

Report of Test

LLIA002469-007

Indoor Distribution Photometry Test Report

Catalog Number: LSA4-50PCS-WH 30W Setting 4000K
Pendant mounted, extruded aluminum housing, formed white reflectors, translucent white plastic enclosure.
360 white LEDs, 180 CW LEDs and 180 WW LEDs
One FS-TMG050B1050TC-12V LED driver



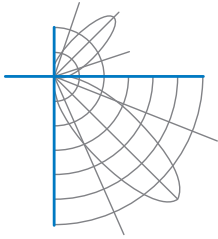
Prepared For:
Topaz Lighting, A Southwire Company
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	3994.5 Lumens
Input Current	0.2377 A	Total Efficacy	141.6 lm/W
Input Power	28.20 W	Downward Flux	3994.5 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.989		
Current THD	10.0 %		

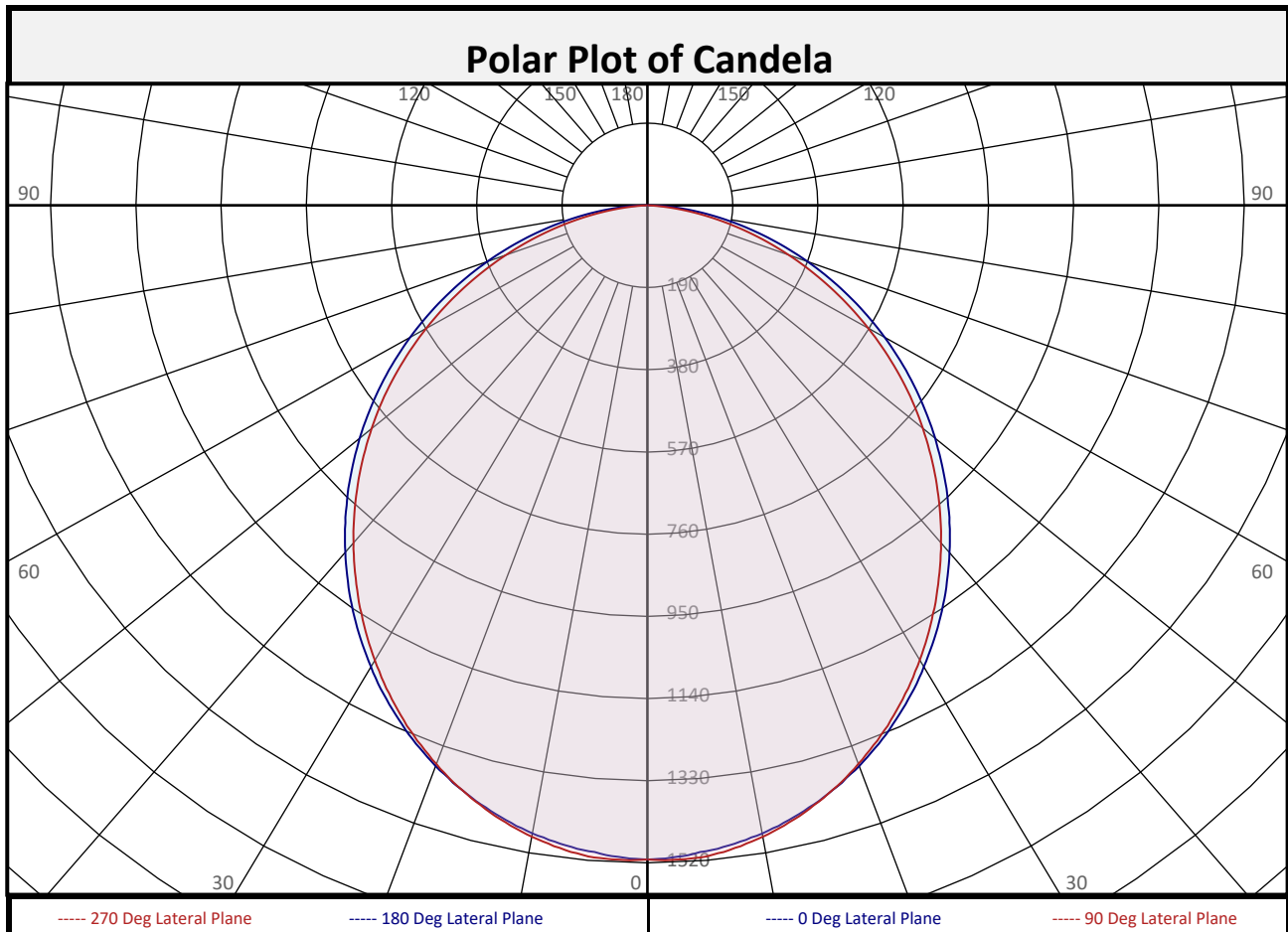
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 09/05/2024
Report date: 09/17/2024

Signed: _____

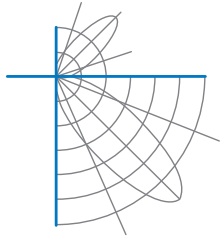


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Zonal Flux Summary

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	142.7	3.6%	90-100	0.0	0.0%	0-20	546.8	13.7%
10-20	404.1	10.1%	100-110	0.0	0.0%	0-30	1148	28.7%
20-30	600.8	15.0%	110-120	0.0	0.0%	0-40	1855	46.4%
30-40	707.2	17.7%	120-130	0.0	0.0%	0-60	3203	80.2%
40-50	715.9	17.9%	130-140	0.0	0.0%	0-80	3934	98.5%
50-60	632.0	15.8%	140-150	0.0	0.0%	10-90	3852	96.4%
60-70	470.0	11.8%	150-160	0.0	0.0%	20-50	2024	50.7%
70-80	261.0	6.5%	160-170	0.0	0.0%	40-90	2140	53.6%
80-90	60.9	1.5%	170-180	0.0	0.0%	60-90	791.9	19.8%
0-90	3995	100.0%	90-180	0.0	0.0%	0-180	3995	100.0%



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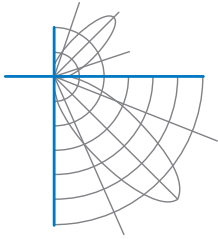
Luminous Intensity (Candela) Table

		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	1512	1512	1512	1512	1512	1512	1512	1512	1512
	2.5	1507	1507	1509	1512	1514	1512	1509	1507	1507
	5	1499	1498	1502	1508	1511	1508	1502	1498	1499
	7.5	1488	1487	1491	1496	1498	1496	1491	1487	1488
	10	1474	1473	1475	1480	1482	1480	1475	1473	1474
	12.5	1456	1454	1456	1460	1461	1460	1456	1454	1456
	15	1434	1432	1433	1436	1435	1436	1433	1432	1434
	17.5	1408	1405	1406	1407	1407	1407	1406	1405	1408
	20	1379	1376	1374	1375	1374	1375	1374	1376	1379
	22.5	1347	1343	1341	1340	1340	1340	1341	1343	1347
	25	1311	1307	1303	1302	1300	1302	1303	1307	1311
	27.5	1273	1269	1264	1260	1259	1260	1264	1269	1273
	30	1231	1227	1221	1218	1214	1218	1221	1227	1231
	32.5	1189	1184	1177	1172	1168	1172	1177	1184	1189
	35	1144	1138	1130	1124	1120	1124	1130	1138	1144
	37.5	1096	1091	1082	1075	1070	1075	1082	1091	1096
	40	1047	1041	1031	1024	1018	1024	1031	1041	1047
	42.5	996	990	980	972	966	972	980	990	996
	45	944	938	927	919	912	919	927	938	944
	47.5	890	885	874	865	857	865	874	885	890
50	837	831	820	809	801	809	820	831	837	
52.5	780	776	764	753	745	753	764	776	780	
55	724	720	708	696	687	696	708	720	724	
57.5	668	663	651	637	628	637	651	663	668	
60	610	606	594	578	569	578	594	606	610	
62.5	552	548	536	519	509	519	536	548	552	
65	494	491	477	460	451	460	477	491	494	
67.5	436	433	417	401	392	401	417	433	436	
70	379	376	359	343	335	343	359	376	379	
72.5	322	319	302	286	279	286	302	319	322	
75	267	263	246	231	224	231	246	263	267	
77.5	213	208	192	178	172	178	192	208	213	
80	162	156	140	127	122	127	140	156	162	
82.5	114	107	92	81	76	81	92	107	114	
85	69	61	47	39	36	39	47	61	69	
87.5	29	20	11	6	5	6	11	20	29	
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



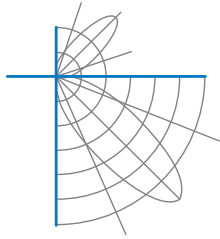
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Luminous Intensity (Candela) Table

		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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84			
2	99	91	84	79	97	89	83	78	86	81	76	82	78	74	79	76	73	70			
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60			
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51			
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44			
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	45	41	39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31			
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28			
10	54	40	33	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25			

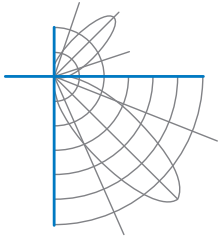
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	42.0	7.28	7.19
8.0	23.6	9.71	9.58
10.0	15.1	12.14	11.98
12.0	10.5	14.56	14.37
14.0	7.7	16.99	16.77
16.0	5.9	19.42	19.16

Spacing Criterion	
0 deg:	1.2
90 deg:	1.2
180 deg:	1.2
270 deg:	1.2

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	28052	28052	28052
45	24773	24326	23928
55	23421	22891	22211
65	21684	20923	19782
75	19141	17620	16058
85	14722	10107	7600

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	107.1°
Field Angle:	161.0°
90-270 Degree Plane	
Beam Angle:	103.9°
Field Angle:	157.0°



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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

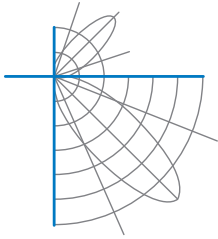
Room Size

UGR Viewed Crosswise

UGR Viewed Endwise

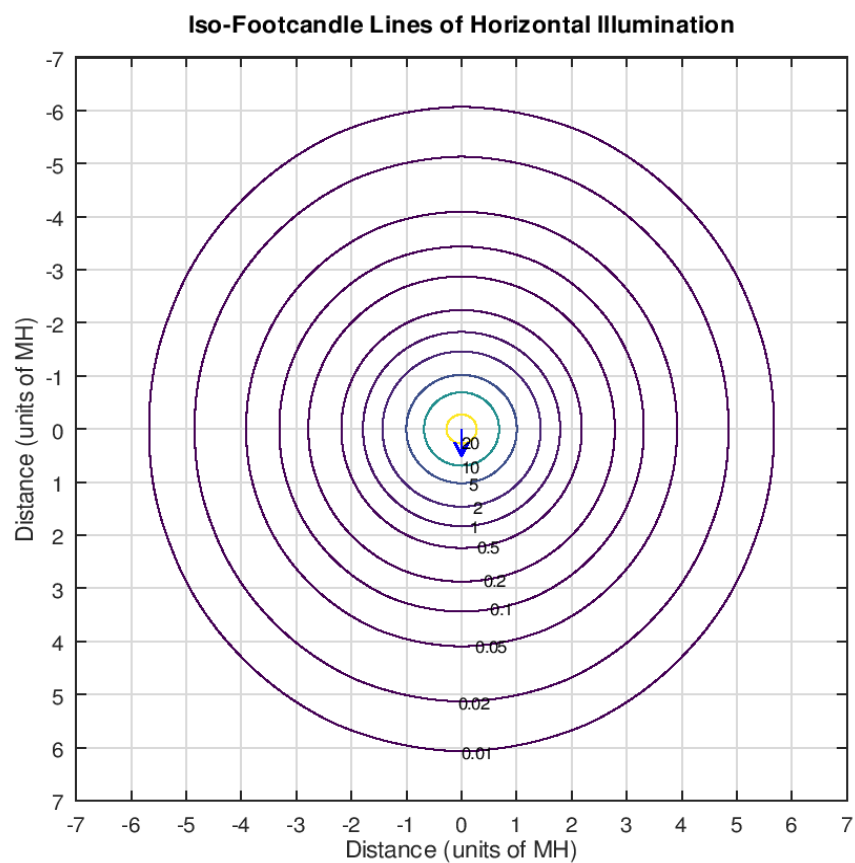
X=2H	Y=2H	23.1	24.7	23.4	25.0	25.3	22.8	24.4	23.1	24.7	25.0
		24.9	26.3	25.2	26.7	27.0	24.4	25.9	24.8	26.2	26.6
		25.6	26.9	26.0	27.3	27.7	25.0	26.4	25.4	26.7	27.1
		26.1	27.3	26.5	27.7	28.1	25.4	26.6	25.8	27.0	27.4
		26.2	27.4	26.6	27.8	28.2	25.4	26.7	25.9	27.1	27.5
		26.3	27.5	26.7	27.9	28.3	25.5	26.7	25.9	27.0	27.5
4H	2H	23.7	25.0	24.1	25.4	25.8	23.4	24.8	23.8	25.1	25.5
	3H	25.7	26.8	26.1	27.2	27.6	25.3	26.4	25.7	26.8	27.2
	4H	26.5	27.5	26.9	28.0	28.4	26.0	27.0	26.4	27.4	27.9
	6H	27.1	28.0	27.6	28.5	28.9	26.5	27.4	26.9	27.8	28.3
	8H	27.3	28.2	27.8	28.6	29.1	26.6	27.4	27.0	27.9	28.3
	12H	27.5	28.2	28.0	28.7	29.2	26.6	27.4	27.1	27.9	28.3
8H	4H	26.8	27.6	27.2	28.0	28.5	26.3	27.1	26.7	27.6	28.0
	6H	27.5	28.2	28.0	28.7	29.2	26.9	27.6	27.4	28.1	28.5
	8H	27.8	28.4	28.3	28.9	29.4	27.0	27.7	27.5	28.2	28.7
	12H	28.0	28.6	28.5	29.0	29.6	27.1	27.7	27.6	28.2	28.7
12H	4H	26.8	27.5	27.2	28.0	28.5	26.3	27.1	26.8	27.6	28.0
	6H	27.5	28.2	28.1	28.6	29.2	26.9	27.6	27.5	28.0	28.6
	8H	27.9	28.4	28.4	28.9	29.5	27.1	27.7	27.6	28.2	28.8

Maximum UGR = 29.6

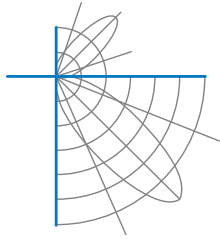


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Iso-Illuminance Plot



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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Test Distance 9.5 m
Ambient Temperature 24.5 °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.