

Report of Test

LLIA002240-005

Indoor Distribution Photometry Test Report

Catalog Number: HBC-30L-50K-PS - 150W Setting
Suspended downlight, cast aluminum luminaire and driver housings, clear plastic enclosure with concentric lenses.

416 white LEDs on white circuit board
One Sosen SS-200CNL-E260BHB LED driver



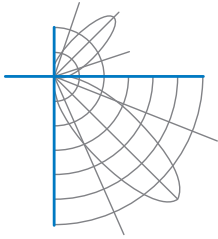
Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	23926.2 Lumens
Input Current	1.238 A	Total Efficacy	161.7 Lm/W
Input Power	148.0 W	Downward Flux	23926.2 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.996		
Current THD	2.9 %		

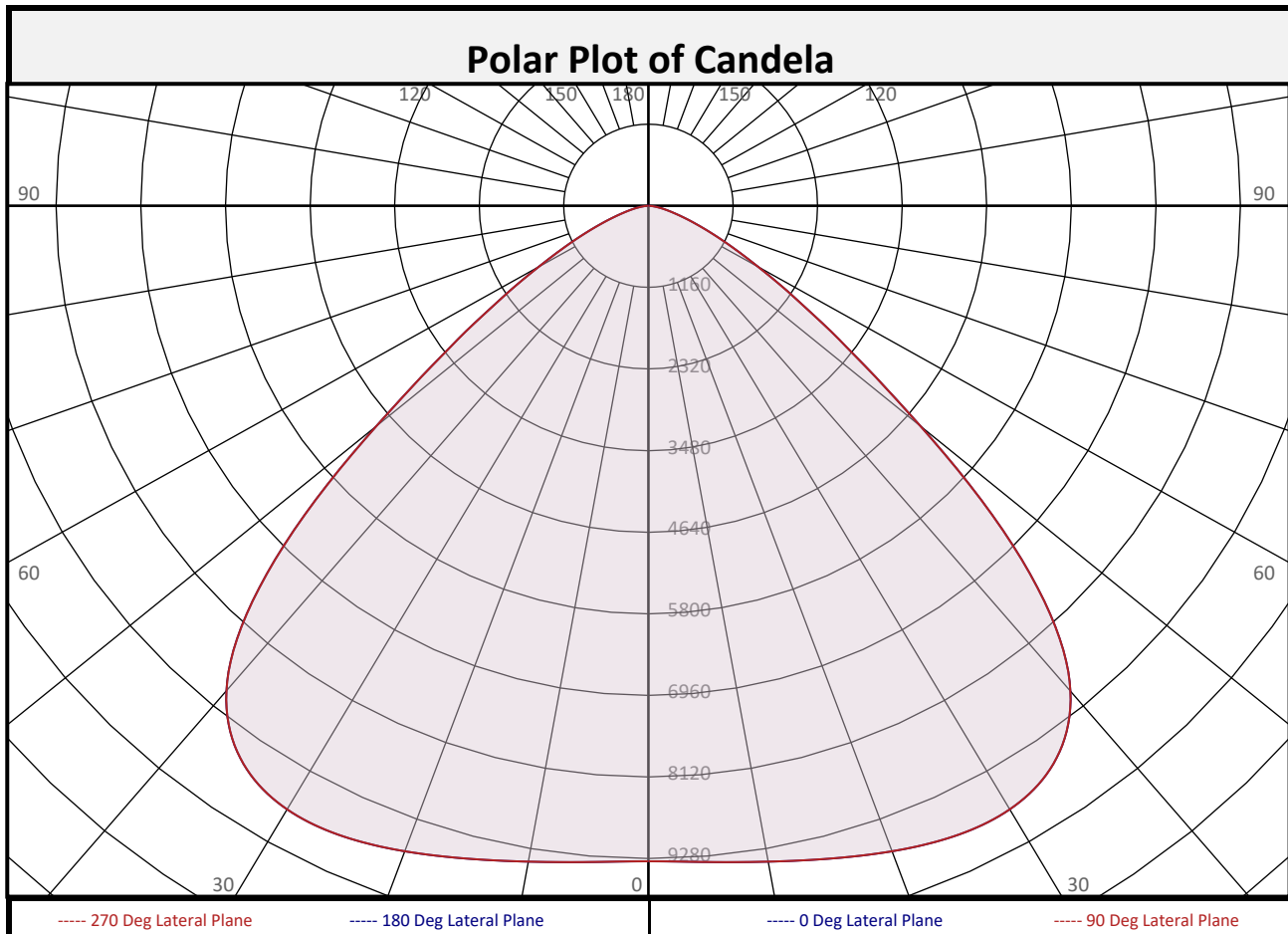
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 10/17/2023
Report date: 10/18/2023

Signed: _____

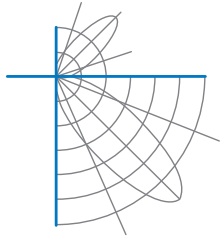


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Zonal Flux Summary

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	897.9	3.8%	90-100	0.0	0.0%	0-20	3627	15.2%
10-20	2729	11.4%	100-110	0.0	0.0%	0-30	8200	34.3%
20-30	4573	19.1%	110-120	0.0	0.0%	0-40	14225	59.5%
30-40	6025	25.2%	120-130	0.0	0.0%	0-60	22475	93.9%
40-50	5553	23.2%	130-140	0.0	0.0%	0-80	23870	99.8%
50-60	2696	11.3%	140-150	0.0	0.0%	10-90	23028	96.2%
60-70	1055	4.4%	150-160	0.0	0.0%	20-50	16151	67.5%
70-80	340.1	1.4%	160-170	0.0	0.0%	40-90	9701	40.5%
80-90	56.1	0.2%	170-180	0.0	0.0%	60-90	1451	6.1%
0-90	23926	100.0%	90-180	0.0	0.0%	0-180	23926	100.0%



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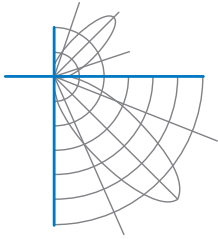
Luminous Intensity (Candela) Table

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	9320	9320	9320	9320	9320	9320	9320	9320	9320
	2.5	9333	9333	9333	9333	9333	9333	9333	9333	9333
	5	9366	9366	9366	9366	9366	9366	9366	9366	9366
	7.5	9412	9412	9412	9412	9412	9412	9412	9412	9412
	10	9469	9469	9469	9469	9469	9469	9469	9469	9469
	12.5	9535	9535	9535	9535	9535	9535	9535	9535	9535
	15	9609	9609	9609	9609	9609	9609	9609	9609	9609
	17.5	9688	9688	9688	9688	9688	9688	9688	9688	9688
	20	9766	9766	9766	9766	9766	9766	9766	9766	9766
	22.5	9838	9838	9838	9838	9838	9838	9838	9838	9838
	25	9894	9894	9894	9894	9894	9894	9894	9894	9894
	27.5	9923	9923	9923	9923	9923	9923	9923	9923	9923
	30	9909	9909	9909	9909	9909	9909	9909	9909	9909
	32.5	9837	9837	9837	9837	9837	9837	9837	9837	9837
	35	9684	9684	9684	9684	9684	9684	9684	9684	9684
	37.5	9421	9421	9421	9421	9421	9421	9421	9421	9421
	40	9002	9002	9002	9002	9002	9002	9002	9002	9002
	42.5	8348	8348	8348	8348	8348	8348	8348	8348	8348
	45	7399	7399	7399	7399	7399	7399	7399	7399	7399
	47.5	6189	6189	6189	6189	6189	6189	6189	6189	6189
50	4861	4861	4861	4861	4861	4861	4861	4861	4861	
52.5	3750	3750	3750	3750	3750	3750	3750	3750	3750	
55	2913	2913	2913	2913	2913	2913	2913	2913	2913	
57.5	2260	2260	2260	2260	2260	2260	2260	2260	2260	
60	1739	1739	1739	1739	1739	1739	1739	1739	1739	
62.5	1341	1341	1341	1341	1341	1341	1341	1341	1341	
65	1028	1028	1028	1028	1028	1028	1028	1028	1028	
67.5	776	776	776	776	776	776	776	776	776	
70	577	577	577	577	577	577	577	577	577	
72.5	420	420	420	420	420	420	420	420	420	
75	303	303	303	303	303	303	303	303	303	
77.5	218	218	218	218	218	218	218	218	218	
80	145	145	145	145	145	145	145	145	145	
82.5	86	86	86	86	86	86	86	86	86	
85	42	42	42	42	42	42	42	42	42	
87.5	11	11	11	11	11	11	11	11	11	
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)

Australasia & S.E. Asia



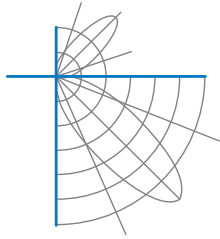
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Luminous Intensity (Candela) Table

		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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89				
2	103	96	91	86	101	95	90	85	91	87	83	88	85	81	85	82	80	78				
3	95	86	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68				
4	88	78	70	65	86	77	70	64	74	68	63	72	67	62	70	65	62	60				
5	82	70	62	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53				
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47				
7	70	58	50	45	69	57	50	44	56	49	44	54	48	44	53	48	44	42				
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37				
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	40	35	34				
10	57	45	38	33	56	45	37	33	44	37	32	43	37	32	42	36	32	31				

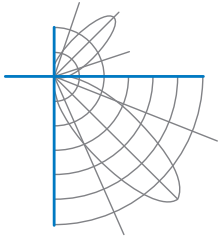
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	258.9	9.27	9.27
8.0	145.6	12.35	12.35
10.0	93.2	15.44	15.44
12.0	64.7	18.53	18.53
14.0	47.6	21.62	21.62
16.0	36.4	24.71	24.71

Spacing Criterion	
SC:	1.5

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	339430	339430	339430
45	381095	381095	381095
55	184946	184946	184946
65	88630	88630	88630
75	42666	42666	42666
85	17749	17749	17749

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	99.6°
Field Angle:	130.7°
90-270 Degree Plane	
Beam Angle:	99.6°
Field Angle:	130.7°



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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

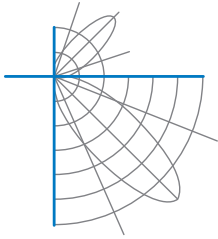
Room Size

UGR Viewed Crosswise

UGR Viewed Endwise

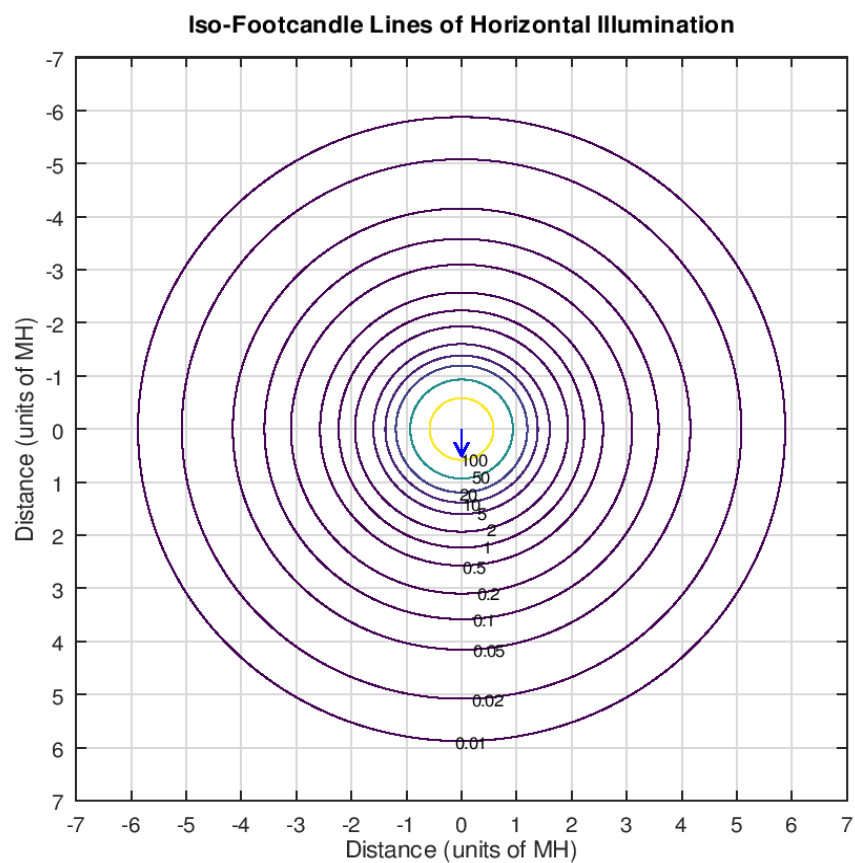
X=2H	Y=2H	26.0	27.4	26.4	27.8	28.1	26.0	27.4	26.4	27.8	28.1
		3H	26.5	27.7	26.9	28.1	28.4	26.5	27.7	26.9	28.1
	4H	26.5	27.7	27.0	28.1	28.5	26.5	27.7	27.0	28.1	28.5
	6H	26.6	27.7	27.0	28.0	28.4	26.6	27.7	27.0	28.0	28.4
	8H	26.6	27.6	27.0	28.0	28.4	26.6	27.6	27.0	28.0	28.4
	12H	26.5	27.5	27.0	27.9	28.3	26.5	27.5	27.0	27.9	28.3
4H	2H	26.2	27.3	26.6	27.7	28.1	26.2	27.3	26.6	27.7	28.1
	3H	26.8	27.7	27.2	28.1	28.5	26.8	27.7	27.2	28.1	28.5
	4H	26.9	27.7	27.3	28.1	28.6	26.9	27.7	27.3	28.1	28.6
	6H	26.9	27.7	27.4	28.1	28.6	26.9	27.7	27.4	28.1	28.6
	8H	26.9	27.6	27.4	28.0	28.5	26.9	27.6	27.4	28.0	28.5
	12H	26.9	27.5	27.4	28.0	28.5	26.9	27.5	27.4	28.0	28.5
8H	4H	26.9	27.5	27.3	28.0	28.5	26.9	27.5	27.3	28.0	28.5
	6H	26.9	27.5	27.4	28.0	28.5	26.9	27.5	27.4	28.0	28.5
	8H	26.9	27.4	27.4	27.9	28.4	26.9	27.4	27.4	27.9	28.4
	12H	26.9	27.4	27.4	27.8	28.4	26.9	27.4	27.4	27.8	28.4
12H	4H	26.8	27.4	27.3	27.9	28.4	26.8	27.4	27.3	27.9	28.4
	6H	26.9	27.4	27.4	27.9	28.4	26.9	27.4	27.4	27.9	28.4
	8H	26.9	27.3	27.4	27.8	28.4	26.9	27.3	27.4	27.8	28.4

Maximum UGR = 28.6

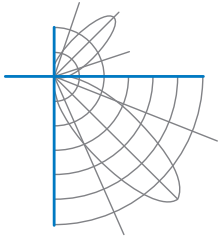


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Iso-Illuminance Plot

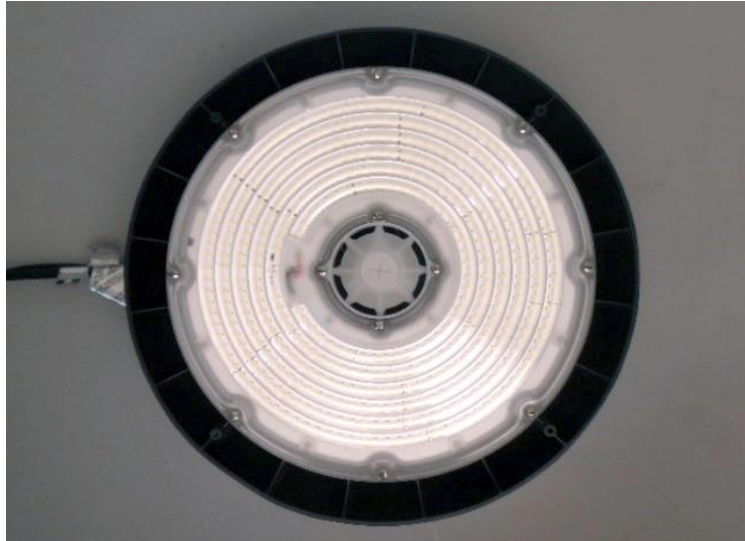


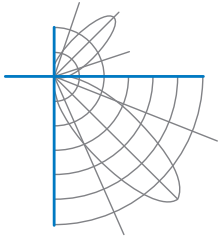
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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Additional Pictures of Test Subject





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Test Distance 9.5 m
Ambient Temperature 24.9 °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.