



## Report of Test

LLIA001740-001

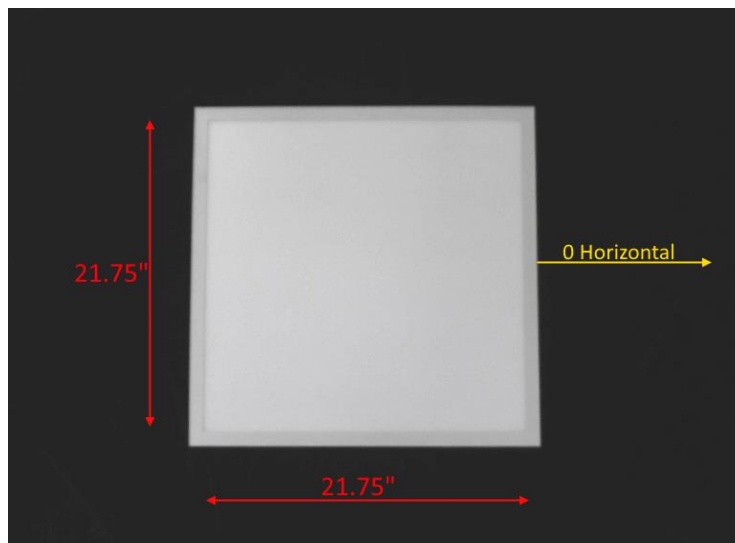
Indoor Distribution Photometry Test Report

Catalog Number: PL22-35WPCTS-D - 25W/4000K setting

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

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

XZ-SE40B-480070-060050-Y-D LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

### Performance Summary

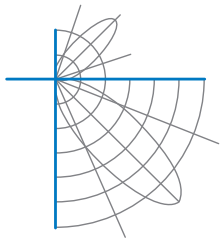
Input Voltage	120.0 Vac	Luminous Flux	3334.2 Lumens
Input Current	0.1929 A	Total Efficacy	144.7 Lm/W
Input Power	23.04 W	Downward Flux	3334.2 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.995		
Current THD	7.1 %		

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

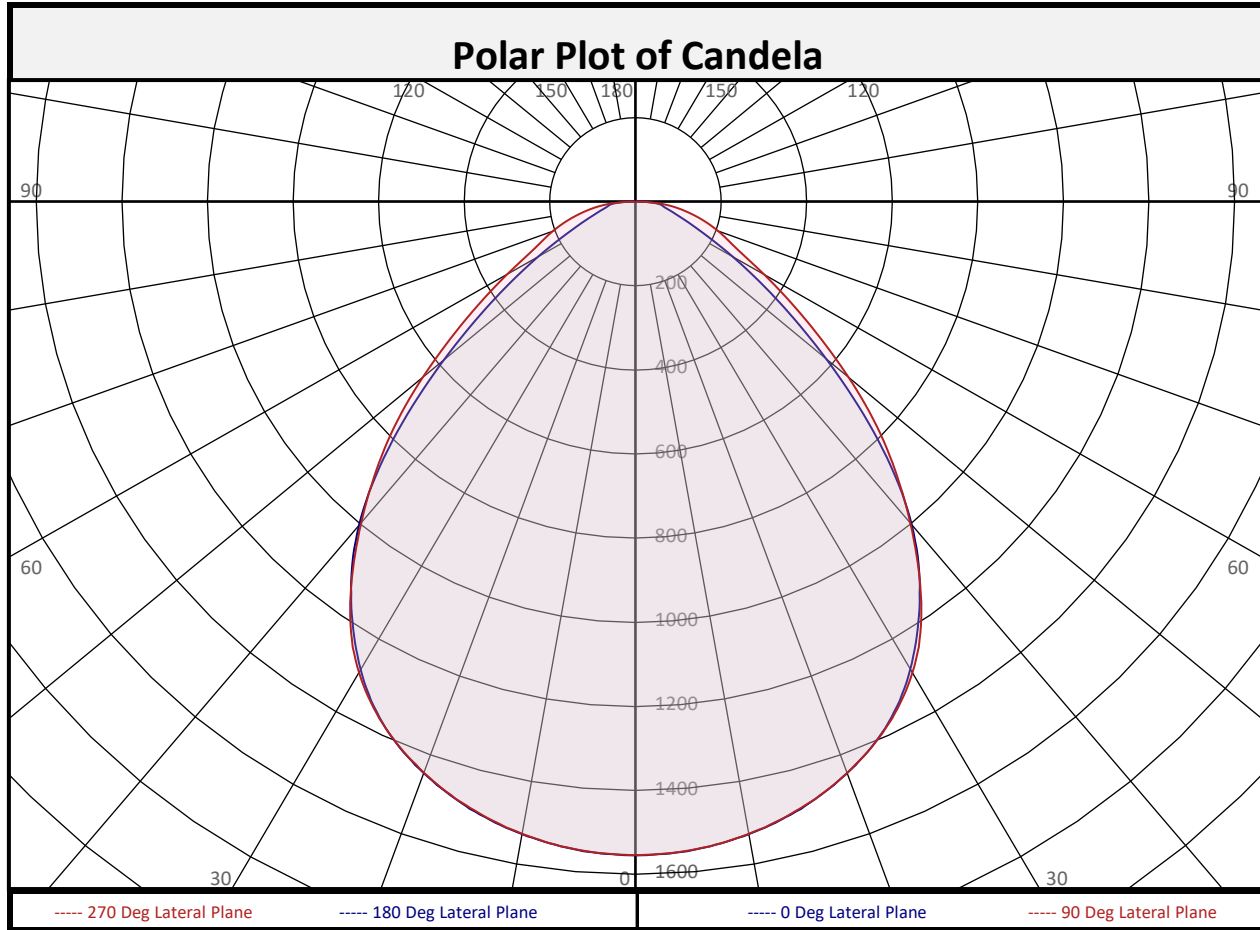
Test date: 05/05/2022

Report date: 05/06/2022

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	Zone (Deg Vert)	Flux (Lumens)	Percent of Total									
0-10	147.1	4.4%	90-100	0.0	0.0%	0-20	568.4	17.0%	10-20	421.3	12.6%	100-110	0.0	0.0%	0-30	1203	36.1%			
20-30	634.7	19.0%	110-120	0.0	0.0%	0-40	1924	57.7%	30-40	720.9	21.6%	120-130	0.0	0.0%	0-60	2942	88.2%	40-50	626.1	18.8%
50-60	391.4	11.7%	130-140	0.0	0.0%	0-80	3283	98.5%	60-70	212.4	6.4%	140-150	0.0	0.0%	10-90	3187	95.6%	70-80	128.7	3.9%
80-90	51.6	1.5%	150-160	0.0	0.0%	20-50	1982	59.4%	80-90	51.6	1.5%	160-170	0.0	0.0%	40-90	1410	42.3%	0-90	3334	100.0%
			170-180	0.0	0.0%	40-90	1410	42.3%				60-90	392.7	11.8%						
			180-190	0.0	0.0%	0-180	3334	100.0%												

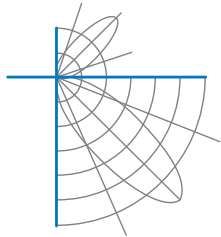


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#### Luminous Intensity (Candela) Table

		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	1554	1554	1554	1554	1554	1554	1554	1554	1554
	2.5	1552	1553	1552	1552	1552	1552	1552	1553	1552
	5	1547	1547	1547	1547	1547	1547	1547	1547	1547
	7.5	1539	1538	1539	1538	1539	1538	1539	1538	1539
	10	1527	1527	1527	1526	1526	1526	1527	1527	1527
	12.5	1513	1511	1512	1511	1511	1511	1512	1511	1513
	15	1495	1493	1493	1493	1493	1493	1493	1493	1495
	17.5	1472	1471	1471	1471	1471	1471	1471	1471	1472
	20	1446	1445	1444	1445	1446	1445	1444	1445	1446
	22.5	1417	1416	1415	1415	1416	1415	1415	1416	1417
	25	1381	1381	1380	1380	1382	1380	1380	1381	1381
	27.5	1338	1339	1339	1339	1341	1339	1339	1339	1338
	30	1284	1288	1288	1290	1293	1290	1288	1288	1284
	32.5	1224	1225	1226	1230	1235	1230	1226	1225	1224
	35	1158	1155	1156	1160	1164	1160	1156	1155	1158
	37.5	1087	1078	1080	1085	1083	1085	1080	1078	1087
	40	1005	997	1000	1005	998	1005	1000	997	1005
	42.5	909	913	914	916	914	916	914	913	909
	45	802	822	820	815	830	815	820	822	802
	47.5	690	725	718	705	741	705	718	725	690
50	582	627	615	596	649	596	615	627	582	
52.5	484	532	519	494	559	494	519	532	484	
55	398	448	433	405	479	405	433	448	398	
57.5	325	377	360	330	408	330	360	377	325	
60	263	319	298	267	347	267	298	319	263	
62.5	211	269	247	217	295	217	247	269	211	
65	170	231	208	179	257	179	208	231	170	
67.5	140	204	181	151	230	151	181	204	140	
70	116	183	161	128	206	128	161	183	116	
72.5	98	164	144	111	181	111	144	164	98	
75	85	145	127	95	157	95	127	145	85	
77.5	73	124	109	80	132	80	109	124	73	
80	66	104	92	66	109	66	92	104	66	
82.5	60	83	73	55	85	55	73	83	60	
85	49	58	52	41	58	41	52	58	49	
87.5	25	29	24	19	26	19	24	29	25	
90	1	1	1	0	0	0	1	1	1	



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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	
90	1	1	1	0	0	0	1	1	1	
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	

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° 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	110	106	102	99	108	104	100	97	100	97	94	96	94	92	92	90	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	85	77	72	92	83	76	71	80	74	70	78	73	69	75	71	67	65
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	59	57
5	80	69	61	55	79	68	60	54	66	59	54	64	58	53	62	57	53	51
6	75	63	54	49	73	62	54	48	60	53	48	58	52	48	57	51	47	45
7	70	57	49	44	68	56	49	43	55	48	43	54	47	43	52	47	43	41
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33
10	57	45	38	33	56	44	37	33	43	37	32	43	37	32	42	36	32	30

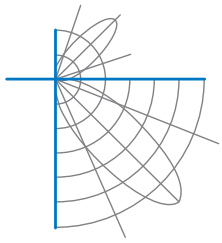
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	43.2	7.33	7.38
8.0	24.3	9.78	9.84
10.0	15.5	12.22	12.30
12.0	10.8	14.67	14.76
14.0	7.9	17.11	17.22
16.0	6.1	19.55	19.68

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

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	5092	5092	5092
45	3717	3798	3846
55	2276	2474	2735
65	1319	1615	1991
75	1073	1604	1982
85	1829	1941	2195

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	91.1°
Field Angle:	132.3°
90-270 Degree Plane	
Beam Angle:	93.0°
Field Angle:	150.2°



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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

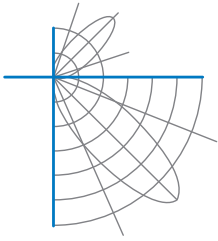
##### Room Size

##### UGR Viewed Crosswise

##### UGR Viewed Endwise

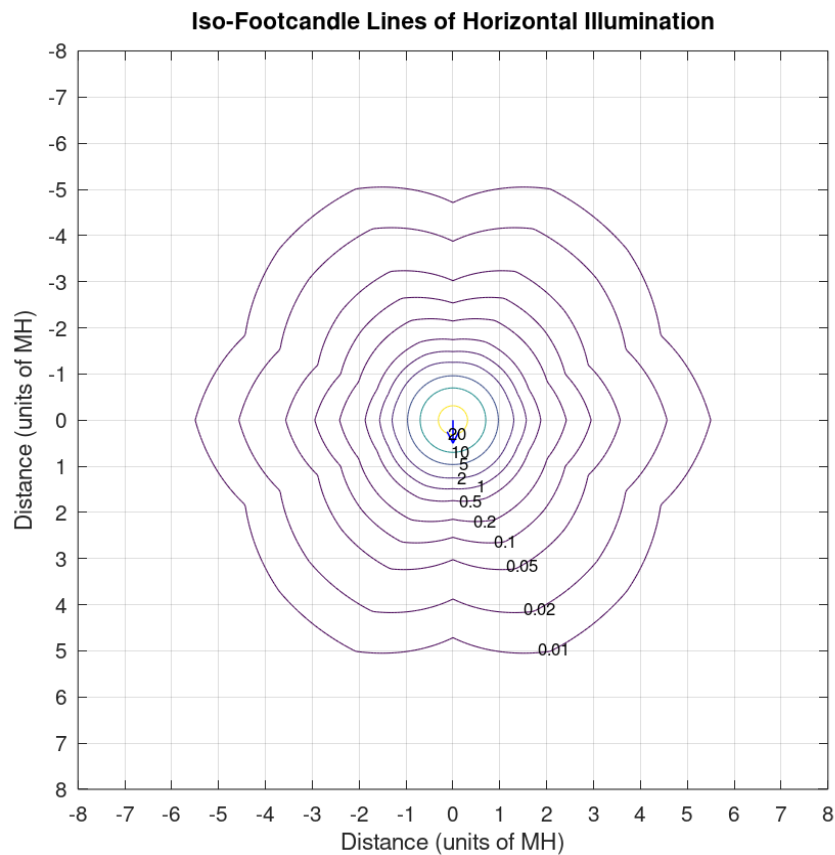
X=2H	Y=2H	13.7	15.2	14.1	15.5	15.8	13.3	14.7	13.6	15.0	15.4
	3H	14.7	16.0	15.1	16.4	16.7	14.6	15.9	15.0	16.3	16.6
	4H	15.2	16.4	15.6	16.7	17.1	15.4	16.6	15.8	16.9	17.3
	6H	15.5	16.7	16.0	17.1	17.4	16.0	17.2	16.4	17.5	17.9
	8H	15.8	16.8	16.2	17.2	17.6	16.4	17.4	16.8	17.8	18.2
	12H	16.0	17.0	16.4	17.4	17.8	16.6	17.7	17.0	18.0	18.5
4H	2H	14.1	15.3	14.5	15.6	16.0	13.6	14.9	14.0	15.2	15.6
	3H	15.4	16.4	15.8	16.9	17.3	15.2	16.2	15.6	16.6	17.0
	4H	16.2	17.1	16.6	17.5	17.9	15.9	16.8	16.4	17.3	17.7
	6H	16.8	17.6	17.3	18.0	18.5	16.7	17.5	17.2	18.0	18.4
	8H	17.1	17.8	17.6	18.3	18.8	17.1	17.9	17.6	18.3	18.8
	12H	17.4	18.1	17.9	18.6	19.0	17.5	18.1	18.0	18.6	19.1
8H	4H	16.4	17.2	16.9	17.6	18.1	16.2	17.0	16.7	17.4	17.9
	6H	17.4	18.0	17.9	18.5	18.9	17.1	17.8	17.6	18.3	18.7
	8H	17.8	18.4	18.3	18.9	19.4	17.6	18.2	18.1	18.7	19.2
	12H	18.3	18.8	18.8	19.3	19.8	18.1	18.5	18.6	19.0	19.6
12H	4H	16.5	17.1	17.0	17.6	18.1	16.3	17.0	16.8	17.5	17.9
	6H	17.4	18.0	18.0	18.5	19.0	17.3	17.8	17.8	18.3	18.8
	8H	18.0	18.5	18.5	19.0	19.5	17.8	18.3	18.3	18.8	19.3

Maximum UGR = 19.8

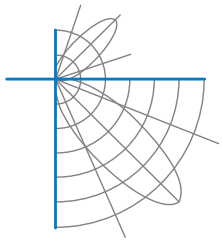


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### Iso-Illuminance Plot



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            25.2 °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.