



IES ROAD REPORT

PHOTOMETRIC FILENAME : TLWP-LED-11L-40.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] 3835

[TESTLAB] TUV SUD America

[TESTDATE] 2/3/2020 3:10:30 PM

[ISSUEDATE] 2/24/2020

[MANUFAC] LSI INDUSTRIES, INC

[LUMCAT] TLWP-LED-11L-40

[OTHER] TEST PROCEDURE: IESNA

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

[SEARCH_SOURCETYPE] LED

[SEARCH_APPLICATION] Outdoor

CHARACTERISTICS

IES Classification	Type IV
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	10398
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	133
Total Luminaire Watts	78.34
Ballast Factor	1.00
Upward Waste Light Ratio	0.23
Maximum Candela	3369.75
Maximum Candela Angle	360H 57.5V
Maximum Candela (<90 Degrees Vertical)	3369.75
Maximum Candela Angle (<90 Degrees Vertical)	360H 57.5V
Maximum Candela At 90 Degrees Vertical	2614.57 (25.1% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	2986.27 (28.7% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	896.5	N.A.	8.6
FM - Front-Medium (30-60)	2643.2	N.A.	25.4
FH - Front-High (60-80)	2142.2	N.A.	20.6
FVH - Front-Very High (80-90)	942.0	N.A.	9.1
BL - Back-Low (0-30)	501.9	N.A.	4.8
BM - Back-Medium (30-60)	641.6	N.A.	6.2
BH - Back-High (60-80)	158.5	N.A.	1.5
BVH - Back-Very High (80-90)	30.3	N.A.	0.3
UL - Uplight-Low (90-100)	794.9	N.A.	7.6
UH - Uplight-High (100-180)	1646.7	N.A.	15.8
Total	10397.8	N.A.	100.0
BUG Rating	B2-U5-G5		

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CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0.0	1777.50	1777.50	1777.50	1777.50	1777.50	1777.50	1777.50	1777.50	1777.50	1777.50
2.5	1909.02	1866.40	1841.98	1808.85	1769.42	1728.45	1694.99	1671.28	1696.59	1671.28
5.0	2006.76	1956.14	1909.88	1843.27	1762.63	1679.93	1610.76	1564.52	1580.33	1564.52
7.5	2095.74	2041.58	1973.33	1873.32	1752.90	1628.72	1526.37	1455.33	1461.65	1455.33
10.0	2176.58	2117.00	2030.78	1898.36	1739.28	1574.32	1436.08	1351.82	1350.60	1351.82
12.5	2250.83	2182.89	2081.91	1920.13	1720.62	1517.40	1352.08	1261.64	1255.54	1261.64
15.0	2331.09	2246.55	2123.85	1934.87	1698.76	1457.09	1277.22	1171.07	1160.17	1171.07
17.5	2406.39	2313.94	2158.30	1943.90	1671.85	1391.98	1200.79	1080.36	1061.66	1080.36
20.0	2479.45	2375.07	2191.96	1948.24	1641.16	1325.61	1124.38	988.98	958.01	988.98
22.5	2553.59	2437.36	2226.66	1947.17	1608.92	1266.46	1047.94	896.90	862.18	896.90
25.0	2629.58	2500.24	2254.66	1940.60	1573.30	1208.62	970.86	811.70	774.57	811.70
27.5	2699.01	2560.21	2278.73	1929.03	1535.65	1149.76	893.30	732.58	699.54	732.58
30.0	2760.22	2612.35	2300.18	1914.00	1494.75	1090.05	824.48	667.16	635.01	667.16
32.5	2822.23	2659.08	2319.25	1894.64	1452.30	1031.34	757.26	608.26	575.78	608.26
35.0	2891.55	2703.86	2335.52	1877.22	1406.64	969.04	693.09	550.12	517.36	550.12
37.5	2955.83	2755.66	2347.36	1857.90	1358.69	906.91	633.63	493.98	457.13	493.98
40.0	3021.19	2809.34	2356.52	1831.68	1308.70	849.34	579.19	437.96	405.62	437.96
42.5	3089.95	2859.48	2363.73	1800.76	1256.62	791.86	526.07	388.40	356.39	388.40
45.0	3162.00	2909.36	2373.88	1766.69	1201.57	735.64	473.28	341.45	308.53	341.45
47.5	3229.27	2960.90	2385.98	1731.20	1145.24	679.58	424.24	296.41	267.30	296.41
50.0	3290.74	3012.00	2398.33	1694.86	1087.52	624.05	376.96	252.09	226.06	252.09
52.5	3332.86	3056.01	2409.15	1658.66	1026.86	568.99	332.31	209.08	184.46	209.08
55.0	3361.53	3082.35	2415.11	1620.28	962.42	517.43	288.55	167.26	145.71	167.26
57.5	3369.75	3091.70	2412.88	1582.24	894.97	465.94	246.54	128.56	108.89	128.56
60.0	3357.39	3083.98	2401.62	1542.81	830.62	414.19	205.52	91.86	75.52	91.86
62.5	3327.20	3057.70	2378.68	1504.15	764.08	363.50	165.97	57.20	45.69	57.20
65.0	3278.82	3015.10	2344.72	1463.08	697.00	315.27	128.82	26.98	16.98	26.98
67.5	3222.38	2963.36	2302.97	1417.50	629.35	269.96	94.00	5.40	0.77	5.40
70.0	3169.95	2908.50	2255.48	1364.78	559.82	227.17	63.04	0.76	0.82	0.76
72.5	3124.07	2857.46	2204.80	1308.70	491.08	187.59	43.58	0.70	0.96	0.70
75.0	3086.43	2811.04	2151.00	1250.40	422.47	152.96	36.84	0.71	0.88	0.71
77.5	3041.97	2761.60	2092.75	1187.88	357.74	125.28	33.43	0.78	0.86	0.78
80.0	2986.27	2702.80	2026.79	1126.47	296.83	106.75	30.67	0.70	1.27	0.70
82.5	2911.75	2627.62	1951.48	1061.86	242.54	95.25	28.42	1.01	1.31	1.01
85.0	2821.86	2541.96	1868.78	996.94	197.62	88.24	26.48	1.02	1.74	1.02
87.5	2723.05	2448.66	1785.32	927.36	166.68	83.56	24.51	1.07	1.60	1.07
90.0	2614.57	2347.57	1698.20	861.04	150.61	78.89	22.66	1.06	1.85	1.06
92.5	2502.39	2243.90	1611.38	797.90	142.83	74.58	21.14	1.15	2.14	1.15
95.0	2383.31	2137.00	1524.96	742.33	137.01	70.58	19.55	1.22	2.05	1.22
97.5	2262.33	2025.29	1436.20	695.58	131.68	66.55	18.16	0.98	1.95	0.98
100.0	2133.18	1911.60	1353.52	654.01	126.44	62.88	16.49	1.05	1.78	1.05
102.5	2008.89	1795.76	1276.40	613.28	121.36	59.34	14.84	0.98	1.92	0.98
105.0	1894.20	1694.95	1204.00	574.78	116.33	55.92	13.33	0.88	1.90	0.88
107.5	1777.71	1593.64	1131.47	537.50	110.88	52.44	11.90	0.98	1.75	0.98
110.0	1661.74	1492.48	1059.32	501.72	104.86	48.88	10.46	0.86	1.71	0.86
112.5	1540.67	1391.54	988.60	468.60	98.70	45.77	9.16	0.99	1.48	0.99
115.0	1424.49	1288.72	914.22	436.16	92.19	42.45	7.80	0.93	1.78	0.93
117.5	1310.14	1190.01	847.11	406.80	85.58	39.16	6.82	1.36	2.18	1.36
120.0	1207.88	1097.33	783.29	377.76	78.54	36.08	6.08	1.60	2.54	1.60
122.5	1110.17	1012.10	725.11	348.02	71.81	32.78	5.37	2.10	3.10	2.10
125.0	1013.53	925.53	670.13	318.26	65.38	29.60	4.52	2.58	3.34	2.58
127.5	923.44	849.04	619.24	288.05	58.99	26.85	4.00	2.79	3.72	2.79
130.0	843.53	777.48	570.36	259.62	52.90	23.80	3.52	3.14	4.07	3.14

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CANDELA TABULATION - (Cont.)

132.5	771.47	710.91	524.86	233.30	46.75	21.04	3.42	3.60	4.10	3.60
135.0	705.88	653.44	480.11	211.16	39.73	18.26	3.34	3.86	4.47	3.86
137.5	645.88	599.16	435.16	190.58	32.16	15.40	3.53	4.34	4.69	4.34
140.0	586.94	543.89	397.54	167.82	25.20	12.84	3.84	4.42	4.63	4.42
142.5	527.75	494.29	366.82	145.90	21.64	10.30	3.92	4.46	4.81	4.46
145.0	486.69	456.66	333.60	123.56	18.60	8.28	4.37	5.06	5.54	5.06
147.5	452.43	421.02	297.07	97.08	15.84	6.39	4.84	5.43	5.76	5.43
150.0	409.17	376.26	261.48	64.00	13.46	5.23	5.06	5.52	5.87	5.52
152.5	360.84	331.42	225.51	31.24	11.02	4.49	5.03	5.45	5.53	5.45
155.0	313.64	288.60	188.32	14.72	8.96	4.57	4.90	5.42	5.38	5.42
157.5	266.43	242.48	147.42	10.28	6.84	4.74	4.98	5.40	5.47	5.40
160.0	213.76	192.65	102.97	6.89	5.34	4.76	5.22	5.38	5.55	5.38
162.5	158.64	141.52	51.06	4.82	4.62	5.03	5.22	5.68	5.61	5.68
165.0	99.76	86.18	9.70	4.52	4.75	5.08	5.32	5.63	5.52	5.63
167.5	27.65	23.18	4.72	4.87	4.79	5.11	5.22	5.52	5.43	5.52
170.0	4.48	4.62	4.67	4.96	5.15	5.38	5.52	5.66	5.62	5.66
172.5	4.92	4.82	4.89	5.12	5.20	5.44	5.38	5.63	5.65	5.63
175.0	4.77	5.01	5.16	5.44	5.38	5.55	5.64	5.51	5.48	5.51
177.5	5.06	5.12	5.26	5.40	5.46	5.40	5.63	5.32	5.37	5.32
180.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

Vert. Angles **Horizontal Angles**

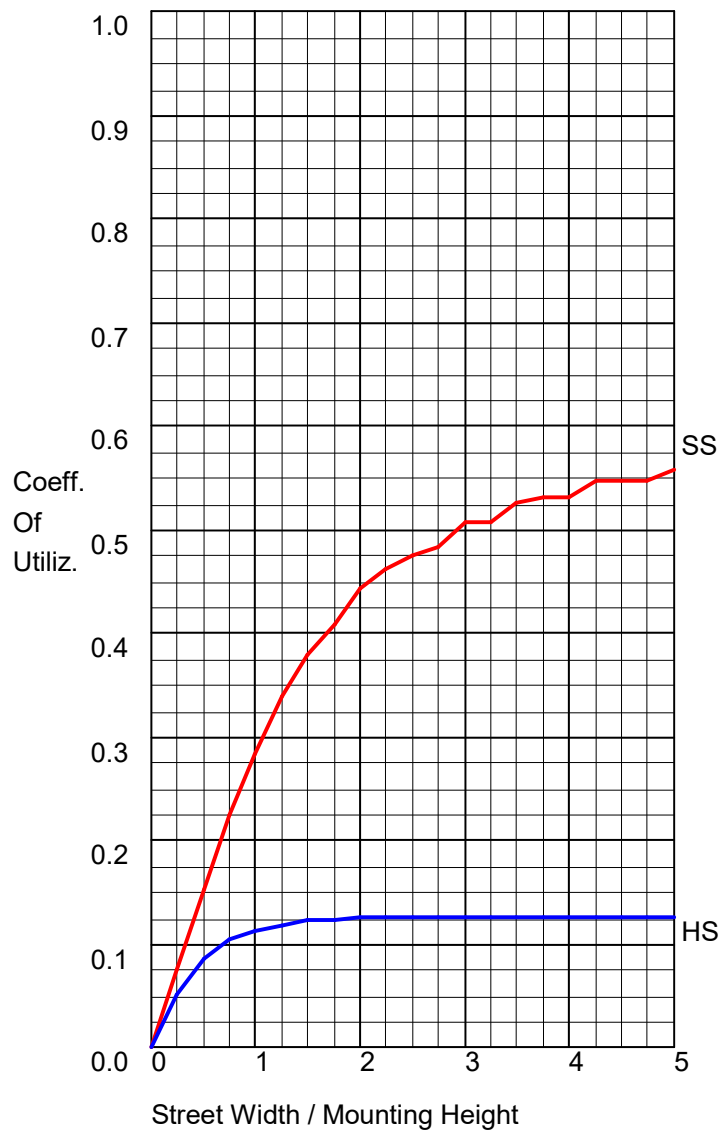
	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	1777.50	1777.50	1777.50	1777.50	1777.50	1777.50	1777.50
2.5	1694.99	1728.45	1769.42	1808.85	1841.98	1866.40	1909.02
5.0	1610.76	1679.93	1762.63	1843.27	1909.88	1956.14	2006.76
7.5	1526.37	1628.72	1752.90	1873.32	1973.33	2041.58	2095.74
10.0	1436.08	1574.32	1739.28	1898.36	2030.78	2117.00	2176.58
12.5	1352.08	1517.40	1720.62	1920.13	2081.91	2182.89	2250.83
15.0	1277.22	1457.09	1698.76	1934.87	2123.85	2246.55	2331.09
17.5	1200.79	1391.98	1671.85	1943.90	2158.30	2313.94	2406.39
20.0	1124.38	1325.61	1641.16	1948.24	2191.96	2375.07	2479.45
22.5	1047.94	1266.46	1608.92	1947.17	2226.66	2437.36	2553.59
25.0	970.86	1208.62	1573.30	1940.60	2254.66	2500.24	2629.58
27.5	893.30	1149.76	1535.65	1929.03	2278.73	2560.21	2699.01
30.0	824.48	1090.05	1494.75	1914.00	2300.18	2612.35	2760.22
32.5	757.26	1031.34	1452.30	1894.64	2319.25	2659.08	2822.23
35.0	693.09	969.04	1406.64	1877.22	2335.52	2703.86	2891.55
37.5	633.63	906.91	1358.69	1857.90	2347.36	2755.66	2955.83
40.0	579.19	849.34	1308.70	1831.68	2356.52	2809.34	3021.19
42.5	526.07	791.86	1256.62	1800.76	2363.73	2859.48	3089.95
45.0	473.28	735.64	1201.57	1766.69	2373.88	2909.36	3162.00
47.5	424.24	679.58	1145.24	1731.20	2385.98	2960.90	3229.27
50.0	376.96	624.05	1087.52	1694.86	2398.33	3012.00	3290.74
52.5	332.31	568.99	1026.86	1658.66	2409.15	3056.01	3332.86
55.0	288.55	517.43	962.42	1620.28	2415.11	3082.35	3361.53
57.5	246.54	465.94	894.97	1582.24	2412.88	3091.70	3369.75
60.0	205.52	414.19	830.62	1542.81	2401.62	3083.98	3357.39
62.5	165.97	363.50	764.08	1504.15	2378.68	3057.70	3327.20
65.0	128.82	315.27	697.00	1463.08	2344.72	3015.10	3278.82
67.5	94.00	269.96	629.35	1417.50	2302.97	2963.36	3222.38
70.0	63.04	227.17	559.82	1364.78	2255.48	2908.50	3169.95
72.5	43.58	187.59	491.08	1308.70	2204.80	2857.46	3124.07
75.0	36.84	152.96	422.47	1250.40	2151.00	2811.04	3086.43
77.5	33.43	125.28	357.74	1187.88	2092.75	2761.60	3041.97

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CANDELA TABULATION - (Cont.)

80.0	30.67	106.75	296.83	1126.47	2026.79	2702.80	2986.27
82.5	28.42	95.25	242.54	1061.86	1951.48	2627.62	2911.75
85.0	26.48	88.24	197.62	996.94	1868.78	2541.96	2821.86
87.5	24.51	83.56	166.68	927.36	1785.32	2448.66	2723.05
90.0	22.66	78.89	150.61	861.04	1698.20	2347.57	2614.57
92.5	21.14	74.58	142.83	797.90	1611.38	2243.90	2502.39
95.0	19.55	70.58	137.01	742.33	1524.96	2137.00	2383.31
97.5	18.16	66.55	131.68	695.58	1436.20	2025.29	2262.33
100.0	16.49	62.88	126.44	654.01	1353.52	1911.60	2133.18
102.5	14.84	59.34	121.36	613.28	1276.40	1795.76	2008.89
105.0	13.33	55.92	116.33	574.78	1204.00	1694.95	1894.20
107.5	11.90	52.44	110.88	537.50	1131.47	1593.64	1777.71
110.0	10.46	48.88	104.86	501.72	1059.32	1492.48	1661.74
112.5	9.16	45.77	98.70	468.60	988.60	1391.54	1540.67
115.0	7.80	42.45	92.19	436.16	914.22	1288.72	1424.49
117.5	6.82	39.16	85.58	406.80	847.11	1190.01	1310.14
120.0	6.08	36.08	78.54	377.76	783.29	1097.33	1207.88
122.5	5.37	32.78	71.81	348.02	725.11	1012.10	1110.17
125.0	4.52	29.60	65.38	318.26	670.13	925.53	1013.53
127.5	4.00	26.85	58.99	288.05	619.24	849.04	923.44
130.0	3.52	23.80	52.90	259.62	570.36	777.48	843.53
132.5	3.42	21.04	46.75	233.30	524.86	710.91	771.47
135.0	3.34	18.26	39.73	211.16	480.11	653.44	705.88
137.5	3.53	15.40	32.16	190.58	435.16	599.16	645.88
140.0	3.84	12.84	25.20	167.82	397.54	543.89	586.94
142.5	3.92	10.30	21.64	145.90	366.82	494.29	527.75
145.0	4.37	8.28	18.60	123.56	333.60	456.66	486.69
147.5	4.84	6.39	15.84	97.08	297.07	421.02	452.43
150.0	5.06	5.23	13.46	64.00	261.48	376.26	409.17
152.5	5.03	4.49	11.02	31.24	225.51	331.42	360.84
155.0	4.90	4.57	8.96	14.72	188.32	288.60	313.64
157.5	4.98	4.74	6.84	10.28	147.42	242.48	266.43
160.0	5.22	4.76	5.34	6.89	102.97	192.65	213.76
162.5	5.22	5.03	4.62	4.82	51.06	141.52	158.64
165.0	5.32	5.08	4.75	4.52	9.70	86.18	99.76
167.5	5.22	5.11	4.79	4.87	4.72	23.18	27.65
170.0	5.52	5.38	5.15	4.96	4.67	4.62	4.48
172.5	5.38	5.44	5.20	5.12	4.89	4.82	4.92
175.0	5.64	5.55	5.38	5.44	5.16	5.01	4.77
177.5	5.63	5.40	5.46	5.40	5.26	5.12	5.06
180.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00

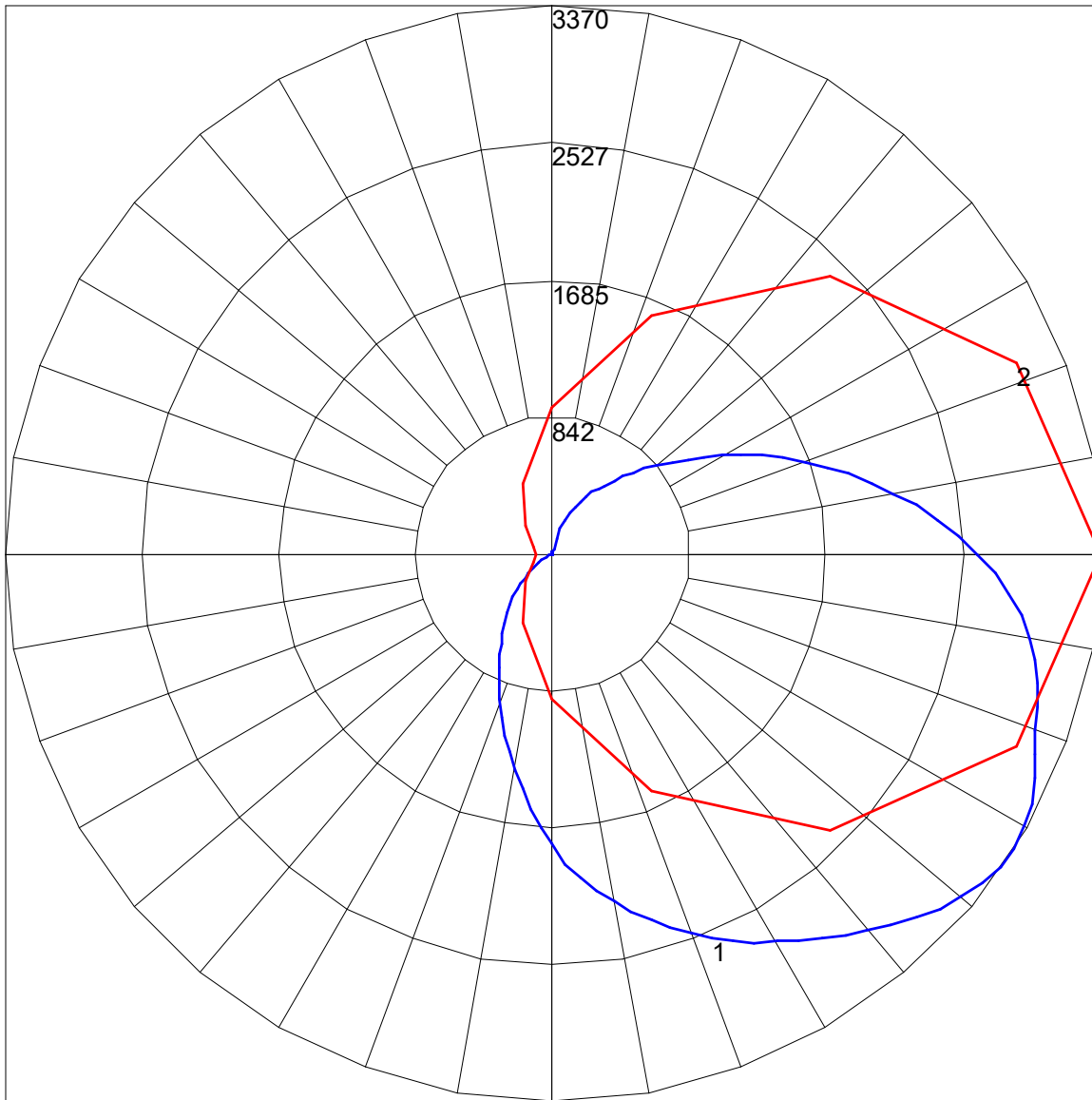
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

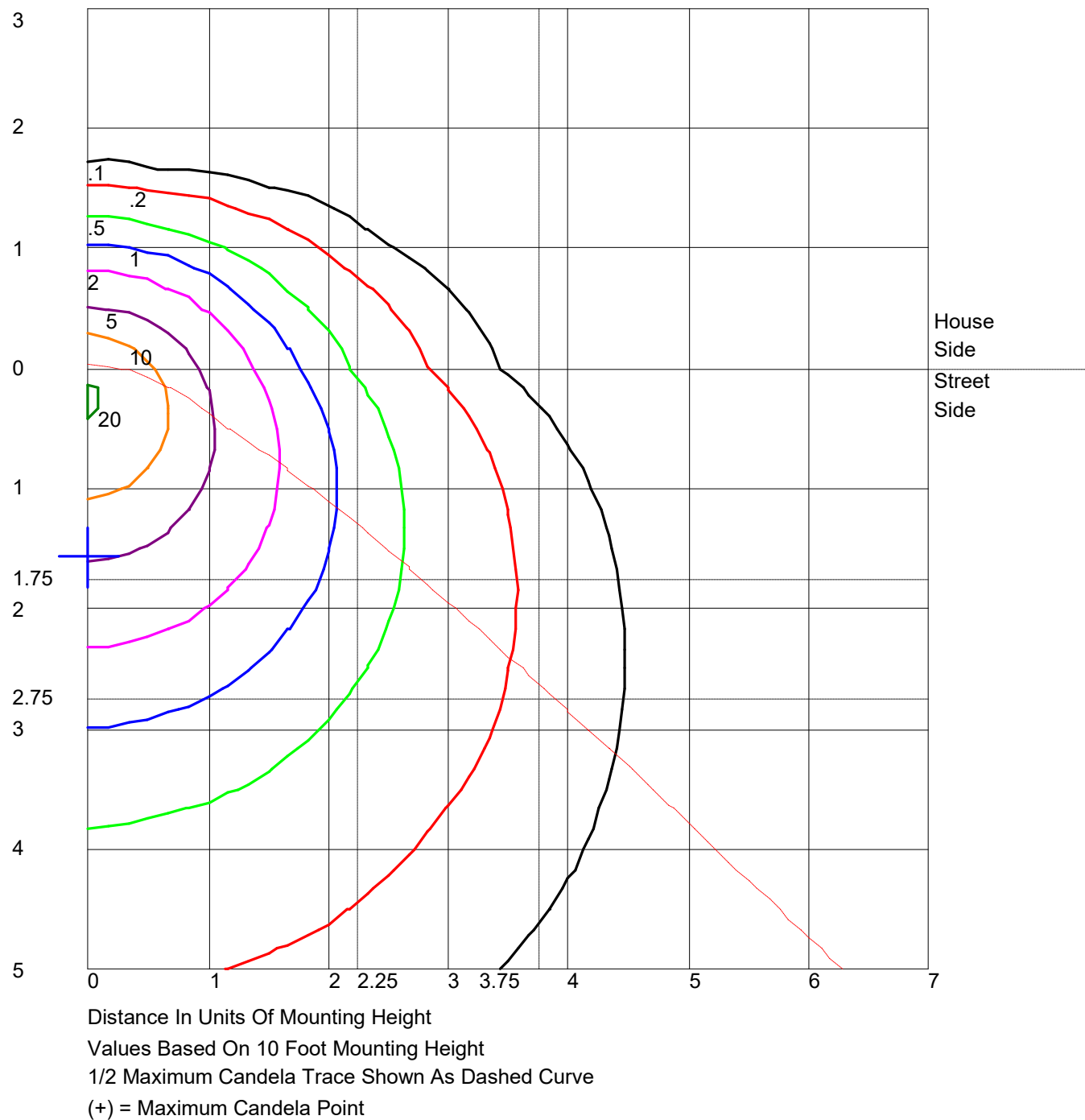
	Lumens	Percent Of Luminaire
Downward Street Side	6623.9	63.7
Downward House Side	1332.3	12.8
Downward Total	7956.2	76.5
Upward Street Side	2372.9	22.8
Upward House Side	68.7	0.7
Upward Total	2441.6	23.5
Total Flux	10397.8	100.0

POLAR GRAPH

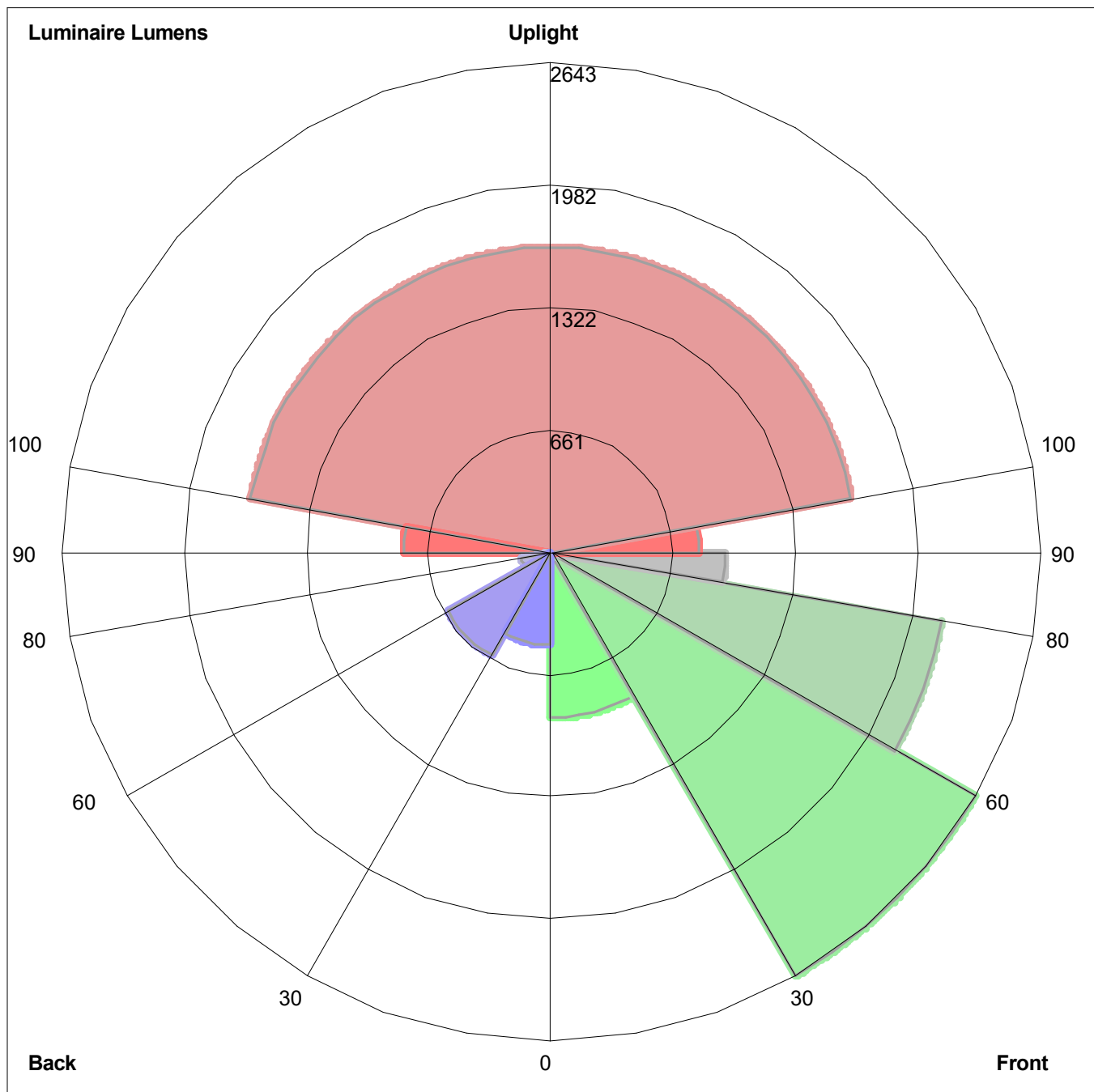


Maximum Candela = 3369.75 Located At Horizontal Angle = 360, Vertical Angle = 57.5
1 - Vertical Plane Through Horizontal Angles (360 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (57.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=896.5, Medium=2643.2, High=2142.2, Very High=942.0
Back: Low=501.9, Medium=641.6, High=158.5, Very High=30.3
Uplight: Low=794.9, High=1646.7

BUG Rating : B2-U5-G5