26	21		32	25	21	19
10	48	33	25	19		46	33	25	19		31	24	19		30	23	19		29	23	18	17

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	37.3	10.31	10.31
8.0	21.0	13.75	13.75
10.0	13.4	17.19	17.19
12.0	9.3	20.62	20.62
14.0	6.8	24.06	24.06
16.0	5.2	27.50	27.50

Spacing Criterion

SC: 1.7

Average Luminance (cd/m^2)

	0 deg Plane	45 deg Plane	90 deg Plane
0	14535	14535	14535
45	22355	22355	22355
55	24787	24787	24787
65	25325	25325	25325
75	27431	27431	27431
85	21015	21015	21015

Beam and Field Angle

0-180 Degree Plane

Beam Angle: 151.8°

Field Angle: 178.4°

90-270 Degree Plane

Beam Angle: 151.8°

Field Angle: 178.4°

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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	22.6	24.3	23.0	24.7	25.1	22.6	24.3	23.0	24.7	25.1
	3H	25.0	26.5	25.4	26.9	27.4	25.0	26.5	25.4	26.9	27.4
	4H	26.1	27.6	26.6	28.1	28.5	26.1	27.6	26.6	28.1	28.5
	6H	26.9	28.3	27.4	28.8	29.2	26.9	28.3	27.4	28.8	29.2
	8H	27.2	28.6	27.7	29.0	29.5	27.2	28.6	27.7	29.0	29.5
	12H	27.4	28.7	27.9	29.2	29.7	27.4	28.7	27.9	29.2	29.7
4H	2H	23.3	24.9	23.8	25.3	25.7	23.3	24.9	23.8	25.3	25.7
	3H	26.0	27.3	26.5	27.8	28.2	26.0	27.3	26.5	27.8	28.2
	4H	27.3	28.5	27.8	29.0	29.5	27.3	28.5	27.8	29.0	29.5
	6H	28.2	29.3	28.7	29.8	30.3	28.2	29.3	28.7	29.8	30.3
	8H	28.6	29.6	29.1	30.1	30.6	28.6	29.6	29.1	30.1	30.6
	12H	28.9	29.8	29.4	30.3	30.8	28.9	29.8	29.4	30.3	30.8
8H	4H	27.8	28.8	28.3	29.3	29.8	27.8	28.8	28.3	29.3	29.8
	6H	28.8	29.7	29.4	30.2	30.7	28.8	29.7	29.4	30.2	30.7
	8H	29.3	30.0	29.8	30.6	31.1	29.3	30.0	29.8	30.6	31.1
	12H	29.7	30.3	30.2	30.9	31.5	29.7	30.3	30.2	30.9	31.5
12H	4H	27.9	28.8	28.4	29.3	29.8	27.9	28.8	28.4	29.3	29.8
	6H	28.9	29.7	29.5	30.2	30.8	28.9	29.7	29.5	30.2	30.8
	8H	29.4	30.1	30.0	30.6	31.3	29.4	30.1	30.0	30.6	31.3

Maximum UGR = 31.5

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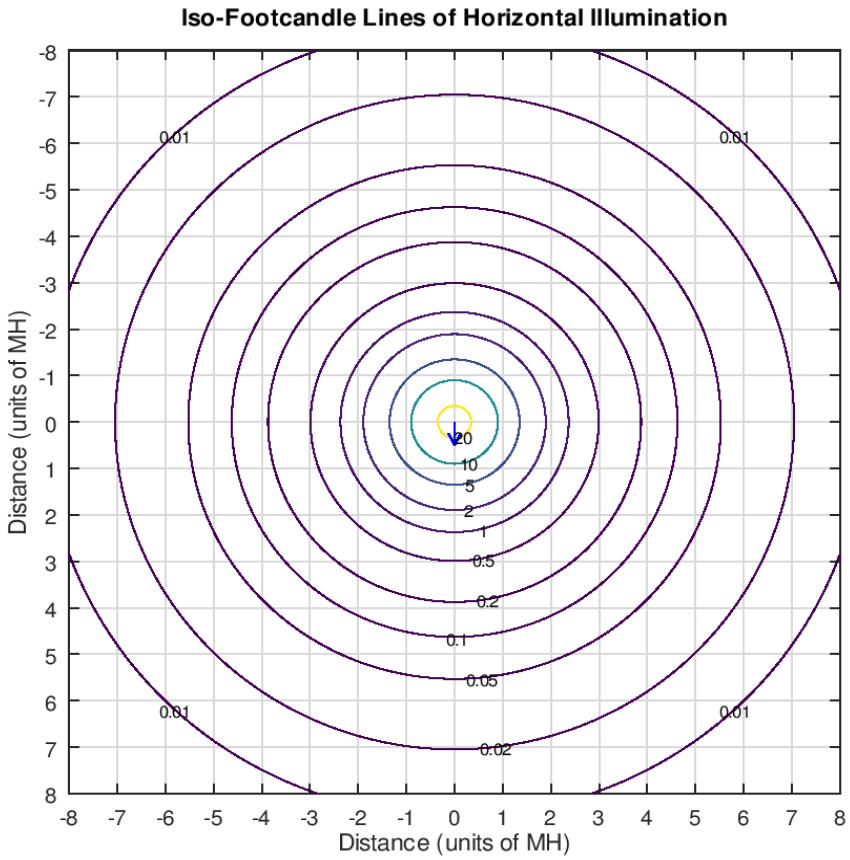
Iso-Illuminance Plot



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.