



## IES ROAD REPORT

PHOTOMETRIC FILENAME : ENM4-PT-3-LED-10L-40-IL.IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] LED-11760

[TESTLAB] LSI INDUSTRIES, INC.

[ISSUE DATE] 06/10/2020

[TEST DATE] 04/26/20

[MANUFAC] LSI INDUSTRIES, INC.

[LUMCAT] ENM4-PT-3-LED-10L-40-IL

[ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

[OTHER] TEST PROCEDURE: IESNA LM-79-08

[SEARCH\_SOURCETYPE] LED

[SEARCH\_APPLICATION] Outdoor

[FACTORED] SCALED FROM ORIGINAL TEST DATA

### CHARACTERISTICS

IES Classification	Type II
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8515
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	111
Total Luminaire Watts	77
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	9330
Maximum Candela Angle	57.5H 60V
Maximum Candela (<90 Degrees Vertical)	9330
Maximum Candela Angle (<90 Degrees Vertical)	57.5H 60V
Maximum Candela At 90 Degrees Vertical	20 (0.2% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	402 (4.7% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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**LUMINAIRE CLASSIFICATION SYSTEM (LCS)**

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	316.1	N.A.	3.7
FM - Front-Medium (30-60)	5048.4	N.A.	59.3
FH - Front-High (60-80)	2214.4	N.A.	26.0
FVH - Front-Very High (80-90)	52.9	N.A.	0.6
BL - Back-Low (0-30)	153.4	N.A.	1.8
BM - Back-Medium (30-60)	579.3	N.A.	6.8
BH - Back-High (60-80)	114.0	N.A.	1.3
BVH - Back-Very High (80-90)	12.6	N.A.	0.1
UL - Uplight-Low (90-100)	5.9	N.A.	0.1
UH - Uplight-High (100-180)	18.2	N.A.	0.2
Total	8515.2	N.A.	100.0
BUG Rating	B1-U2-G2		

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**CANDELA TABULATION**

Vert. Angles	Horizontal Angles									
	<u>0.0</u>	<u>5.0</u>	<u>15.0</u>	<u>25.0</u>	<u>35.0</u>	<u>45.0</u>	<u>55.0</u>	<u>57.5</u>	<u>65.0</u>	<u>75.0</u>
<b>0.0</b>	412	412	412	412	412	412	412	412	412	412
<b>2.5</b>	405	403	407	404	405	406	409	406	407	406
<b>5.0</b>	409	407	405	406	402	397	392	391	387	386
<b>7.5</b>	395	395	401	400	391	389	394	393	396	396
<b>10.0</b>	394	395	405	386	403	403	421	418	418	415
<b>12.5</b>	428	433	423	419	428	426	440	441	446	438
<b>15.0</b>	456	455	458	464	482	476	480	475	478	485
<b>17.5</b>	485	497	491	509	531	549	529	521	523	529
<b>20.0</b>	567	583	578	576	593	616	628	620	600	593
<b>22.5</b>	657	652	675	691	717	733	773	767	750	705
<b>25.0</b>	827	805	826	868	911	923	982	980	985	886
<b>27.5</b>	1139	1140	1153	1148	1189	1232	1299	1302	1319	1172
<b>30.0</b>	1500	1498	1466	1528	1557	1638	1702	1727	1709	1526
<b>32.5</b>	1952	1958	1876	1851	1960	2041	2168	2172	2173	1877
<b>35.0</b>	2352	2351	2314	2339	2341	2577	2640	2675	2575	2235
<b>37.5</b>	2978	2962	2848	2761	2819	2959	3064	3067	2948	2467
<b>40.0</b>	3488	3542	3460	3286	3284	3406	3449	3445	3233	2717
<b>42.5</b>	4162	4175	4064	3866	3782	3802	3753	3751	3467	2951
<b>45.0</b>	4858	4877	4762	4521	4354	4282	4102	4042	3722	3221
<b>47.5</b>	5529	5516	5474	5286	5123	4859	4538	4469	4114	3642
<b>50.0</b>	5974	5987	6103	6145	5834	5518	5142	5048	4705	4203
<b>52.5</b>	5967	6085	6445	6810	6821	6376	6131	6003	5544	4865
<b>55.0</b>	5563	5650	6116	6836	7342	7417	7576	7561	6716	5343
<b>57.5</b>	4497	4572	5326	6356	7395	8117	8863	8902	7594	5493
<b>60.0</b>	2908	2989	3774	5198	6899	8200	9291	9330	7770	5281
<b>62.5</b>	1555	1563	2176	3623	5695	7584	8935	9007	7449	4726
<b>65.0</b>	796	841	1109	2090	3978	6250	7979	8136	6523	3710
<b>67.5</b>	465	491	632	1083	2419	4237	6248	6456	4913	2377
<b>70.0</b>	319	336	424	702	1312	2397	4107	4380	3138	1381
<b>72.5</b>	235	248	307	532	871	1202	2255	2482	1675	597
<b>75.0</b>	161	171	222	415	664	689	980	1072	752	290
<b>77.5</b>	114	118	163	345	524	455	439	475	393	184
<b>80.0</b>	88	91	127	272	402	286	237	241	241	137
<b>82.5</b>	69	71	101	216	267	174	141	144	159	106
<b>85.0</b>	48	52	77	154	158	90	86	88	92	73
<b>87.5</b>	30	33	54	87	59	34	32	33	31	34
<b>90.0</b>	7	8	13	20	11	8	6	6	5	5
<b>92.5</b>	2	3	4	5	4	4	4	5	4	4
<b>95.0</b>	1	1	2	3	4	4	4	4	4	3
<b>97.5</b>	1	1	2	3	4	4	4	4	3	3
<b>100.0</b>	1	1	2	3	4	4	3	3	3	3
<b>102.5</b>	1	1	2	3	4	4	3	3	3	3
<b>105.0</b>	2	2	2	3	4	4	3	3	3	3
<b>107.5</b>	2	2	2	3	4	4	3	3	3	3
<b>110.0</b>	2	2	2	4	4	4	3	3	3	3
<b>112.5</b>	2	2	3	4	4	4	3	3	3	3
<b>115.0</b>	2	2	3	4	4	4	4	3	3	3
<b>117.5</b>	3	3	3	4	4	4	4	4	3	4
<b>120.0</b>	3	3	3	4	4	4	4	4	4	4
<b>122.5</b>	3	3	4	4	4	4	4	4	4	4
<b>125.0</b>	4	4	4	4	5	4	4	4	4	4
<b>127.5</b>	4	4	4	4	5	5	4	4	4	4
<b>130.0</b>	4	4	4	4	5	5	4	4	4	4

**IES ROAD REPORT**  
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**CANDELA TABULATION - (Cont.)**

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

Vert. Angles	Horizontal Angles									
	<u>85.0</u>	<u>90.0</u>	<u>95.0</u>	<u>105.0</u>	<u>115.0</u>	<u>125.0</u>	<u>135.0</u>	<u>145.0</u>	<u>155.0</u>	<u>165.0</u>
0.0	412	412	412	412	412	412	412	412	412	412
2.5	407	410	410	410	413	419	414	415	412	414
5.0	391	394	395	385	399	407	406	399	400	399
7.5	389	393	393	399	397	391	381	371	364	371
10.0	407	402	399	423	401	388	357	345	317	314
12.5	428	424	423	422	400	377	334	293	275	264
15.0	450	438	439	439	405	353	299	272	251	240
17.5	486	469	480	446	394	316	285	264	249	236
20.0	533	511	498	462	367	302	275	265	254	236
22.5	639	599	575	493	362	302	277	269	262	242
25.0	780	718	668	525	376	324	278	273	290	283
27.5	999	880	813	556	413	351	283	286	346	363
30.0	1249	1092	948	581	434	366	299	310	429	456
32.5	1470	1272	1057	601	440	376	308	343	504	579
35.0	1694	1410	1151	609	430	377	319	350	600	721
37.5	1880	1555	1219	618	412	371	316	354	722	899
40.0	2070	1683	1305	627	395	356	311	343	840	896
42.5	2285	1832	1387	636	375	336	293	321	903	709
45.0	2586	2058	1514	658	355	312	268	295	732	536
47.5	3020	2348	1660	681	330	276	237	266	482	401
50.0	3465	2674	1825	689	298	222	191	229	273	306
52.5	3861	2914	1949	676	248	164	139	173	179	242
55.0	4047	2980	1912	619	194	123	104	117	124	196
57.5	3987	2810	1688	528	158	103	85	83	84	157
60.0	3661	2444	1327	409	134	92	73	63	63	128
62.5	3054	1909	907	296	115	80	61	49	48	105
65.0	2064	1281	557	201	96	67	49	38	36	87
67.5	1183	748	337	137	77	53	37	30	27	70
70.0	539	381	192	98	62	42	28	23	20	54
72.5	230	196	133	81	50	34	23	19	13	40
75.0	144	134	111	73	41	29	20	14	9	29
77.5	108	104	93	68	36	26	18	12	6	22

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**CANDELA TABULATION - (Cont.)**

80.0	96	88	77	60	33	24	16	10	5	18
82.5	71	65	63	50	29	22	16	9	4	15
85.0	44	42	46	35	25	21	15	9	4	13
87.5	22	20	25	23	20	18	14	8	4	10
90.0	5	4	8	14	16	16	12	7	3	6
92.5	4	3	6	11	14	14	10	6	2	2
95.0	4	2	6	10	13	12	9	6	2	2
97.5	3	3	4	8	10	10	8	6	3	2
100.0	3	3	4	6	8	8	6	5	3	2
102.5	3	3	4	5	7	7	6	5	3	2
105.0	3	3	4	5	6	6	6	5	3	2
107.5	3	3	4	5	6	6	6	5	4	2
110.0	3	4	4	5	6	6	6	5	4	2
112.5	3	4	4	5	6	6	6	5	4	3
115.0	4	4	4	5	6	6	6	5	4	3
117.5	4	4	5	5	6	6	6	5	4	3
120.0	4	4	5	5	6	6	6	5	4	3
122.5	4	5	5	5	6	6	6	5	4	3
125.0	4	5	5	6	6	6	6	6	4	4
127.5	4	5	5	6	6	6	6	6	5	4
130.0	5	5	5	6	6	6	6	6	5	4
132.5	4	5	5	6	6	6	6	6	5	4
135.0	4	4	5	5	6	6	6	5	4	4
137.5	4	4	4	4	5	5	5	4	4	3
140.0	3	3	4	4	4	4	4	4	3	2
142.5	3	3	3	4	4	4	4	4	3	2
145.0	3	3	3	4	4	4	4	4	3	2
147.5	3	3	3	4	4	4	4	3	2	2
150.0	3	3	3	3	4	4	4	3	2	1
152.5	3	3	3	3	4	4	4	3	2	1
155.0	3	3	3	3	4	4	3	3	2	1
157.5	2	3	3	3	3	3	3	2	2	1
160.0	2	2	3	3	3	3	3	2	1	0
162.5	2	2	2	3	3	3	2	2	1	0
165.0	2	2	2	2	3	2	2	2	1	0
167.5	2	2	2	2	2	2	2	2	1	0
170.0	2	2	2	2	2	2	2	2	1	0
172.5	2	2	2	2	2	2	2	2	1	0
175.0	2	2	2	2	2	2	2	2	1	0
177.5	2	2	2	2	2	2	2	2	1	0
180.0	1	1	1	1	1	1	1	1	1	1

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

	<u>175.0</u>	<u>180.0</u>
0.0	412	412
2.5	415	416
5.0	395	396
7.5	363	360
10.0	302	304
12.5	263	262
15.0	242	237
17.5	231	230
20.0	229	226
22.5	225	220
25.0	245	235

**IES ROAD REPORT**  
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**CANDELA TABULATION - (Cont.)**

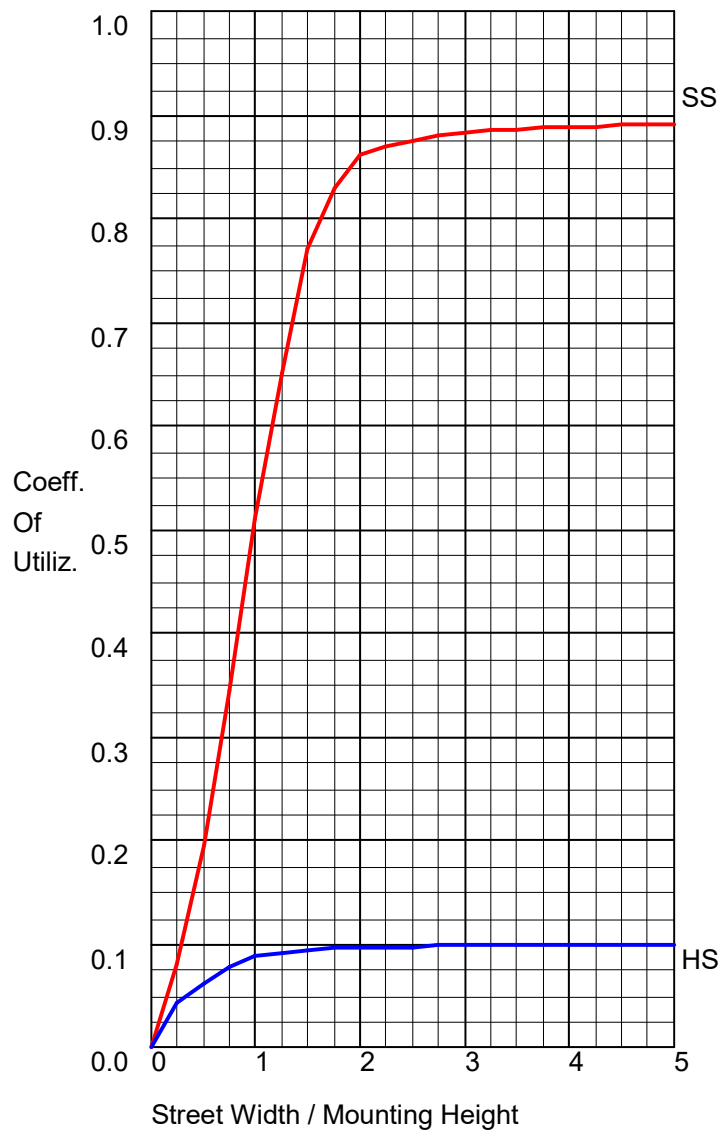
27.5	291	277
30.0	358	345
32.5	453	433
35.0	562	537
37.5	572	532
40.0	460	411
42.5	343	295
45.0	253	228
47.5	206	181
50.0	177	144
52.5	163	125
55.0	159	117
57.5	164	120
60.0	172	133
62.5	178	151
65.0	181	164
67.5	172	163
70.0	153	156
72.5	134	137
75.0	104	110
77.5	82	90
80.0	66	75
82.5	54	60
85.0	41	47
87.5	31	34
90.0	14	16
92.5	0	0
95.0	0	0
97.5	0	0
100.0	0	0
102.5	0	0
105.0	0	0
107.5	1	0
110.0	1	0
112.5	1	1
115.0	2	1
117.5	2	2
120.0	2	2
122.5	2	2
125.0	3	3
127.5	3	3
130.0	3	3
132.5	3	3
135.0	3	2
137.5	2	2
140.0	1	1
142.5	1	0
145.0	0	0
147.5	0	0
150.0	0	0
152.5	0	0
155.0	0	0
157.5	0	0
160.0	0	0
162.5	0	0
165.0	0	0

**IES ROAD REPORT**  
**PHOTOMETRIC FILENAME : ENM4-PT-3-LED-10L-40-IL.IES**

**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>	1	1

### COEFFICIENTS OF UTILIZATION

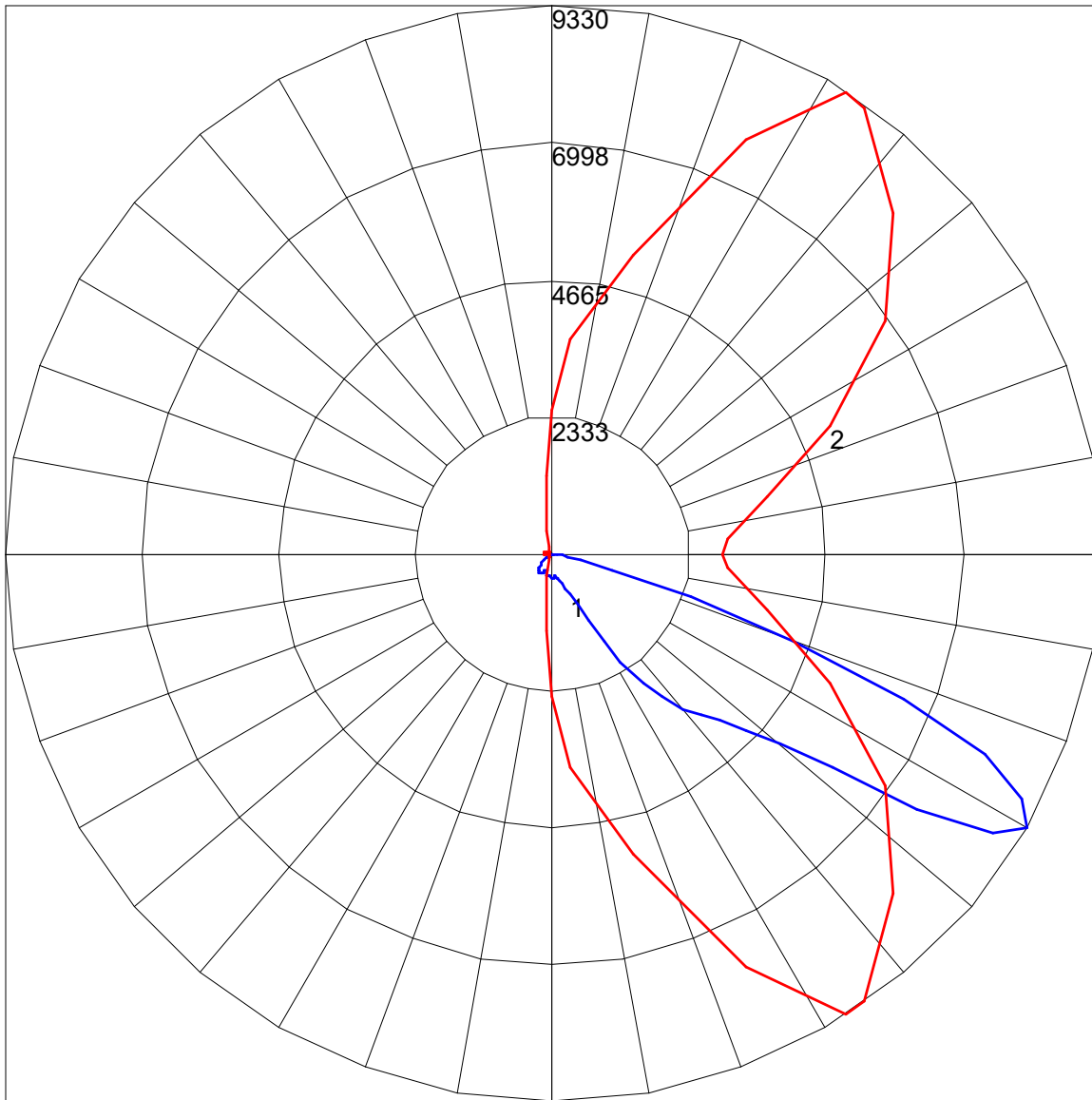


### FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	7631.7	89.6
Downward House Side	859.2	10.1
Downward Total	8490.9	99.7
Upward Street Side	10.0	0.1
Upward House Side	14.0	0.2
Upward Total	24.0	0.3
Total Flux	8514.9	100.0

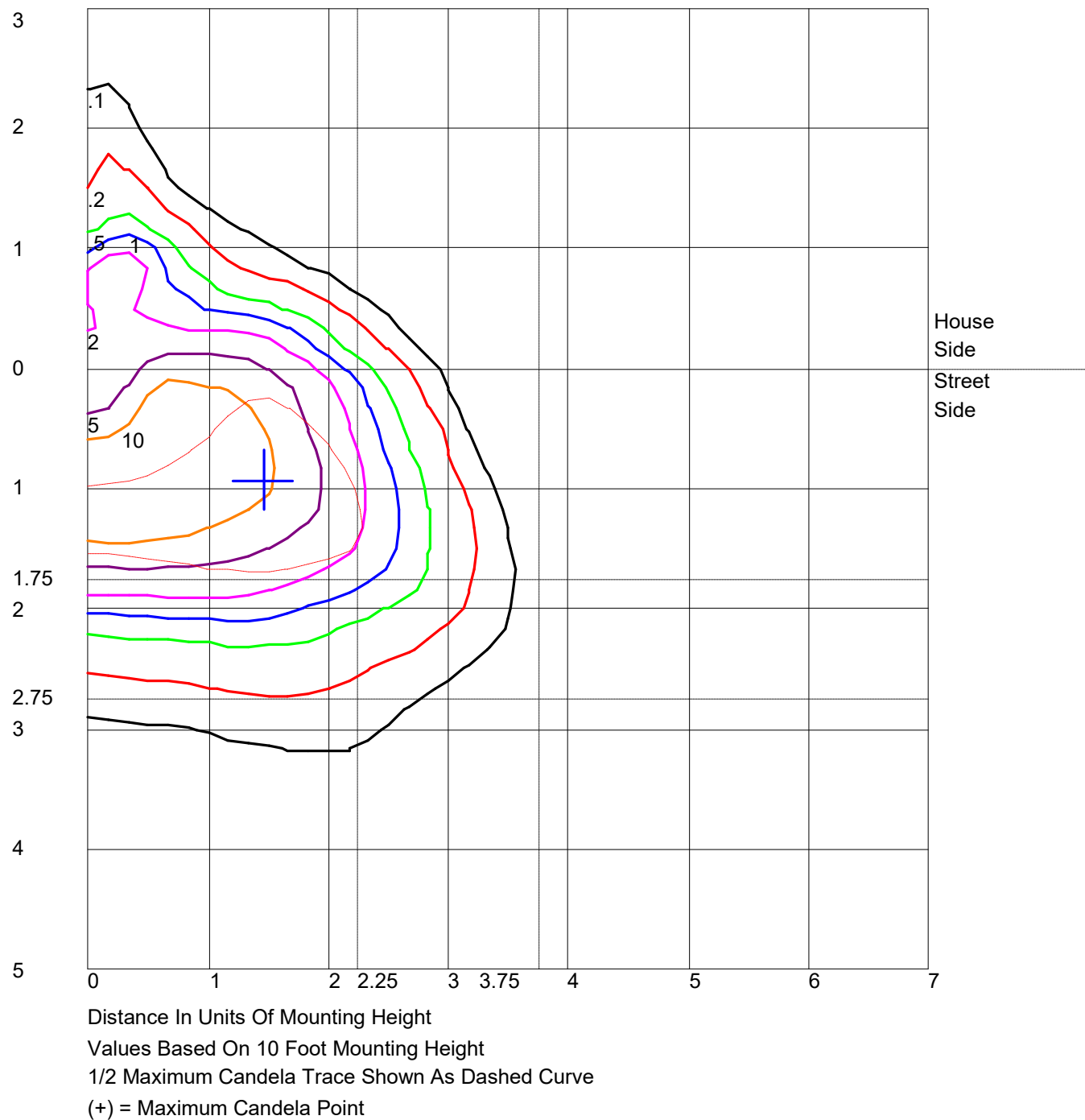


POLAR GRAPH

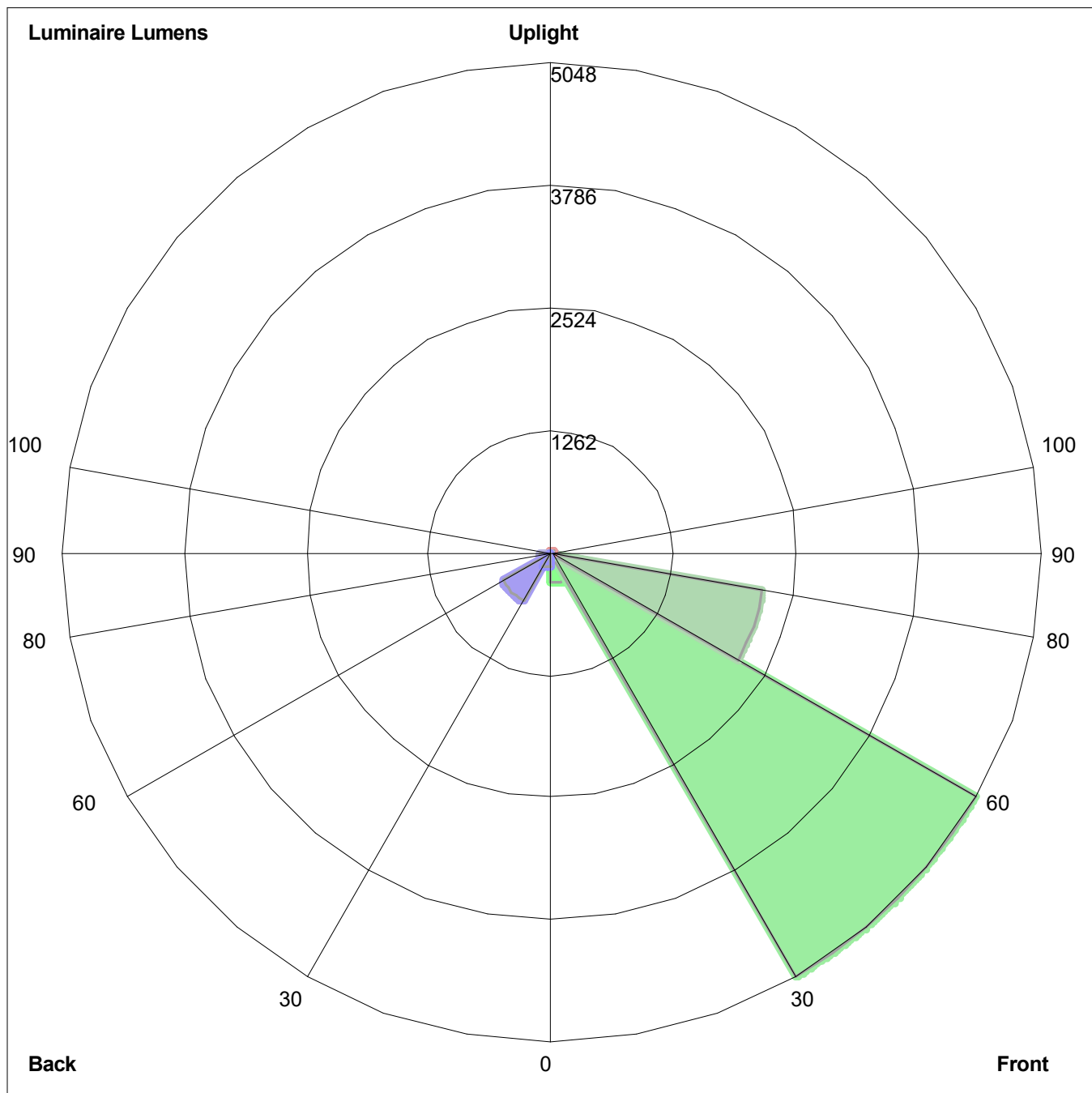


Maximum Candela = 9330 Located At Horizontal Angle = 57.5, Vertical Angle = 60  
# 1 - Vertical Plane Through Horizontal Angles (57.5 - 237.5) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (60) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:  
Front: Low=316.1, Medium=5048.4, High=2214.4, Very High=52.9  
Back: Low=153.4, Medium=579.3, High=114.0, Very High=12.6  
Uplight: Low=5.9, High=18.2

BUG Rating : B1-U2-G2