



**IES ROAD REPORT**  
**PHOTOMETRIC FILENAME : ENM4-PT-FT-LED-18L-50.IES**

**DESCRIPTIVE INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TEST] LED-11681  
[TESTLAB] LSI INDUSTRIES, INC.  
[ISSUE DATE] 06/10/2020  
[TEST DATE] 04/03/20  
[MANUFACT] LSI INDUSTRIES, INC.  
[LUMCAT] ENM4-PT-FT-LED-18L-50  
[ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.  
[OTHER] TEST PROCEDURE: IESNA LM-79-08  
[SEARCH\_SOURCETYPE] LED  
[SEARCH\_APPLICATION] Outdoor

**CHARACTERISTICS**

IES Classification	Type IV
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	19220
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	149
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	13202
Maximum Candela Angle	40H 70V
Maximum Candela (<90 Degrees Vertical)	13202
Maximum Candela Angle (<90 Degrees Vertical)	40H 70V
Maximum Candela At 90 Degrees Vertical	172 (0.9% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	3071 (16.0% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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**LUMINAIRE CLASSIFICATION SYSTEM (LCS)**

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	897.5	N.A.	4.7
FM - Front-Medium (30-60)	6219.2	N.A.	32.4
FH - Front-High (60-80)	6936.4	N.A.	36.1
FVH - Front-Very High (80-90)	349.9	N.A.	1.8
BL - Back-Low (0-30)	806.4	N.A.	4.2
BM - Back-Medium (30-60)	2753.2	N.A.	14.3
BH - Back-High (60-80)	1121.4	N.A.	5.8
BVH - Back-Very High (80-90)	91.5	N.A.	0.5
UL - Uplight-Low (90-100)	14.2	N.A.	0.1
UH - Uplight-High (100-180)	30.5	N.A.	0.2
Total	19220.2	N.A.	100.0
BUG Rating	B3-U2-G3		

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**CANDELA TABULATION**

<b>Vert. Angles</b>	<b>Horizontal Angles</b>									
	<b>0</b>	<b>5</b>	<b>15</b>	<b>25</b>	<b>35</b>	<b>40</b>	<b>45</b>	<b>55</b>	<b>65</b>	<b>75</b>
<b>0.0</b>	1522	1522	1522	1522	1522	1522	1522	1522	1522	1522
<b>2.5</b>	1531	1505	1494	1499	1500	1503	1504	1528	1538	1521
<b>5.0</b>	1384	1427	1439	1472	1497	1479	1444	1428	1409	1410
<b>7.5</b>	1361	1387	1444	1368	1388	1359	1374	1387	1508	1487
<b>10.0</b>	1345	1360	1391	1321	1376	1412	1461	1495	1510	1520
<b>12.5</b>	1379	1460	1420	1372	1459	1450	1500	1552	1592	1634
<b>15.0</b>	1449	1541	1521	1556	1622	1559	1580	1686	1725	1790
<b>17.5</b>	1589	1664	1601	1667	1722	1765	1796	1789	1893	1987
<b>20.0</b>	1885	1914	1884	1841	1911	1902	1958	2052	2069	2157
<b>22.5</b>	2116	2111	2151	2171	2178	2107	2197	2317	2277	2392
<b>25.0</b>	2410	2353	2413	2399	2433	2517	2493	2587	2576	2543
<b>27.5</b>	2720	2854	2832	2719	2691	2826	2854	2841	2800	2812
<b>30.0</b>	3101	3046	3020	3046	3029	3031	3120	3088	3082	3039
<b>32.5</b>	3604	3634	3397	3266	3374	3433	3317	3402	3351	3253
<b>35.0</b>	4030	3954	3849	3679	3594	3671	3676	3689	3544	3456
<b>37.5</b>	4481	4454	4220	3978	4025	3964	3987	3945	3772	3601
<b>40.0</b>	4815	4798	4636	4509	4311	4325	4357	4245	4036	3803
<b>42.5</b>	5118	5103	4949	4929	4741	4658	4672	4619	4285	3959
<b>45.0</b>	5481	5461	5337	5217	5134	5118	5076	4983	4611	4209
<b>47.5</b>	5892	5900	5750	5617	5516	5508	5490	5425	5062	4576
<b>50.0</b>	6341	6359	6243	6106	6004	6049	6013	6051	5698	5033
<b>52.5</b>	6799	6822	6770	6681	6581	6614	6678	6892	6407	5530
<b>55.0</b>	7250	7276	7313	7300	7274	7346	7525	7811	7173	6110
<b>57.5</b>	7720	7772	7919	7937	8103	8323	8552	8800	8044	6697
<b>60.0</b>	8268	8380	8575	8714	9140	9412	9751	9875	8853	7021
<b>62.5</b>	8953	9000	9320	9666	10433	10644	10988	10890	9357	6986
<b>65.0</b>	9406	9480	9972	10585	11796	11924	12165	11460	9265	6453
<b>67.5</b>	9028	9110	10055	11222	12941	13000	12847	11346	8377	5142
<b>70.0</b>	7547	7644	8853	10865	13067	13202	12669	10258	6627	3263
<b>72.5</b>	5311	5404	6695	8901	11674	11937	11253	8177	4227	1904
<b>75.0</b>	2610	2704	3852	5842	8785	9196	8635	5319	2482	1257
<b>77.5</b>	1247	1325	1949	3117	5152	5705	5578	3202	1631	847
<b>80.0</b>	704	739	1336	1980	2615	3071	3067	2001	1054	551
<b>82.5</b>	497	536	955	1366	1549	1691	1694	1068	628	337
<b>85.0</b>	382	409	736	972	1120	1008	739	484	330	197
<b>87.5</b>	265	286	533	540	631	438	183	185	115	84
<b>90.0</b>	70	95	172	87	76	47	28	15	10	10
<b>92.5</b>	23	19	27	14	8	9	8	7	6	6
<b>95.0</b>	6	6	7	8	7	8	8	7	6	6
<b>97.5</b>	6	6	6	7	7	8	8	6	6	6
<b>100.0</b>	5	5	5	6	6	7	7	6	6	6
<b>102.5</b>	4	4	4	5	6	6	6	6	5	6
<b>105.0</b>	4	4	4	5	5	6	6	5	5	6
<b>107.5</b>	4	4	4	5	5	6	6	5	5	6
<b>110.0</b>	4	4	4	5	5	6	6	5	5	6
<b>112.5</b>	5	4	5	5	5	6	6	5	5	6
<b>115.0</b>	5	5	5	6	6	6	6	6	6	7
<b>117.5</b>	6	6	6	6	6	6	6	6	6	7
<b>120.0</b>	7	7	6	6	6	7	6	6	6	7
<b>122.5</b>	7	7	7	7	7	7	7	6	7	8
<b>125.0</b>	7	7	7	7	7	7	7	6	7	8
<b>127.5</b>	8	8	8	8	7	7	7	7	7	8
<b>130.0</b>	8	8	8	8	8	8	8	7	8	9

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**CANDELA TABULATION - (Cont.)**

132.5	8	9	8	8	8	8	8	7	8	9
135.0	8	8	7	7	7	7	7	7	7	8
137.5	4	4	4	5	6	6	6	5	5	7
140.0	1	1	2	3	4	4	4	4	4	5
142.5	1	1	2	3	4	4	4	4	4	5
145.0	1	1	2	3	3	4	3	4	4	4
147.5	1	1	2	3	3	3	3	3	4	4
150.0	1	1	2	3	3	3	3	3	3	4
152.5	1	1	2	3	3	3	3	3	3	4
155.0	1	1	2	3	3	3	3	3	3	4
157.5	1	1	2	3	3	3	3	3	3	3
160.0	1	1	2	3	3	3	3	3	3	3
162.5	1	1	2	3	3	3	3	2	3	3
165.0	1	1	2	3	3	3	3	3	3	3
167.5	1	1	2	3	3	3	3	3	3	3
170.0	1	1	2	3	3	3	3	3	3	3
172.5	1	1	2	3	3	3	3	3	3	3
175.0	1	1	2	3	3	3	3	3	3	3
177.5	0	1	2	3	3	3	3	3	3	3
180.0	2	2	2	2	2	2	2	2	2	2

**Vert. Angles**      **Horizontal Angles**

	<b>85</b>	<b>90</b>	<b>95</b>	<b>105</b>	<b>115</b>	<b>125</b>	<b>135</b>	<b>145</b>	<b>155</b>	<b>165</b>
0.0	1522	1522	1522	1522	1522	1522	1522	1522	1522	1522
2.5	1521	1524	1533	1526	1524	1531	1549	1548	1527	1494
5.0	1416	1405	1397	1428	1435	1457	1477	1476	1471	1433
7.5	1477	1477	1483	1535	1463	1389	1338	1369	1376	1396
10.0	1487	1503	1485	1518	1402	1422	1403	1408	1370	1420
12.5	1623	1606	1627	1564	1485	1450	1443	1552	1537	1613
15.0	1747	1765	1709	1614	1504	1572	1604	1684	1720	1680
17.5	1937	1885	1870	1750	1619	1714	1794	1787	1787	1785
20.0	2115	2117	2071	1820	1734	1859	1839	1898	1893	1893
22.5	2437	2315	2281	2024	1929	1989	1981	1974	1945	2005
25.0	2619	2607	2528	2126	2216	2133	2044	1997	2051	2084
27.5	2883	2748	2738	2299	2370	2214	2117	2125	2144	2193
30.0	3055	2933	2887	2449	2484	2360	2201	2190	2166	2227
32.5	3152	3087	2981	2605	2627	2477	2317	2257	2278	2346
35.0	3334	3198	3109	2774	2680	2553	2473	2298	2389	2425
37.5	3485	3362	3213	2863	2724	2610	2483	2409	2381	2529
40.0	3565	3405	3225	2901	2736	2609	2481	2401	2440	2558
42.5	3643	3457	3236	2839	2638	2580	2442	2413	2413	2445
45.0	3829	3561	3287	2788	2528	2487	2380	2347	2389	2275
47.5	4103	3731	3391	2743	2405	2368	2272	2272	2285	2101
50.0	4387	3909	3534	2725	2267	2245	2152	2213	2130	1959
52.5	4763	4164	3707	2708	2120	2120	2038	2122	1944	1821
55.0	5152	4468	3900	2711	1971	1990	1924	1989	1782	1678
57.5	5382	4668	3993	2683	1821	1865	1803	1834	1605	1493
60.0	5397	4659	3819	2581	1672	1723	1692	1675	1425	1352
62.5	5098	4321	3288	2392	1519	1569	1558	1535	1288	1244
65.0	4351	3523	2435	2060	1342	1406	1411	1423	1171	1160
67.5	3149	2413	1579	1610	1153	1238	1279	1300	1064	1079
70.0	1887	1437	1000	1147	970	1054	1140	1153	961	996
72.5	1023	810	697	836	794	885	991	1000	846	866
75.0	707	528	483	613	622	717	834	822	647	623
77.5	467	340	344	454	489	583	643	550	400	403

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**CANDELA TABULATION - (Cont.)**

80.0	267	208	253	339	388	440	398	362	296	313
82.5	180	140	180	253	295	258	265	273	203	231
85.0	109	76	109	165	154	156	173	156	105	151
87.5	44	24	47	71	75	75	67	65	44	58
90.0	6	6	16	23	25	22	17	12	3	2
92.5	4	7	16	22	24	22	16	10	3	2
95.0	4	8	15	21	23	20	16	12	4	4
97.5	5	9	13	18	20	19	15	12	5	5
100.0	5	8	10	14	17	15	14	10	7	6
102.5	6	7	9	10	13	13	12	10	6	6
105.0	6	7	8	9	10	10	10	9	7	6
107.5	6	7	8	9	9	9	9	8	7	6
110.0	7	8	8	9	9	9	8	8	6	6
112.5	7	8	8	9	9	9	9	8	7	6
115.0	7	8	9	9	9	10	9	9	8	7
117.5	8	9	9	9	9	10	10	9	8	7
120.0	8	9	9	9	10	10	10	10	8	7
122.5	9	9	9	10	10	10	12	10	9	8
125.0	9	9	10	10	10	10	10	10	9	8
127.5	9	10	10	10	10	10	10	10	9	8
130.0	9	10	10	10	10	10	10	9	9	8
132.5	9	10	10	10	9	9	9	8	8	7
135.0	9	9	9	9	9	8	7	6	6	5
137.5	7	7	8	7	7	6	5	4	3	2
140.0	5	5	5	5	5	4	3	2	1	0
142.5	5	5	5	5	4	3	2	2	1	0
145.0	5	5	5	4	4	3	2	1	0	0
147.5	4	5	5	4	4	3	2	1	0	0
150.0	4	4	5	4	4	3	2	1	0	0
152.5	4	4	4	4	3	2	1	1	0	0
155.0	4	4	4	4	3	2	1	0	0	0
157.5	4	4	4	4	3	2	1	0	0	0
160.0	4	4	4	4	3	2	1	0	0	0
162.5	3	4	3	3	3	1	1	0	0	0
165.0	3	4	4	3	2	1	0	0	0	0
167.5	3	4	3	3	3	2	1	0	0	0
170.0	4	4	4	3	2	2	1	0	0	0
172.5	4	4	4	3	3	1	1	0	0	0
175.0	4	4	4	3	3	2	1	0	0	0
177.5	4	4	4	3	2	1	1	0	0	0
180.0	2	2	2	2	2	2	2	2	2	2

**Vert. Horizontal Angles**  
**Angles**

	<b>175</b>	<b>180</b>
0.0	1522	1522
2.5	1500	1499
5.0	1412	1443
7.5	1405	1446
10.0	1463	1489
12.5	1638	1699
15.0	1778	1847
17.5	1868	1930
20.0	1973	2029
22.5	1996	2143
25.0	2123	2212

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**CANDELA TABULATION - (Cont.)**

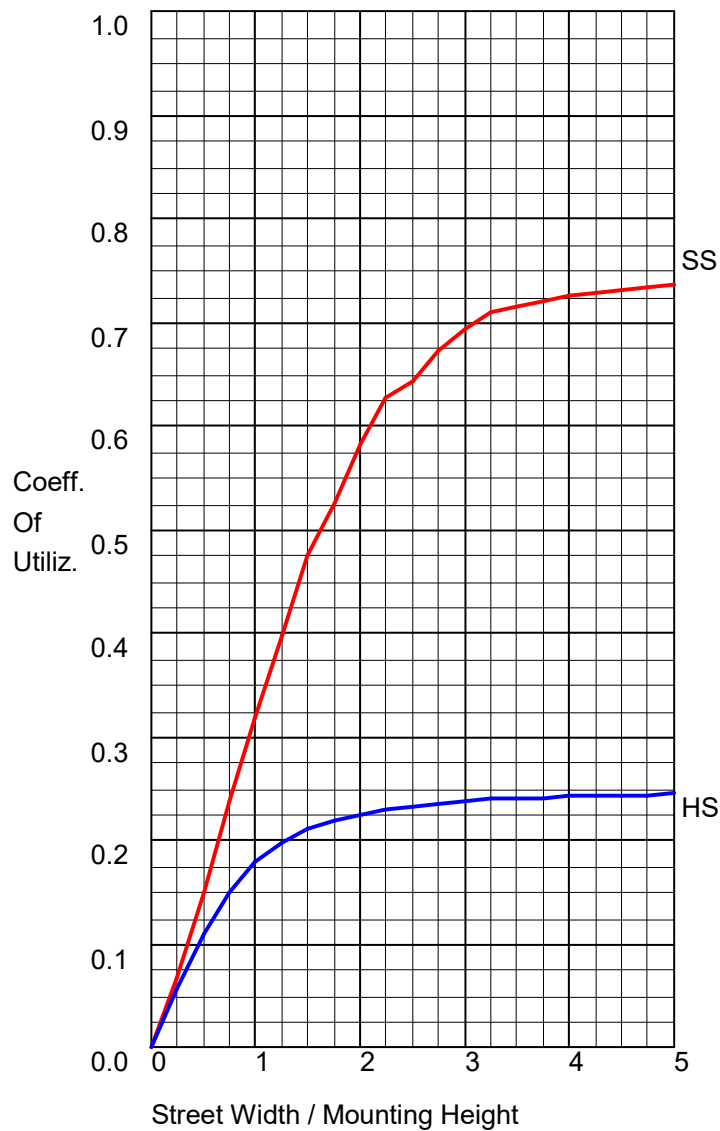
<b>27.5</b>	2186	2364
<b>30.0</b>	2251	2424
<b>32.5</b>	2398	2546
<b>35.0</b>	2434	2613
<b>37.5</b>	2546	2740
<b>40.0</b>	2502	2679
<b>42.5</b>	2323	2456
<b>45.0</b>	2158	2292
<b>47.5</b>	2029	2147
<b>50.0</b>	1901	2006
<b>52.5</b>	1769	1862
<b>55.0</b>	1621	1702
<b>57.5</b>	1454	1518
<b>60.0</b>	1341	1389
<b>62.5</b>	1251	1298
<b>65.0</b>	1191	1226
<b>67.5</b>	1142	1176
<b>70.0</b>	1092	1126
<b>72.5</b>	990	1022
<b>75.0</b>	752	772
<b>77.5</b>	588	627
<b>80.0</b>	486	538
<b>82.5</b>	365	418
<b>85.0</b>	243	277
<b>87.5</b>	119	144
<b>90.0</b>	0	0
<b>92.5</b>	0	0
<b>95.0</b>	2	2
<b>97.5</b>	3	3
<b>100.0</b>	4	4
<b>102.5</b>	5	5
<b>105.0</b>	5	5
<b>107.5</b>	5	5
<b>110.0</b>	5	5
<b>112.5</b>	5	5
<b>115.0</b>	5	5
<b>117.5</b>	6	5
<b>120.0</b>	6	6
<b>122.5</b>	6	6
<b>125.0</b>	6	6
<b>127.5</b>	6	6
<b>130.0</b>	6	6
<b>132.5</b>	6	6
<b>135.0</b>	4	4
<b>137.5</b>	1	1
<b>140.0</b>	0	0
<b>142.5</b>	0	0
<b>145.0</b>	0	0
<b>147.5</b>	0	0
<b>150.0</b>	0	0
<b>152.5</b>	0	0
<b>155.0</b>	0	0
<b>157.5</b>	0	0
<b>160.0</b>	0	0
<b>162.5</b>	0	0
<b>165.0</b>	0	0

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**CANDELA TABULATION - (Cont.)**

<b>167.5</b>	0	0
<b>170.0</b>	0	0
<b>172.5</b>	0	0
<b>175.0</b>	0	0
<b>177.5</b>	0	0
<b>180.0</b>	2	2

### COEFFICIENTS OF UTILIZATION

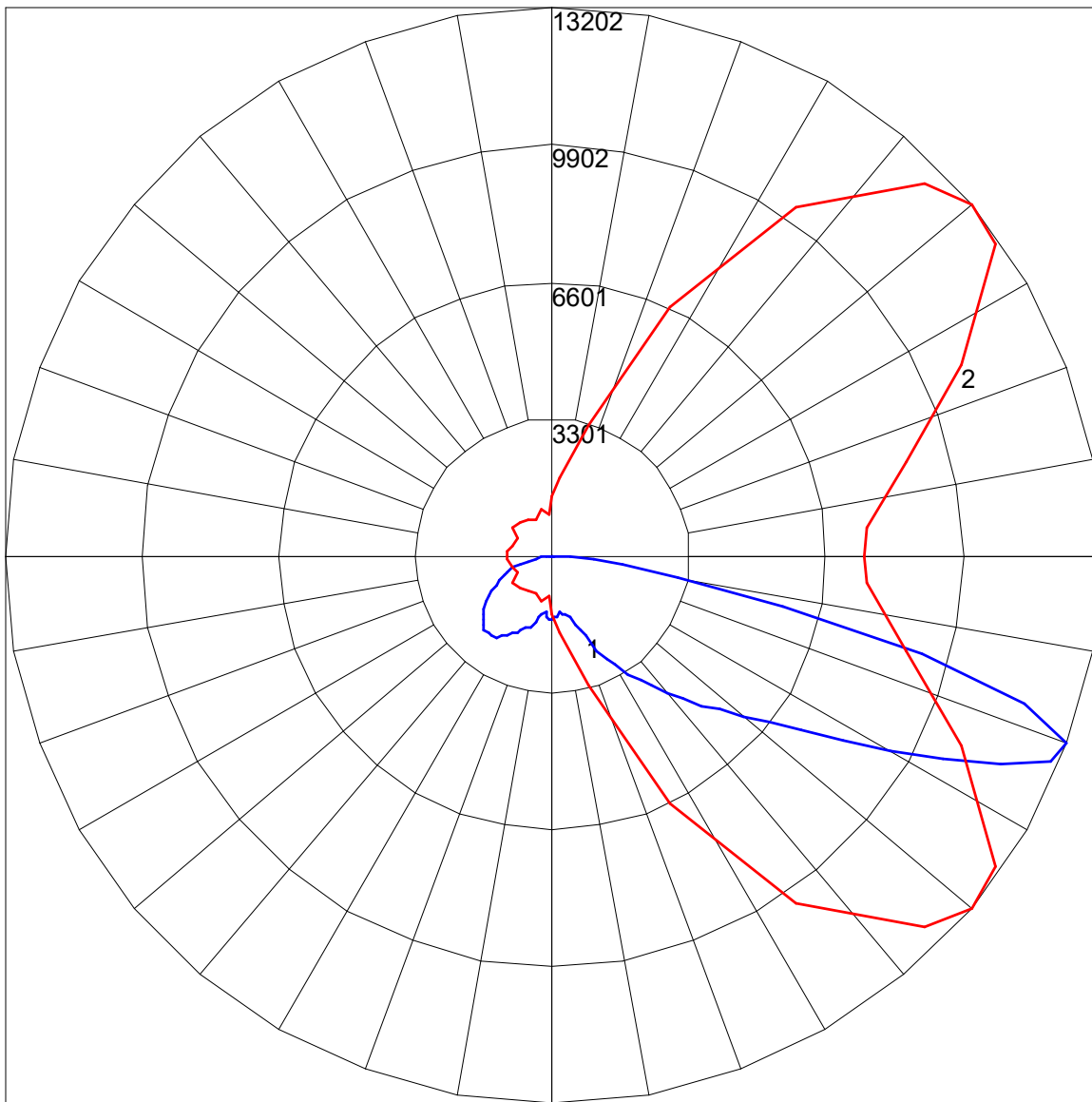


### FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	14403.0	74.9
Downward House Side	4772.5	24.8
Downward Total	19175.5	99.8
Upward Street Side	21.4	0.1
Upward House Side	23.4	0.1
Upward Total	44.8	0.2
Total Flux	19220.3	100.0

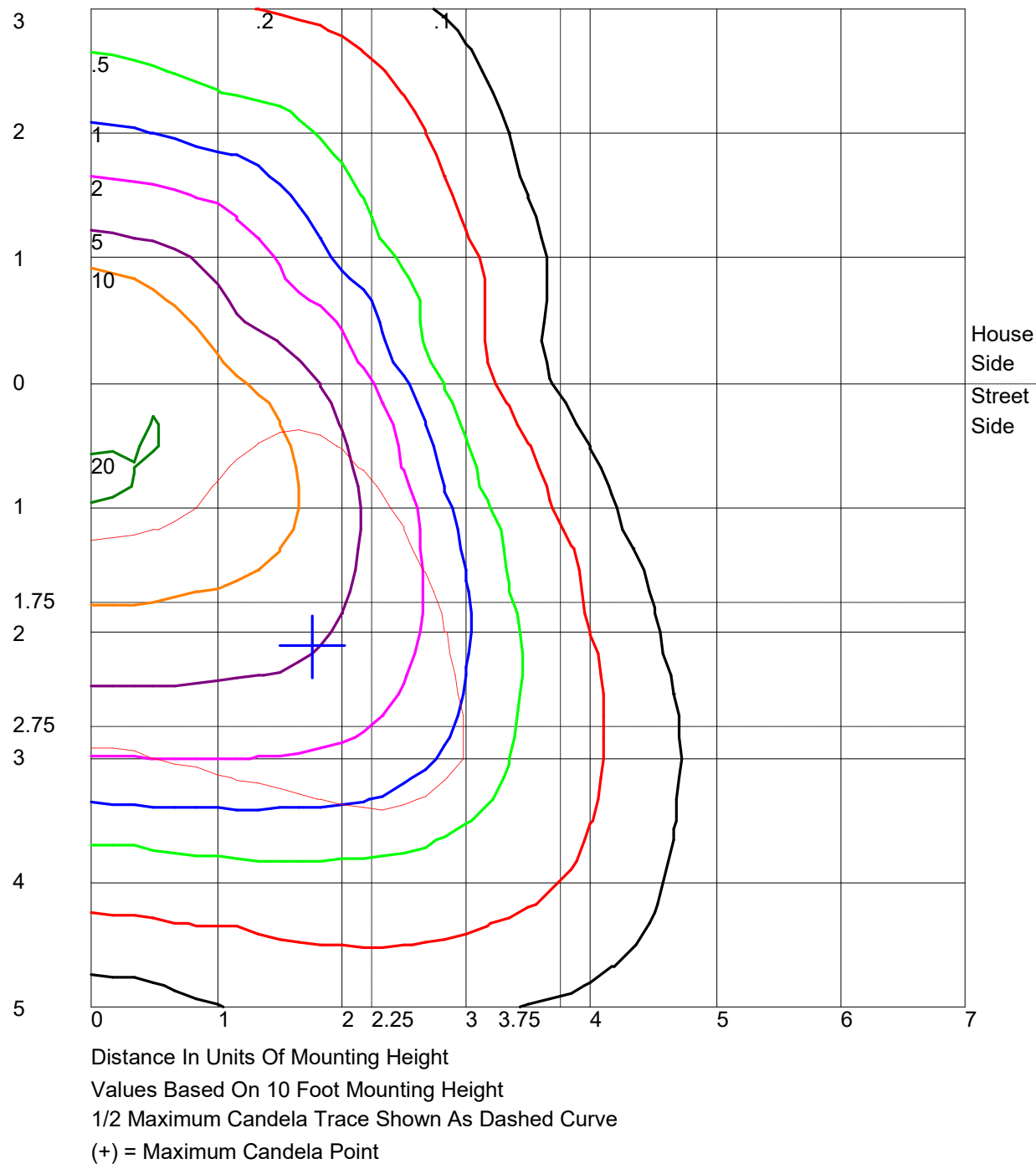


POLAR GRAPH

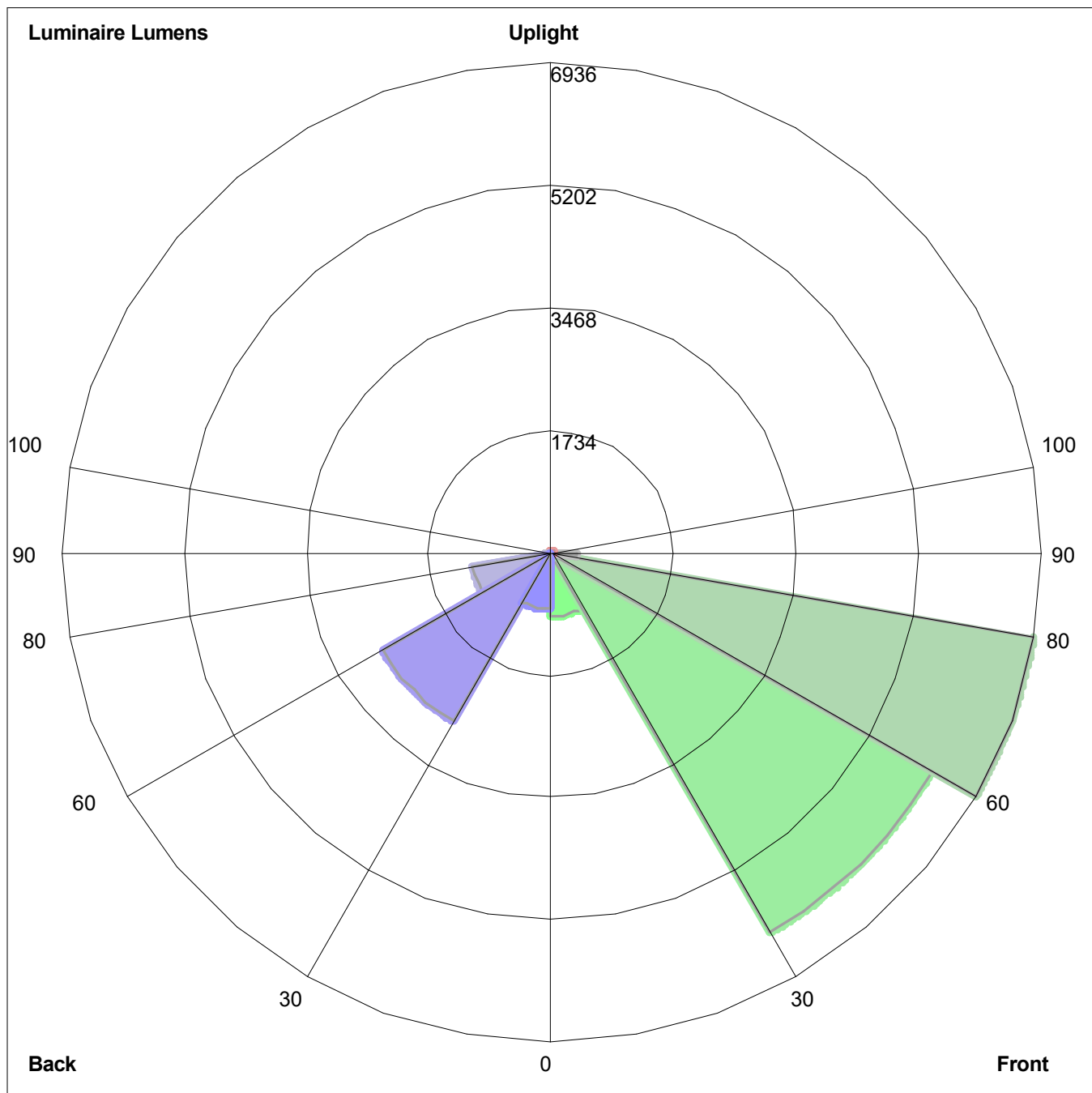


Maximum Candela = 13202 Located At Horizontal Angle = 40, Vertical Angle = 70  
# 1 - Vertical Plane Through Horizontal Angles (40 - 220) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (70) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:  
Front: Low=897.5, Medium=6219.2, High=6936.4, Very High=349.9  
Back: Low=806.4, Medium=2753.2, High=1121.4, Very High=91.5  
Uplight: Low=14.2, High=30.5

BUG Rating : B3-U2-G3