IES ROAD REPORT
PHOTOMETRIC FILENAME : MPP-LED-20L-SIL-FT-40-70CRI-IL.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] LED-12643
[TESTLAB] LSI INDUSTRIES, INC.
[ISSUEDATE] 03/30/21
[TESTDATE] 03/29/21
[MANUFAC] LSI INDUSTRIES, INC.
[LUMCAT] MPP-LED-20L-SIL-FT-40-70CRI-IL
[_ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[OTHER] SCALED FROM ORIGINAL TEST DATA
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Outdoor
[_SEARCH_COLORTEMP] 4000

CHARACTERISTICS

IES Classification	Type IV
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	10149
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	68
Total Luminaire Watts	149
Ballast Factor	1.00
Upward Waste Light Ratio	0.04
Maximum Candela	8109
Maximum Candela Angle	30H 67.5V
Maximum Candela (<90 Degrees Vertical)	8109
Maximum Candela Angle (<90 Degrees Vertical)	30H 67.5V
Maximum Candela At 90 Degrees Vertical	144 (1.4% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	1416 (14.0% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	825.4	N.A.	8.1
FM - Front-Medium (30-60)	4075.6	N.A.	40.2
FH - Front-High (60-80)	3812.8	N.A.	37.6
FVH - Front-Very High (80-90)	162.9	N.A.	1.6
BL - Back-Low (0-30)	174.2	N.A.	1.7
BM - Back-Medium (30-60)	379.4	N.A.	3.7
BH - Back-High (60-80)	210.5	N.A.	2.1
BVH - Back-Very High (80-90)	68.5	N.A.	0.7
UL - Uplight-Low (90-100)	119.7	N.A.	1.2
UH - Uplight-High (100-180)	319.6	N.A.	3.1
Total	10148.6	N.A.	100.0
BUG Rating	B1-U3-G2		

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CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	5	15	25	30	35	45	55	65	75
0.0	774	774	774	774	774	774	774	774	774	774
2.5	908	906	879	875	874	876	864	844	822	802
5.0	1002	997	969	1002	996	1013	1034	997	943	882
7.5	1375	1340	1326	1310	1281	1240	1152	1056	1024	960
10.0	1468	1451	1447	1482	1460	1470	1407	1308	1121	1071
12.5	1625	1569	1624	1641	1621	1595	1540	1492	1350	1157
15.0	1657	1636	1633	1657	1681	1726	1752	1657	1620	1320
17.5	1856	1802	1855	1866	1864	1826	1855	1891	1818	1575
20.0	2080	2070	2080	2030	2045	2072	2004	2056	2027	1763
22.5	2250	2250	2306	2326	2283	2227	2273	2197	2213	2008
25.0	2472	2495	2549	2462	2488	2546	2431	2365	2393	2168
27.5	2585	2592	2600	2699	2733	2686	2718	2578	2483	2374
30.0	2574	2618	2704	2765	2779	2902	2890	2782	2576	2579
32.5	2463	2474	2599	2842	2951	3023	3139	2972	2755	2696
35.0	2377	2370	2476	2739	2887	3105	3354	3145	2890	2739
37.5	2295	2299	2397	2644	2804	3041	3561	3421	3095	2757
40.0	2293	2295	2391	2628	2781	2998	3605	3655	3337	2821
42.5	2447	2428	2519	2712	2829	3028	3633	3993	3469	2997
45.0	2751	2742	2806	2946	2996	3157	3675	4193	3666	3167
47.5	3215	3207	3277	3363	3332	3426	3789	4349	4016	3409
50.0	3756	3726	3820	3956	3852	3840	3977	4475	4344	3789
52.5	4015	4022	4205	4498	4423	4352	4189	4602	4541	3912
55.0	4130	4135	4350	4799	4846	4791	4428	4565	4446	4066
57.5	4780	4753	4738	4960	5014	5019	4687	4309	4311	4241
60.0	6043	6098	5906	5621	5397	5112	4589	3913	4030	4497
62.5	6861	6951	7022	7046	6639	5868	4134	3529	3582	4582
65.0	7010	7132	7352	7863	7799	7334	4295	3091	2947	4251
67.5	6635	6721	7088	7918	8109	8033	6125	2545	2243	3398
70.0	5107	5150	5956	7000	7428	7753	6966	3012	1595	2362
72.5	1995	2235	3285	5008	6181	7140	6434	4156	1036	1259
75.0	710	774	1320	2153	2896	4287	6112	3677	719	598
77.5	523	541	703	1154	1400	1927	3057	2298	675	318
80.0	367	377	441	636	750	980	1364	1416	719	245
82.5	203	213	239	293	343	437	674	706	481	293
85.0	109	119	136	167	201	257	381	480	338	245
87.5	61	66	86	115	135	144	196	235	198	161
90.0	42	46	64	79	86	92	117	137	130	133
92.5	47	47	65	78	84	91	103	107	115	127
95.0	53	50	66	80	86	93	106	109	118	121
97.5	57	52	68	81	87	94	106	109	115	101
100.0	60	54	70	83	87	94	105	106	106	83
102.5	62	58	70	83	88	94	103	100	91	70
105.0	65	61	70	85	89	95	100	90	77	66
107.5	66	65	70	87	90	94	94	78	66	62
110.0	68	67	71	87	91	92	85	68	61	61
112.5	69	69	72	87	88	87	76	63	57	60
115.0	70	70	72	84	84	80	69	60	54	59
117.5	72	72	72	79	78	75	66	58	53	58
120.0	73	73	70	74	72	70	63	57	53	58
122.5	73	72	68	69	69	67	62	57	54	57
125.0	71	70	66	66	67	66	62	57	54	56
127.5	69	68	65	65	66	65	62	58	55	57
130.0	67	67	65	63	64	64	63	59	57	58

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CANDELA TABULATION - (Cont.)

132.5	67	66	65	63	64	65	62	58	58	60
135.0	67	67	66	63	62	62	57	54	57	62
137.5	66	66	63	58	55	53	48	48	53	60
140.0	59	58	54	49	46	42	38	40	46	54
142.5	49	48	44	38	34	30	29	31	37	45
145.0	38	36	32	26	23	21	21	22	27	34
147.5	24	24	22	18	17	14	10	14	19	24
150.0	18	18	15	10	7	5	5	6	11	15
152.5	7	6	5	3	3	2	2	4	6	9
155.0	2	2	2	2	2	2	2	3	4	6
157.5	0	1	2	2	2	2	2	2	3	4
160.0	0	1	2	2	2	2	2	2	3	3
162.5	0	1	2	2	2	2	2	2	3	3
165.0	0	1	2	2	2	2	2	2	2	3
167.5	0	1	2	2	2	2	2	2	3	3
170.0	0	1	2	2	2	2	2	2	3	3
172.5	0	1	2	2	2	2	2	2	2	3
175.0	1	1	2	2	2	2	2	2	2	3
177.5	1	1	2	2	2	2	2	2	2	3
180.0	2	2	2	2	2	2	2	2	2	2

Vert. Angles	**Horizontal Angles**									
	85	**90**	**95**	**105**	**115**	**125**	**135**	**145**	**155**	**165**
0.0	774	774	774	774	774	774	774	774	774	774
2.5	787	787	779	765	742	713	691	685	679	672
5.0	824	803	780	720	676	685	677	650	633	616
7.5	867	828	792	703	689	645	598	547	493	437
10.0	935	877	806	739	663	586	456	346	300	257
12.5	1069	981	861	793	658	453	326	242	206	195
15.0	1174	1064	944	834	597	362	228	191	183	179
17.5	1319	1178	1033	853	517	269	187	176	174	169
20.0	1466	1275	1137	852	429	203	179	167	164	165
22.5	1589	1455	1232	846	323	186	171	159	157	154
25.0	1758	1517	1306	806	234	181	165	151	147	148
27.5	1915	1625	1412	742	200	175	160	143	138	135
30.0	1967	1723	1444	620	195	168	152	136	127	129
32.5	2116	1775	1488	523	190	163	145	127	128	135
35.0	2189	1849	1518	440	187	158	135	127	139	151
37.5	2262	1971	1524	339	180	151	128	137	151	155
40.0	2351	2033	1532	265	174	144	131	152	155	134
42.5	2536	2069	1559	226	167	137	145	160	129	97
45.0	2619	2193	1549	211	159	143	164	142	103	81
47.5	2722	2221	1558	212	156	155	167	116	93	76
50.0	2910	2255	1493	234	191	170	147	106	91	79
52.5	2956	2359	1458	199	199	219	131	103	104	139
55.0	3126	2467	1372	178	151	216	153	123	190	236
57.5	3373	2576	1375	167	144	143	191	204	254	219
60.0	3678	2873	1416	159	143	127	187	252	186	91
62.5	3868	2945	1370	150	139	123	194	195	114	91
65.0	3917	2847	1178	145	132	151	169	124	119	98
67.5	3514	2401	894	142	123	153	120	124	119	99
70.0	2636	1565	489	135	129	137	126	133	114	100
72.5	1326	723	238	131	127	135	127	119	115	103
75.0	581	377	177	131	136	132	124	121	116	110
77.5	386	265	153	129	135	123	128	123	119	114

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CANDELA TABULATION - (Cont.)

80.0	282	219	139	137	131	124	131	125	119	115
82.5	214	173	125	146	136	127	136	129	123	118
85.0	171	122	122	154	141	133	141	132	126	121
87.5	132	88	118	151	143	135	146	138	129	122
90.0	101	71	123	144	140	129	144	140	135	125
92.5	86	86	122	145	143	130	146	144	139	130
95.0	87	111	115	143	142	126	144	146	143	135
97.5	91	117	111	132	132	118	136	139	139	134
100.0	96	111	107	116	123	111	128	131	134	127
102.5	93	103	100	103	115	108	122	126	129	119
105.0	87	95	95	94	107	107	118	122	125	111
107.5	81	89	90	88	100	106	116	120	122	103
110.0	77	83	85	84	94	103	114	119	119	95
112.5	73	79	81	82	88	99	112	118	115	88
115.0	70	75	77	80	85	97	109	116	111	83
117.5	66	71	74	79	83	95	106	113	105	78
120.0	64	69	71	77	80	93	103	109	97	75
122.5	62	66	69	75	80	91	100	103	90	74
125.0	61	64	67	74	79	89	97	96	82	72
127.5	61	63	67	74	79	88	93	90	75	71
130.0	62	64	67	74	79	87	88	83	70	70
132.5	62	65	68	74	77	83	84	77	67	68
135.0	65	67	70	75	75	74	76	72	66	67
137.5	66	68	70	71	69	63	62	62	65	66
140.0	61	62	64	63	58	52	48	49	55	62
142.5	51	53	54	52	46	40	34	37	44	50
145.0	39	41	41	39	34	29	24	26	32	38
147.5	27	28	28	27	23	18	16	18	22	27
150.0	17	18	18	17	14	9	8	11	14	18
152.5	10	10	10	10	8	6	4	5	9	12
155.0	6	6	6	6	5	4	2	3	3	5
157.5	4	4	4	4	4	3	2	2	2	2
160.0	3	3	3	4	3	3	2	2	2	2
162.5	3	3	3	3	3	2	2	2	2	2
165.0	3	3	3	3	3	2	2	2	2	1
167.5	3	3	3	3	3	2	2	2	2	1
170.0	3	3	3	3	3	2	2	2	2	1
172.5	3	3	3	3	3	2	2	2	1	1
175.0	3	3	3	3	3	2	2	2	1	0
177.5	3	3	3	3	3	2	2	1	1	0
180.0	2	2	2	2	2	2	2	2	2	2

Vert. Angles	**Horizontal Angles**	
	175	**180**
0.0	774	774
2.5	671	672
5.0	608	614
7.5	414	418
10.0	239	242
12.5	187	184
15.0	178	178
17.5	167	166
20.0	163	163
22.5	151	151
25.0	143	143

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CANDELA TABULATION - (Cont.)

27.5	131	132
30.0	129	128
32.5	140	139
35.0	155	155
37.5	155	154
40.0	122	118
42.5	91	88
45.0	79	78
47.5	75	75
50.0	82	82
52.5	170	183
55.0	246	253
57.5	151	150
60.0	73	79
62.5	71	75
65.0	72	75
67.5	69	68
70.0	68	63
72.5	68	58
75.0	68	52
77.5	71	48
80.0	74	44
82.5	76	42
85.0	75	42
87.5	77	43
90.0	79	48
92.5	83	58
95.0	87	71
97.5	88	81
100.0	86	87
102.5	83	90
105.0	80	89
107.5	79	87
110.0	79	86
112.5	79	84
115.0	80	83
117.5	79	81
120.0	79	80
122.5	79	79
125.0	78	78
127.5	76	76
130.0	74	74
132.5	71	71
135.0	69	70
137.5	68	68
140.0	66	66
142.5	54	54
145.0	42	42
147.5	30	30
150.0	19	20
152.5	13	13
155.0	6	6
157.5	2	2
160.0	1	0
162.5	1	0
165.0	0	0

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CANDELA TABULATION - (Cont.)

167.5	0	0
170.0	0	0
172.5	0	0
175.0	0	0
177.5	0	0
180.0	2	2

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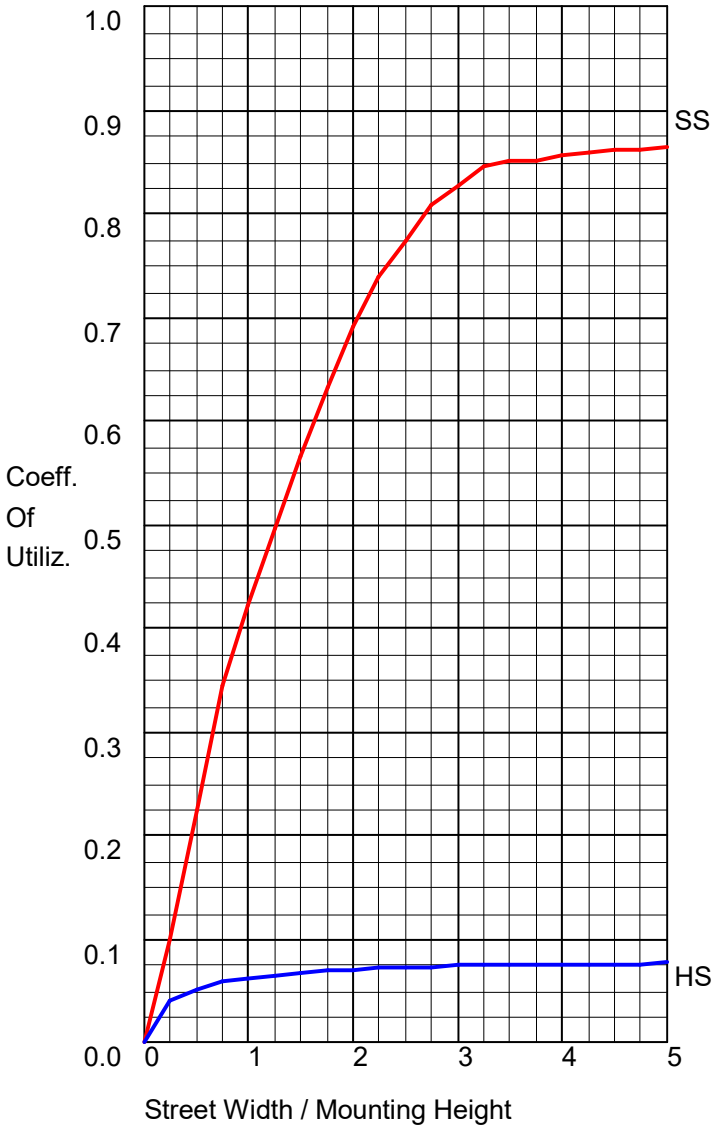
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	8876.7	87.5
Downward House Side	832.6	8.2
Downward Total	9709.3	95.7
Upward Street Side	190.0	1.9
Upward House Side	249.3	2.5
Upward Total	439.3	4.3
Total Flux	10148.6	100.0

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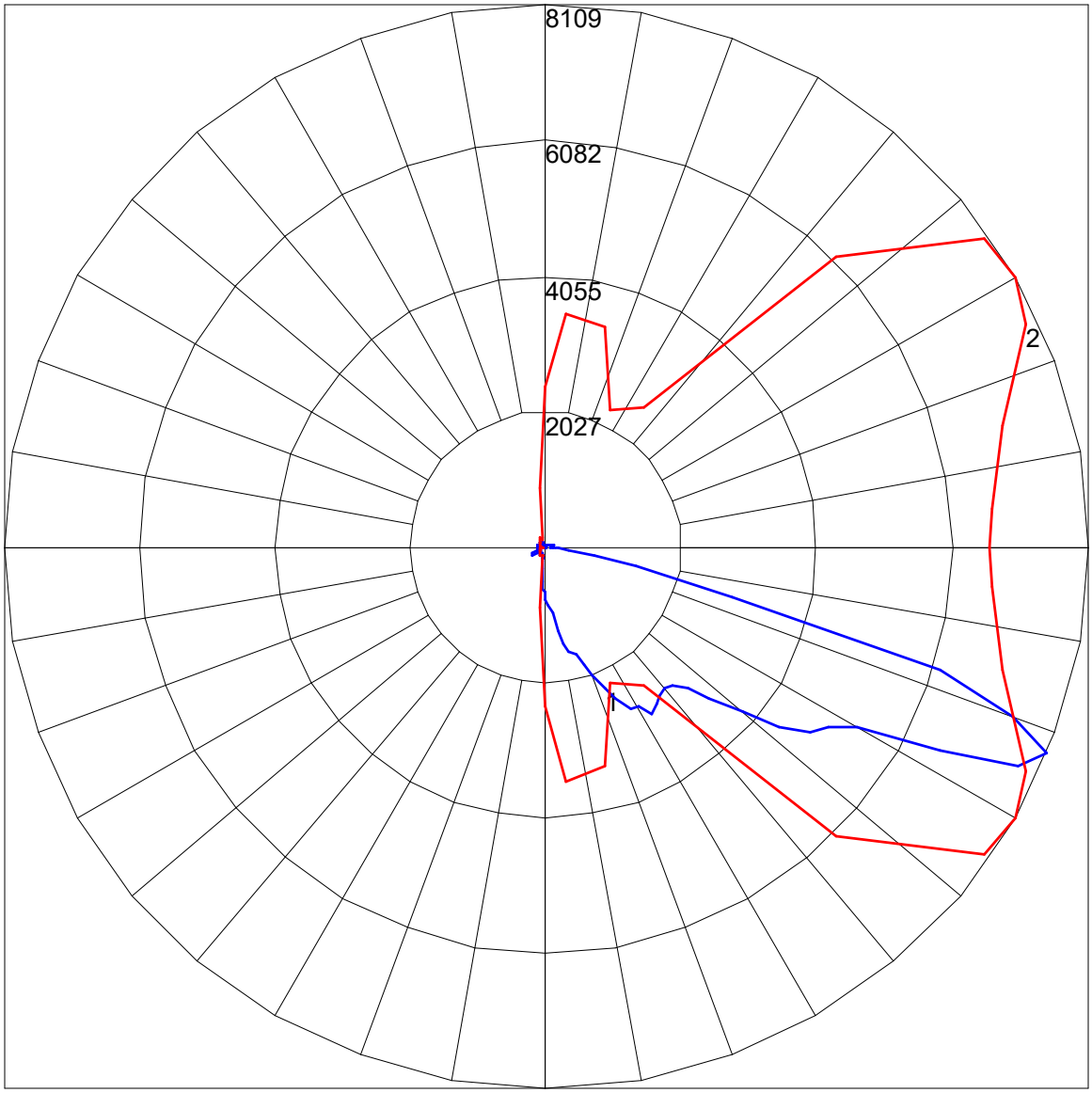
POLAR GRAPH



Maximum Candela = 8109 Located At Horizontal Angle = 30, Vertical Angle = 67.5
1 - Vertical Plane Through Horizontal Angles (30 - 210) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)

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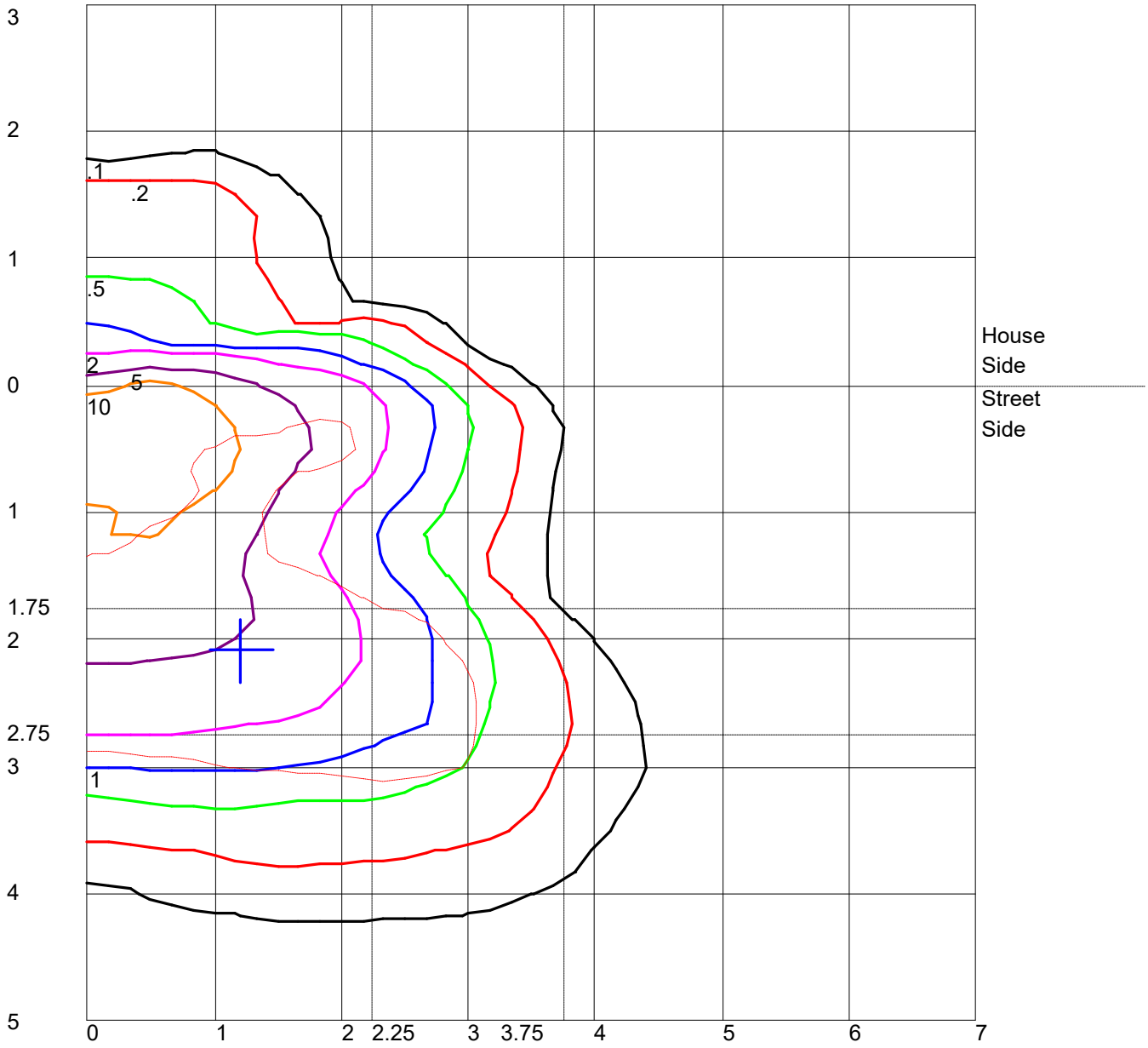
ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On 10 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

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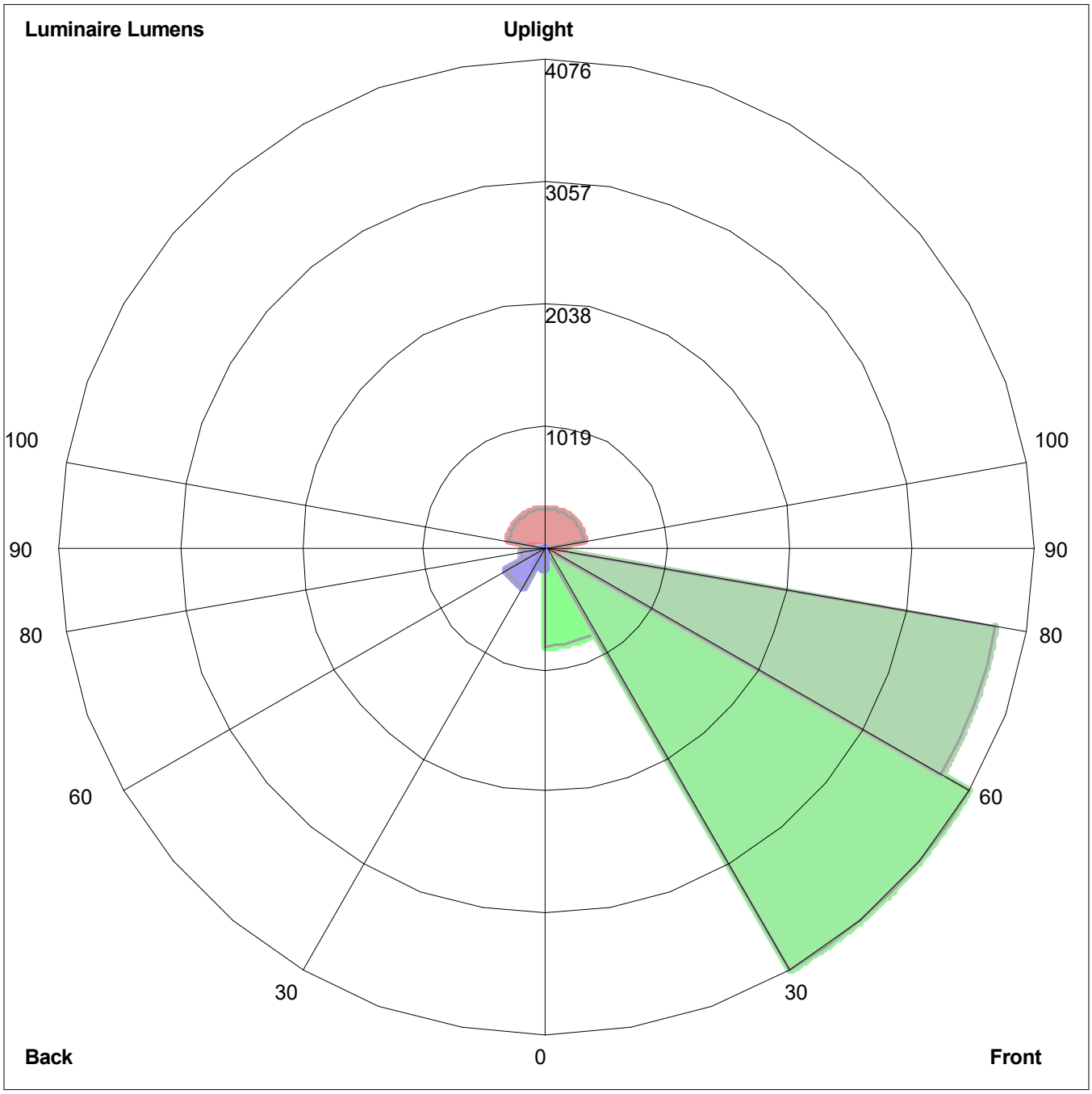
LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=825.4, Medium=4075.6, High=3812.8, Very High=162.9
Back: Low=174.2, Medium=379.4, High=210.5, Very High=68.5
Uplight: Low=119.7, High=319.6

BUG Rating : B1-U3-G2

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