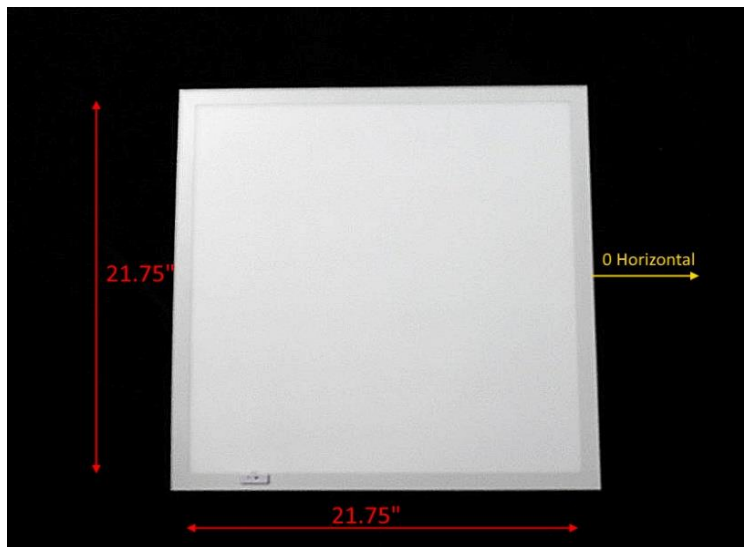


Report of Test

LLIA002377-003

Indoor Distribution Photometry Test Report

Catalog Number: PL22-30WPCTS-D-EM - 30 Watt Setting
Recessed mounted, formed white painted steel housing/reflector,
white painted aluminum frame, diffuse white plastic enclosure.
120 white LEDs on six white circuit boards with optic below each LED
One Streamer Combined LED Driver & Emergency Conversion Module YH07-2008WL-XX



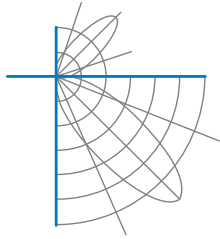
Prepared For:
Topaz Lighting, A Southwire Company
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	4002.6 Lumens
Input Current	0.2308 A	Total Efficacy	147.2 Lm/W
Input Power	27.19 W	Downward Flux	4002.6 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.982		
Current THD	8.5 %		

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

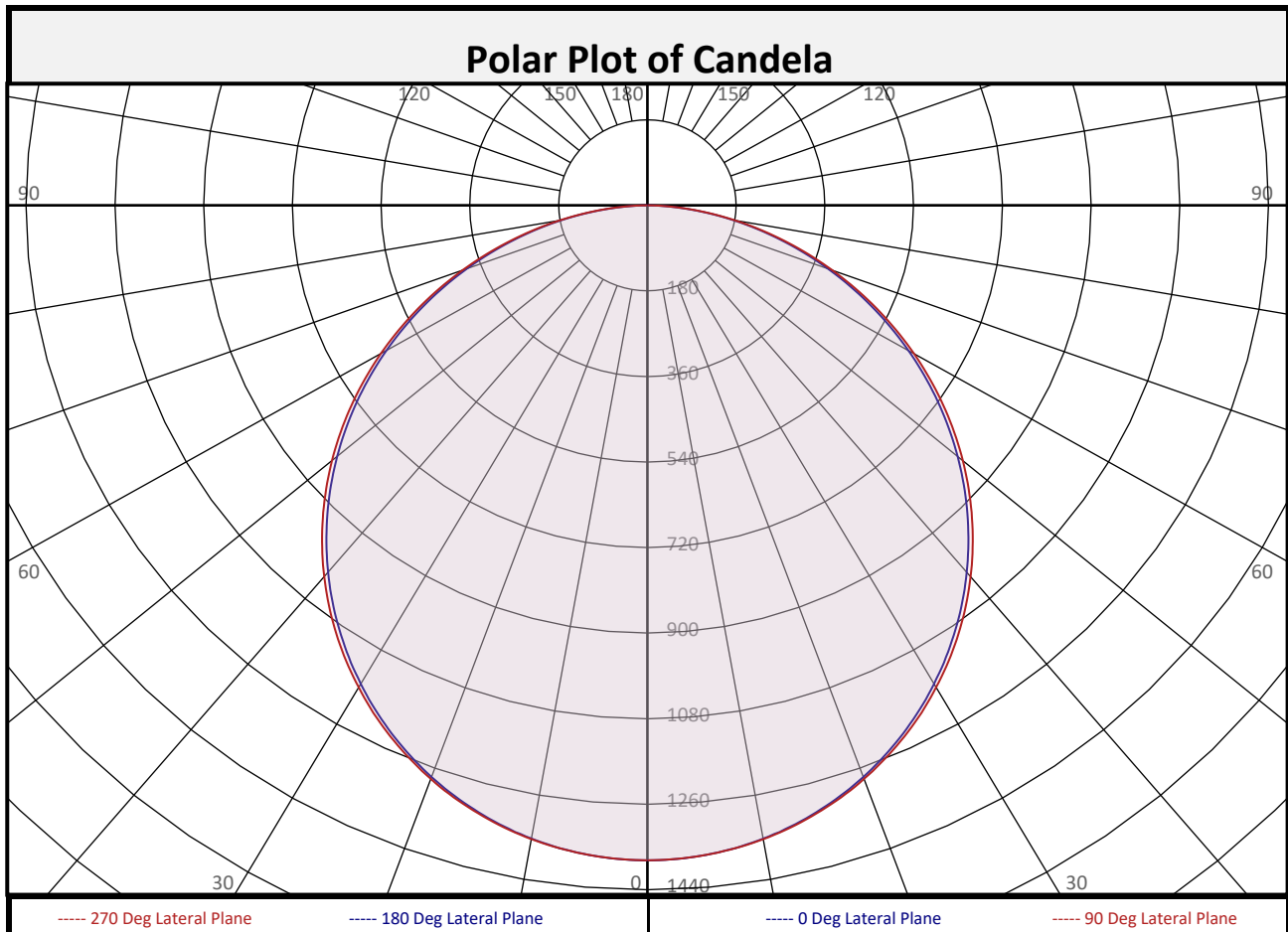
Test date: 07/11/2024
Report date: 07/23/2024

Signed: _____



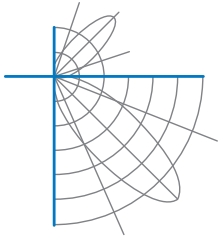
Report of Test

LLIA002377-003



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	130.5	3.3%	90-100	0.0	0.0%	0-20	504.0	12.6%
10-20	373.5	9.3%	100-110	0.0	0.0%	0-30	1071	26.8%
20-30	566.7	14.2%	110-120	0.0	0.0%	0-40	1756	43.9%
30-40	684.8	17.1%	120-130	0.0	0.0%	0-60	3117	77.9%
40-50	712.9	17.8%	130-140	0.0	0.0%	0-80	3916	97.8%
50-60	648.1	16.2%	140-150	0.0	0.0%	10-90	3872	96.7%
60-70	501.0	12.5%	150-160	0.0	0.0%	20-50	1964	49.1%
70-80	298.9	7.5%	160-170	0.0	0.0%	40-90	2247	56.1%
80-90	86.2	2.2%	170-180	0.0	0.0%	60-90	886.0	22.1%
0-90	4003	100.0%	90-180	0.0	0.0%	0-180	4003	100.0%



Report of Test

LLIA002377-003

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	1378	1378	1378	1378	1378	1378	1378	1378	1378
	2.5	1377	1377	1377	1376	1377	1376	1377	1377	1377
	5	1372	1372	1372	1372	1372	1372	1372	1372	1372
	7.5	1364	1364	1364	1364	1364	1364	1364	1364	1364
	10	1353	1353	1354	1354	1354	1354	1354	1353	1353
	12.5	1339	1339	1340	1341	1341	1341	1340	1339	1339
	15	1322	1323	1324	1324	1325	1324	1324	1323	1322
	17.5	1302	1303	1304	1305	1306	1305	1304	1303	1302
	20	1280	1280	1282	1283	1284	1283	1282	1280	1280
	22.5	1255	1255	1257	1259	1260	1259	1257	1255	1255
	25	1227	1228	1230	1232	1233	1232	1230	1228	1227
	27.5	1196	1197	1200	1202	1204	1202	1200	1197	1196
	30	1163	1164	1167	1170	1171	1170	1167	1164	1163
	32.5	1127	1129	1132	1135	1137	1135	1132	1129	1127
	35	1090	1091	1095	1099	1100	1099	1095	1091	1090
	37.5	1050	1051	1056	1059	1061	1059	1056	1051	1050
	40	1008	1009	1014	1018	1020	1018	1014	1009	1008
	42.5	964	966	970	974	976	974	970	966	964
	45	918	920	924	929	931	929	924	920	918
	47.5	871	872	877	882	884	882	877	872	871
50	822	824	828	833	835	833	828	824	822	
52.5	771	773	777	782	784	782	777	773	771	
55	719	721	725	730	732	730	725	721	719	
57.5	666	668	672	677	679	677	672	668	666	
60	612	613	618	622	624	622	618	613	612	
62.5	556	558	562	566	568	566	562	558	556	
65	501	503	506	510	512	510	506	503	501	
67.5	445	447	450	454	456	454	450	447	445	
70	389	391	394	397	399	397	394	391	389	
72.5	334	335	338	341	342	341	338	335	334	
75	279	280	282	285	286	285	282	280	279	
77.5	226	226	228	231	232	231	228	226	226	
80	174	174	176	177	178	177	176	174	174	
82.5	122	123	125	126	127	126	125	123	122	
85	74	74	76	78	78	78	76	74	74	
87.5	29	30	31	33	34	33	31	30	29	
90	0	0	0	0	0	0	0	0	0	

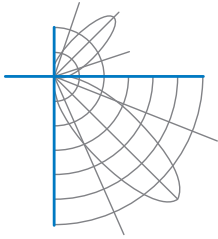
16 lateral half-planes of data were acquired, 22.5 degree increments shown.

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Report of Test

LLIA002377-003

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.



Report of Test

LLIA002377-003

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	108	104	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83			
2	98	90	83	77	96	88	82	76	85	79	74	81	77	73	78	74	71	69			
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58			
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49			
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42			
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37			
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33			
8	60	46	38	32	58	46	37	32	44	37	31	43	36	31	42	36	31	29			
9	56	42	34	29	55	42	34	28	41	33	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	25	24			

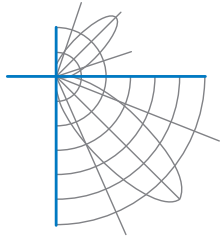
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	38.3	7.53	7.58
8.0	21.5	10.04	10.11
10.0	13.8	12.55	12.63
12.0	9.6	15.06	15.16
14.0	7.0	17.56	17.68
16.0	5.4	20.07	20.21

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	4515	4515	4515
45	4254	4283	4313
55	4107	4144	4181
65	3883	3925	3972
75	3536	3574	3625
85	2764	2853	2941

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	112.8°
Field Angle:	163.5°
90-270 Degree Plane	
Beam Angle:	114.0°
Field Angle:	163.9°



Report of Test

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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

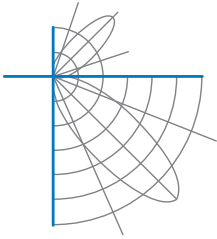
Room Size

UGR Viewed Crosswise

UGR Viewed Endwise

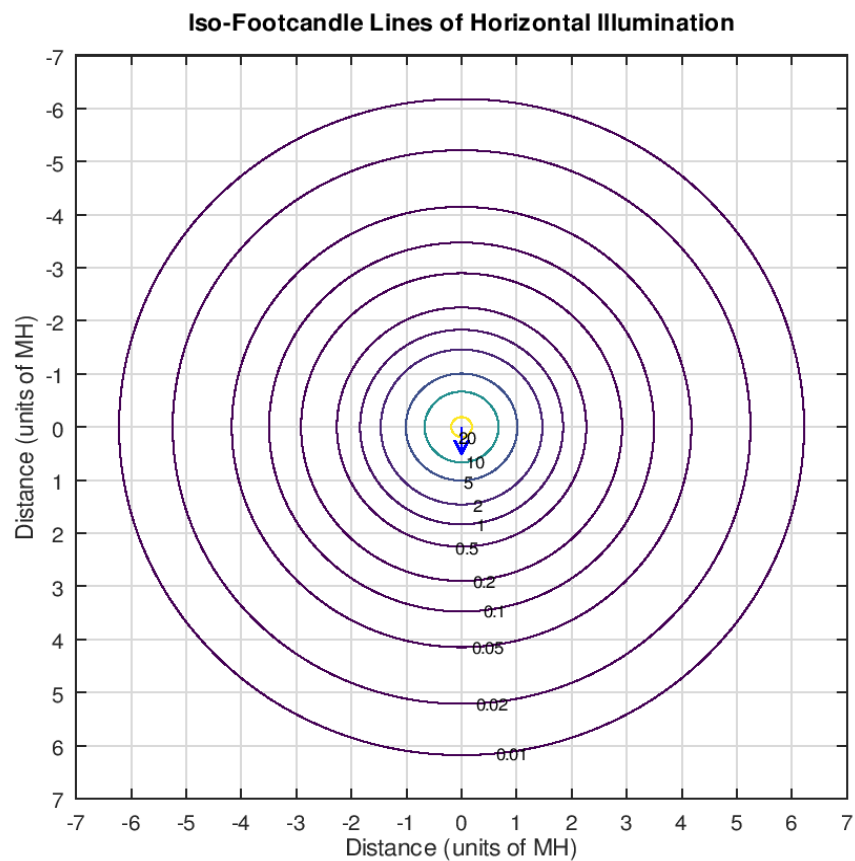
X=2H	Y=2H	17.0	18.7	17.4	19.0	19.3	17.1	18.8	17.5	19.1	19.4
		3H	18.9	20.4	19.3	20.7	21.1	19.0	20.5	19.4	20.9
	4H	19.6	21.0	20.0	21.4	21.8	19.8	21.2	20.2	21.5	21.9
	6H	20.2	21.5	20.6	21.9	22.3	20.3	21.6	20.7	22.0	22.4
	8H	20.4	21.6	20.8	22.0	22.4	20.5	21.8	20.9	22.1	22.5
	12H	20.5	21.7	20.9	22.1	22.5	20.6	21.8	21.1	22.2	22.6
4H	2H	17.7	19.1	18.1	19.5	19.8	17.8	19.2	18.2	19.5	19.9
	3H	19.8	21.0	20.2	21.4	21.8	19.9	21.1	20.3	21.5	21.9
	4H	20.7	21.7	21.1	22.1	22.6	20.8	21.8	21.2	22.3	22.7
	6H	21.3	22.3	21.8	22.7	23.2	21.5	22.4	21.9	22.8	23.3
	8H	21.6	22.5	22.0	22.9	23.4	21.7	22.6	22.2	23.0	23.5
	12H	21.8	22.5	22.2	23.0	23.5	21.9	22.7	22.4	23.2	23.6
8H	4H	21.0	21.9	21.5	22.3	22.8	21.1	22.0	21.5	22.4	22.9
	6H	21.8	22.6	22.3	23.1	23.5	21.9	22.7	22.4	23.2	23.6
	8H	22.1	22.8	22.6	23.3	23.8	22.3	22.9	22.8	23.4	23.9
	12H	22.4	23.0	22.9	23.5	24.0	22.5	23.1	23.0	23.6	24.1
12H	4H	21.1	21.8	21.5	22.3	22.8	21.1	21.9	21.6	22.4	22.9
	6H	21.9	22.6	22.4	23.0	23.6	22.0	22.7	22.5	23.1	23.7
	8H	22.3	22.9	22.8	23.3	23.9	22.4	23.0	22.9	23.5	24.0

Maximum UGR = 24.1

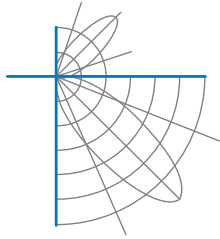


Report of Test
LLIA002377-003

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.



Report of Test

LLIA002377-003

Test Distance 9.5 m
Ambient Temperature 24.6 °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.