

Report of Test

LLIA001182-002

Indoor Distribution Photometry Test Report

Catalog Number: F-L24/40/40K/D/BL-87

Recessed ceiling, formed and extruded aluminum housing,
white reflector below LEDs, translucent white plastic enclosure.

252 white LEDs, 84 clusters of 3 LEDs each.

One LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

Performance Summary

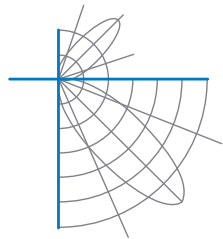
Input Voltage	120.0 V	Luminous Flux	4323.3 Lumens
Input Current	0.3208 A	Total Efficacy	113.1 Lm/W
Input Power	38.23 W	Downward Flux	4323.2 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.993		
Current THD	5.4 %		

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

Test date: 11/04/2019

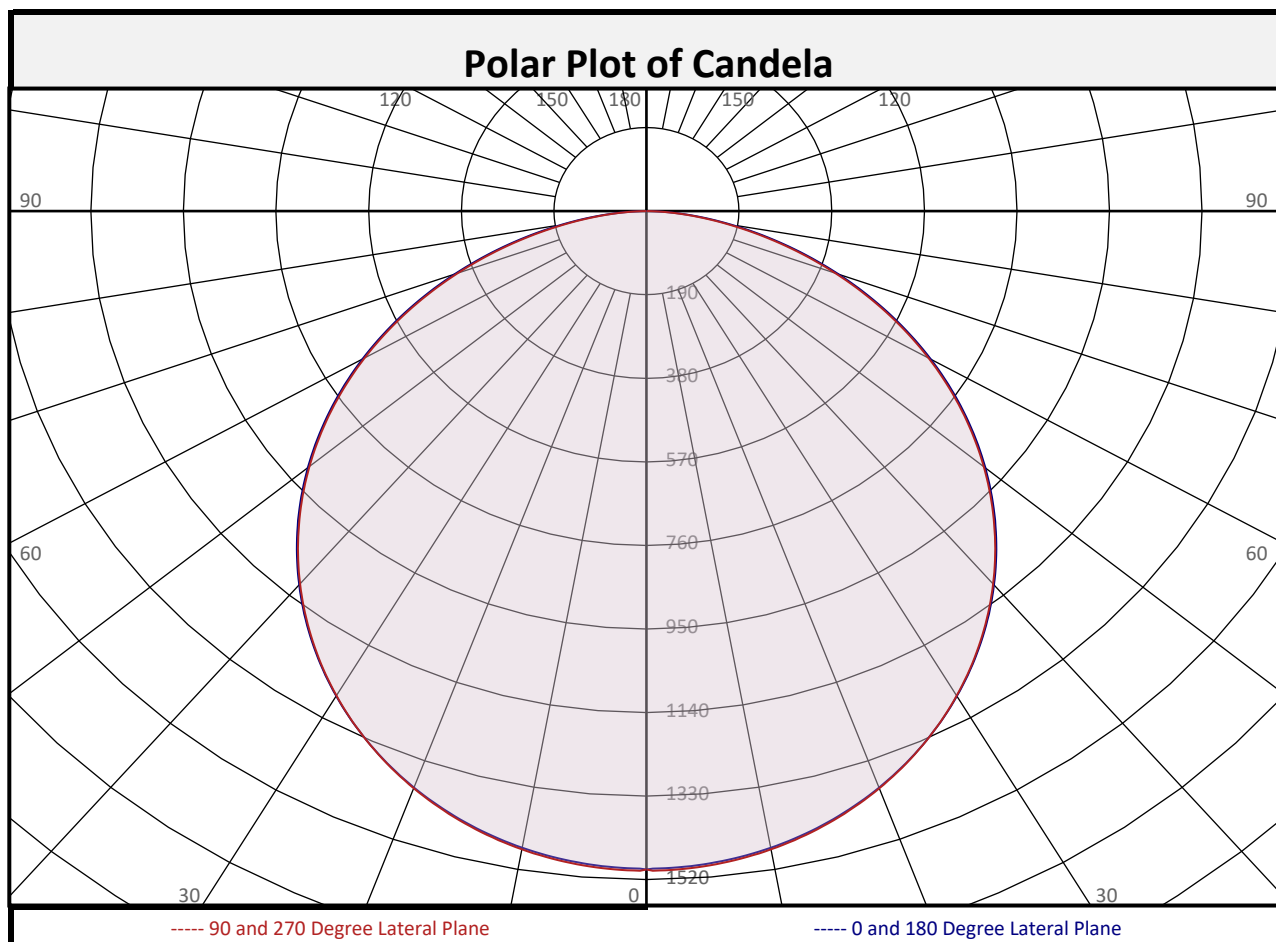
Report date: 11/05/2019

Signed: _____

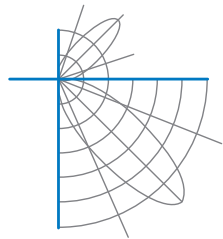


Report of Test

LLIA001182-002



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	141.7	3.3%		90-100	0.1	0.0%		0-20	547.9	12.7%
10-20	406.2	9.4%		100-110	0.0	0.0%		0-30	1165	26.9%
20-30	617.3	14.3%		110-120	0.0	0.0%		0-40	1913	44.2%
30-40	747.4	17.3%		120-130	0.0	0.0%		0-60	3398	78.6%
40-50	779.1	18.0%		130-140	0.0	0.0%		0-80	4242	98.1%
50-60	706.6	16.3%		140-150	0.0	0.0%		10-90	4182	96.7%
60-70	537.9	12.4%		150-160	0.0	0.0%		20-50	2144	49.6%
70-80	305.4	7.1%		160-170	0.0	0.0%		40-90	2411	55.8%
80-90	81.7	1.9%		170-180	0.0	0.0%		60-90	925.0	21.4%
0-90	4323	100.0%		90-180	0.1	0.0%		0-180	4323	100.0%

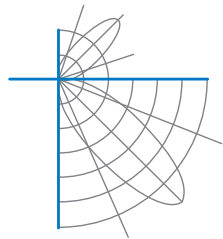


Report of Test

LLIA001182-002

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	1497	1497	1497	1497	1497	1497	1497	1497	1497
	2.5	1493	1493	1495	1497	1498	1497	1495	1493	1493
	5	1489	1489	1490	1492	1493	1492	1490	1489	1489
	7.5	1481	1481	1482	1484	1485	1484	1482	1481	1481
	10	1470	1470	1470	1472	1473	1472	1470	1470	1470
	12.5	1455	1455	1456	1458	1459	1458	1456	1455	1455
	15	1438	1438	1439	1440	1441	1440	1439	1438	1438
	17.5	1418	1418	1418	1419	1420	1419	1418	1418	1418
	20	1395	1394	1395	1396	1396	1396	1395	1394	1395
	22.5	1369	1368	1368	1369	1370	1369	1368	1368	1369
	25	1340	1339	1339	1339	1340	1339	1339	1339	1340
	27.5	1308	1307	1307	1307	1308	1307	1307	1307	1308
	30	1273	1273	1272	1272	1272	1272	1272	1273	1273
	32.5	1236	1235	1235	1234	1235	1234	1235	1235	1236
	35	1196	1196	1195	1194	1194	1194	1195	1196	1196
	37.5	1154	1153	1152	1151	1151	1151	1152	1153	1154
	40	1109	1108	1107	1106	1106	1106	1107	1108	1109
	42.5	1062	1061	1060	1059	1058	1059	1060	1061	1062
	45	1012	1012	1010	1009	1009	1009	1010	1012	1012
	47.5	961	960	959	957	957	957	959	960	961
	50	908	906	905	903	903	903	905	906	908
	52.5	851	850	849	847	847	847	849	850	851
	55	794	793	791	789	789	789	791	793	794
	57.5	735	734	732	730	729	730	732	734	735
	60	673	673	671	669	668	669	671	673	673
	62.5	610	610	608	606	605	606	608	610	610
	65	547	546	544	542	541	542	544	546	547
	67.5	483	482	480	477	476	477	480	482	483
	70	419	418	415	413	412	413	415	418	419
	72.5	355	354	351	348	347	348	351	354	355
	75	292	291	288	285	284	285	288	291	292
	77.5	232	230	228	225	224	225	228	230	232
	80	175	173	171	168	167	168	171	173	175
	82.5	122	121	118	116	114	116	118	121	122
	85	72	72	71	69	68	69	71	72	72
	87.5	30	30	29	29	29	29	29	30	30
90	1	1	3	3	3	3	3	1	1	

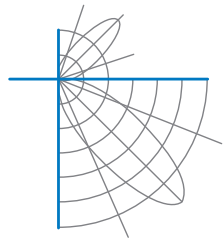


Report of Test

LLIA001182-002

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
		0	22.5	45	67.5	90	112.5	135	157.5	180
	90	1	1	3	3	3	3	3	1	1
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	



Report of Test

LLIA001182-002

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	100	96		106	102	98	94		97	94	91		93	91	88		90	88	86	84
2	99	90	83	78		96	88	82	77		85	80	75		82	77	73		79	75	72	69
3	90	79	71	64		87	78	70	64		75	68	63		72	66	62		69	65	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	47		59	52	46		57	51	45		55	50	45	43
6	70	56	47	41		68	55	47	41		54	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	47	38	32		59	46	38	32		44	37	32		43	36	32		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

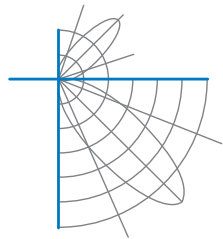
Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	41.6	7.59	7.58
8.0	23.4	10.11	10.10
10.0	15.0	12.64	12.63
12.0	10.4	15.17	15.16
14.0	7.6	17.70	17.68
16.0	5.8	20.23	20.21

Average Luminance (cd/m²)

	0 deg Plane	45 deg Plane	90 deg Plane
0	2372	2372	2372
45	2269	2264	2260
55	2193	2185	2179
65	2052	2040	2029
75	1789	1764	1739
85	1318	1284	1235

Spacing Criterion

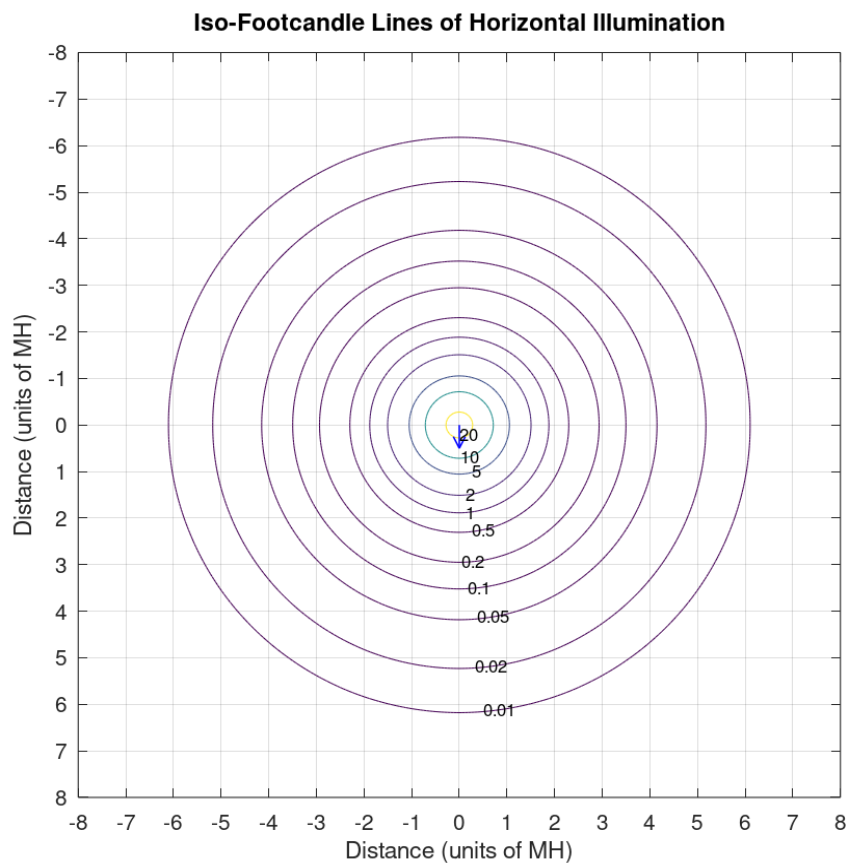
0 degree plane:	1.3
90 degree plane:	1.3
180 degree plane:	1.3
270 degree plane:	1.3



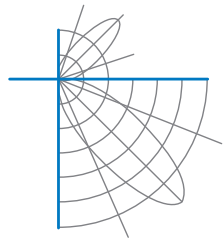
Report of Test

LLIA001182-002

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.



Report of Test

LLIA001182-002

Additional Pictures of Test Subject



Report of Test

LLIA001182-002

Test Distance 9.5 m
Ambient Temperature 24.6 °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 publications: IES LM-79-19 and ANSI C82.77-10:2014. 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.