

Report of Test

LLIA001928-003

Indoor Distribution Photometry Test Report

Catalog Number: PL14-40WPCTS-D - 40W/4000K setting
Recessed mounted, formed white painted steel housing/reflector,
white painted aluminum frame, diffuse white plastic enclosure.
84 white LEDs on three white circuit boards with optic below each LED
One Fosen FS-TMG042-V01 LED driver, set for 40W and 4000K



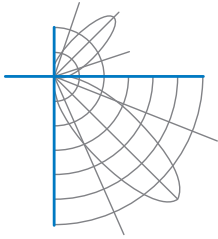
Prepared For:
Topaz Lighting, A Southwire Company
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	4669.6 Lumens
Input Current	0.2968 A	Total Efficacy	131.7 Lm/W
Input Power	35.45 W	Downward Flux	4669.6 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.995		
Current THD	9.2 %		

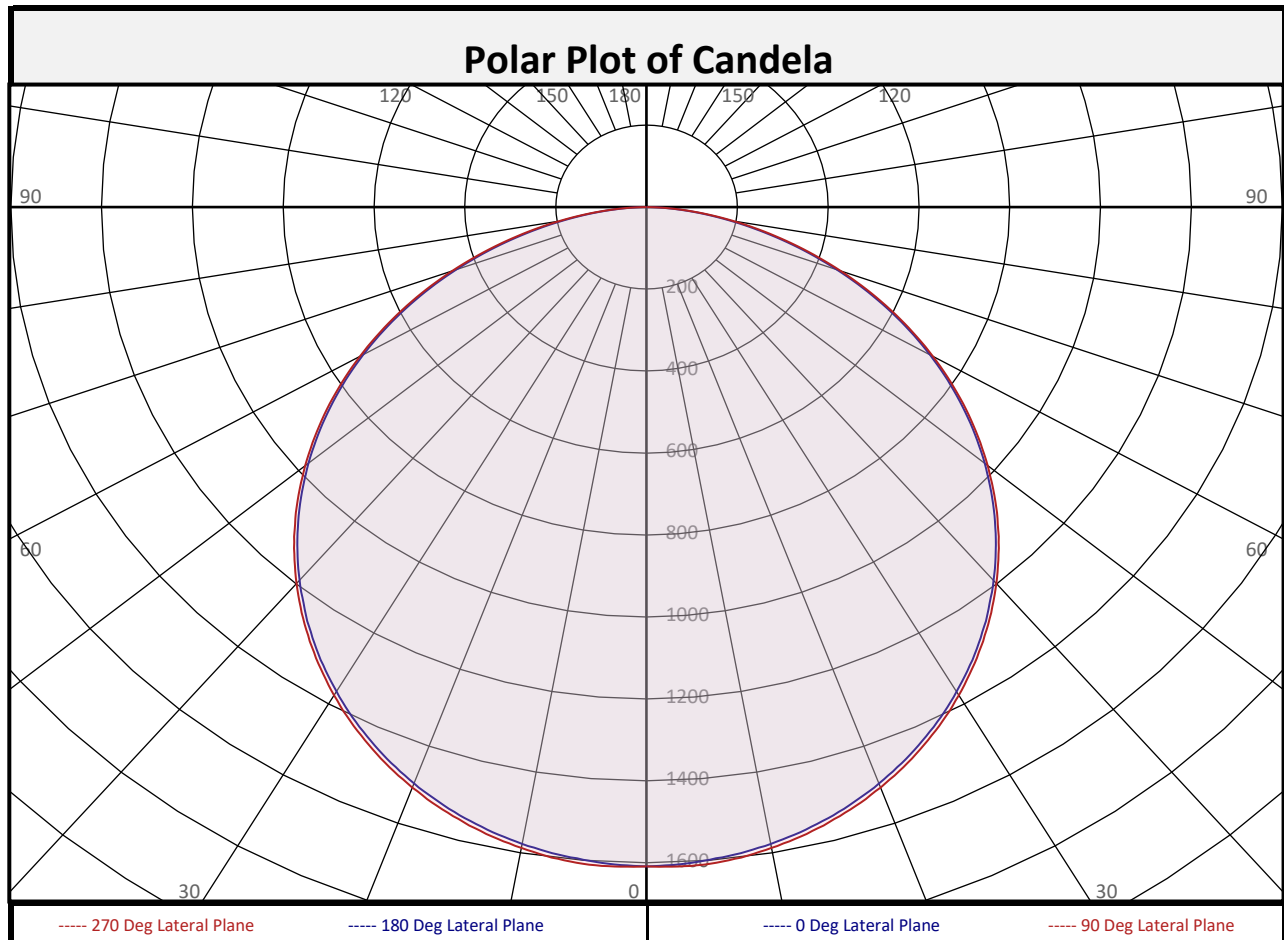
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 11/07/2022
Report date: 11/08/2022

Signed: _____

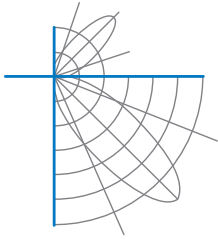


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Zonal Flux Summary

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	152.4	3.3%	90-100	0.0	0.0%	0-20	589.2	12.6%
10-20	436.9	9.4%	100-110	0.0	0.0%	0-30	1254	26.8%
20-30	664.4	14.2%	110-120	0.0	0.0%	0-40	2059	44.1%
30-40	805.2	17.2%	120-130	0.0	0.0%	0-60	3662	78.4%
40-50	840.3	18.0%	130-140	0.0	0.0%	0-80	4578	98.0%
50-60	763.0	16.3%	140-150	0.0	0.0%	10-90	4517	96.7%
60-70	582.5	12.5%	150-160	0.0	0.0%	20-50	2310	49.5%
70-80	333.7	7.1%	160-170	0.0	0.0%	40-90	2611	55.9%
80-90	91.3	2.0%	170-180	0.0	0.0%	60-90	1007	21.6%
0-90	4670	100.0%	90-180	0.0	0.0%	0-180	4670	100.0%



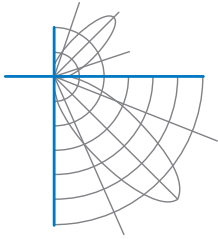
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Luminous Intensity (Candela) Table

		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	1609	1609	1609	1609	1609	1609	1609	1609	1609
	2.5	1606	1606	1606	1609	1611	1609	1606	1606	1606
	5	1599	1598	1600	1606	1609	1606	1600	1598	1599
	7.5	1590	1590	1591	1597	1601	1597	1591	1590	1590
	10	1578	1579	1579	1584	1588	1584	1579	1579	1578
	12.5	1563	1563	1564	1570	1573	1570	1564	1563	1563
	15	1544	1545	1546	1551	1554	1551	1546	1545	1544
	17.5	1522	1522	1524	1529	1533	1529	1524	1522	1522
	20	1497	1498	1499	1504	1508	1504	1499	1498	1497
	22.5	1469	1470	1471	1476	1480	1476	1471	1470	1469
	25	1437	1438	1440	1445	1448	1445	1440	1438	1437
	27.5	1403	1404	1406	1410	1414	1410	1406	1404	1403
	30	1365	1367	1369	1374	1376	1374	1369	1367	1365
	32.5	1325	1327	1329	1333	1336	1333	1329	1327	1325
	35	1283	1284	1286	1291	1294	1291	1286	1284	1283
	37.5	1237	1239	1241	1245	1248	1245	1241	1239	1237
	40	1189	1190	1193	1197	1199	1197	1193	1190	1189
	42.5	1138	1139	1142	1146	1148	1146	1142	1139	1138
	45	1085	1086	1089	1093	1095	1093	1089	1086	1085
	47.5	1030	1031	1034	1038	1040	1038	1034	1031	1030
50	972	973	976	980	982	980	976	973	972	
52.5	912	913	916	919	921	919	916	913	912	
55	850	851	854	857	859	857	854	851	850	
57.5	786	787	790	793	795	793	790	787	786	
60	721	722	725	728	729	728	725	722	721	
62.5	653	655	657	660	661	660	657	655	653	
65	585	586	589	592	594	592	589	586	585	
67.5	515	517	520	523	525	523	520	517	515	
70	446	448	451	454	455	454	451	448	446	
72.5	377	379	382	386	387	386	382	379	377	
75	309	311	315	319	320	319	315	311	309	
77.5	244	246	250	254	255	254	250	246	244	
80	183	185	189	192	193	192	189	185	183	
82.5	127	129	132	135	135	135	132	129	127	
85	75	77	80	82	82	82	80	77	75	
87.5	31	32	34	35	36	35	34	32	31	
90	0	0	0	0	0	0	0	0	0	

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



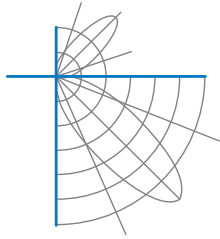
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Luminous Intensity (Candela) Table

		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	0
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	109	104	99	96		106	101	98	94		97	94	91		93	91	88		90	88	86	83
2	99	90	83	78		96	88	82	77		85	79	75		82	77	73		78	75	71	69
3	90	79	71	64		87	78	70	64		75	68	63		72	66	61		69	64	60	58
4	82	70	61	54		80	69	60	54		66	59	53		64	58	52		62	56	52	50
5	75	62	53	47		73	61	53	46		59	52	46		57	51	45		55	50	45	43
6	70	56	47	41		68	55	47	40		53	46	40		52	45	40		50	44	39	37
7	65	51	42	36		63	50	42	36		49	41	35		47	40	35		46	40	35	33
8	60	46	38	32		58	46	38	32		44	37	32		43	36	31		42	36	31	29
9	56	43	34	29		55	42	34	29		41	34	28		40	33	28		39	33	28	26
10	53	39	31	26		51	39	31	26		38	31	26		37	30	26		36	30	26	24

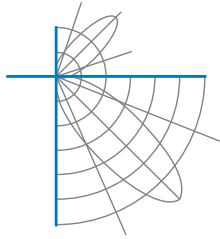
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	44.7	7.57	7.62	
8.0	25.1	10.09	10.16	
10.0	16.1	12.62	12.70	
12.0	11.2	15.14	15.24	
14.0	8.2	17.66	17.78	
16.0	6.3	20.19	20.32	

Spacing Criterion	
0 deg:	1.3
90 deg:	1.3
180 deg:	1.3
270 deg:	1.3

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	5451	5451	5451
45	5199	5218	5245
55	5019	5044	5076
65	4688	4722	4758
75	4049	4122	4184
85	2924	3093	3192

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	113.5°
Field Angle:	161.9°
90-270 Degree Plane	
Beam Angle:	114.2°
Field Angle:	162.7°



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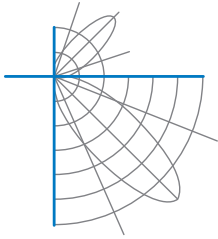
UGR Table - Corrected

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

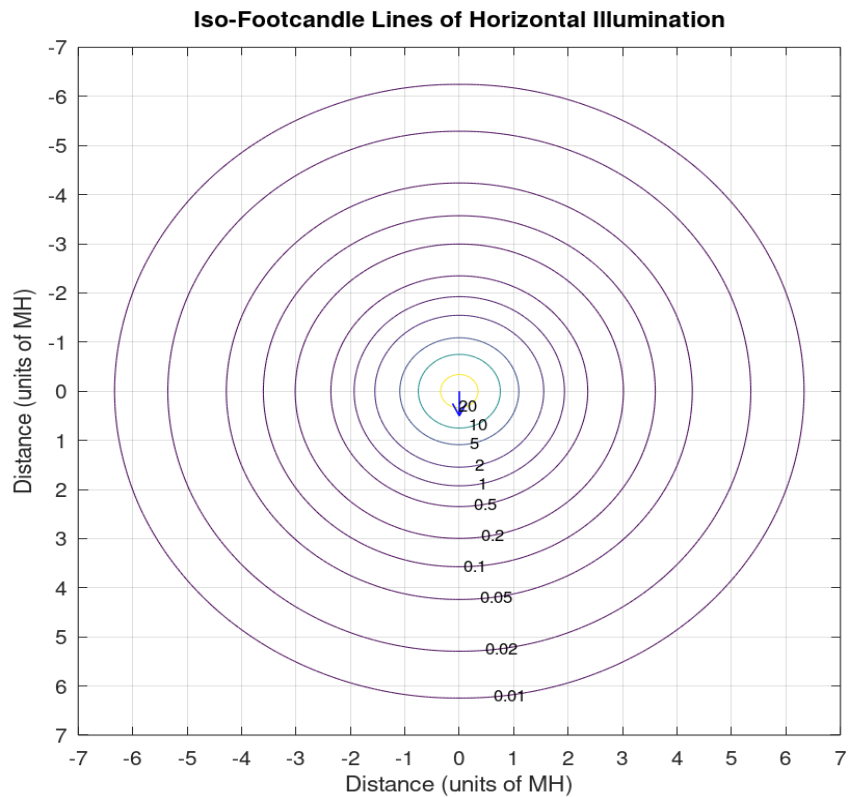
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	17.8	19.5	18.2	19.8	20.1	17.9	19.5	18.2	19.9	20.2
	3H	19.7	21.1	20.0	21.5	21.8	19.7	21.2	20.1	21.5	21.9
	4H	20.3	21.7	20.7	22.1	22.4	20.4	21.8	20.8	22.2	22.5
	6H	20.8	22.1	21.2	22.4	22.8	20.9	22.2	21.3	22.6	23.0
	8H	20.9	22.2	21.4	22.6	23.0	21.1	22.3	21.5	22.7	23.1
	12H	21.0	22.2	21.5	22.6	23.0	21.2	22.4	21.6	22.8	23.2
4H	2H	18.5	19.9	18.9	20.2	20.6	18.5	19.9	18.9	20.3	20.7
	3H	20.5	21.7	20.9	22.1	22.5	20.6	21.8	21.0	22.2	22.6
	4H	21.3	22.4	21.7	22.8	23.2	21.4	22.5	21.8	22.9	23.3
	6H	21.9	22.8	22.4	23.3	23.7	22.0	23.0	22.5	23.4	23.9
	8H	22.1	23.0	22.6	23.4	23.9	22.2	23.1	22.7	23.6	24.0
	12H	22.2	23.0	22.7	23.5	24.0	22.4	23.2	22.9	23.6	24.1
8H	4H	21.6	22.5	22.1	22.9	23.4	21.7	22.6	22.2	23.0	23.5
	6H	22.3	23.1	22.8	23.6	24.0	22.5	23.2	23.0	23.7	24.1
	8H	22.6	23.3	23.1	23.8	24.2	22.7	23.4	23.2	23.9	24.4
	12H	22.8	23.4	23.3	23.9	24.4	23.0	23.5	23.5	24.0	24.6
12H	4H	21.7	22.4	22.1	22.9	23.4	21.7	22.5	22.2	23.0	23.5
	6H	22.4	23.1	22.9	23.5	24.1	22.5	23.2	23.0	23.6	24.2
	8H	22.7	23.3	23.2	23.8	24.3	22.8	23.4	23.4	23.9	24.5

Maximum UGR = 24.6

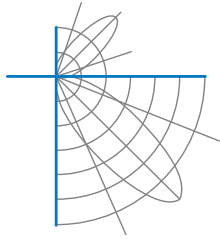


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Iso-Illuminance Plot



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.

North America (issuing laboratory)

Australasia & S.E. Asia