



## Report of Test

LLIA001740-004

Indoor Distribution Photometry Test Report

Catalog Number: PL24-50WPCTS-D - 30W/4000K setting

Recessed mounted, formed white painted steel housing/reflector, white painted aluminum frame, clear prismatic plastic enclosure with diffuse white plastic overlay.

180 white LEDs on six white circuit boards with optic below each LED

XZ-SE50B-480100-080060-Y-D LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

### Performance Summary

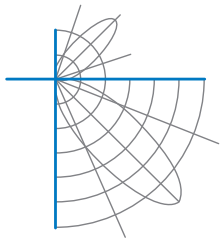
Input Voltage	119.9 Vac	Luminous Flux	4114.9 Lumens
Input Current	0.2295 A	Total Efficacy	150.7 Lm/W
Input Power	27.30 W	Downward Flux	4114.9 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.992		
Current THD	8.2 %		

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

Test date: 05/05/2022

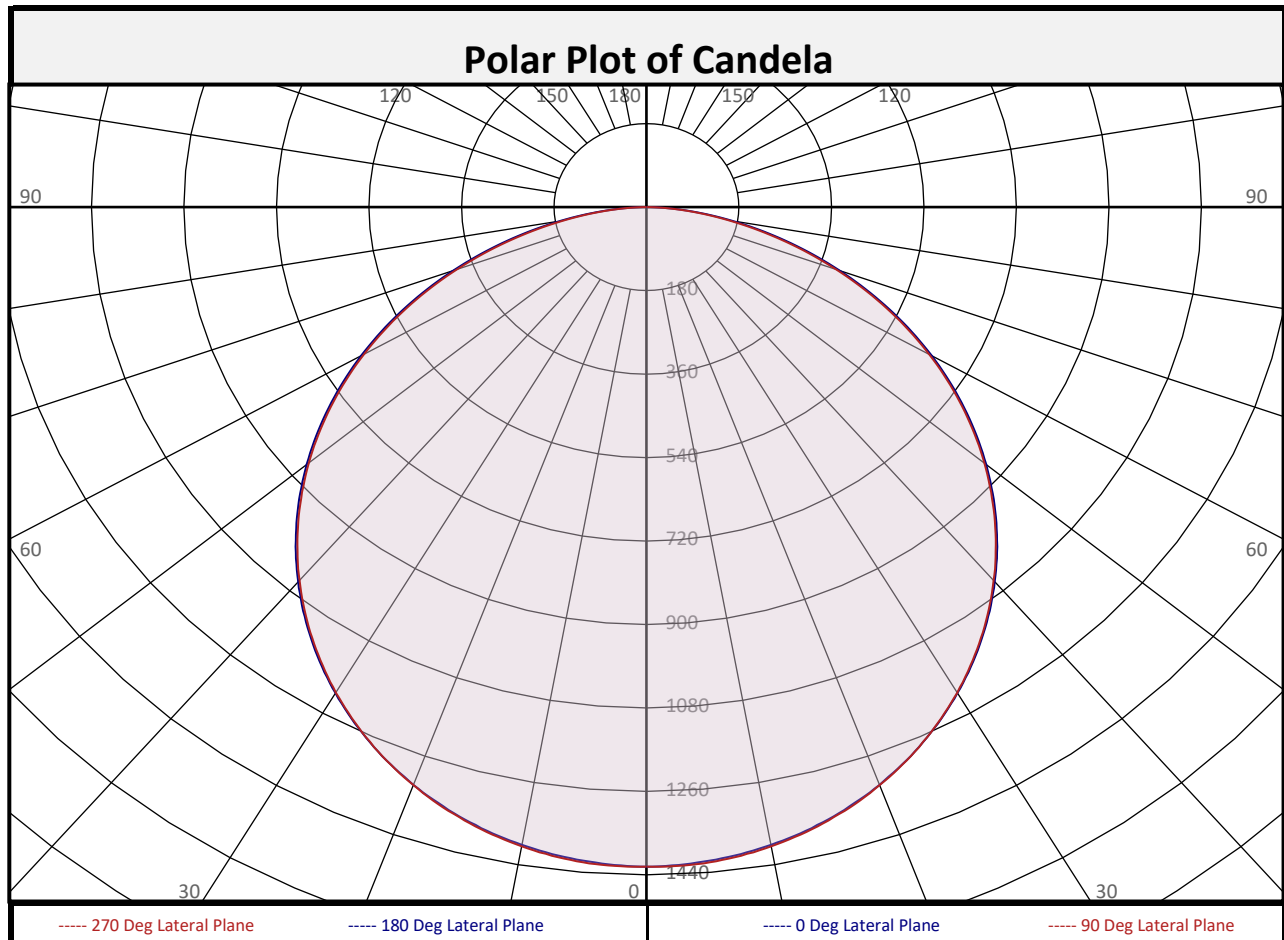
Report date: 05/05/2022

Signed: \_\_\_\_\_



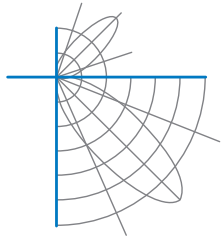
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### Zonal Flux Summary

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	134.7	3.3%	90-100	0.0	0.0%	0-20	520.7	12.7%
10-20	386.0	9.4%	100-110	0.0	0.0%	0-30	1107	26.9%
20-30	586.7	14.3%	110-120	0.0	0.0%	0-40	1818	44.2%
30-40	710.4	17.3%	120-130	0.0	0.0%	0-60	3231	78.5%
40-50	740.7	18.0%	130-140	0.0	0.0%	0-80	4036	98.1%
50-60	672.2	16.3%	140-150	0.0	0.0%	10-90	3980	96.7%
60-70	512.6	12.5%	150-160	0.0	0.0%	20-50	2038	49.5%
70-80	292.6	7.1%	160-170	0.0	0.0%	40-90	2297	55.8%
80-90	79.1	1.9%	170-180	0.0	0.0%	60-90	884.2	21.5%
0-90	4115	100.0%	90-180	0.0	0.0%	0-180	4115	100.0%

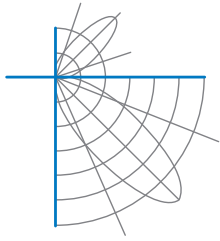


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Luminous Intensity (Candela) Table

		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	1422	1422	1422	1422	1422	1422	1422	1422	1422
	2.5	1420	1420	1421	1421	1422	1421	1421	1420	1420
	5	1415	1415	1416	1418	1418	1418	1416	1415	1415
	7.5	1407	1407	1408	1410	1411	1410	1408	1407	1407
	10	1396	1397	1397	1399	1400	1399	1397	1397	1396
	12.5	1383	1383	1384	1385	1386	1385	1384	1383	1383
	15	1367	1367	1368	1369	1369	1369	1368	1367	1367
	17.5	1347	1348	1348	1349	1350	1349	1348	1348	1347
	20	1326	1325	1326	1326	1326	1326	1326	1325	1326
	22.5	1301	1301	1301	1301	1301	1301	1301	1301	1301
	25	1273	1273	1273	1273	1273	1273	1273	1273	1273
	27.5	1243	1243	1243	1242	1242	1242	1243	1243	1243
	30	1210	1210	1209	1208	1209	1208	1209	1210	1210
	32.5	1175	1175	1173	1173	1173	1173	1173	1175	1175
	35	1137	1137	1135	1135	1134	1135	1135	1137	1137
	37.5	1098	1097	1096	1094	1094	1094	1096	1097	1098
	40	1054	1054	1052	1051	1051	1051	1052	1054	1054
	42.5	1010	1009	1007	1006	1006	1006	1007	1009	1010
	45	963	962	961	959	959	959	961	962	963
	47.5	914	913	912	910	909	910	912	913	914
50	863	862	860	859	858	859	860	862	863	
52.5	810	809	807	805	805	805	807	809	810	
55	755	755	753	750	750	750	753	755	755	
57.5	699	698	696	694	693	694	696	698	699	
60	641	641	638	636	635	636	638	641	641	
62.5	582	581	579	576	575	576	579	581	582	
65	522	521	518	516	515	516	518	521	522	
67.5	461	460	457	455	454	455	457	460	461	
70	400	399	396	394	392	394	396	399	400	
72.5	340	339	336	332	331	332	336	339	340	
75	280	279	276	273	272	273	276	279	280	
77.5	223	222	219	216	214	216	219	222	223	
80	168	167	165	161	160	161	165	167	168	
82.5	117	117	115	112	110	112	115	117	117	
85	70	70	69	67	66	67	69	70	70	
87.5	29	29	29	29	28	29	29	29	29	
90	0	0	0	0	0	0	0	0	0	

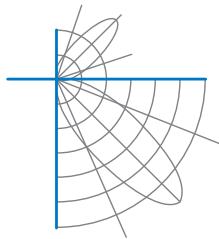


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Luminous Intensity (Candela) Table

		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.	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	



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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	102	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	79	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	53	62	56	52	50
5	76	63	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	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

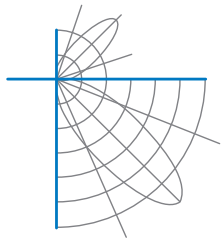
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	39.5	7.59	7.58	
8.0	22.2	10.12	10.10	
10.0	14.2	12.65	12.63	
12.0	9.9	15.18	15.15	
14.0	7.3	17.71	17.68	
16.0	5.6	20.24	20.20	

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

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	2216	2216	2216
45	2122	2117	2112
55	2051	2044	2036
65	1924	1911	1898
75	1686	1661	1634
85	1251	1225	1182

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	113.9°
Field Angle:	162.5°
90-270 Degree Plane	
Beam Angle:	113.4°
Field Angle:	161.7°



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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

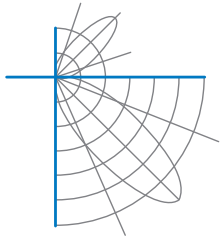
##### Room Size

##### UGR Viewed Crosswise

##### UGR Viewed Endwise

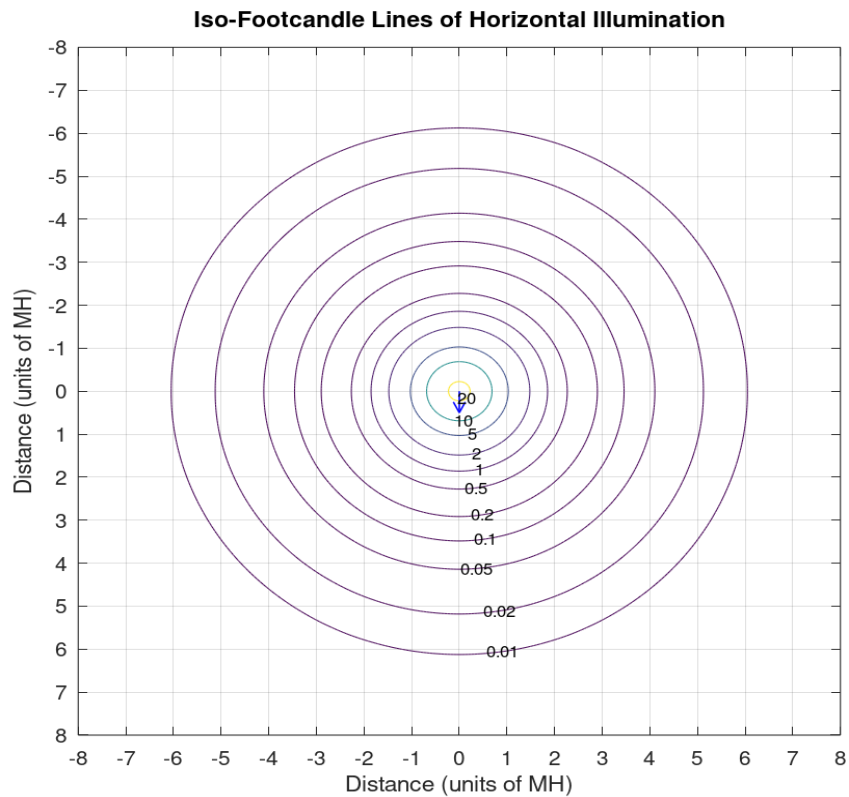
X=2H	Y=2H	14.7	16.3	15.0	16.6	17.0	14.6	16.3	15.0	16.6	16.9
	3H	16.5	18.0	16.9	18.3	18.7	16.4	17.9	16.8	18.3	18.6
	4H	17.2	18.6	17.6	18.9	19.3	17.1	18.5	17.5	18.8	19.2
	6H	17.7	19.0	18.1	19.4	19.7	17.6	18.9	18.0	19.2	19.6
	8H	17.8	19.1	18.3	19.5	19.9	17.7	19.0	18.1	19.3	19.7
	12H	18.0	19.1	18.4	19.5	19.9	17.8	19.0	18.2	19.4	19.8
4H	2H	15.3	16.7	15.7	17.1	17.4	15.3	16.7	15.7	17.0	17.4
	3H	17.4	18.5	17.8	18.9	19.3	17.3	18.5	17.7	18.9	19.3
	4H	18.2	19.2	18.6	19.6	20.1	18.1	19.1	18.5	19.6	20.0
	6H	18.8	19.7	19.3	20.2	20.6	18.7	19.6	19.1	20.1	20.5
	8H	19.0	19.9	19.5	20.3	20.8	18.9	19.7	19.3	20.2	20.6
	12H	19.1	19.9	19.6	20.4	20.9	19.0	19.8	19.5	20.3	20.7
8H	4H	18.5	19.4	18.9	19.8	20.3	18.4	19.3	18.9	19.7	20.2
	6H	19.2	20.0	19.7	20.4	20.9	19.1	19.8	19.6	20.3	20.8
	8H	19.5	20.2	20.0	20.7	21.1	19.4	20.0	19.9	20.5	21.0
	12H	19.7	20.3	20.2	20.8	21.3	19.6	20.1	20.1	20.6	21.2
12H	4H	18.5	19.3	19.0	19.8	20.2	18.4	19.2	18.9	19.7	20.2
	6H	19.3	19.9	19.8	20.4	20.9	19.2	19.8	19.7	20.3	20.8
	8H	19.6	20.2	20.1	20.7	21.2	19.5	20.1	20.0	20.6	21.1

Maximum UGR = 21.3

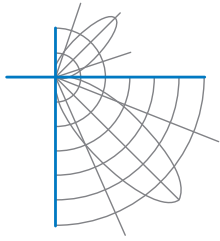


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### Iso-Illuminance Plot



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        24.9 °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.