



## Report of Test

LLIA001457-006

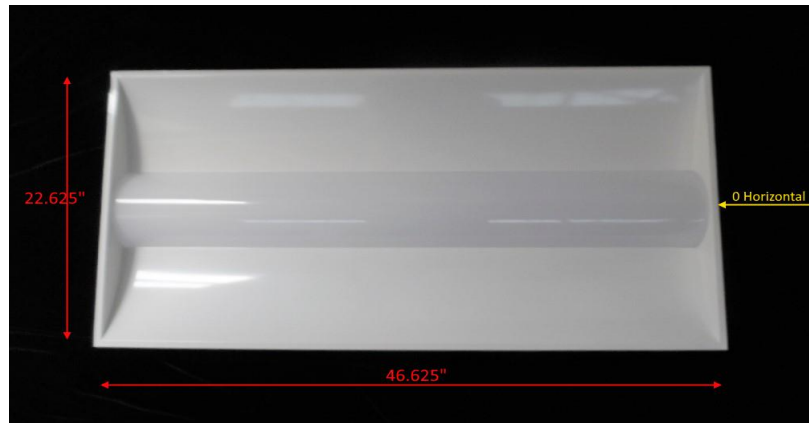
Indoor Distribution Photometry Test Report

Catalog Number: F-VTC24/50PCTS/D-86 - 50W/4000K Setting

Recessed mounted, formed steel housing, translucent white linear ribbed plastic enclosure.

336 LEDs, 4 LED boards with 42 cool white and 42 warm white LEDs each.

One WSP-Z45AD-0421070 LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

### Performance Summary

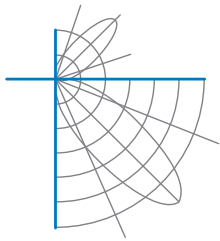
Input Voltage	120.0 V	Luminous Flux	6410.9 Lumens
Input Current	0.4418 A	Total Efficacy	143.0 Lm/W
Input Power	44.84 W	Downward Flux	6410.9 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.846		
Current THD	11.4 %		

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

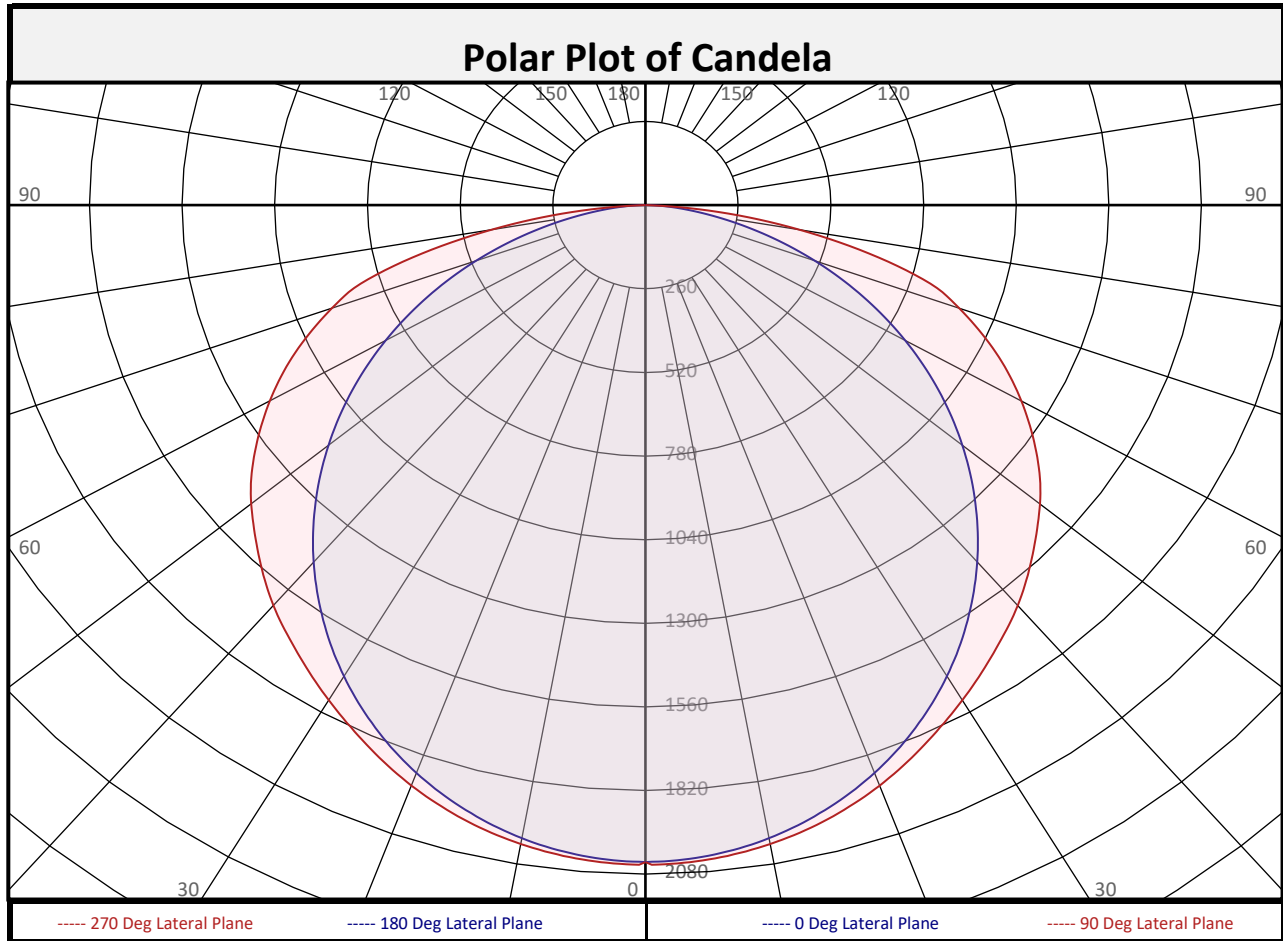
Test date: 05/05/2021

Report date: 05/05/2021

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

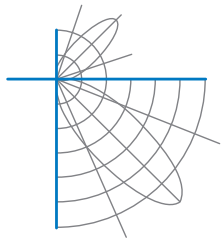


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### Zonal Flux Summary

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	193.3	3.0%	90-100	0.0	0.0%	0-20	746.6	11.6%
10-20	553.3	8.6%	100-110	0.0	0.0%	0-30	1586	24.7%
20-30	839.3	13.1%	110-120	0.0	0.0%	0-40	2608	40.7%
30-40	1022	15.9%	120-130	0.0	0.0%	0-60	4746	74.0%
40-50	1092	17.0%	130-140	0.0	0.0%	0-80	6244	97.4%
50-60	1047	16.3%	140-150	0.0	0.0%	10-90	6218	97.0%
60-70	889.8	13.9%	150-160	0.0	0.0%	20-50	2952	46.0%
70-80	608.7	9.5%	160-170	0.0	0.0%	40-90	3803	59.3%
80-90	166.7	2.6%	170-180	0.0	0.0%	60-90	1665	26.0%
0-90	6411	100.0%	90-180	0.0	0.0%	0-180	6411	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	0	2043	2043	2043	2043	2043	2043	2043	2043	2043
	2.5	2039	2037	2036	2043	2049	2043	2036	2037	2039
	5	2030	2029	2030	2037	2042	2037	2030	2029	2030
	7.5	2017	2017	2018	2027	2031	2027	2018	2017	2017
	10	1998	2000	2003	2012	2017	2012	2003	2000	1998
	12.5	1975	1978	1983	1993	1999	1993	1983	1978	1975
	15	1947	1951	1959	1971	1976	1971	1959	1951	1947
	17.5	1915	1919	1930	1944	1950	1944	1930	1919	1915
	20	1879	1884	1896	1914	1921	1914	1896	1884	1879
	22.5	1838	1843	1860	1880	1887	1880	1860	1843	1838
	25	1793	1799	1818	1843	1851	1843	1818	1799	1793
	27.5	1744	1751	1773	1804	1815	1804	1773	1751	1744
	30	1691	1700	1725	1763	1777	1763	1725	1700	1691
	32.5	1635	1645	1674	1722	1740	1722	1674	1645	1635
	35	1576	1587	1621	1680	1701	1680	1621	1587	1576
	37.5	1514	1525	1568	1638	1663	1638	1568	1525	1514
	40	1448	1461	1514	1595	1625	1595	1514	1461	1448
	42.5	1380	1394	1459	1551	1581	1551	1459	1394	1380
	45	1309	1325	1404	1503	1536	1503	1404	1325	1309
	47.5	1236	1255	1349	1453	1490	1453	1349	1255	1236
50	1160	1182	1294	1403	1444	1403	1294	1182	1160	
52.5	1083	1109	1236	1353	1394	1353	1236	1109	1083	
55	1004	1036	1176	1298	1338	1298	1176	1036	1004	
57.5	924	965	1116	1237	1279	1237	1116	965	924	
60	842	895	1059	1173	1217	1173	1059	895	842	
62.5	758	825	995	1107	1153	1107	995	825	758	
65	674	758	926	1038	1084	1038	926	758	674	
67.5	590	689	854	964	1011	964	854	689	590	
70	505	619	778	886	936	886	778	619	505	
72.5	422	553	699	808	857	808	699	553	422	
75	341	484	615	709	731	709	615	484	341	
77.5	263	404	530	575	585	575	530	404	263	
80	192	322	414	431	436	431	414	322	192	
82.5	129	236	285	290	292	290	285	236	129	
85	77	145	157	154	152	154	157	145	77	
87.5	34	50	43	31	25	31	43	50	34	
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	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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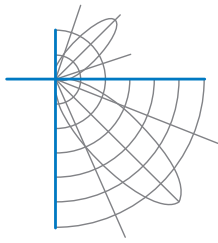
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	108	103	98	94		105	100	96	92		96	92	89		92	89	86		88	86	84	82
2	97	88	81	75		95	87	80	74		83	77	72		80	75	71		77	73	69	67
3	88	77	68	62		86	75	67	61		72	66	60		70	64	59		67	62	58	55
4	81	68	59	52		78	67	58	51		64	56	50		62	55	50		59	54	49	47
5	74	60	51	44		72	59	50	44		57	49	43		55	48	43		53	47	42	40
6	68	54	45	38		66	53	44	38		51	44	38		50	43	37		48	42	37	35
7	63	49	40	34		61	48	40	34		47	39	33		45	38	33		44	38	33	31
8	59	45	36	30		57	44	36	30		43	35	30		41	34	29		40	34	29	27
9	55	41	33	27		53	40	32	27		39	32	27		38	31	26		37	31	26	24
10	51	38	30	24		50	37	29	24		36	29	24		35	29	24		34	28	24	22

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	56.7	7.39	7.80	
8.0	31.9	9.86	10.39	
10.0	20.4	12.32	12.99	
12.0	14.2	14.79	15.59	
14.0	10.4	17.25	18.19	
16.0	8.0	19.72	20.79	

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	3001	3001	3001
45	2720	2918	3191
55	2573	3012	3428
65	2343	3219	3769
75	1935	3491	4151
85	1297	2652	2563

Spacing Criterion	
0 degree plane:	1.2
90 degree plane:	1.3
180 degree plane:	1.2
270 degree plane:	1.3



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#### UGR TABLE - CORRECTED

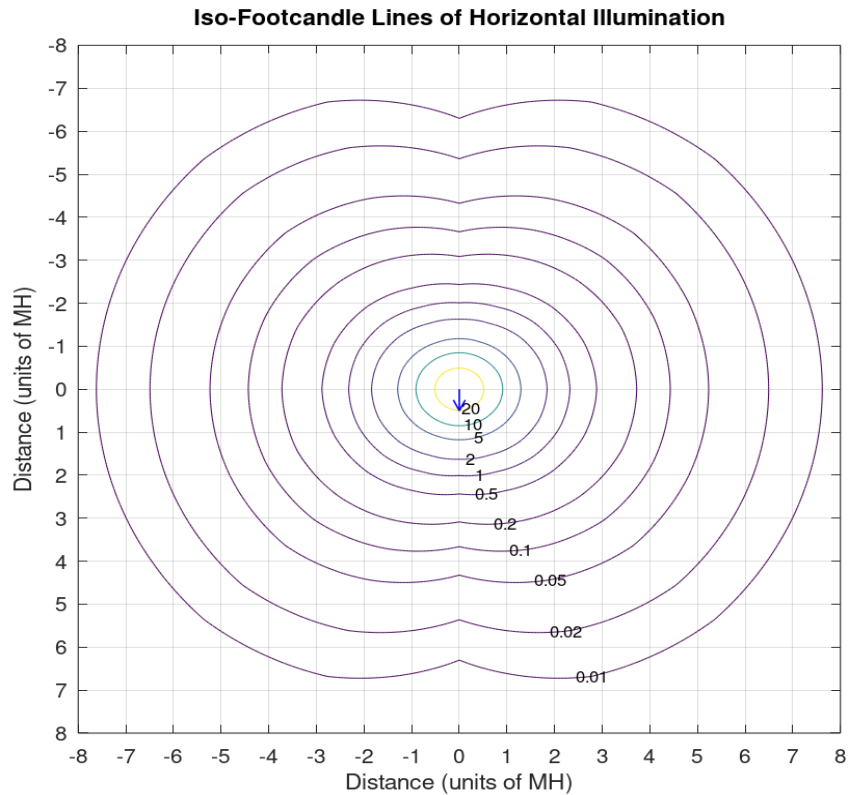
Reflectances		70	70	50	50	30	70	70	50	50	30
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	15.1	16.8	15.5	17.1	17.5	17.0	18.7	17.3	19.0	19.3
	3H	17.0	18.6	17.4	18.9	19.2	19.5	21.0	19.9	21.4	21.7
	4H	17.7	19.2	18.1	19.5	19.9	20.6	22.0	21.0	22.4	22.8
	6H	18.2	19.5	18.6	19.9	20.3	21.3	22.7	21.8	23.1	23.5
	8H	18.3	19.6	18.7	20.0	20.4	21.6	22.9	22.0	23.3	23.7
	12H	18.4	19.6	18.8	20.0	20.4	21.7	22.9	22.1	23.3	23.8
4H	2H	16.2	17.7	16.6	18.0	18.4	17.6	19.1	18.0	19.4	19.8
	3H	18.4	19.6	18.8	20.0	20.4	20.4	21.6	20.8	22.0	22.4
	4H	19.2	20.4	19.7	20.8	21.2	21.6	22.8	22.1	23.2	23.6
	6H	19.9	20.9	20.3	21.3	21.8	22.6	23.6	23.0	24.0	24.5
	8H	20.1	21.0	20.5	21.4	21.9	22.8	23.8	23.3	24.2	24.7
	12H	20.2	21.0	20.7	21.5	22.0	23.0	23.9	23.5	24.3	24.8
8H	4H	20.0	20.9	20.4	21.4	21.8	22.0	22.9	22.4	23.4	23.8
	6H	20.8	21.6	21.3	22.1	22.6	23.1	23.9	23.6	24.3	24.8
	8H	21.1	21.8	21.6	22.3	22.8	23.4	24.1	23.9	24.6	25.1
	12H	21.3	22.0	21.8	22.4	23.0	23.7	24.3	24.2	24.8	25.3
12H	4H	20.1	21.0	20.6	21.4	21.9	22.0	22.9	22.5	23.3	23.8
	6H	21.0	21.7	21.5	22.2	22.7	23.2	23.9	23.7	24.3	24.9
	8H	21.4	22.0	21.9	22.5	23.1	23.6	24.2	24.1	24.7	25.2

Maximum UGR = 25.3

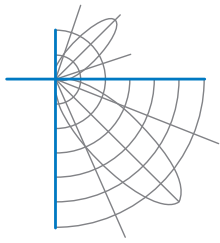


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### Iso-Illuminance Plot



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        24.7 °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-41-14 and LM-46-04.

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.