LightLab INTERNATIONAL ALLENTOWN LLC

NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA002547-001

Indoor Distribution Photometry Test Report

Catalog Number: GCP-100PCS-WH (30W - 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	4471.0	Lumens
Input Current	0.2603	A	Total Efficacy	147.9	Lm/W
Input Power	30.23	W	Downward Flux	4338.3	Lumens
Frequency	60.00	Hz	Downward Flux	97.0	% of Total
Power Factor	0.968				
Current THD	8.3	%			

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

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

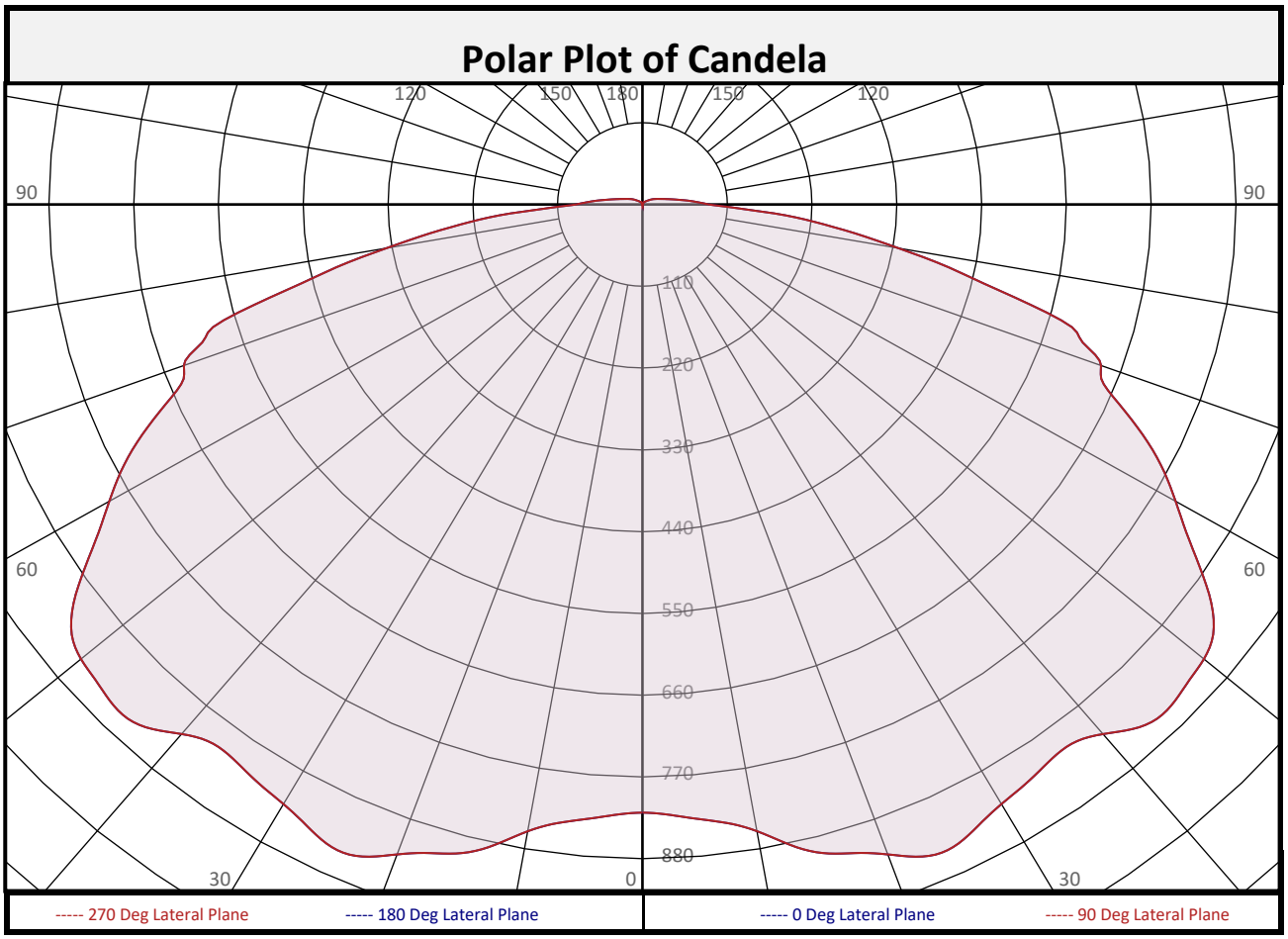
Signed: Michael L. Grather Digitally signed by Michael L. Grather Date: 2025.01.17 12:16:08 -05'00'

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

Report of Test

LLIA002547-001



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	80.0	1.8%	90-100	65.8	1.5%	0-20	335.7	7.5%
10-20	255.7	5.7%	100-110	31.1	0.7%	0-30	772.9	17.3%
20-30	437.2	9.8%	110-120	17.4	0.4%	0-40	1351	30.2%
30-40	578.4	12.9%	120-130	9.2	0.2%	0-60	2884	64.5%
40-50	738.8	16.5%	130-140	4.7	0.1%	0-80	4121	92.2%
50-60	793.7	17.8%	140-150	2.5	0.1%	10-90	4258	95.2%
60-70	701.7	15.7%	150-160	1.2	0.0%	20-50	1754	39.2%
70-80	535.5	12.0%	160-170	0.6	0.0%	40-90	2987	66.8%
80-90	217.3	4.9%	170-180	0.1	0.0%	60-90	1454	32.5%
0-90	4338	97.0%	90-180	132.7	3.0%	0-180	4471	100.0%

Report of Test

LLIA002547-001

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	818	818	818	818	818	818	818	818	818
	2.5	822	822	822	822	822	822	822	822	822
	5	830	830	830	830	830	830	830	830	830
	7.5	839	839	839	839	839	839	839	839	839
	10	856	856	856	856	856	856	856	856	856
	12.5	882	882	882	882	882	882	882	882	882
	15	903	903	903	903	903	903	903	903	903
	17.5	915	915	915	915	915	915	915	915	915
	20	930	930	930	930	930	930	930	930	930
	22.5	949	949	949	949	949	949	949	949	949
	25	954	954	954	954	954	954	954	954	954
	27.5	942	942	942	942	942	942	942	942	942
	30	931	931	931	931	931	931	931	931	931
	32.5	924	924	924	924	924	924	924	924	924
	35	917	917	917	917	917	917	917	917	917
	37.5	914	914	914	914	914	914	914	914	914
	40	930	930	930	930	930	930	930	930	930
	42.5	954	954	954	954	954	954	954	954	954
	45	962	962	962	962	962	962	962	962	962
	47.5	957	957	957	957	957	957	957	957	957
	50	951	951	951	951	951	951	951	951	951
	52.5	934	934	934	934	934	934	934	934	934
	55	893	893	893	893	893	893	893	893	893
	57.5	841	841	841	841	841	841	841	841	841
	60	799	799	799	799	799	799	799	799	799
	62.5	758	758	758	758	758	758	758	758	758
	65	708	708	708	708	708	708	708	708	708
	67.5	654	654	654	654	654	654	654	654	654
	70	633	633	633	633	633	633	633	633	633
	72.5	594	594	594	594	594	594	594	594	594
	75	521	521	521	521	521	521	521	521	521
	77.5	421	421	421	421	421	421	421	421	421
	80	336	336	336	336	336	336	336	336	336
	82.5	264	264	264	264	264	264	264	264	264
	85	200	200	200	200	200	200	200	200	200
	87.5	127	127	127	127	127	127	127	127	127
	90	86	86	86	86	86	86	86	86	86

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

Report of Test

LLIA002547-001

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	86	86	86	86	86	86	86	86	86
	92.5	72	72	72	72	72	72	72	72	72
	95	59	59	59	59	59	59	59	59	59
	97.5	48	48	48	48	48	48	48	48	48
	100	40	40	40	40	40	40	40	40	40
	102.5	33	33	33	33	33	33	33	33	33
	105	29	29	29	29	29	29	29	29	29
	107.5	25	25	25	25	25	25	25	25	25
	110	22	22	22	22	22	22	22	22	22
	112.5	19	19	19	19	19	19	19	19	19
	115	17	17	17	17	17	17	17	17	17
	117.5	15	15	15	15	15	15	15	15	15
	120	14	14	14	14	14	14	14	14	14
	122.5	12	12	12	12	12	12	12	12	12
	125	10	10	10	10	10	10	10	10	10
	127.5	9	9	9	9	9	9	9	9	9
	130	8	8	8	8	8	8	8	8	8
	132.5	7	7	7	7	7	7	7	7	7
	135	6	6	6	6	6	6	6	6	6
	137.5	5	5	5	5	5	5	5	5	5
	140	5	5	5	5	5	5	5	5	5
	142.5	4	4	4	4	4	4	4	4	4
	145	4	4	4	4	4	4	4	4	4
	147.5	4	4	4	4	4	4	4	4	4
	150	3	3	3	3	3	3	3	3	3
	152.5	3	3	3	3	3	3	3	3	3
	155	2	2	2	2	2	2	2	2	2
	157.5	2	2	2	2	2	2	2	2	2
	160	2	2	2	2	2	2	2	2	2
	162.5	2	2	2	2	2	2	2	2	2
	165	2	2	2	2	2	2	2	2	2
	167.5	2	2	2	2	2	2	2	2	2
	170	2	2	2	2	2	2	2	2	2
	172.5	2	2	2	2	2	2	2	2	2
	175	1	1	1	1	1	1	1	1	1
	177.5	1	1	1	1	1	1	1	1	1
	180	0	0	0	0	0	0	0	0	0
16 lateral half-planes of data were acquired, 22.5 degree increments shown.										

LightLab INTERNATIONAL ALLENTOWN LLC

NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA002547-001

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	51	48
4	77	63	53	45		74	61	52	45		58	50	44		55	49	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	37	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	24	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	22.7	10.30	10.30
8.0	12.8	13.73	13.73
10.0	8.2	17.17	17.17
12.0	5.7	20.60	20.60
14.0	4.2	24.03	24.03
16.0	3.2	27.47	27.47

Spacing Criterion

SC: 1.7

Average Luminance (cd/m^2)

	0 deg Plane	45 deg Plane	90 deg Plane
0	8858	8858	8858
45	13612	13612	13612
55	15079	15079	15079
65	15411	15411	15411
75	16668	16668	16668
85	12767	12767	12767

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°

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

Report of Test

LLIA002547-001

UGR Table - Corrected

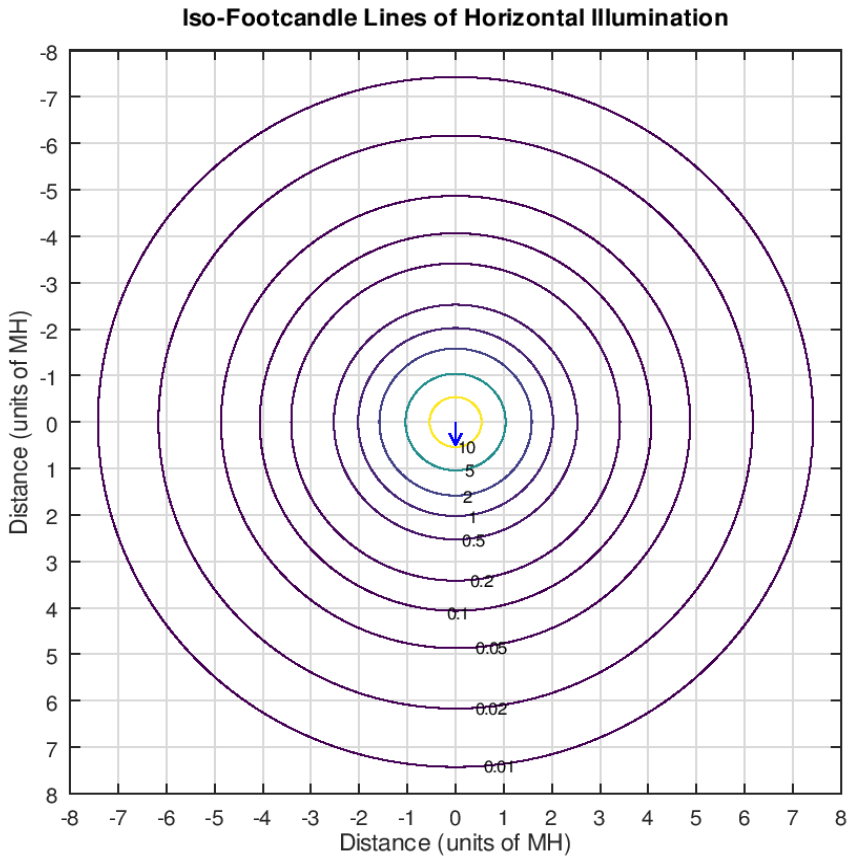
Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	20.9	22.6	21.3	23.0	23.4	20.9	22.6	21.3	23.0	23.4
	3H	23.3	24.8	23.7	25.2	25.7	23.3	24.8	23.7	25.2	25.7
	4H	24.4	25.9	24.9	26.4	26.8	24.4	25.9	24.9	26.4	26.8
	6H	25.2	26.6	25.7	27.1	27.5	25.2	26.6	25.7	27.1	27.5
	8H	25.5	26.9	26.0	27.3	27.8	25.5	26.9	26.0	27.3	27.8
	12H	25.7	27.0	26.2	27.5	28.0	25.7	27.0	26.2	27.5	28.0
4H	2H	21.6	23.2	22.1	23.6	24.0	21.6	23.2	22.1	23.6	24.0
	3H	24.3	25.6	24.8	26.1	26.5	24.3	25.6	24.8	26.1	26.5
	4H	25.6	26.8	26.1	27.3	27.8	25.6	26.8	26.1	27.3	27.8
	6H	26.5	27.6	27.0	28.1	28.6	26.5	27.6	27.0	28.1	28.6
	8H	26.9	27.9	27.4	28.4	28.9	26.9	27.9	27.4	28.4	28.9
	12H	27.2	28.1	27.7	28.6	29.1	27.2	28.1	27.7	28.6	29.1
8H	4H	26.1	27.1	26.6	27.6	28.1	26.1	27.1	26.6	27.6	28.1
	6H	27.1	28.0	27.7	28.5	29.0	27.1	28.0	27.7	28.5	29.0
	8H	27.5	28.3	28.1	28.9	29.4	27.5	28.3	28.1	28.9	29.4
	12H	28.0	28.6	28.5	29.2	29.8	28.0	28.6	28.5	29.2	29.8
12H	4H	26.1	27.1	26.7	27.6	28.1	26.1	27.1	26.7	27.6	28.1
	6H	27.2	28.0	27.8	28.5	29.1	27.2	28.0	27.8	28.5	29.1
	8H	27.7	28.4	28.3	28.9	29.6	27.7	28.4	28.3	28.9	29.6

Maximum UGR = 29.8

Report of Test

LLIA002547-001

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.

Report of Test

LLIA002547-001

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.