



## Report of Test

**LLIA001740-003**

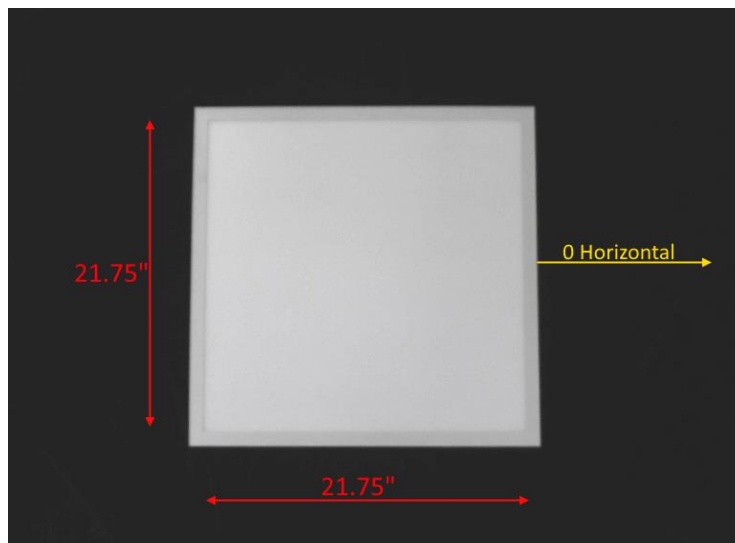
Indoor Distribution Photometry Test Report

Catalog Number: PL22-35WPCTS-D - 35W/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

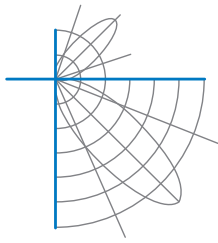
Input Voltage	120.0 Vac	Luminous Flux	4473.7 Lumens
Input Current	0.2649 A	Total Efficacy	141.3 Lm/W
Input Power	31.66 W	Downward Flux	4473.6 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.996		
Current THD	7.7 %		

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

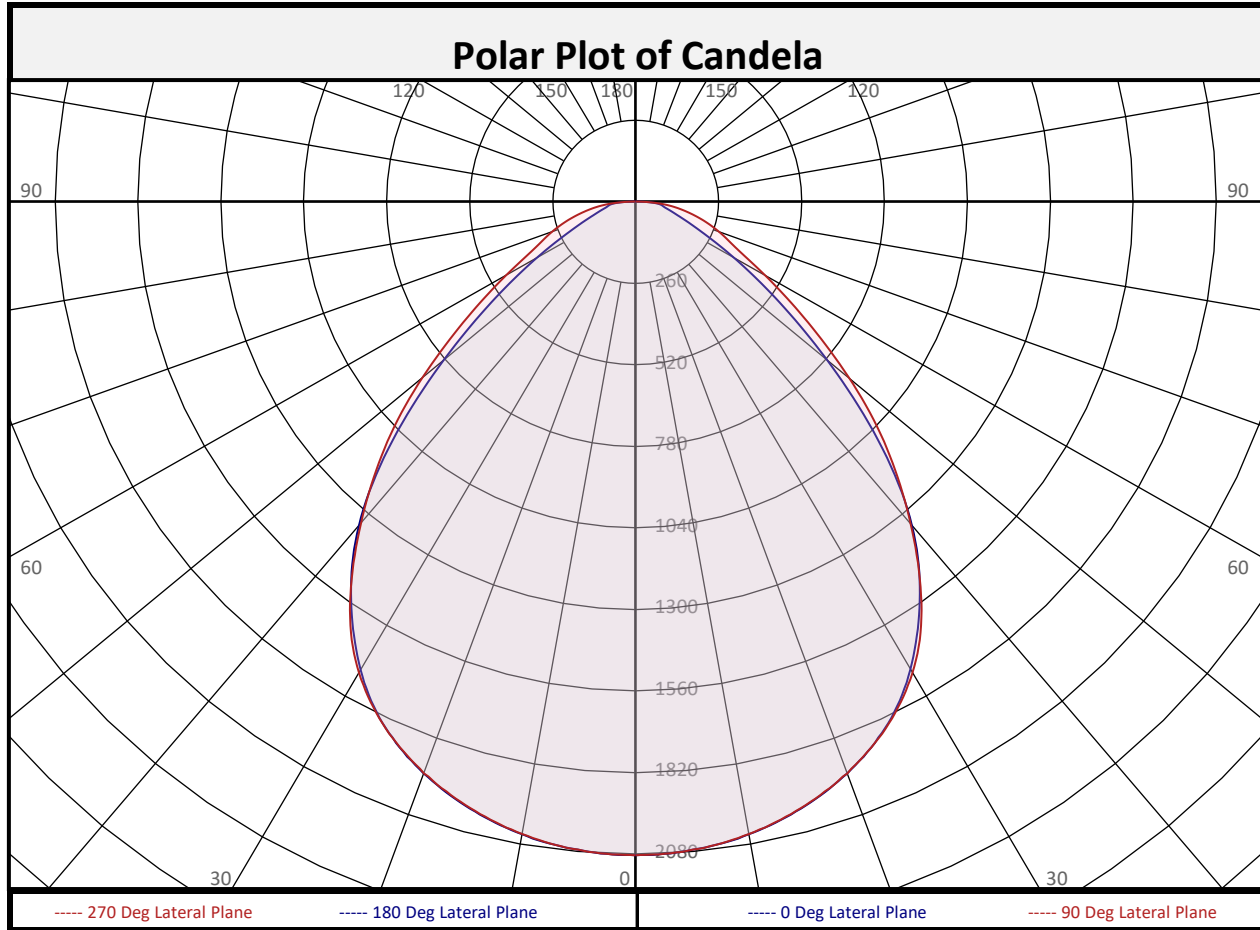
Test date: 05/05/2022

Report date: 05/06/2022

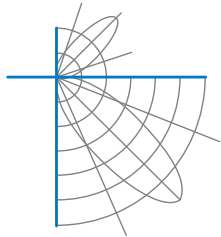
Signed: \_\_\_\_\_



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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			
0-10	197.3	4.4%	90-100	0.0	0.0%	0-20	762.4	17.0%			
10-20	565.1	12.6%	100-110	0.0	0.0%	0-30	1614	36.1%			
20-30	851.3	19.0%	110-120	0.0	0.0%	0-40	2581	57.7%			
30-40	967.1	21.6%	120-130	0.0	0.0%	0-60	3946	88.2%			
40-50	840.1	18.8%	130-140	0.0	0.0%	0-80	4404	98.4%			
50-60	525.5	11.7%	140-150	0.0	0.0%	10-90	4276	95.6%			
60-70	285.2	6.4%	150-160	0.0	0.0%	20-50	2658	59.4%			
70-80	172.7	3.9%	160-170	0.0	0.0%	40-90	1893	42.3%			
80-90	69.3	1.5%	170-180	0.0	0.0%	60-90	527.3	11.8%			
0-90	4474	100.0%	90-180	0.0	0.0%	0-180	4474	100.0%			

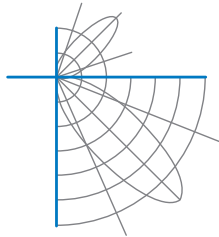


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Luminous Intensity (Candela) Table

		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	2084	2084	2084	2084	2084	2084	2084	2084	2084
	2.5	2081	2082	2083	2081	2081	2081	2083	2082	2081
	5	2074	2075	2076	2074	2074	2074	2076	2075	2074
	7.5	2064	2064	2064	2063	2064	2063	2064	2064	2064
	10	2048	2048	2048	2047	2048	2047	2048	2048	2048
	12.5	2029	2028	2027	2027	2027	2027	2027	2028	2029
	15	2004	2003	2003	2002	2002	2002	2003	2003	2004
	17.5	1975	1973	1973	1972	1972	1972	1973	1973	1975
	20	1940	1938	1938	1938	1940	1938	1938	1938	1940
	22.5	1899	1898	1898	1899	1899	1899	1898	1898	1899
	25	1852	1852	1851	1852	1854	1852	1851	1852	1852
	27.5	1794	1796	1795	1796	1799	1796	1795	1796	1794
	30	1723	1727	1727	1729	1735	1729	1727	1727	1723
	32.5	1641	1644	1645	1649	1657	1649	1645	1644	1641
	35	1553	1549	1550	1556	1562	1556	1550	1549	1553
	37.5	1458	1446	1450	1456	1454	1456	1450	1446	1458
	40	1348	1338	1341	1349	1340	1349	1341	1338	1348
	42.5	1219	1225	1227	1230	1228	1230	1227	1225	1219
	45	1075	1104	1100	1094	1113	1094	1100	1104	1075
	47.5	926	973	963	946	995	946	963	973	926
50	782	841	826	800	872	800	826	841	782	
52.5	650	714	696	664	751	664	696	714	650	
55	535	602	581	545	643	545	581	602	535	
57.5	436	506	483	443	548	443	483	506	436	
60	353	428	400	358	467	358	400	428	353	
62.5	284	362	332	291	397	291	332	362	284	
65	229	310	280	241	345	241	280	310	229	
67.5	188	273	243	203	308	203	243	273	188	
70	156	245	216	172	276	172	216	245	156	
72.5	132	220	193	149	243	149	193	220	132	
75	114	194	170	128	210	128	170	194	114	
77.5	99	166	147	107	178	107	147	166	99	
80	89	139	123	88	146	88	123	139	89	
82.5	81	111	98	74	115	74	98	111	81	
85	65	79	69	55	78	55	69	79	65	
87.5	34	39	32	26	35	26	32	39	34	
90	2	2	1	0	0	0	1	2	2	



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	Lateral (C-Plane) Angles									
	0	22.5	45	67.5	90	112.5	135	157.5	180	
90	2	2	1	0	0	0	1	2	2	
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	77	73	69	75	71	67	65
4	87	76	68	62	85	75	67	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	38	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	32	43	37	32	43	37	32	42	36	32	30

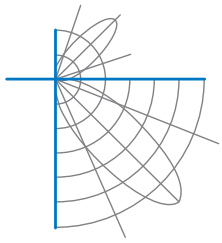
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	57.9	7.33	7.38
8.0	32.6	9.78	9.84
10.0	20.8	12.22	12.31
12.0	14.5	14.67	14.77
14.0	10.6	17.11	17.23
16.0	8.1	19.56	19.69

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	6829	6829	6829
45	4983	5098	5159
55	3058	3320	3672
65	1772	2169	2674
75	1439	2152	2662
85	2460	2607	2949

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	91.1°
Field Angle:	132.3°
90-270 Degree Plane	
Beam Angle:	93.1°
Field Angle:	150.3°



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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

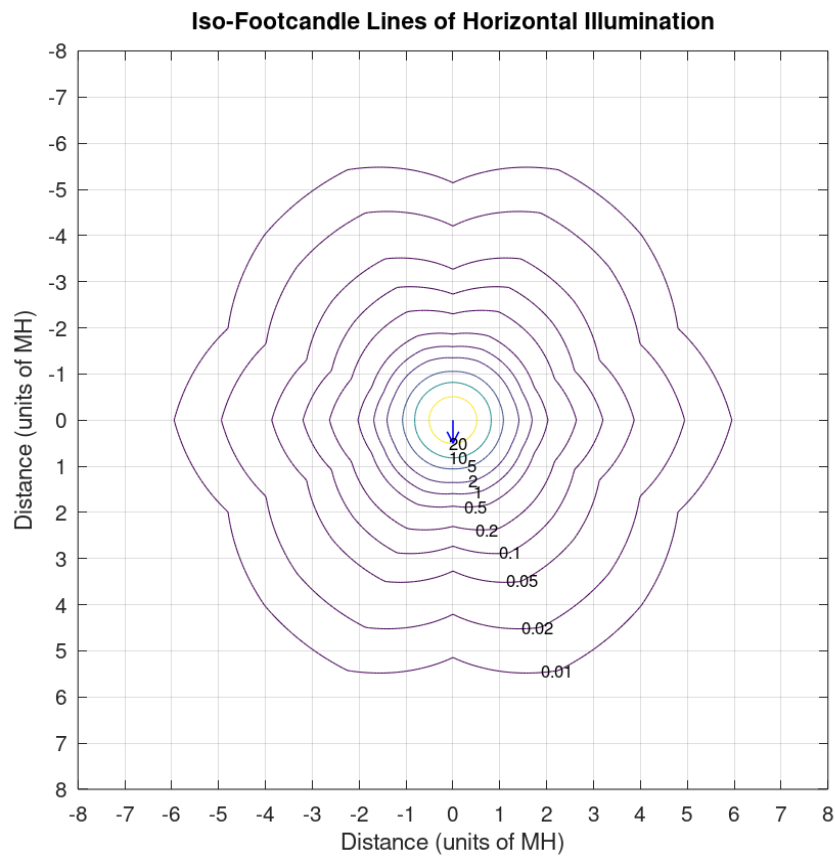
X=2H	Y=2H	14.7	16.2	15.1	16.5	16.8	14.3	15.7	14.6	16.1	16.4
	3H	15.7	17.0	16.1	17.4	17.7	15.7	17.0	16.0	17.3	17.6
	4H	16.2	17.4	16.6	17.7	18.1	16.4	17.6	16.8	17.9	18.3
	6H	16.6	17.7	17.0	18.1	18.5	17.0	18.2	17.5	18.6	18.9
	8H	16.8	17.8	17.2	18.2	18.6	17.4	18.4	17.8	18.8	19.2
	12H	17.0	18.0	17.4	18.4	18.8	17.6	18.7	18.1	19.0	19.5
4H	2H	15.1	16.3	15.5	16.6	17.0	14.7	15.9	15.1	16.2	16.6
	3H	16.4	17.4	16.8	17.8	18.2	16.2	17.2	16.6	17.6	18.0
	4H	17.2	18.1	17.6	18.5	18.9	16.9	17.8	17.4	18.3	18.7
	6H	17.8	18.6	18.3	19.0	19.5	17.7	18.5	18.2	19.0	19.4
	8H	18.1	18.9	18.6	19.3	19.8	18.1	18.9	18.6	19.3	19.8
	12H	18.4	19.1	18.9	19.6	20.0	18.5	19.2	19.0	19.6	20.1
8H	4H	17.4	18.2	17.9	18.6	19.1	17.2	18.0	17.7	18.4	18.9
	6H	18.4	19.0	18.9	19.5	19.9	18.2	18.8	18.6	19.3	19.7
	8H	18.8	19.4	19.3	19.9	20.4	18.6	19.2	19.1	19.7	20.2
	12H	19.3	19.8	19.8	20.3	20.8	19.1	19.6	19.6	20.0	20.6
12H	4H	17.5	18.1	18.0	18.6	19.1	17.3	18.0	17.8	18.5	18.9
	6H	18.4	19.0	19.0	19.5	20.0	18.3	18.8	18.8	19.3	19.8
	8H	19.0	19.5	19.5	20.0	20.5	18.8	19.3	19.3	19.8	20.3

Maximum UGR = 20.8

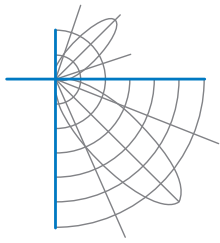


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**Iso-Illuminance Plot**



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        25.0 °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.