

## Report of Test

LLIA001630-004

Roadway/Area Light Distribution Photometry Test Report

Catalog Number: WPA-40W-PCTS-BZ-PC - 28W and 5000K Setting

Surface mounted wall pack, cast aluminum housings, clear plastic enclosure with perimeter prisms, linear lens above each row of LEDs with vertical linear micro prisms. Aimed straight down.

112 LEDs, 48 cool white and 64 warm white LEDs on white circuit board

One BQ BQE55-0400-102-PVF-PS LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

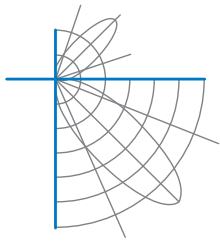
Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	3872.1 Lumens
Input Current	0.2417 A	Total Efficacy	134.4 Lm/W
Input Power	28.80 W		
Frequency	60.00 Hz		
Power Factor	0.993	Roadway Type	Area Light
Current THD	6.6 %	IES BUG Rating	B1 - U0 - G1

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

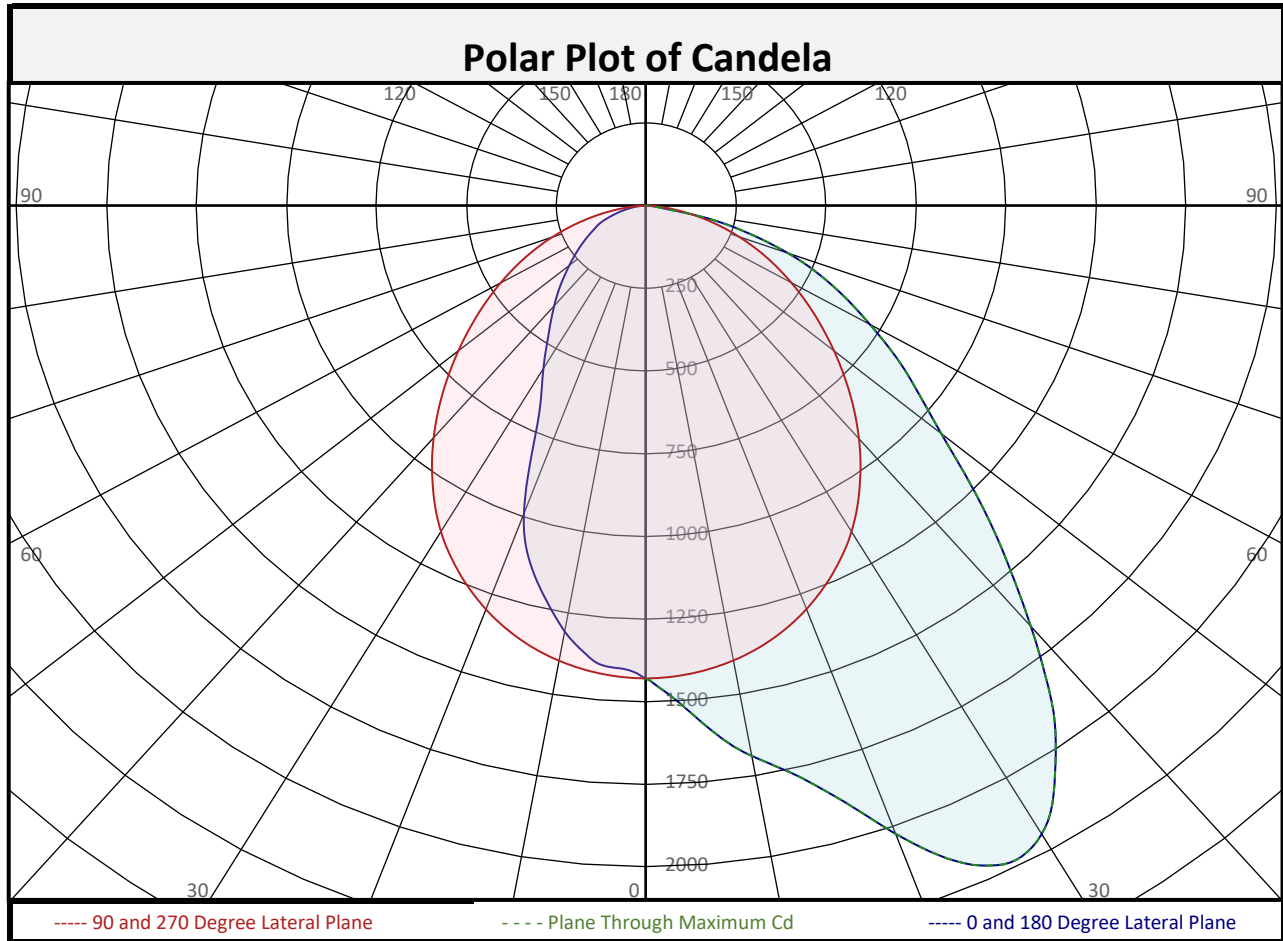
Test date: 01/13/2022

Report date: 01/14/2022

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

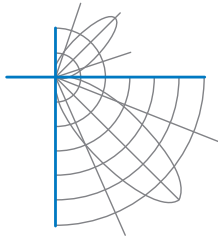


Report of Test  
LLIA001630-004

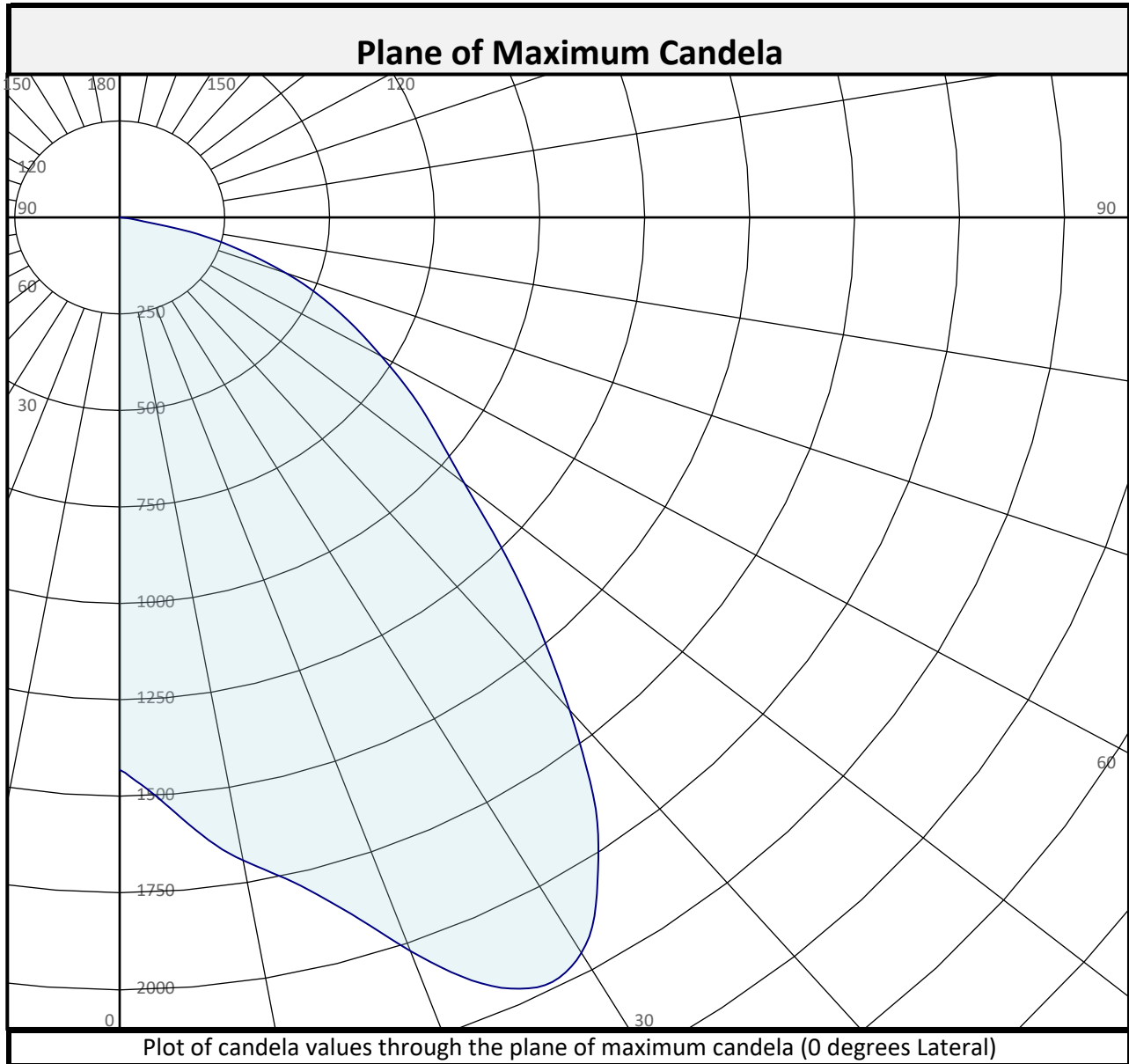


### Zonal Flux Summary

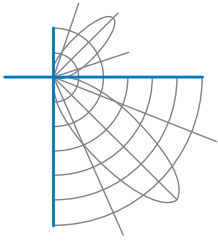
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	138.7	3.6%	90-100	0.0	0.0%	0-20	546.0	14.1%
10-20	407.3	10.5%	100-110	0.0	0.0%	0-30	1173	30.3%
20-30	627.2	16.2%	110-120	0.0	0.0%	0-40	1914	49.4%
30-40	740.7	19.1%	120-130	0.0	0.0%	0-60	3205	82.8%
40-50	708.7	18.3%	130-140	0.0	0.0%	0-80	3837	99.1%
50-60	582.2	15.0%	140-150	0.0	0.0%	10-90	3733	96.4%
60-70	414.7	10.7%	150-160	0.0	0.0%	20-50	2077	53.6%
70-80	217.2	5.6%	160-170	0.0	0.0%	40-90	1958	50.6%
80-90	35.3	0.9%	170-180	0.0	0.0%	60-90	667.3	17.2%
0-90	3872	100.0%	90-180	0.0	0.0%	0-180	3872	100.0%



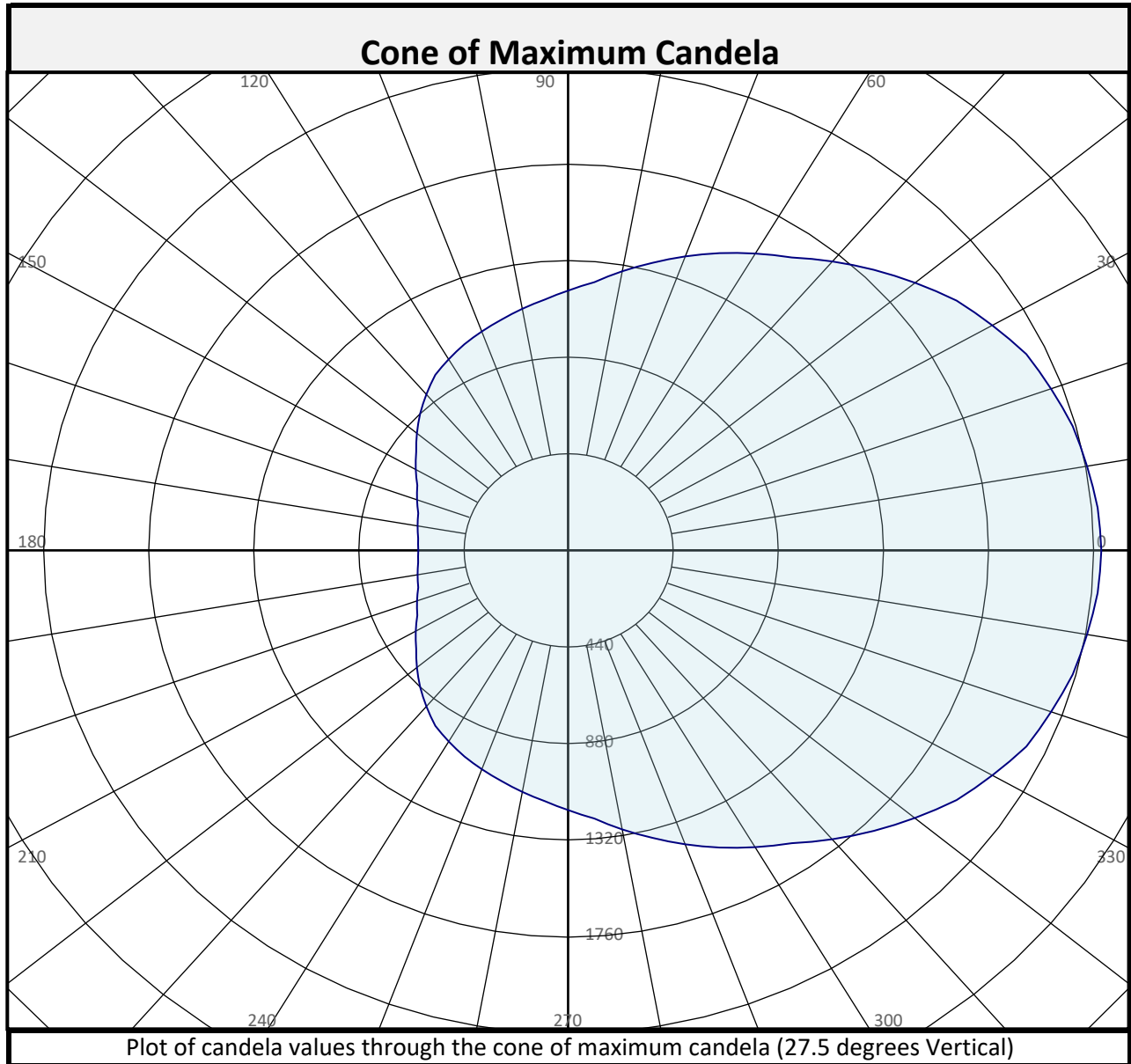
Report of Test  
LLIA001630-004



Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	2666.7	68.9%	0.0	0.0%	2666.7	68.9%
House Side	1205.4	31.1%	0.0	0.0%	1205.4	31.1%
<b>Total</b>	<b>3872.1</b>	<b>100.0%</b>	<b>0.0</b>	<b>0.0%</b>	<b>3872.1</b>	<b>100.0%</b>



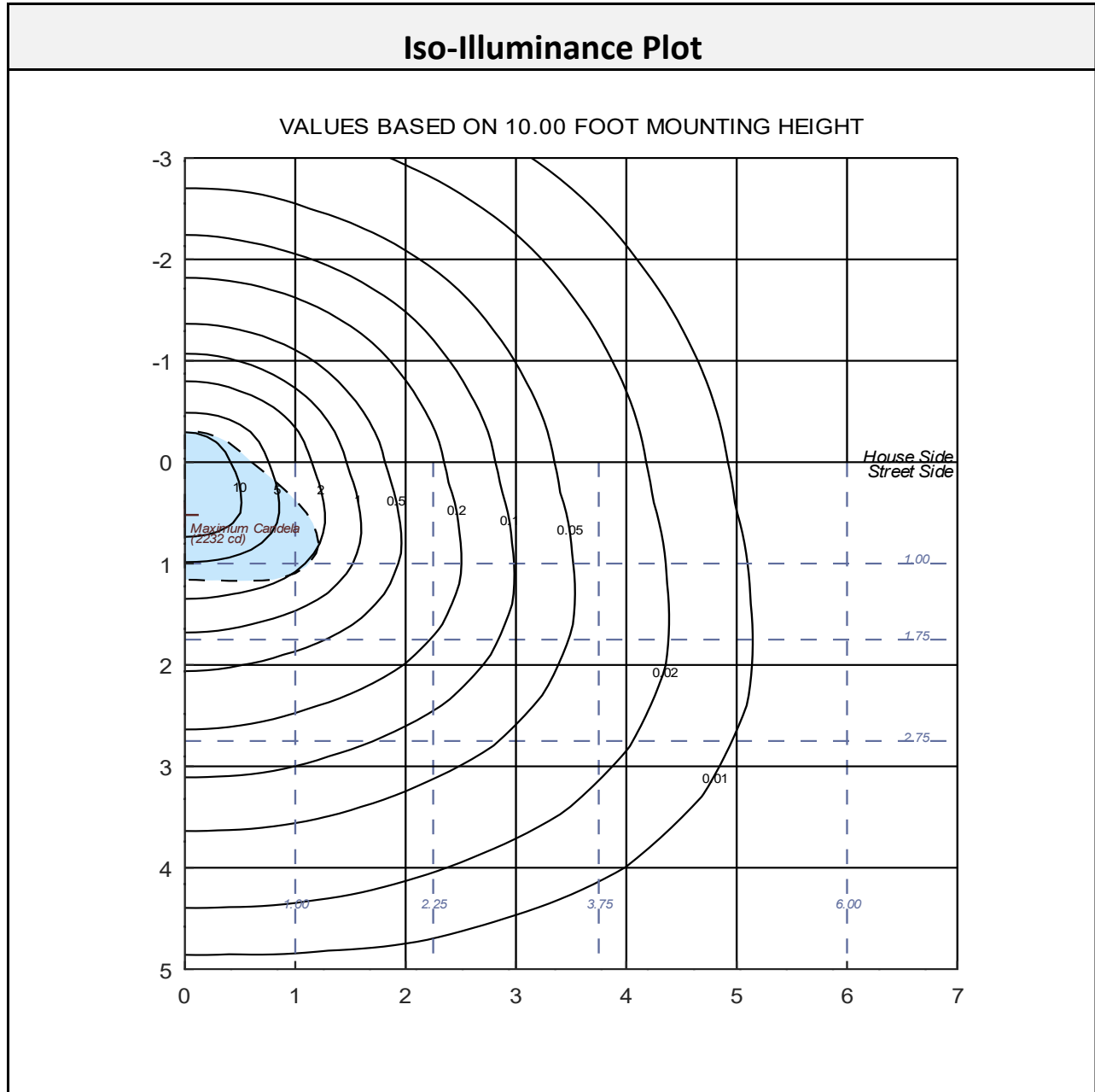
Report of Test  
LLIA001630-004



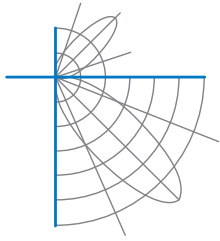
Street and House Side Flux Summary						
	Downward		Upward		Total	
	Lumens	% of Total	Lumens	% of Total	Lumens	% of Total
Street Side	2666.7	68.9%	0.0	0.0%	2666.7	68.9%
House Side	1205.4	31.1%	0.0	0.0%	1205.4	31.1%
<b>Total</b>	<b>3872.1</b>	<b>100.0%</b>	<b>0.0</b>	<b>0.0%</b>	<b>3872.1</b>	<b>100.0%</b>



Report of Test  
LLIA001630-004

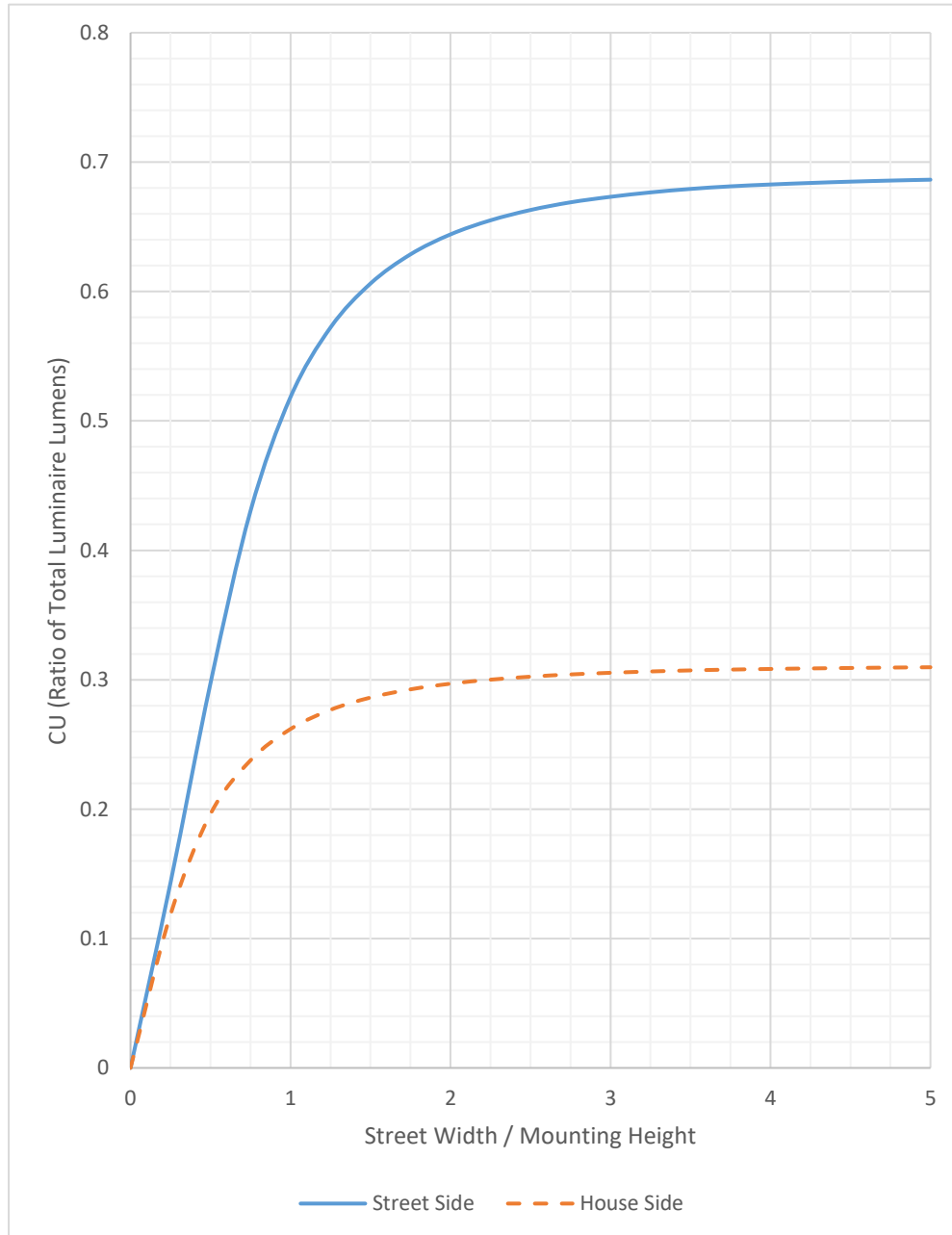


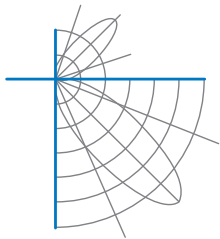
The isofootcandle values shown in the plot above are based on a mounting height of  $h = 10.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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



## Report of Test LLIA001630-004

### Coefficients of Utilization Plot

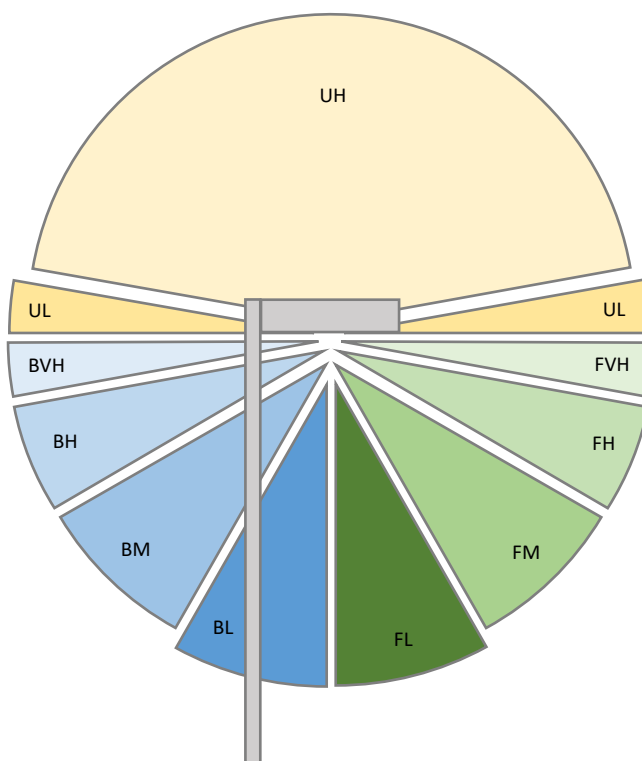




## Report of Test

### LLIA001630-004

#### LCS Tables and Bug Classification



#### Back Light

BL - Back Low (0°-30°)	461.9 Lm
BM - Back Mid (30°-60°)	558.8 Lm
BH - Back High (60°-80°)	170.6 Lm
BVH - Back Very High (80°-90°)	14.1 Lm

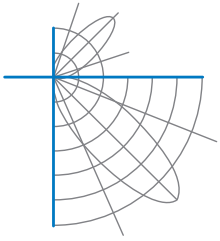
#### Forward Light

FL - Forward Low (0°-30°)	711.3 Lm
FM - Forward Mid (30°-60°)	1472.8 Lm
FH - Forward High (60°-80°)	461.3 Lm
FVH - Forward Very High (80°-90°)	21.3 Lm

#### Uplight

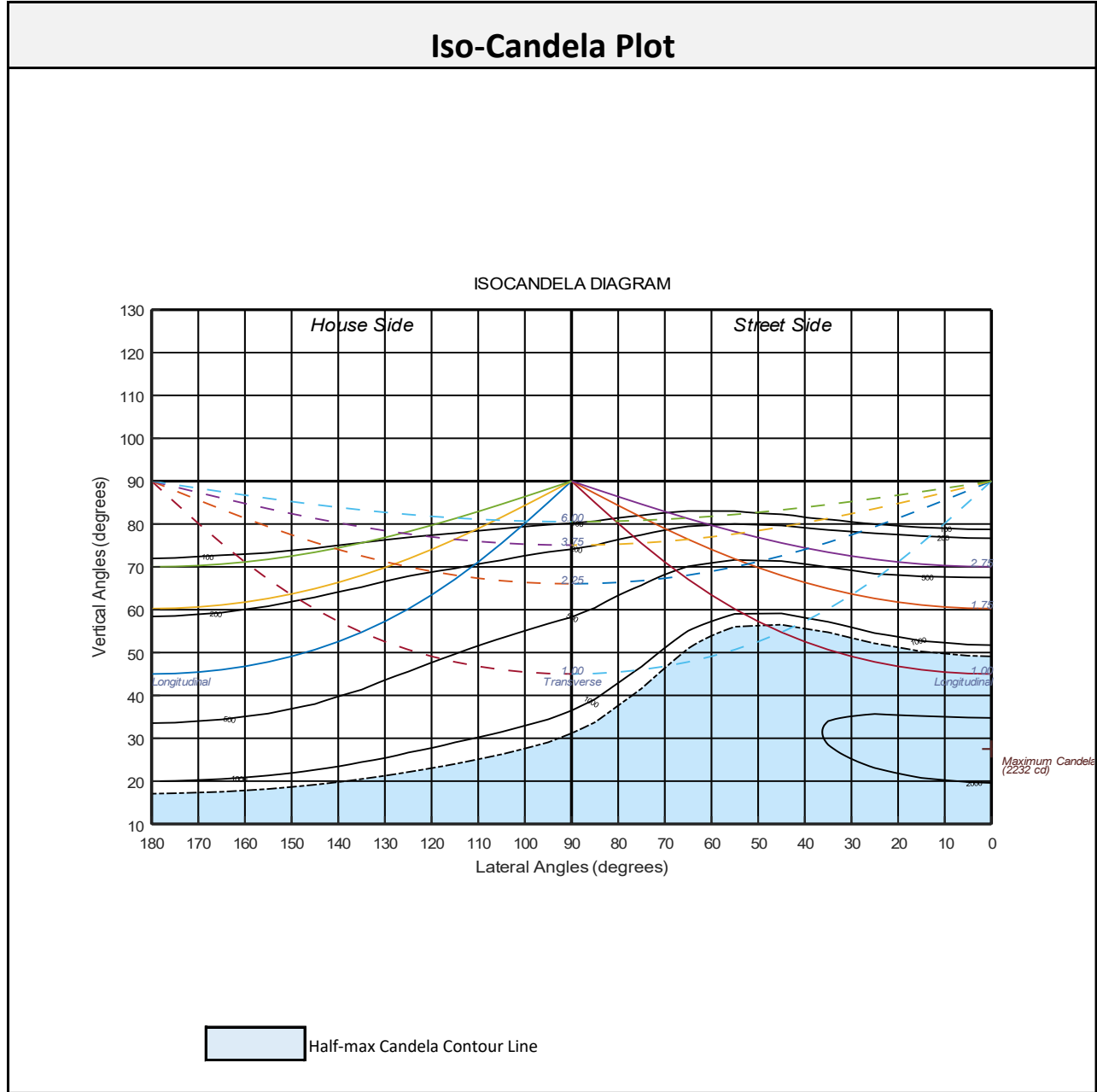
UL - Upward Low (90°-100°)	0.0 Lm
UH - Upward High (100°-180°)	0.0 Lm

BUG Ratings: B1 - U0 - G1



Report of Test  
LLIA001630-004

**Iso-Candela Plot**







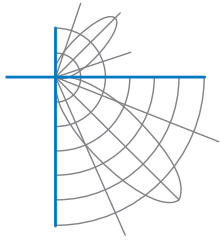
## Report of Test

LLIA001630-004

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	0	5	15	25	35	45	55	65	75	85	90	
0	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430
2.5	1481	1479	1480	1475	1470	1464	1456	1447	1439	1431	1427	1427
5	1549	1547	1544	1534	1520	1502	1483	1464	1446	1428	1421	1421
7.5	1626	1624	1617	1601	1578	1549	1516	1481	1449	1422	1411	1411
10	1690	1686	1679	1660	1632	1594	1548	1498	1450	1412	1397	1397
12.5	1745	1741	1730	1707	1675	1630	1575	1512	1448	1399	1379	1379
15	1814	1808	1788	1753	1710	1660	1596	1521	1443	1380	1357	1357
17.5	1906	1898	1867	1813	1748	1680	1613	1527	1434	1357	1330	1330
20	2020	2010	1969	1893	1799	1702	1619	1528	1420	1329	1299	1299
22.5	2127	2117	2069	1981	1863	1734	1622	1521	1403	1298	1265	1265
25	2203	2194	2149	2062	1928	1770	1626	1510	1382	1264	1227	1227
27.5	2232	2225	2186	2115	1984	1808	1629	1494	1356	1227	1185	1185
30	2199	2196	2174	2126	2017	1835	1632	1472	1325	1185	1139	1139
32.5	2110	2113	2115	2097	2018	1851	1630	1444	1288	1140	1088	1088
35	1987	1992	2010	2026	1982	1848	1624	1415	1247	1090	1033	1033
37.5	1840	1845	1879	1923	1915	1817	1610	1383	1201	1036	977	977
40	1668	1674	1724	1799	1825	1765	1581	1346	1150	979	918	918
42.5	1504	1511	1562	1654	1724	1694	1540	1303	1096	922	858	858
45	1353	1359	1410	1510	1605	1608	1485	1254	1040	862	798	798
47.5	1205	1213	1265	1370	1479	1514	1415	1199	980	801	737	737
50	1072	1079	1129	1230	1352	1408	1336	1140	917	740	679	679
52.5	971	975	1009	1097	1225	1293	1250	1073	852	680	622	622
55	888	891	910	979	1103	1182	1155	1002	787	622	568	568
57.5	804	806	825	874	985	1072	1059	926	720	565	515	515
60	720	722	740	783	874	962	962	845	654	509	465	465
62.5	646	646	657	696	770	852	860	761	585	454	415	415
65	573	574	581	609	676	748	758	677	519	401	368	368
67.5	500	501	508	528	585	647	659	590	452	348	321	321
70	421	423	434	451	497	550	562	504	386	297	274	274
72.5	337	340	356	373	412	459	467	419	321	247	229	229
75	257	259	275	296	326	369	375	337	258	200	185	185
77.5	171	174	190	213	240	279	286	258	199	154	143	143
80	53	53	61	98	151	187	200	184	142	111	103	103
82.5	28	28	32	38	51	88	116	114	90	71	66	66
85	1	1	1	3	20	27	33	51	44	35	33	33
87.5	0	0	0	0	0	1	1	6	8	10	9	9
90	0	0	0	0	0	0	0	0	0	0	0	0

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.

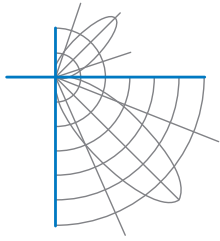


## Report of Test

LLIA001630-004

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	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	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	



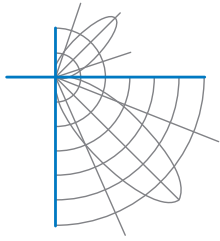
## Report of Test

LLIA001630-004

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles											
	90	95	105	115	125	135	145	155	165	175	180	
0	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	
2.5	1427	1423	1416	1410	1407	1405	1405	1404	1403	1403	1403	
5	1421	1413	1401	1396	1395	1396	1397	1397	1396	1396	1395	
7.5	1411	1399	1387	1384	1383	1380	1376	1368	1362	1359	1358	
10	1397	1382	1371	1366	1357	1345	1333	1322	1314	1309	1307	
12.5	1379	1361	1349	1336	1319	1300	1282	1264	1252	1245	1242	
15	1357	1337	1319	1299	1273	1247	1222	1202	1188	1180	1176	
17.5	1330	1309	1282	1254	1220	1188	1160	1135	1116	1105	1102	
20	1299	1276	1241	1203	1164	1128	1091	1055	1023	1002	997	
22.5	1265	1238	1195	1149	1107	1062	1005	941	886	854	847	
25	1227	1195	1143	1093	1045	980	893	807	747	717	711	
27.5	1185	1147	1089	1036	976	882	781	701	654	634	631	
30	1139	1097	1033	977	895	786	690	623	590	575	573	
32.5	1088	1043	977	915	811	705	618	563	537	523	520	
35	1033	986	919	848	735	638	558	514	489	476	474	
37.5	977	928	861	778	669	578	509	470	448	436	435	
40	918	868	803	709	611	525	466	432	411	400	399	
42.5	858	810	745	648	559	480	428	397	378	368	367	
45	798	751	686	592	510	440	394	365	347	337	335	
47.5	737	694	627	541	465	403	363	335	317	306	305	
50	679	639	571	493	424	371	334	306	289	280	278	
52.5	622	585	518	447	388	340	305	279	263	254	252	
55	568	534	469	405	354	312	278	254	239	231	229	
57.5	515	486	424	364	321	283	252	230	216	209	208	
60	465	439	379	327	290	255	227	207	194	188	187	
62.5	415	394	336	292	260	228	204	185	174	169	169	
65	368	349	297	259	231	203	181	164	155	153	153	
67.5	321	303	259	227	203	178	159	144	138	138	137	
70	274	259	222	196	176	154	137	124	122	118	117	
72.5	229	216	187	165	148	130	115	106	102	97	96	
75	185	175	152	134	120	106	94	87	81	77	77	
77.5	143	135	118	104	94	83	74	68	62	60	59	
80	103	98	86	76	68	61	54	49	45	43	43	
82.5	66	62	55	50	45	40	36	33	30	29	29	
85	33	31	29	26	24	22	20	18	17	16	16	
87.5	9	9	9	9	9	8	8	7	7	6	6	
90	0	0	0	0	0	0	0	0	0	0	0	

Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.

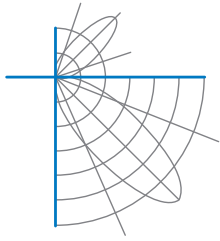


## Report of Test

LLIA001630-004

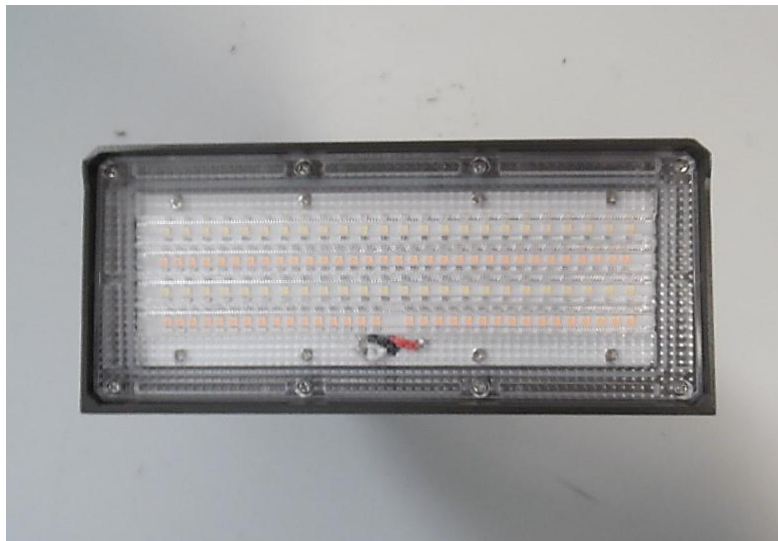
Luminous Intensity (Candela) Table

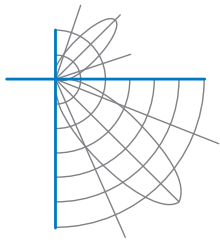
		Lateral (C-Plane) Angles										
		90	95	105	115	125	135	145	155	165	175	180
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	0	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0	0	0
	137.5	0	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  
LLIA001630-004

**Additional Pictures of Test Subject**





## Report of Test

### LLIA001630-004

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 publications: IES LM-79-19. Format of reports and angular increments based on IES LM-31-20 and LM-10-20.

The luminous intensity values, and other derived quantities, contained in this report are based on absolute data.

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-75-19.

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.

The device under test emits no detectable uplight, as defined by ANSI/IES LM-31-20. For the purpose of this report, certain non-zero uplight readings, attributable to instrument artifacts, have been assigned a zero value.