

Report of Test

LLIA001457-003

Indoor Distribution Photometry Test Report

Catalog Number: F-VTC22/40/PCTS/D86 - 40W/4000K Setting

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

228 LEDs, 4 LED boards with 28 cool white and 28 warm white LEDs each.

One WSP-Z45AD-0420900 LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

Performance Summary

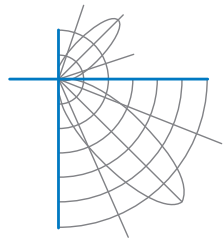
Input Voltage	120.0 V	Luminous Flux	5126.1 Lumens
Input Current	0.3205 A	Total Efficacy	138.2 Lm/W
Input Power	37.09 W	Downward Flux	5126.1 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.964		
Current THD	11.0 %		

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

Test date: 05/05/2021

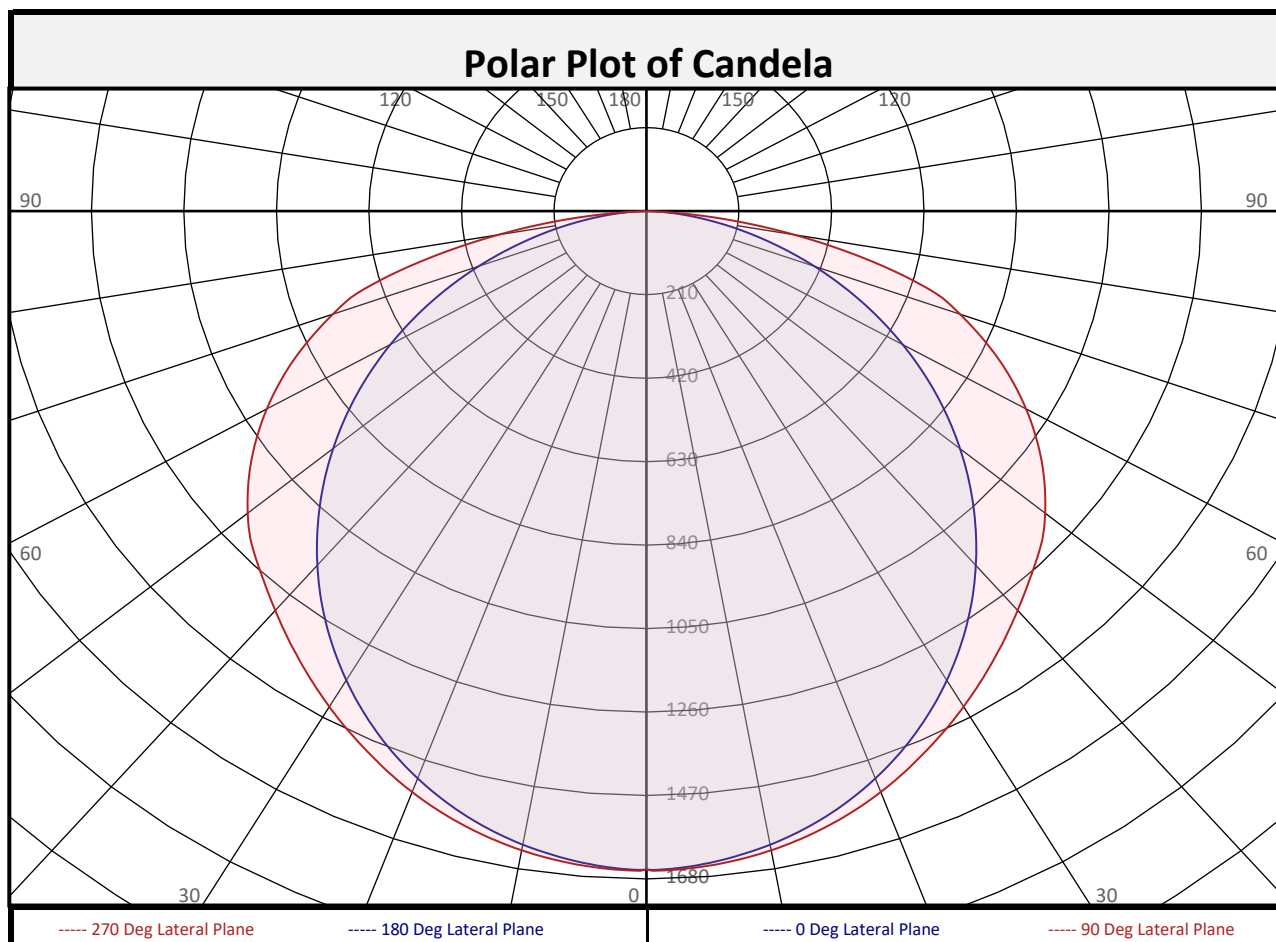
Report date: 05/05/2021

Signed: _____

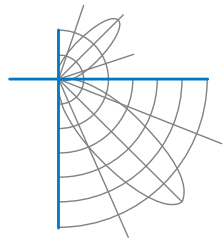


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Zonal Flux Summary											
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total	
0-10	156.7	3.1%		90-100	0.0	0.0%		0-20	604.8	11.8%	
10-20	448.1	8.7%		100-110	0.0	0.0%		0-30	1284	25.0%	
20-30	678.8	13.2%		110-120	0.0	0.0%		0-40	2108	41.1%	
30-40	824.1	16.1%		120-130	0.0	0.0%		0-60	3828	74.7%	
40-50	878.3	17.1%		130-140	0.0	0.0%		0-80	5007	97.7%	
50-60	842.3	16.4%		140-150	0.0	0.0%		10-90	4969	96.9%	
60-70	708.4	13.8%		150-160	0.0	0.0%		20-50	2381	46.4%	
70-80	470.2	9.2%		160-170	0.0	0.0%		40-90	3018	58.9%	
80-90	119.0	2.3%		170-180	0.0	0.0%		60-90	1298	25.3%	
0-90	5126	100.0%		90-180	0.0	0.0%		0-180	5126	100.0%	

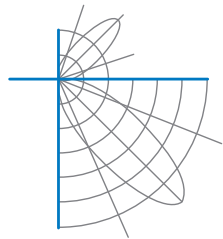


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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	0	1656	1656	1656	1656	1656	1656	1656	1656	1656
	2.5	1654	1652	1653	1656	1658	1656	1653	1652	1654
	5	1646	1647	1647	1651	1652	1651	1647	1647	1646
	7.5	1633	1636	1638	1642	1644	1642	1638	1636	1633
	10	1618	1622	1625	1630	1633	1630	1625	1622	1618
	12.5	1599	1603	1608	1615	1618	1615	1608	1603	1599
	15	1576	1580	1588	1596	1600	1596	1588	1580	1576
	17.5	1549	1553	1564	1574	1579	1574	1564	1553	1549
	20	1519	1523	1537	1549	1555	1549	1537	1523	1519
	22.5	1485	1490	1506	1521	1529	1521	1506	1490	1485
	25	1447	1454	1472	1491	1500	1491	1472	1454	1447
	27.5	1406	1414	1435	1459	1470	1459	1435	1414	1406
	30	1363	1371	1395	1426	1440	1426	1395	1371	1363
	32.5	1316	1326	1354	1391	1408	1391	1354	1326	1316
	35	1268	1278	1310	1355	1376	1355	1310	1278	1268
	37.5	1216	1228	1266	1319	1343	1319	1266	1228	1216
	40	1162	1175	1220	1282	1311	1282	1220	1175	1162
	42.5	1106	1121	1174	1245	1279	1245	1174	1121	1106
	45	1049	1064	1127	1209	1250	1209	1127	1064	1049
	47.5	989	1006	1079	1175	1220	1175	1079	1006	989
	50	928	947	1031	1140	1181	1140	1031	947	928
	52.5	866	888	985	1097	1140	1097	985	888	866
	55	802	829	942	1050	1095	1050	942	829	802
	57.5	737	769	898	1001	1046	1001	898	769	737
	60	671	709	846	948	995	948	846	709	671
	62.5	605	650	791	891	940	891	791	650	605
	65	538	591	732	832	882	832	732	591	538
	67.5	471	534	670	770	820	770	670	534	471
	70	405	480	605	704	757	704	605	480	405
	72.5	340	424	538	638	689	638	538	424	340
	75	276	360	467	551	580	551	467	360	276
	77.5	217	293	394	441	459	441	394	293	217
	80	160	225	300	327	339	327	300	225	160
	82.5	108	157	201	217	223	217	201	157	108
	85	63	86	106	111	112	111	106	86	63
	87.5	25	27	28	19	14	19	28	27	25
90	0	0	0	0	0	0	0	0	0	

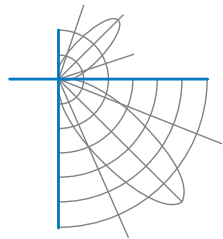


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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
		0	22.5	45	67.5	90	112.5	135	157.5	180
	90	0	0	0	0	0	0	0	0	0
Vertical (Gamma) Angles	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	101	96	93		96	93	90		92	89	87		89	86	84	82			
2	98	89	82	75		95	87	80	75		83	78	73		80	75	71		77	73	69	67			
3	89	77	69	62		86	76	68	61		73	66	60		70	64	59		67	62	58	56			
4	81	68	59	52		78	67	58	52		64	57	51		62	55	50		60	54	49	47			
5	74	61	51	44		72	60	51	44		57	50	44		55	49	43		54	48	43	41			
6	68	55	45	39		66	54	45	38		52	44	38		50	43	38		48	42	37	35			
7	63	49	40	34		62	49	40	34		47	39	34		45	39	33		44	38	33	31			
8	59	45	36	30		57	44	36	30		43	35	30		42	35	30		40	34	30	28			
9	55	41	33	27		54	41	33	27		39	32	27		38	32	27		37	31	27	25			
10	52	38	30	25		50	37	30	24		36	29	24		36	29	24		35	29	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.

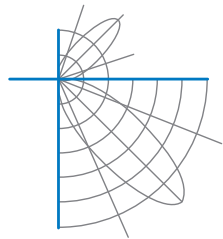
Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	46.0	7.35	7.78
8.0	25.9	9.80	10.38
10.0	16.6	12.25	12.97
12.0	11.5	14.70	15.56
14.0	8.5	17.15	18.16
16.0	6.5	19.60	20.75

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	5016	5016	5016
45	4491	4824	5351
55	4234	4971	5780
65	3853	5245	6321
75	3233	5464	6789
85	2181	3699	3899

Spacing Criterion

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



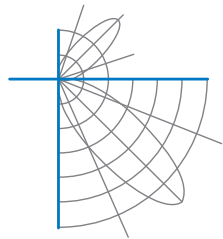
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UGR TABLE - CORRECTED

Reflectances											
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	16.8	18.5	17.2	18.8	19.1	18.8	20.5	19.1	20.8	21.1
	3H	18.7	20.2	19.0	20.5	20.9	21.3	22.8	21.6	23.1	23.5
	4H	19.3	20.8	19.7	21.1	21.5	22.3	23.8	22.7	24.1	24.5
	6H	19.8	21.2	20.2	21.5	21.9	23.1	24.4	23.5	24.8	25.2
	8H	19.9	21.2	20.4	21.6	22.0	23.3	24.6	23.7	24.9	25.3
	12H	20.0	21.3	20.4	21.6	22.1	23.4	24.6	23.8	25.0	25.4
4H	2H	17.9	19.4	18.3	19.7	20.1	19.4	20.8	19.8	21.2	21.5
	3H	20.0	21.2	20.4	21.6	22.0	22.1	23.3	22.5	23.7	24.1
	4H	20.8	21.9	21.2	22.3	22.8	23.3	24.5	23.8	24.9	25.3
	6H	21.4	22.4	21.9	22.8	23.3	24.2	25.2	24.7	25.6	26.1
	8H	21.6	22.5	22.0	22.9	23.4	24.5	25.4	24.9	25.8	26.3
	12H	21.7	22.5	22.2	23.0	23.5	24.6	25.5	25.1	25.9	26.4
8H	4H	21.5	22.4	22.0	22.9	23.3	23.7	24.6	24.1	25.0	25.5
	6H	22.3	23.1	22.8	23.5	24.0	24.7	25.4	25.2	25.9	26.4
	8H	22.5	23.2	23.0	23.7	24.2	25.0	25.7	25.5	26.2	26.7
	12H	22.7	23.3	23.2	23.8	24.4	25.2	25.8	25.7	26.3	26.9
12H	4H	21.6	22.5	22.1	22.9	23.4	23.7	24.5	24.2	25.0	25.5
	6H	22.5	23.2	23.0	23.6	24.2	24.7	25.4	25.3	25.9	26.4
	8H	22.8	23.4	23.3	23.9	24.4	25.1	25.7	25.6	26.2	26.8

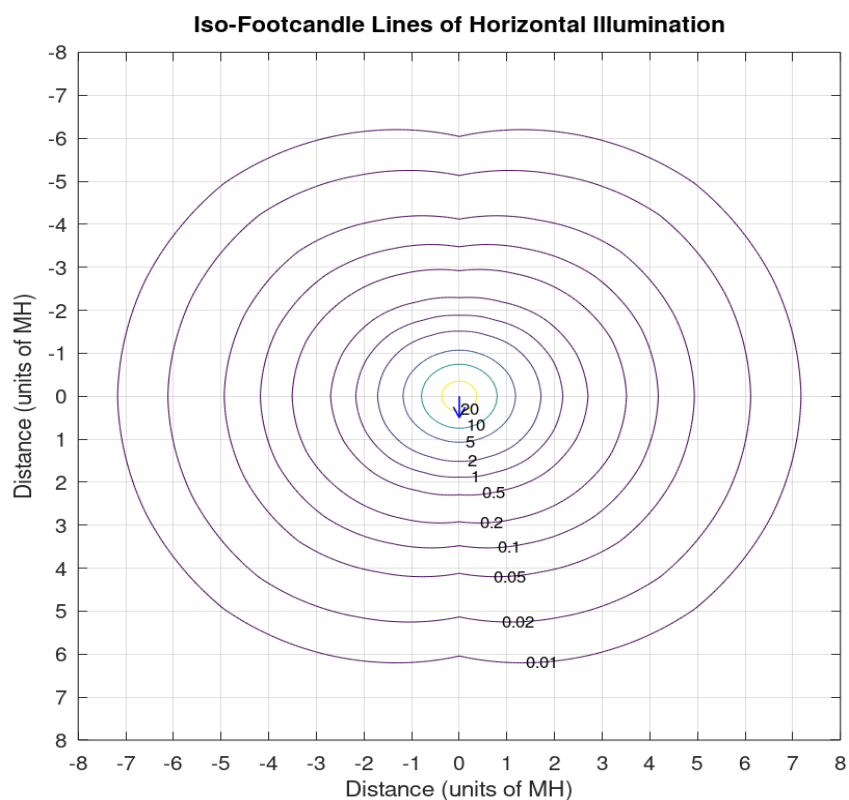
Maximum UGR = 26.9



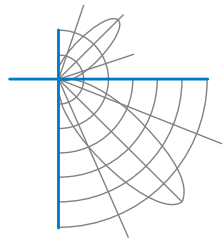
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Iso-Illuminance Plot



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 25.3 °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.