

Report of Test

LLIA002240-006

Indoor Distribution Photometry Test Report

Catalog Number: HBC-30L-50K-PS - 200W 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



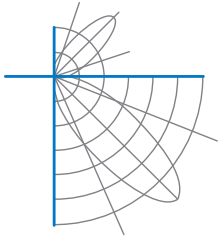
Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	30669.2 Lumens
Input Current	1.677 A	Total Efficacy	152.7 Lm/W
Input Power	200.9 W	Downward Flux	30669.2 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.998		
Current THD	2.5 %		

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

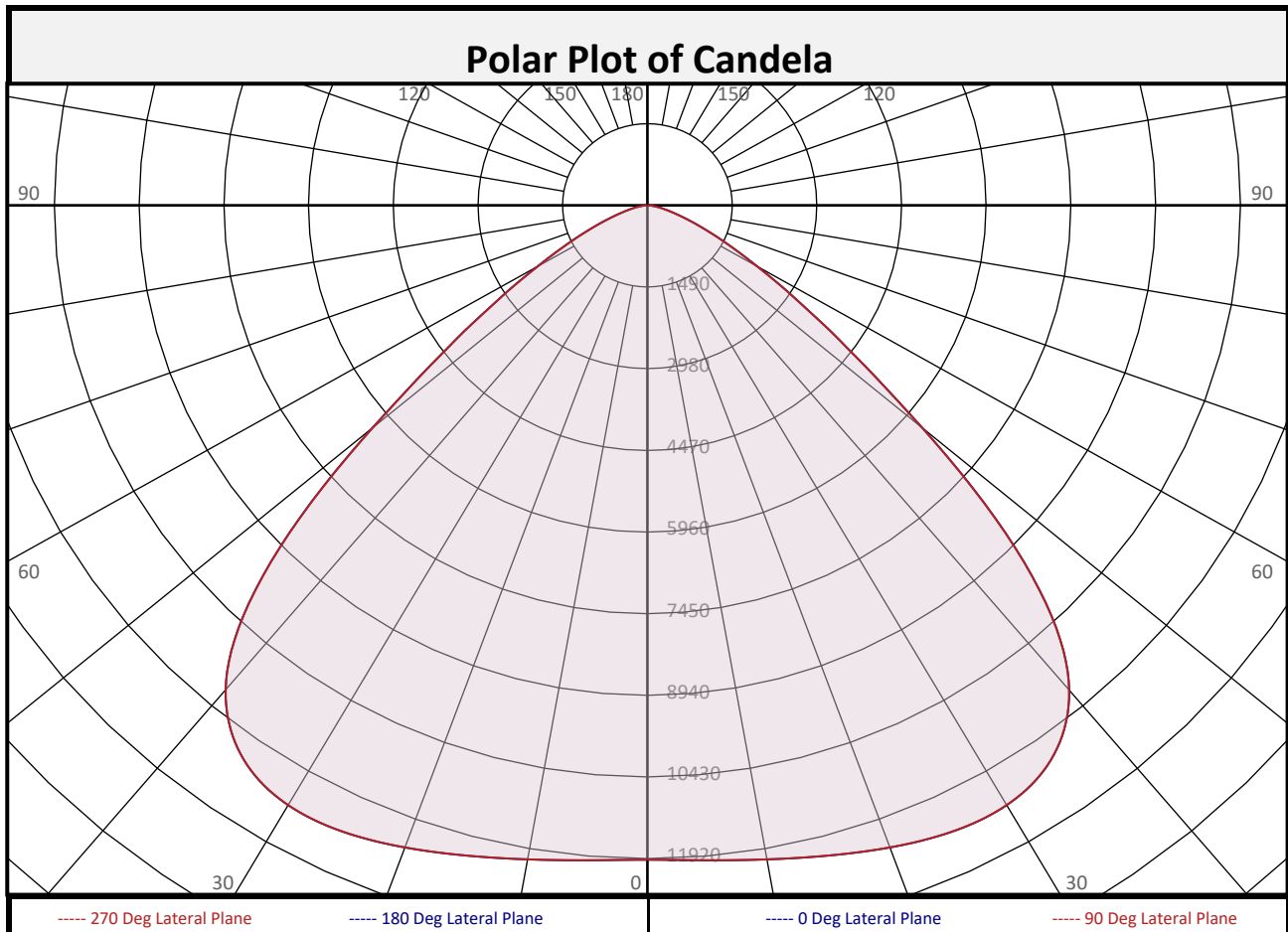
Test date: 10/17/2023
Report date: 10/18/2023

Signed: _____



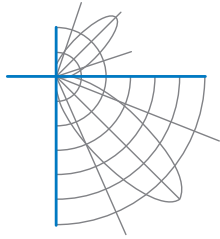
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Zonal Flux Summary

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	1150	3.7%	90-100	0.0	0.0%	0-20	4639	15.1%
10-20	3489	11.4%	100-110	0.0	0.0%	0-30	10473	34.1%
20-30	5834	19.0%	110-120	0.0	0.0%	0-40	18170	59.2%
30-40	7697	25.1%	120-130	0.0	0.0%	0-60	28815	94.0%
40-50	7169	23.4%	130-140	0.0	0.0%	0-80	30599	99.8%
50-60	3476	11.3%	140-150	0.0	0.0%	10-90	29519	96.3%
60-70	1351	4.4%	150-160	0.0	0.0%	20-50	20701	67.5%
70-80	432.1	1.4%	160-170	0.0	0.0%	40-90	12499	40.8%
80-90	70.2	0.2%	170-180	0.0	0.0%	60-90	1854	6.0%
0-90	30669	100.0%	90-180	0.0	0.0%	0-180	30669	100.0%



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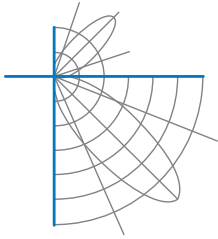
Luminous Intensity (Candela) Table

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	11942	11942	11942	11942	11942	11942	11942	11942	11942
	2.5	11957	11957	11957	11957	11957	11957	11957	11957	11957
	5	11997	11997	11997	11997	11997	11997	11997	11997	11997
	7.5	12052	12052	12052	12052	12052	12052	12052	12052	12052
	10	12119	12119	12119	12119	12119	12119	12119	12119	12119
	12.5	12198	12198	12198	12198	12198	12198	12198	12198	12198
	15	12285	12285	12285	12285	12285	12285	12285	12285	12285
	17.5	12377	12377	12377	12377	12377	12377	12377	12377	12377
	20	12470	12470	12470	12470	12470	12470	12470	12470	12470
	22.5	12554	12554	12554	12554	12554	12554	12554	12554	12554
	25	12621	12621	12621	12621	12621	12621	12621	12621	12621
	27.5	12655	12655	12655	12655	12655	12655	12655	12655	12655
	30	12638	12638	12638	12638	12638	12638	12638	12638	12638
	32.5	12551	12551	12551	12551	12551	12551	12551	12551	12551
	35	12366	12366	12366	12366	12366	12366	12366	12366	12366
	37.5	12046	12046	12046	12046	12046	12046	12046	12046	12046
	40	11541	11541	11541	11541	11541	11541	11541	11541	11541
	42.5	10746	10746	10746	10746	10746	10746	10746	10746	10746
	45	9567	9567	9567	9567	9567	9567	9567	9567	9567
	47.5	8024	8024	8024	8024	8024	8024	8024	8024	8024
50	6298	6298	6298	6298	6298	6298	6298	6298	6298	
52.5	4843	4843	4843	4843	4843	4843	4843	4843	4843	
55	3752	3752	3752	3752	3752	3752	3752	3752	3752	
57.5	2906	2906	2906	2906	2906	2906	2906	2906	2906	
60	2232	2232	2232	2232	2232	2232	2232	2232	2232	
62.5	1720	1720	1720	1720	1720	1720	1720	1720	1720	
65	1317	1317	1317	1317	1317	1317	1317	1317	1317	
67.5	992	992	992	992	992	992	992	992	992	
70	736	736	736	736	736	736	736	736	736	
72.5	535	535	535	535	535	535	535	535	535	
75	385	385	385	385	385	385	385	385	385	
77.5	275	275	275	275	275	275	275	275	275	
80	182	182	182	182	182	182	182	182	182	
82.5	108	108	108	108	108	108	108	108	108	
85	53	53	53	53	53	53	53	53	53	
87.5	13	13	13	13	13	13	13	13	13	
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



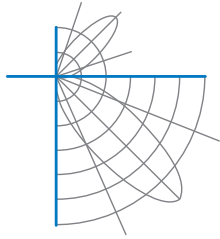
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Luminous Intensity (Candela) Table

		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	64	86	77	69	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	44	69	57	50	44	56	49	44	54	48	44	53	48	43	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	39	35	34			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31			

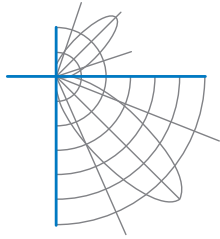
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	331.7	9.25	9.25
8.0	186.6	12.34	12.34
10.0	119.4	15.42	15.42
12.0	82.9	18.51	18.51
14.0	60.9	21.59	21.59
16.0	46.6	24.68	24.68

Spacing Criterion	
SC:	1.5

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	434915	434915	434915
45	492748	492748	492748
55	238208	238208	238208
65	113524	113524	113524
75	54193	54193	54193
85	22078	22078	22078

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	99.9°
Field Angle:	130.7°
90-270 Degree Plane	
Beam Angle:	99.9°
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

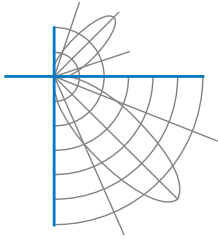
Room Size

UGR Viewed Crosswise

UGR Viewed Endwise

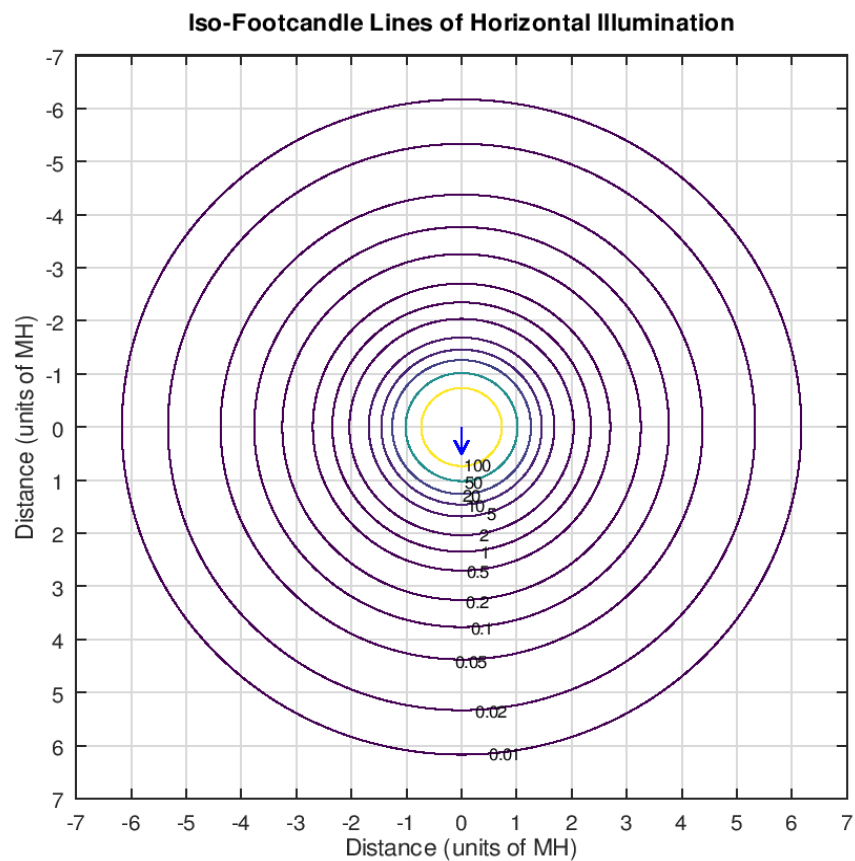
X=2H	Y=2H	26.9	28.4	27.3	28.7	29.0	26.9	28.4	27.3	28.7	29.0
	3H	27.4	28.7	27.8	29.0	29.3	27.4	28.7	27.8	29.0	29.3
	4H	27.5	28.6	27.9	29.0	29.4	27.5	28.6	27.9	29.0	29.4
	6H	27.5	28.6	27.9	28.9	29.3	27.5	28.6	27.9	28.9	29.3
	8H	27.5	28.5	27.9	28.9	29.3	27.5	28.5	27.9	28.9	29.3
	12H	27.4	28.4	27.9	28.8	29.2	27.4	28.4	27.9	28.8	29.2
4H	2H	27.1	28.3	27.5	28.6	29.0	27.1	28.3	27.5	28.6	29.0
	3H	27.7	28.6	28.1	29.0	29.4	27.7	28.6	28.1	29.0	29.4
	4H	27.8	28.6	28.2	29.0	29.5	27.8	28.6	28.2	29.0	29.5
	6H	27.8	28.6	28.3	29.0	29.5	27.8	28.6	28.3	29.0	29.5
	8H	27.8	28.5	28.3	28.9	29.4	27.8	28.5	28.3	28.9	29.4
	12H	27.8	28.4	28.3	28.9	29.3	27.8	28.4	28.3	28.9	29.3
8H	4H	27.8	28.4	28.2	28.9	29.4	27.8	28.4	28.2	28.9	29.4
	6H	27.8	28.4	28.3	28.9	29.4	27.8	28.4	28.3	28.9	29.4
	8H	27.8	28.3	28.3	28.8	29.3	27.8	28.3	28.3	28.8	29.3
	12H	27.8	28.2	28.3	28.7	29.3	27.8	28.2	28.3	28.7	29.3
12H	4H	27.7	28.3	28.2	28.8	29.3	27.7	28.3	28.2	28.8	29.3
	6H	27.8	28.3	28.3	28.8	29.3	27.8	28.3	28.3	28.8	29.3
	8H	27.8	28.2	28.3	28.7	29.3	27.8	28.2	28.3	28.7	29.3

Maximum UGR = 29.5

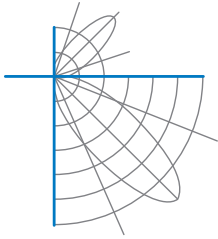


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Iso-Illuminance Plot

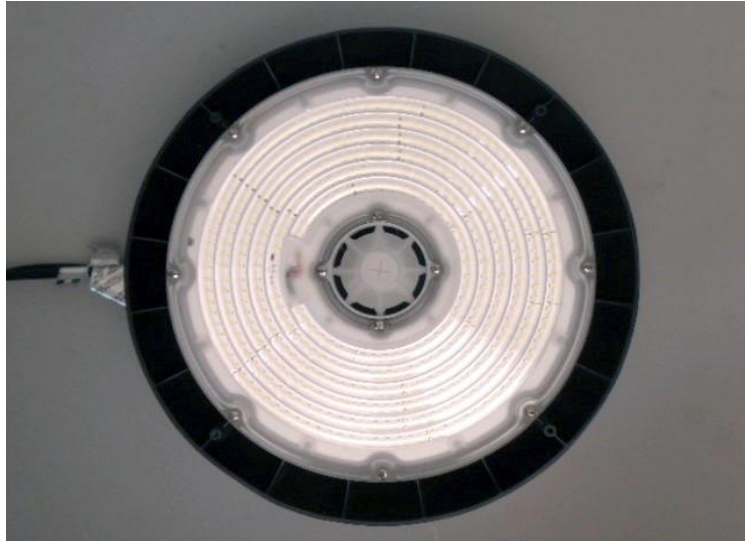


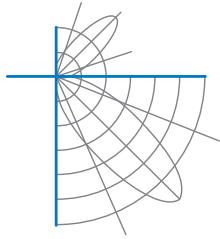
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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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.

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.