



Report of Test

LLIA002469-017

Indoor Distribution Photometry Test Report

Catalog Number: LSA4P-50PCS-WH 50W Setting 4000K - 90/10%

Pendant mounted, extruded aluminum housing, formed white reflectors, translucent white plastic enclosure.

360 white LEDs, 180 CW LEDs and 180 WW LEDs in direct section, 40 white LEDs, 20CW and 20WW and 110 unenergized LEDs in indirect section. 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	6503.0 Lumens
Input Current	0.3859 A	Total Efficacy	141.5 Lm/W
Input Power	45.97 W	Downward Flux	5629.6 Lumens
Frequency	60.00 Hz	Downward Flux	86.6 % of Total
Power Factor	0.993		
Current THD	7.6 %		

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

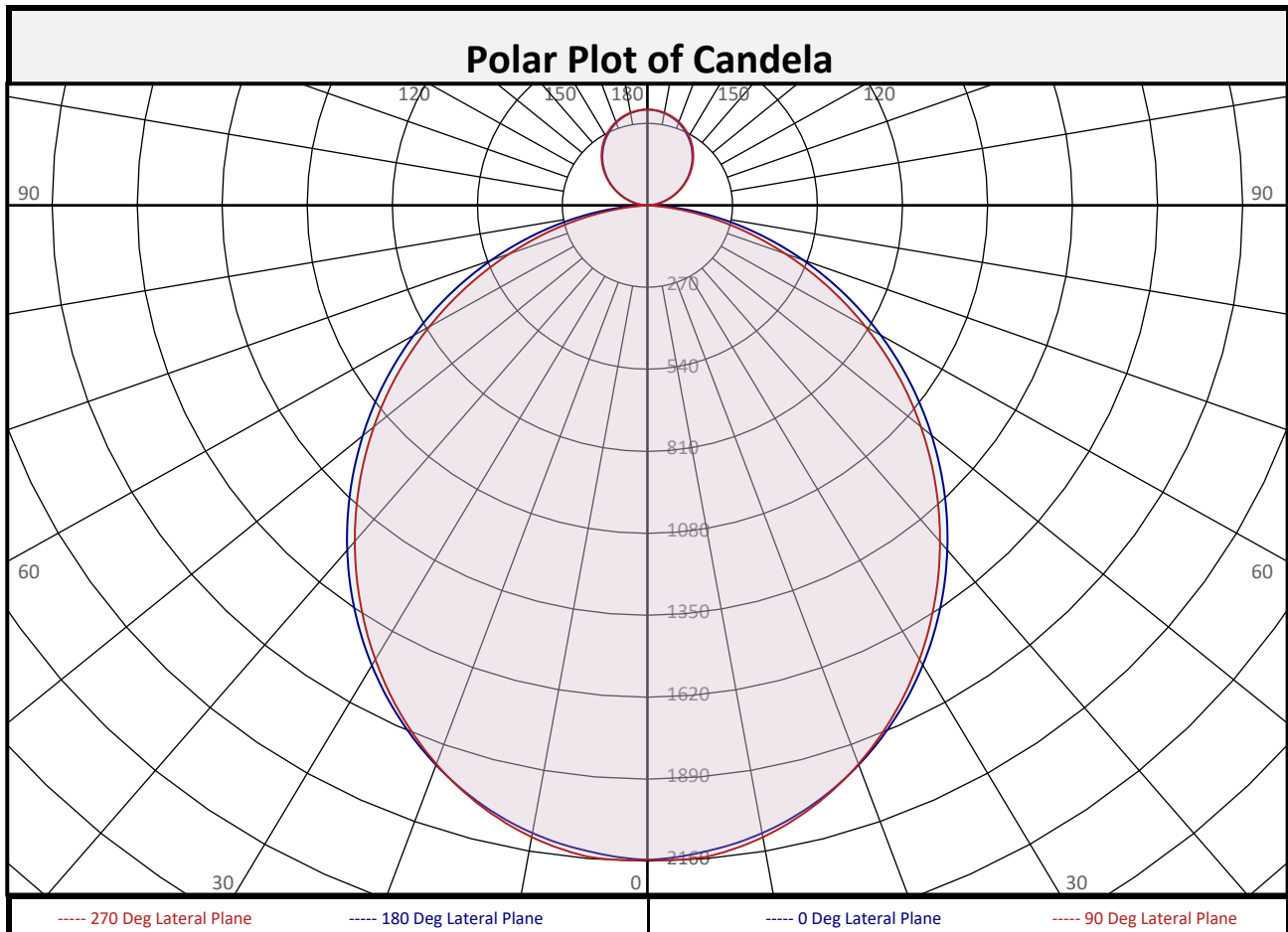
Test date: 09/10/2024

Report date: 09/18/2024

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	203.4	3.1%		90-100	14.0	0.2%		0-20	778.8	12.0%
10-20	575.4	8.8%		100-110	61.1	0.9%		0-30	1632	25.1%
20-30	853.6	13.1%		110-120	105.9	1.6%		0-40	2635	40.5%
30-40	1002	15.4%		120-130	139.9	2.2%		0-60	4533	69.7%
40-50	1011	15.5%		130-140	156.7	2.4%		0-80	5549	85.3%
50-60	887.9	13.7%		140-150	152.8	2.3%		10-90	5426	83.4%
60-70	655.9	10.1%		150-160	128.0	2.0%		20-50	2866	44.1%
70-80	359.9	5.5%		160-170	85.1	1.3%		40-90	2995	46.1%
80-90	80.7	1.2%		170-180	29.9	0.5%		60-90	1097	16.9%
0-90	5630	86.6%		90-180	873.4	13.4%		0-180	6503	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	2156	2156	2156	2156	2156	2156	2156	2156	2156
	2.5	2149	2148	2152	2156	2158	2156	2152	2148	2149
	5	2136	2135	2142	2149	2154	2149	2142	2135	2136
	7.5	2121	2120	2125	2132	2137	2132	2125	2120	2121
	10	2100	2098	2103	2108	2113	2108	2103	2098	2100
	12.5	2073	2071	2074	2079	2083	2079	2074	2071	2073
	15	2041	2039	2040	2043	2047	2043	2040	2039	2041
	17.5	2004	2001	2001	2001	2006	2001	2001	2001	2004
	20	1961	1958	1956	1955	1959	1955	1956	1958	1961
	22.5	1915	1910	1906	1904	1907	1904	1906	1910	1915
	25	1863	1858	1853	1848	1851	1848	1853	1858	1863
	27.5	1808	1802	1795	1788	1791	1788	1795	1802	1808
	30	1749	1742	1733	1725	1728	1725	1733	1742	1749
	32.5	1687	1679	1669	1659	1661	1659	1669	1679	1687
	35	1621	1612	1601	1590	1591	1590	1601	1612	1621
	37.5	1553	1544	1531	1520	1520	1520	1531	1544	1553
	40	1482	1472	1459	1446	1446	1446	1459	1472	1482
	42.5	1409	1400	1385	1371	1370	1371	1385	1400	1409
	45	1333	1325	1309	1294	1293	1294	1309	1325	1333
	47.5	1257	1249	1233	1216	1214	1216	1233	1249	1257
50	1179	1171	1154	1137	1134	1137	1154	1171	1179	
52.5	1099	1092	1074	1056	1052	1056	1074	1092	1099	
55	1019	1012	994	975	969	975	994	1012	1019	
57.5	938	931	913	891	885	891	913	931	938	
60	856	850	831	807	800	807	831	850	856	
62.5	773	768	748	723	716	723	748	768	773	
65	691	686	664	640	632	640	664	686	691	
67.5	608	604	580	557	549	557	580	604	608	
70	527	523	498	476	467	476	498	523	527	
72.5	447	442	417	395	388	395	417	442	447	
75	369	363	338	318	310	318	338	363	369	
77.5	293	286	262	243	236	243	262	286	293	
80	221	212	190	173	166	173	190	212	221	
82.5	154	143	123	107	102	107	123	143	154	
85	91	80	61	49	46	49	61	80	91	
87.5	36	24	12	8	7	8	12	24	36	
90	0	0	0	0	1	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	1	0	0	0	0
	92.5	5	4	2	2	2	2	2	4	5
	95	15	15	9	4	4	4	9	15	15
	97.5	24	25	24	18	15	18	24	25	24
	100	34	35	35	34	33	34	35	35	34
	102.5	45	47	46	46	46	46	46	47	45
	105	57	58	58	58	58	58	58	58	57
	107.5	69	70	70	70	70	70	70	70	69
	110	81	82	83	82	82	82	83	82	81
	112.5	93	95	95	95	95	95	95	95	93
	115	105	107	108	107	107	107	108	107	105
	117.5	118	119	120	120	120	120	120	119	118
	120	130	132	133	132	133	132	133	132	130
	122.5	142	144	145	145	145	145	145	144	142
	125	155	156	157	157	157	157	157	156	155
	127.5	166	168	169	169	170	169	169	168	166
	130	178	180	181	182	182	182	181	180	178
	132.5	189	191	192	193	193	193	192	191	189
	135	201	202	204	205	205	205	204	202	201
	137.5	212	213	214	216	216	216	214	213	212
140	222	223	225	226	226	226	225	223	222	
142.5	232	233	235	236	237	236	235	233	232	
145	242	243	245	246	246	246	245	243	242	
147.5	251	251	254	255	256	255	254	251	251	
150	260	260	262	264	264	264	262	260	260	
152.5	268	268	271	272	272	272	271	268	268	
155	276	275	278	280	280	280	278	275	276	
157.5	283	283	285	287	287	287	285	283	283	
160	290	289	291	293	293	293	291	289	290	
162.5	296	295	297	298	298	298	297	295	296	
165	301	300	302	303	303	303	302	300	301	
167.5	305	304	307	307	307	307	307	304	305	
170	308	308	310	311	310	311	310	308	308	
172.5	311	311	313	313	313	313	313	311	311	
175	314	313	314	316	315	316	314	313	314	
177.5	315	315	315	316	316	316	315	315	315	
180	316	316	316	316	316	316	316	316	316	

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	116	116	116	116	112	112	112	112	104	104	104	96	96	96	90	90	90	87			
1	106	102	97	94	102	98	94	91	91	88	86	85	83	81	79	78	76	73			
2	97	89	82	77	93	86	80	75	80	75	71	75	71	67	70	67	64	61			
3	88	78	70	64	85	75	68	63	71	65	60	66	61	57	62	58	54	52			
4	81	69	61	54	77	67	59	53	63	56	51	59	53	49	55	51	47	44			
5	74	62	53	47	71	60	52	46	56	50	44	53	47	43	50	45	41	39			
6	69	56	47	41	66	54	46	40	51	44	39	48	42	37	45	40	36	34			
7	64	51	42	36	61	49	41	36	46	39	34	44	38	33	41	36	32	30			
8	59	46	38	32	57	45	37	32	42	36	31	40	34	30	38	33	29	27			
9	55	42	34	29	53	41	34	29	39	32	28	37	31	27	35	30	26	24			
10	52	39	31	26	50	38	31	26	36	30	25	34	29	24	33	27	24	22			

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	59.9	7.26	7.17
8.0	33.7	9.68	9.57
10.0	21.6	12.10	11.96
12.0	15.0	14.51	14.35
14.0	11.0	16.93	16.74
16.0	8.4	19.35	19.13

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	39988	39988	39988
45	34974	34348	33909
55	32948	32152	31339
65	30332	29150	27742
75	26438	24210	22214
85	19439	12990	9728

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	106.3°
Field Angle:	160.4°
90-270 Degree Plane	
Beam Angle:	103.4°
Field Angle:	156.4°



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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

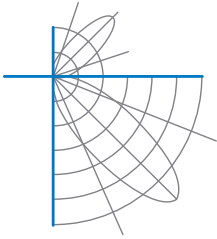
Room Size

UGR Viewed Crosswise

UGR Viewed Endwise

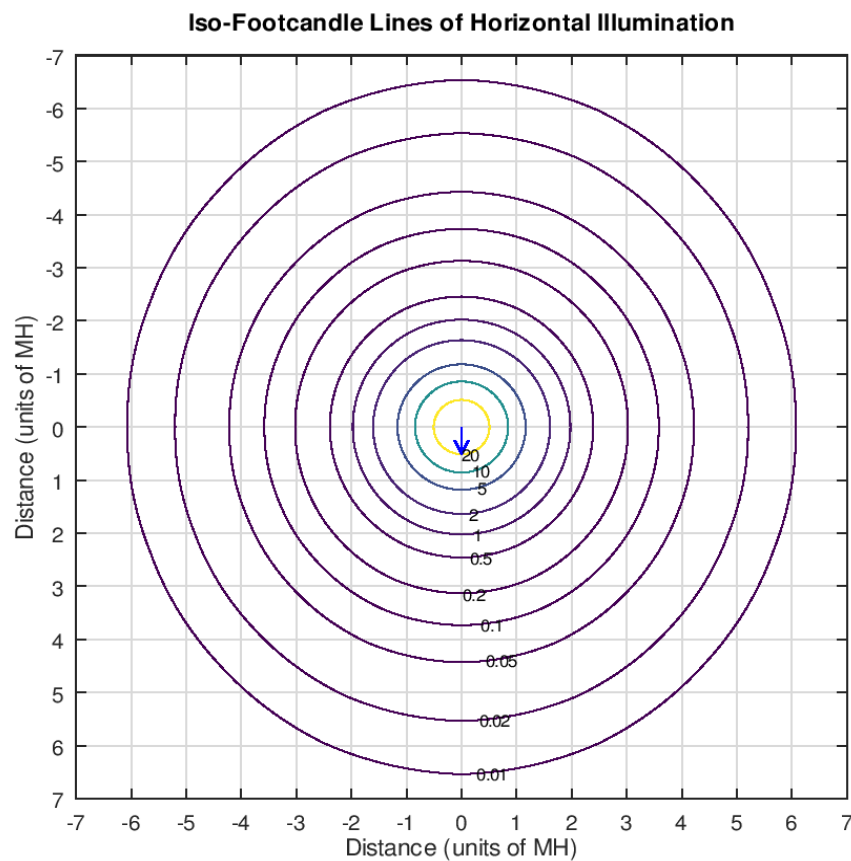
X=2H	Y=2H	23.3	24.6	23.9	25.2	25.8	23.0	24.3	23.5	24.9	25.5
	3H	25.1	26.2	25.6	26.8	27.5	24.6	25.8	25.2	26.4	27.0
	4H	25.7	26.8	26.3	27.4	28.1	25.1	26.3	25.7	26.9	27.5
	6H	26.2	27.2	26.8	27.8	28.5	25.5	26.5	26.1	27.1	27.8
	8H	26.3	27.3	27.0	27.9	28.7	25.6	26.5	26.2	27.2	27.9
	12H	26.4	27.3	27.1	28.0	28.7	25.6	26.5	26.2	27.1	27.9
4H	2H	23.8	25.0	24.4	25.6	26.2	23.6	24.7	24.2	25.3	26.0
	3H	25.8	26.8	26.4	27.4	28.1	25.4	26.3	26.0	27.0	27.7
	4H	26.6	27.4	27.3	28.1	28.8	26.1	26.9	26.7	27.6	28.3
	6H	27.2	27.9	27.9	28.6	29.4	26.5	27.3	27.2	27.9	28.7
	8H	27.4	28.1	28.1	28.7	29.5	26.6	27.3	27.3	28.0	28.7
	12H	27.5	28.1	28.2	28.8	29.6	26.7	27.3	27.3	28.0	28.7
8H	4H	26.8	27.5	27.5	28.2	29.0	26.4	27.0	27.0	27.7	28.5
	6H	27.5	28.1	28.2	28.8	29.6	26.9	27.5	27.6	28.2	29.0
	8H	27.8	28.3	28.5	29.0	29.8	27.1	27.6	27.8	28.3	29.1
	12H	28.0	28.4	28.7	29.1	30.0	27.1	27.6	27.8	28.3	29.1
12H	4H	26.8	27.4	27.5	28.1	28.9	26.4	27.0	27.1	27.7	28.5
	6H	27.6	28.1	28.3	28.8	29.6	27.0	27.5	27.7	28.1	29.0
	8H	27.9	28.3	28.6	29.0	29.9	27.1	27.6	27.9	28.3	29.1

Maximum UGR = 30.0

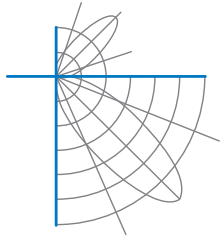


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Iso-Illuminance Plot



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.