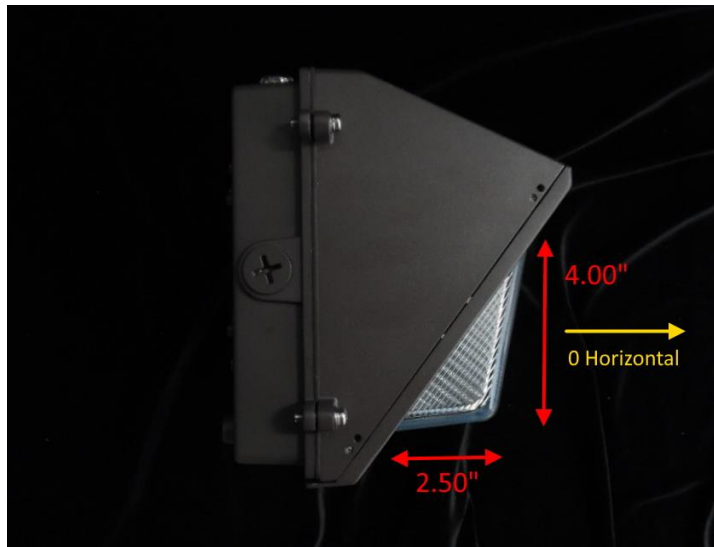


Report of Test

LLIA001528-001

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: WP/40W/PCTS/BZ/PC - 28W and 4000K Setting
Surface mounted wall pack, cast aluminum housing, formed white enamel metal reflector, clear prismatic glass lens.
288 LEDs, 144 cool white and 144 warm white LEDs
One Fahold FT-42E-054B LED driver



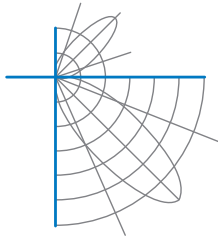
Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 V	Luminous Flux	3752.4 Lumens
Input Current	0.2281 A	Total Efficacy	137.6 Lm/W
Input Power	27.27 W		
Frequency	60.00 Hz		
Power Factor	0.996	Roadway Type	Area Light
Current THD	4.9 %	IES BUG Rating	B1 - U3 - G2

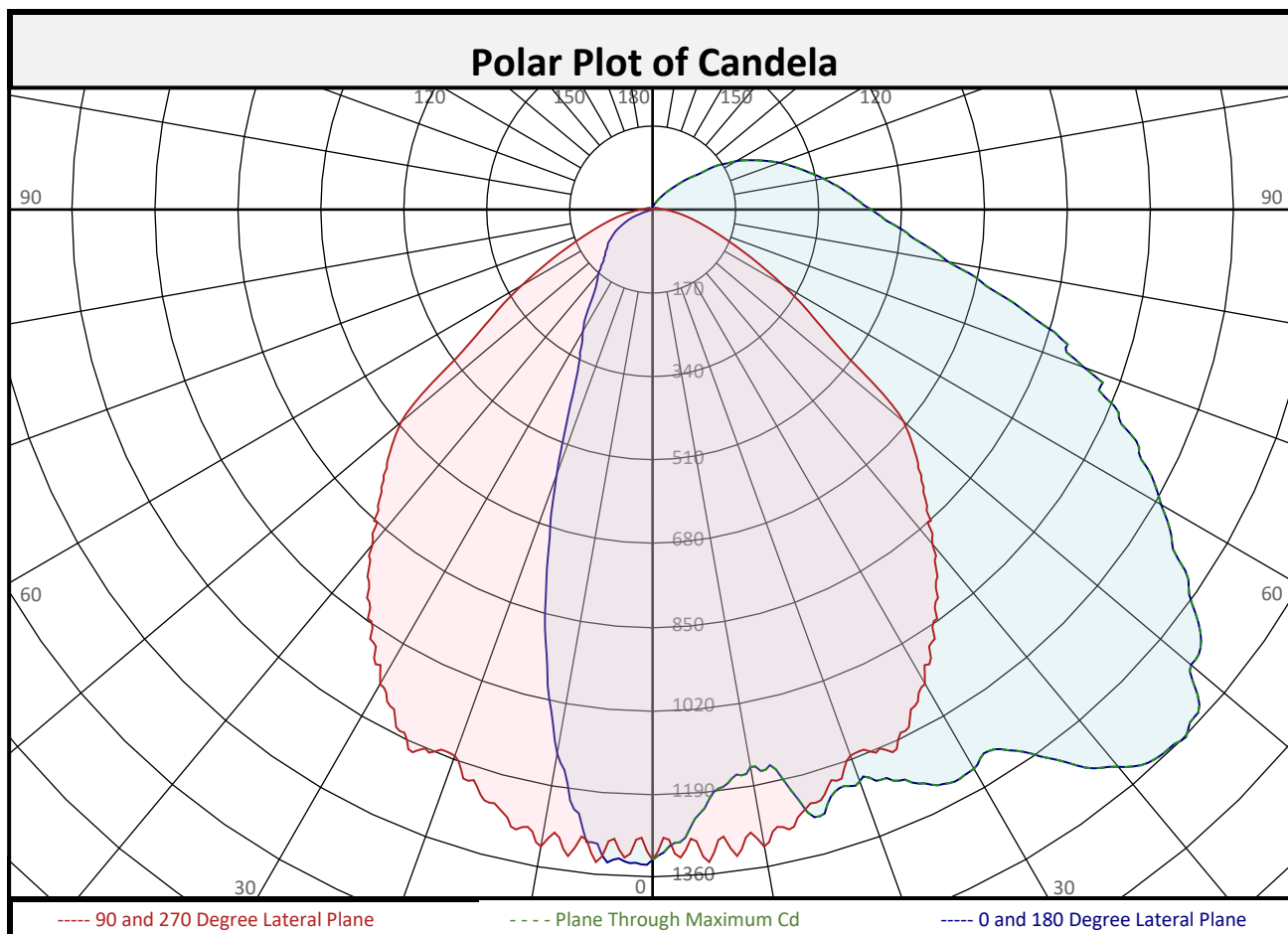
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 08/27/2021
Report date: 08/31/2021

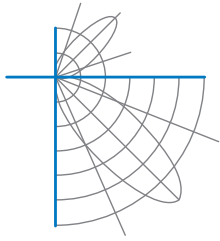
Signed: _____



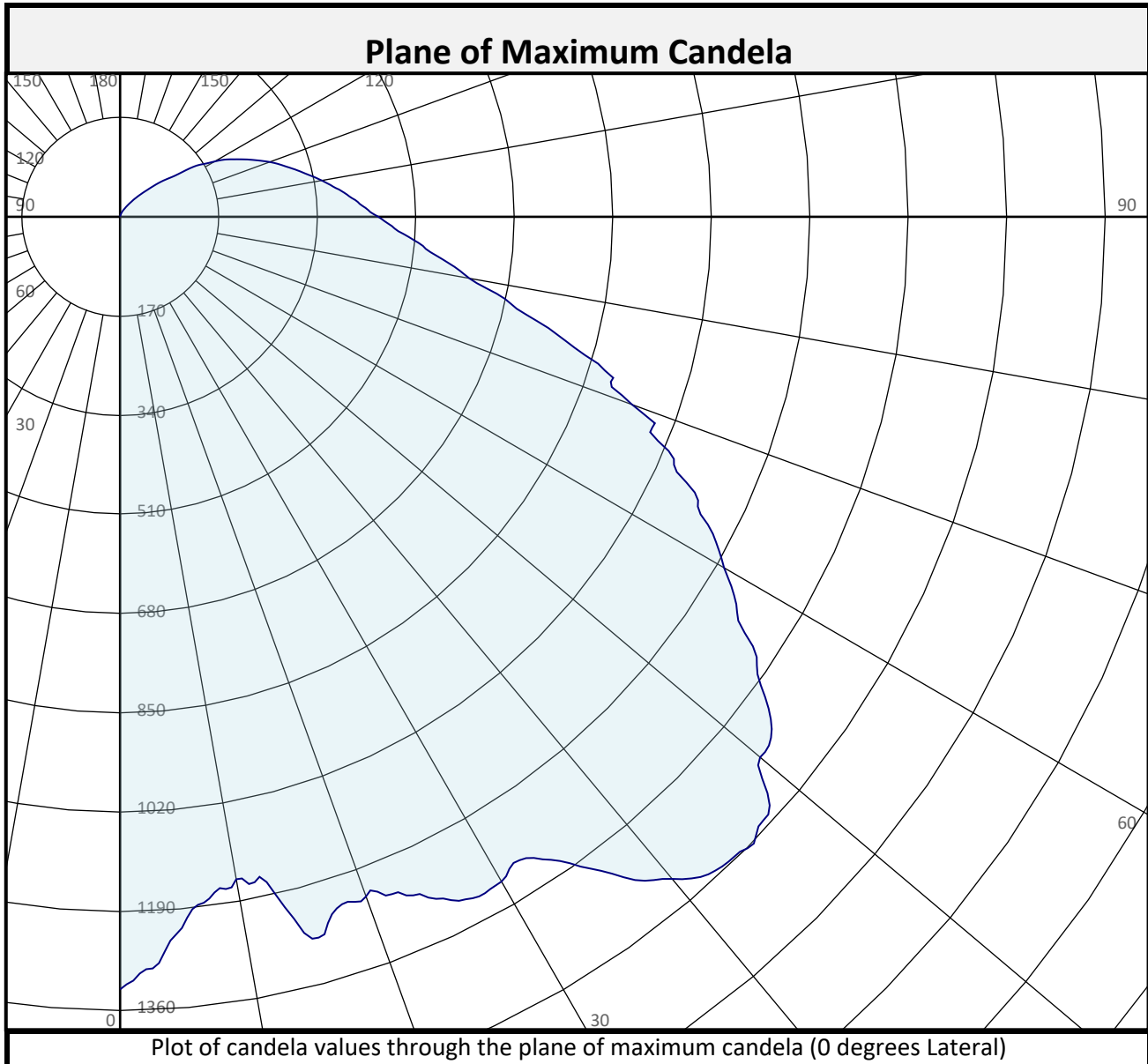
Report of Test
LLIA001528-001



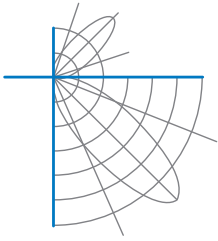
Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	119.4	3.2%		90-100	133.7	3.6%		0-20	434.7	11.6%
10-20	315.3	8.4%		100-110	93.0	2.5%		0-30	876.0	23.3%
20-30	441.3	11.8%		110-120	59.0	1.6%		0-40	1395	37.2%
30-40	518.7	13.8%		120-130	30.3	0.8%		0-60	2488	66.3%
40-50	563.3	15.0%		130-140	12.3	0.3%		0-80	3226	86.0%
50-60	530.1	14.1%		140-150	4.1	0.1%		10-90	3299	87.9%
60-70	433.9	11.6%		150-160	1.1	0.0%		20-50	1523	40.6%
70-80	303.8	8.1%		160-170	0.1	0.0%		40-90	2024	53.9%
80-90	193.1	5.1%		170-180	0.0	0.0%		60-90	930.8	24.8%
0-90	3419	91.1%		90-180	333.6	8.9%		0-180	3752	100.0%



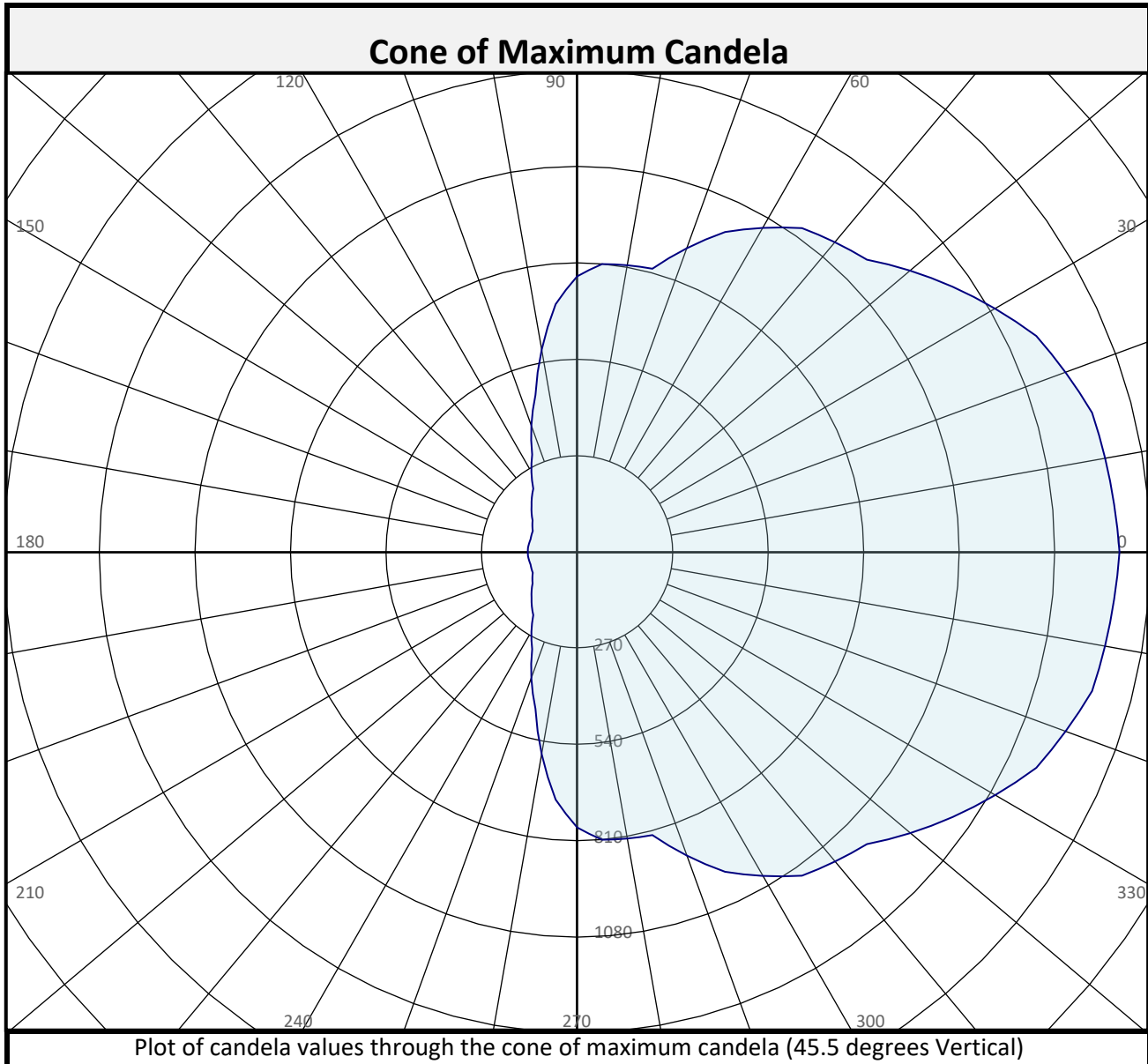
Report of Test
LLIA001528-001



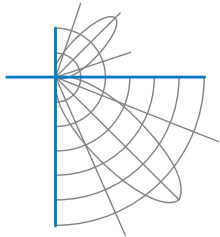
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	2678.8	71.4%	329.5	8.8%	3008.4	80.2%
House Side	740.0	19.7%	4.1	0.1%	744.1	19.8%
Total	3418.8	91.1%	333.6	8.9%	3752.4	100.0%



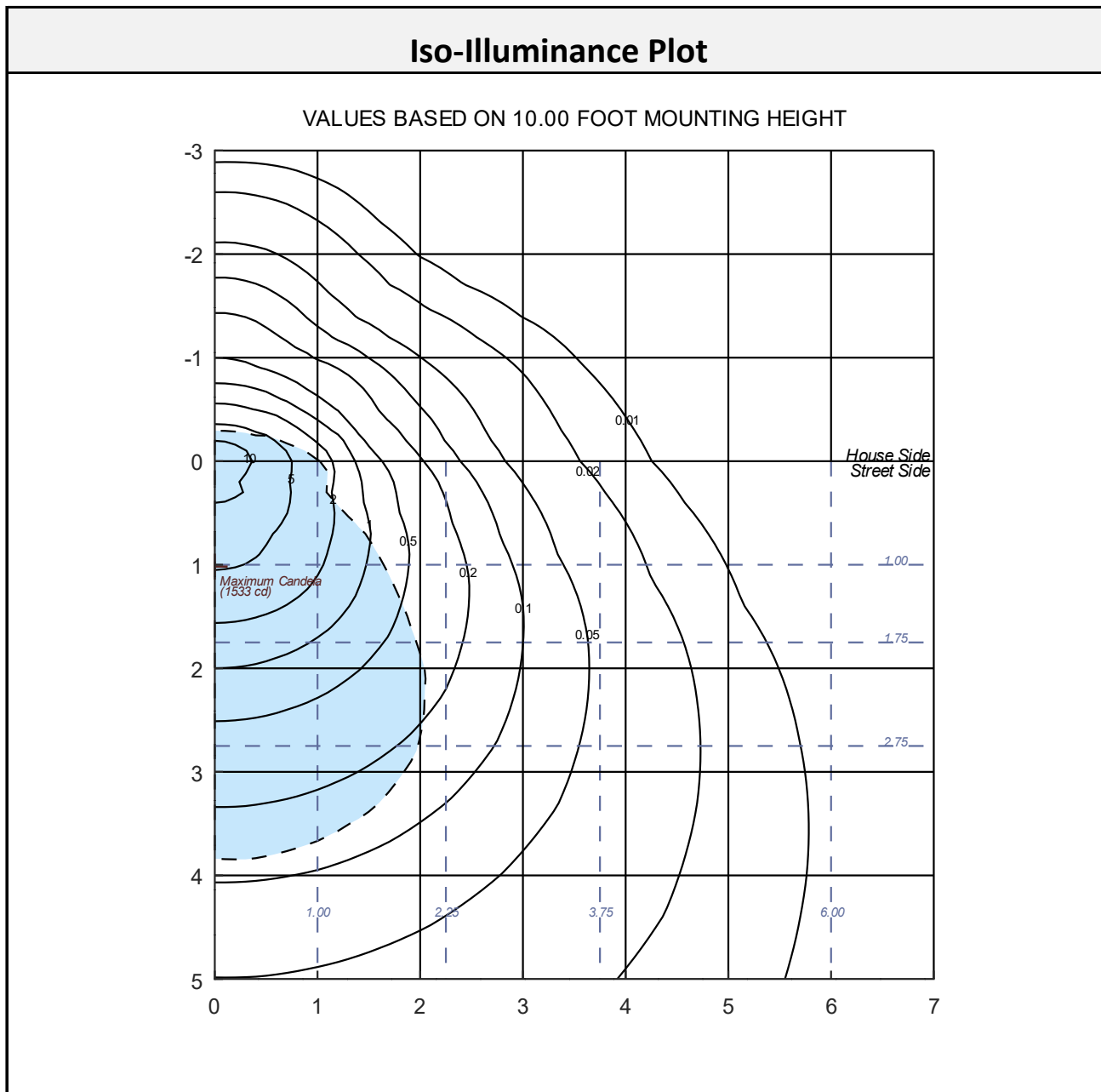
Report of Test
LLIA001528-001



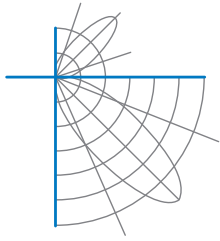
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	2678.8	71.4%	329.5	8.8%	3008.4	80.2%
House Side	740.0	19.7%	4.1	0.1%	744.1	19.8%
Total	3418.8	91.1%	333.6	8.9%	3752.4	100.0%



Report of Test
LLIA001528-001

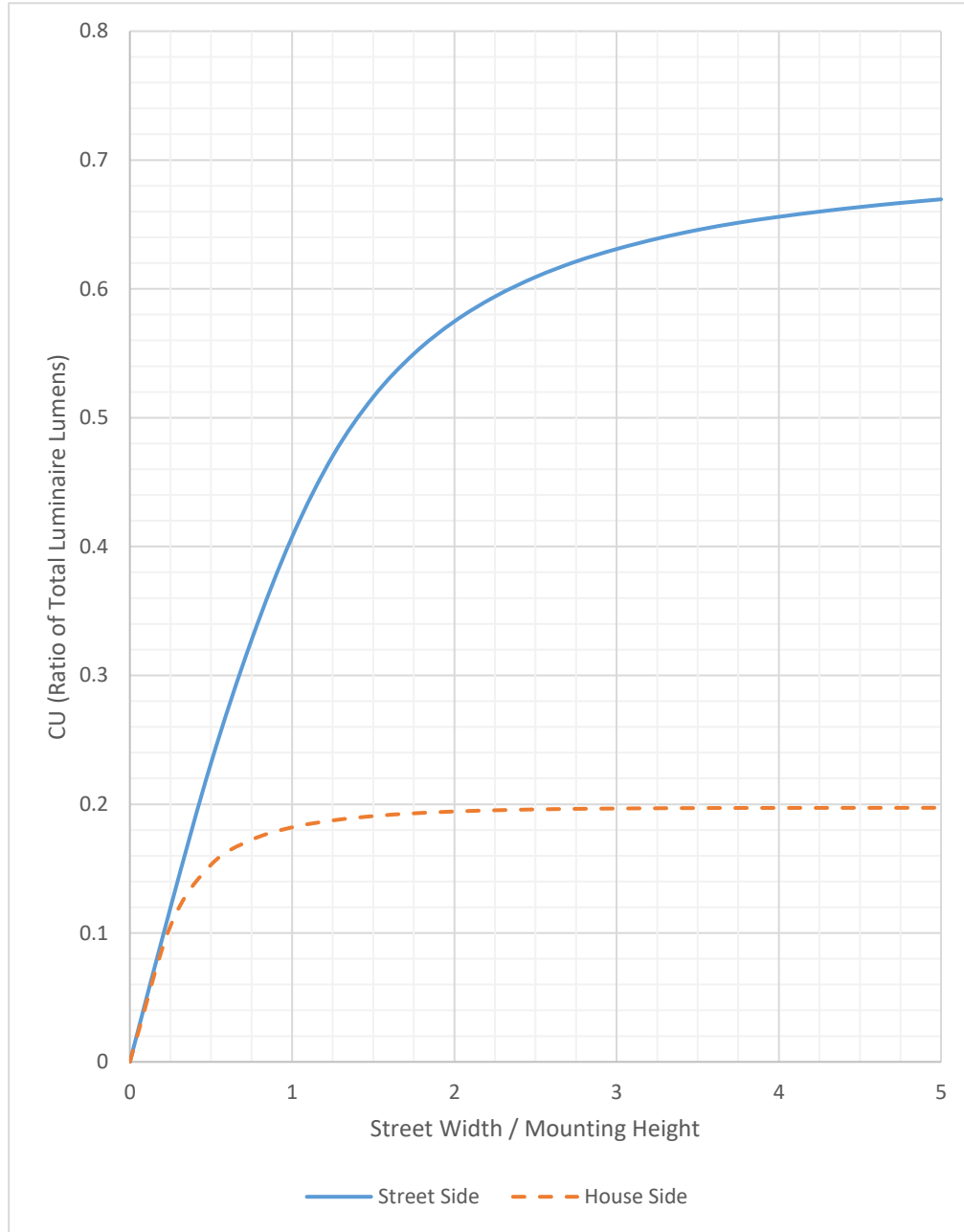


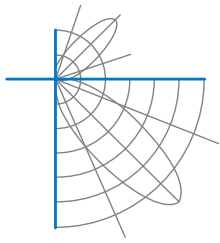
The isofootcandle values shown in the plot above are based on a mounting height of $h = 10.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.



Report of Test LLIA001528-001

Coefficients of Utilization Plot

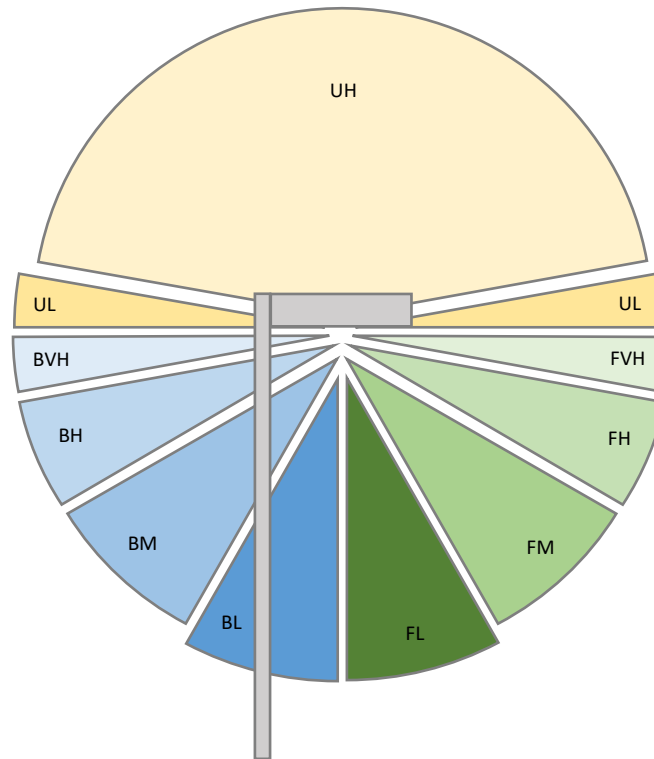




Report of Test

LLIA001528-001

LCS Tables and Bug Classification



Back Light

BL - Back Low (0°-30°)	364.0 Lm
BM - Back Mid (30°-60°)	318.0 Lm
BH - Back High (60°-80°)	53.4 Lm
BVH - Back Very High (80°-90°)	4.6 Lm

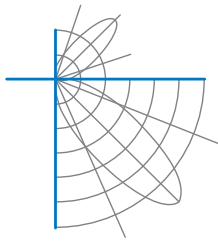
Forward Light

FL - Forward Low (0°-30°)	512.0 Lm
FM - Forward Mid (30°-60°)	1294.1 Lm
FH - Forward High (60°-80°)	684.3 Lm
FVH - Forward Very High (80°-90°)	188.5 Lm

Uplight

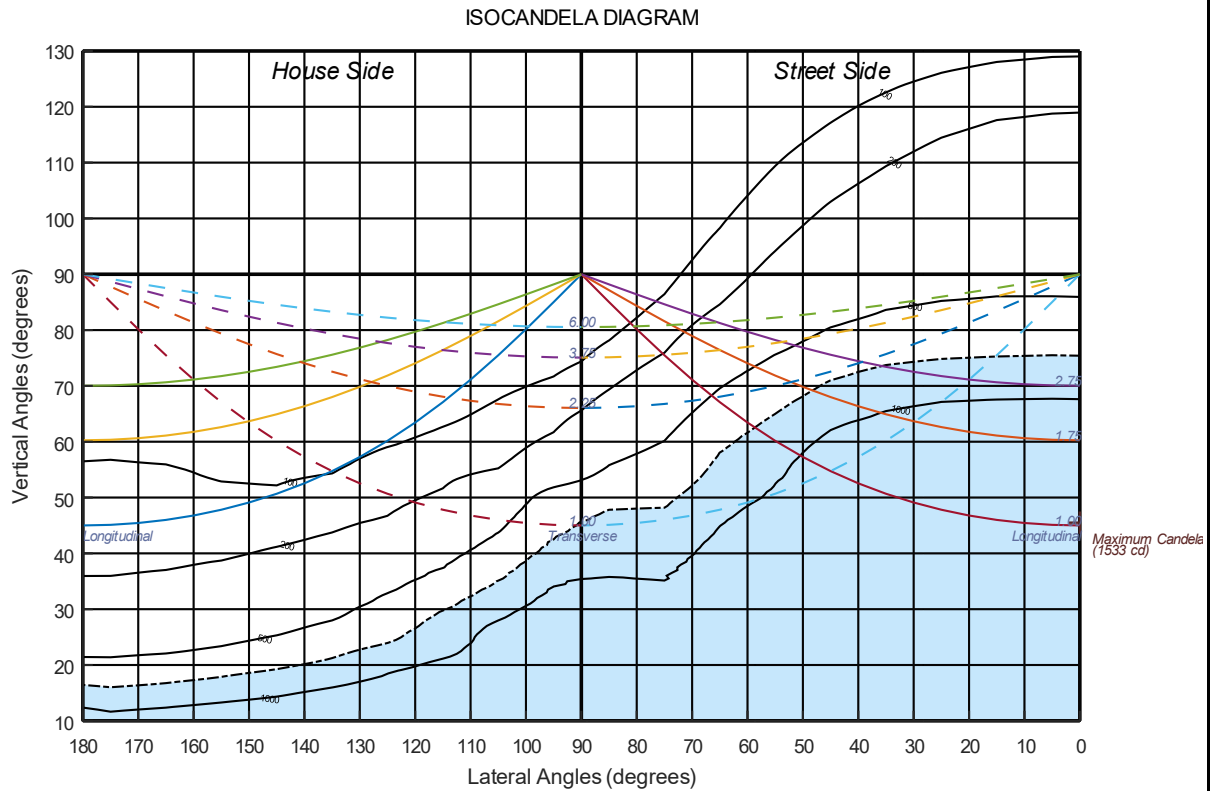
UL - Upward Low (90°-100°)	133.7 Lm
UH - Upward High (100°-180°)	199.9 Lm

BUG Ratings: B1 - U3 - G2



Report of Test
LLIA001528-001

Iso-Candela Plot



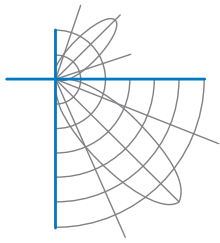


Report of Test

LLIA001528-001

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	0	5	15	25	35	45	55	65	75	85	90	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	0	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324
	2.5	1290	1289	1275	1257	1256	1274	1295	1309	1315	1318	1321
	5	1224	1222	1200	1229	1235	1235	1262	1291	1318	1328	1334
	7.5	1179	1172	1176	1175	1183	1222	1215	1259	1294	1318	1328
	10	1153	1143	1160	1155	1161	1185	1200	1217	1269	1303	1317
	12.5	1168	1158	1154	1172	1154	1155	1188	1201	1244	1276	1293
	15	1281	1275	1262	1216	1164	1155	1152	1166	1210	1238	1252
	17.5	1243	1242	1253	1285	1253	1167	1137	1149	1178	1206	1218
	20	1240	1243	1245	1239	1261	1223	1150	1127	1146	1175	1184
	22.5	1253	1264	1253	1226	1225	1265	1188	1129	1151	1193	1197
	25	1290	1303	1280	1252	1226	1242	1235	1155	1158	1180	1191
	27.5	1317	1327	1313	1275	1249	1244	1257	1149	1114	1142	1147
	30	1316	1328	1324	1295	1280	1245	1236	1153	1076	1112	1116
	32.5	1304	1308	1292	1292	1280	1254	1210	1150	1045	1061	1055
	35	1353	1349	1310	1256	1271	1246	1196	1126	1003	1024	1017
	37.5	1427	1423	1369	1278	1229	1241	1172	1106	968	969	954
	40	1482	1478	1436	1338	1232	1219	1157	1064	922	923	893
	42.5	1520	1513	1480	1393	1256	1178	1144	1033	877	872	831
	45	1531	1522	1504	1426	1288	1161	1120	998	832	816	779
	47.5	1517	1507	1496	1440	1316	1156	1076	958	782	774	729
	50	1442	1436	1442	1420	1326	1154	1030	908	724	717	672
	52.5	1415	1410	1405	1378	1305	1150	999	858	661	610	539
	55	1341	1336	1335	1328	1270	1130	961	815	605	519	432
	57.5	1262	1260	1266	1263	1218	1097	921	775	554	461	369
	60	1203	1205	1197	1185	1151	1047	876	726	503	399	311
	62.5	1143	1145	1132	1125	1085	990	823	672	451	338	256
	65	1078	1082	1075	1057	1013	927	766	609	399	282	210
	67.5	1004	1008	1002	991	945	861	708	548	350	232	171
	70	938	944	937	915	880	795	645	489	300	190	140
	72.5	877	879	857	852	807	726	580	431	253	156	116
75	780	782	776	760	726	652	515	373	213	128	95	
77.5	691	693	687	676	636	574	449	320	180	106	79	
80	613	614	619	604	574	512	397	272	152	85	64	
82.5	561	564	564	550	519	460	347	230	128	67	51	
85	517	518	515	504	473	410	303	195	110	53	40	
87.5	474	475	475	463	429	367	265	170	94	43	32	
90	445	446	445	426	393	329	237	150	79	35	26	

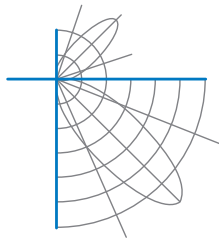


Report of Test

LLIA001528-001

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	0	5	15	25	35	45	55	65	75	85	90	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	445	446	445	426	393	329	237	150	79	35	26
	92.5	419	419	417	398	361	298	214	134	67	29	21
	95	397	398	395	373	335	271	193	119	56	25	17
	97.5	375	375	373	351	310	247	173	104	48	22	15
	100	354	354	350	327	287	225	156	91	42	18	14
	102.5	332	331	327	303	263	204	139	78	37	16	13
	105	312	311	305	280	239	183	124	66	32	15	12
	107.5	293	291	285	259	216	163	110	56	29	14	11
	110	274	272	265	238	195	145	97	48	25	13	10
	112.5	253	251	243	217	175	129	84	42	21	12	9
	115	232	230	222	195	156	113	71	37	18	11	9
	117.5	212	211	201	173	136	98	60	32	16	10	8
	120	189	187	177	150	118	84	51	28	14	9	7
	122.5	166	165	153	129	100	73	43	23	12	8	6
	125	138	136	125	107	87	62	36	19	10	7	5
	127.5	110	109	104	91	73	51	30	16	9	6	5
	130	94	93	87	76	60	42	25	14	7	5	4
	132.5	76	76	70	62	50	35	21	11	6	4	3
	135	61	61	58	51	41	29	18	10	4	3	3
	137.5	50	50	47	42	33	23	15	8	4	2	2
	140	41	40	39	34	26	19	12	6	3	0	0
	142.5	32	32	30	26	20	16	10	5	2	0	0
	145	26	26	24	20	17	13	8	3	0	0	0
	147.5	20	20	19	17	14	10	6	0	0	0	0
	150	16	16	15	14	11	8	4	0	0	0	0
	152.5	13	13	12	11	9	6	3	0	0	0	0
	155	11	11	10	9	7	4	0	0	0	0	0
	157.5	8	8	8	7	5	2	0	0	0	0	0
	160	6	6	5	4	3	0	0	0	0	0	0
	162.5	4	4	3	2	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	0	0	

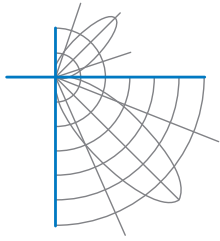


Report of Test

LLIA001528-001

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	0	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324
	2.5	1321	1325	1330	1326	1314	1294	1275	1274	1298	1325	1329
	5	1334	1340	1336	1325	1285	1274	1316	1301	1239	1280	1297
	7.5	1328	1333	1326	1286	1274	1288	1262	1216	1209	1202	1232
	10	1317	1317	1305	1274	1262	1216	1170	1123	1134	1089	1125
	12.5	1293	1285	1272	1238	1208	1108	1088	1046	993	958	993
	15	1252	1244	1242	1205	1111	1057	962	890	853	825	853
	17.5	1218	1215	1193	1126	1025	940	857	783	729	685	701
	20	1184	1182	1141	1045	937	820	728	655	609	569	575
	22.5	1197	1188	1092	954	839	717	627	538	478	451	452
	25	1191	1190	1085	885	727	610	514	435	381	363	362
	27.5	1147	1145	1018	846	633	520	421	356	331	320	317
	30	1116	1096	938	755	589	440	348	313	293	286	285
	32.5	1055	1038	854	661	513	374	307	281	264	251	251
	35	1017	984	772	581	437	323	272	248	226	211	211
	37.5	954	918	686	494	370	276	245	215	195	187	188
	40	893	842	604	429	318	242	213	185	176	173	173
	42.5	831	767	533	365	263	214	184	164	156	157	157
	45	779	708	466	309	222	188	159	141	138	142	141
	47.5	729	651	407	263	192	163	135	123	127	132	132
	50	672	594	349	221	168	139	113	111	120	122	122
	52.5	539	451	278	191	149	116	98	102	110	117	116
	55	432	334	204	168	132	95	87	92	104	107	106
	57.5	369	274	167	144	113	80	75	84	93	97	96
	60	311	227	145	121	91	67	65	75	83	88	87
	62.5	256	189	129	101	72	55	55	64	73	75	74
	65	210	159	115	84	57	45	46	54	61	63	62
	67.5	171	133	100	70	45	35	37	44	49	51	51
70	140	112	86	56	36	27	28	33	37	37	36	
72.5	116	95	70	43	27	20	20	21	21	19	18	
75	95	80	54	34	21	14	11	4	0	0	0	
77.5	79	66	43	26	15	9	0	0	0	0	0	
80	64	54	33	19	10	5	0	0	0	0	0	
82.5	51	43	25	15	8	3	0	0	0	0	0	
85	40	32	19	11	6	3	0	0	0	0	0	
87.5	32	23	15	9	5	1	0	0	0	0	0	
90	26	19	12	7	4	0	0	0	0	0	0	

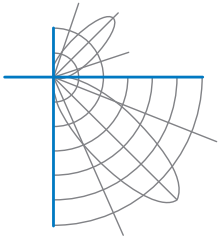


Report of Test

LLIA001528-001

Luminous Intensity (Candela) Table

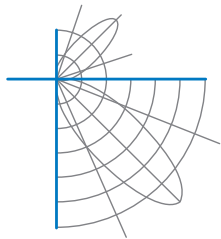
	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	26	19	12	7	4	0	0	0	0	0	0
	92.5	21	17	10	6	3	0	0	0	0	0	0
	95	17	14	9	5	3	0	0	0	0	0	0
	97.5	15	12	7	4	2	0	0	0	0	0	0
	100	14	11	7	4	0	0	0	0	0	0	0
	102.5	13	10	6	4	0	0	0	0	0	0	0
	105	12	9	5	3	0	0	0	0	0	0	0
	107.5	11	8	5	3	0	0	0	0	0	0	0
	110	10	8	4	3	0	0	0	0	0	0	0
	112.5	9	7	4	2	0	0	0	0	0	0	0
	115	9	6	4	1	0	0	0	0	0	0	0
	117.5	8	6	3	0	0	0	0	0	0	0	0
	120	7	5	3	0	0	0	0	0	0	0	0
	122.5	6	5	3	0	0	0	0	0	0	0	0
	125	5	4	2	0	0	0	0	0	0	0	0
	127.5	5	3	1	0	0	0	0	0	0	0	0
	130	4	3	0	0	0	0	0	0	0	0	0
	132.5	3	3	0	0	0	0	0	0	0	0	0
	135	3	2	0	0	0	0	0	0	0	0	0
	137.5	2	0	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	0	0	



Report of Test
LLIA001528-001

Additional Pictures of Test Subject





Report of Test LLIA001528-001

Test Distance 9.5 m
Ambient Temperature 25.4 °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. Format of reports and angular increments based on IES LM-31-95 and LM-10-96.

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 IES C-Type spherical coordinate system as defined in IES LM-75-01.

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.