



IES ROAD REPORT

PHOTOMETRIC FILENAME : EPM LW F UV CPP 850.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-1995
[TEST] Q2014092001
[DATE] 2014-9-20
[MANUFAC] LumenFocus, LLC
[LUMCAT] EPM LW F UV CPP 850
[LUMINAIRE] EPM, 9 watt LED Array
[LAMPCAT] SAMSUNG 561B
[LAMP] SAMSUNG 561B 24pcs

CHARACTERISTICS

IES Classification	Type IV
Longitudinal Classification	Very Short
Lumens Per Lamp	1201 (1 lamp)
Total Lamp Lumens	1201
Luminaire Lumens	780
Downward Total Efficiency	53 %
Total Luminaire Efficiency	65 %
Luminaire Efficacy Rating (LER)	76
Total Luminaire Watts	10.3
Ballast Factor	1.00
Upward Waste Light Ratio	0.18
Maximum Candela	313.74
Maximum Candela Angle	360H 17.5V
Maximum Candela (<90 Degrees Vertical)	313.74
Maximum Candela Angle (<90 Degrees Vertical)	360H 17.5V
Maximum Candela At 90 Degrees Vertical	202.662 (16.9% Lamp Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	205.756 (17.1% Lamp Lumens)
Cutoff Classification (deprecated)	Non-Cutoff

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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	113.2	9.4	14.5
FM - Front-Medium (30-60)	174.8	14.6	22.4
FH - Front-High (60-80)	118.4	9.9	15.2
FVH - Front-Very High (80-90)	75.7	6.3	9.7
BL - Back-Low (0-30)	58.8	4.9	7.5
BM - Back-Medium (30-60)	63.5	5.3	8.1
BH - Back-High (60-80)	26.0	2.2	3.3
BVH - Back-Very High (80-90)	11.8	1.0	1.5
UL - Uplight-Low (90-100)	69.2	5.8	8.9
UH - Uplight-High (100-180)	69.1	5.8	8.9
Total	780.5	65.2	100.0
BUG Rating	B0-U3-G1		

IES ROAD REPORT
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CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	15	30	45	60	75	90	105	120	135
0.0	230.398	230.398	230.398	230.398	230.398	230.398	230.398	230.398	230.398	230.398
2.5	250.621	250.311	246.598	245.051	240.720	237.007	232.675	225.249	214.420	209.160
5.0	272.589	273.207	264.853	257.737	248.145	241.338	231.747	215.658	202.662	196.165
7.5	295.485	293.628	284.656	276.611	259.284	243.814	230.200	208.232	192.761	184.098
10.0	293.938	292.391	295.175	288.987	271.970	247.527	228.962	200.806	182.551	176.672
12.5	301.054	299.198	288.368	286.512	276.920	250.002	225.868	193.690	176.053	166.771
15.0	308.171	304.148	296.722	284.037	277.849	253.096	223.702	187.811	168.318	153.157
17.5	313.740	308.171	298.888	284.965	270.423	252.477	219.370	181.004	161.820	141.090
20.0	299.817	296.104	300.435	286.821	267.329	250.930	213.801	174.197	153.157	130.261
22.5	298.269	293.628	285.584	287.750	263.306	240.101	210.088	166.771	143.256	117.266
25.0	298.888	293.319	283.727	266.400	255.881	232.984	204.519	159.345	132.117	105.818
27.5	294.247	294.866	284.037	264.544	250.930	224.630	198.949	152.229	121.907	93.441
30.0	281.871	275.064	275.373	253.715	233.913	217.823	193.999	146.660	112.315	83.231
32.5	280.633	277.230	259.593	248.455	234.841	212.563	185.335	140.162	103.033	73.639
35.0	213.492	214.729	239.791	235.150	228.962	195.546	172.650	132.427	94.369	64.976
37.5	192.761	188.120	188.120	213.182	212.254	185.954	163.986	123.454	86.015	57.859
40.0	178.529	176.053	171.412	177.910	197.402	171.103	152.229	114.172	78.590	50.434
42.5	170.484	167.390	159.655	159.345	160.583	163.368	139.853	106.746	70.854	44.245
45.0	163.986	165.533	147.588	147.588	144.184	145.422	123.763	98.392	62.810	38.676
47.5	153.466	154.395	148.207	135.830	130.261	115.100	113.553	89.419	55.384	34.654
50.0	139.543	142.018	148.825	126.239	118.503	104.889	103.652	82.303	48.886	33.725
52.5	125.310	125.620	132.427	127.786	108.912	99.011	91.275	75.186	44.555	34.035
55.0	122.526	116.647	116.647	123.763	107.674	93.132	76.114	65.904	40.842	30.013
57.5	128.404	122.835	108.912	115.100	101.795	88.800	66.213	57.859	37.748	25.990
60.0	124.692	122.216	116.028	107.055	103.652	82.303	60.335	49.815	36.201	23.824
62.5	130.880	123.454	120.669	103.342	102.724	80.446	56.931	41.770	33.416	23.824
65.0	169.246	141.090	118.194	108.602	104.271	76.114	53.528	36.201	29.703	25.681
67.5	147.897	157.489	123.454	113.243	104.580	75.186	51.052	31.869	26.609	26.919
70.0	128.404	135.521	137.068	118.503	104.271	74.258	47.339	28.775	24.443	26.609
72.5	142.018	147.897	132.117	127.167	106.436	76.424	44.245	26.919	24.134	26.609
75.0	142.328	149.135	133.664	128.095	110.459	75.805	39.604	24.753	25.062	28.466
77.5	164.296	175.434	151.301	136.758	111.078	75.186	36.510	23.515	24.443	28.775
80.0	173.578	187.192	180.076	161.202	120.050	72.711	33.107	21.659	23.515	29.084
82.5	169.246	180.076	184.098	162.439	122.216	72.092	30.322	21.349	24.753	30.322
85.0	176.672	185.335	185.335	155.014	119.741	68.998	28.156	21.659	25.681	30.631
87.5	189.048	200.497	205.756	163.986	120.050	66.523	26.300	22.587	25.990	30.631
90.0	169.246	183.479	202.662	163.986	116.956	63.119	25.062	23.515	25.990	29.394
92.5	161.820	176.053	192.452	157.179	110.459	58.788	23.824	23.206	25.681	27.847
95.0	132.427	142.947	165.533	133.974	99.629	52.290	22.277	21.040	22.896	25.371
97.5	111.387	121.597	133.046	109.531	83.540	42.698	19.183	17.017	19.183	21.659
100.0	96.535	104.889	120.050	97.154	73.639	36.510	16.708	13.923	16.089	18.255
102.5	60.953	70.854	87.872	73.330	59.097	29.703	14.233	12.067	13.614	15.470
105.0	48.577	54.456	65.285	57.859	48.577	25.681	12.995	11.139	12.067	13.305
107.5	48.268	51.052	61.572	54.765	42.080	22.896	12.376	10.210	10.829	11.139
110.0	44.864	48.268	59.097	50.743	38.367	21.349	12.067	9.901	10.210	10.210
112.5	31.560	35.273	47.030	41.770	31.869	20.730	12.376	10.210	9.282	8.973
115.0	23.515	27.847	36.820	35.273	28.156	19.802	12.995	10.520	9.282	8.045
117.5	17.946	22.277	29.084	29.084	25.062	19.802	13.614	11.448	8.973	7.735
120.0	13.923	17.017	22.896	24.134	22.277	19.183	14.233	12.067	8.663	7.116
122.5	9.282	11.448	17.327	19.802	19.802	19.183	14.852	12.376	8.663	6.498
125.0	7.426	9.282	14.233	17.327	18.874	18.874	15.470	12.376	8.045	5.879
127.5	6.498	7.735	12.067	15.780	17.636	18.255	15.780	12.686	8.045	5.569
130.0	5.260	6.188	10.210	14.233	16.399	17.327	15.470	11.758	6.807	4.951

IES ROAD REPORT
PHOTOMETRIC FILENAME : EPM LW F UV CPP 850.IES

CANDELA TABULATION - (Cont.)

132.5	4.332	4.951	8.663	12.376	14.852	16.089	14.233	10.829	6.188	4.332
135.0	4.022	4.951	7.116	10.520	13.305	14.233	13.305	10.210	5.569	3.713
137.5	3.403	3.403	5.879	8.973	12.067	12.376	11.758	8.973	5.260	3.094
140.0	3.403	3.094	4.641	7.735	10.210	11.139	10.520	7.735	4.641	2.785
142.5	3.094	2.785	4.332	6.807	8.973	9.592	9.282	6.807	4.332	2.475
145.0	3.094	2.475	3.094	5.260	7.116	8.045	8.354	5.879	3.403	2.166
147.5	2.785	2.475	2.785	4.022	5.569	6.498	6.807	4.951	3.094	1.547
150.0	2.785	2.166	2.166	3.094	4.022	4.951	5.260	3.713	2.166	1.238
152.5	2.475	1.856	1.547	2.475	2.785	3.403	3.713	2.475	1.856	0.928
155.0	1.856	1.856	1.238	1.856	2.166	2.475	2.166	2.166	1.238	0.619
157.5	1.238	1.238	1.238	1.238	1.238	1.856	1.856	1.238	0.928	0.309
160.0	0.928	1.238	0.619	0.309	0.928	0.928	1.238	0.928	0.309	0.309
162.5	0.928	0.928	0.619	0.619	0.309	0.619	0.928	0.619	0.309	0.309
165.0	0.619	0.619	0.309	0.619	0.309	0.309	0.309	0.309	0.309	0.309
167.5	0.619	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309
170.0	0.309	0.309	0.309	0.309	0.309	0.309	0.619	0.309	0.309	0.309
172.5	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309
175.0	0.309	0.309	0.619	0.309	0.309	0.619	0.309	0.000	0.309	0.309
177.5	0.309	0.309	0.309	0.619	0.309	0.309	0.309	0.309	0.000	0.309
180.0	0.284	0.284	0.284	0.284	0.284	0.284	0.284	0.284	0.284	0.284

Vert. Horizontal Angles

	<u>150</u>	<u>165</u>	<u>180</u>	<u>195</u>	<u>210</u>	<u>225</u>	<u>240</u>	<u>255</u>	<u>270</u>	<u>285</u>
0.0	230.398	230.398	230.398	230.398	230.398	230.398	230.398	230.398	230.398	230.398
2.5	205.138	204.828	203.281	205.138	205.447	209.779	215.658	225.249	233.603	239.482
5.0	189.358	187.501	186.264	187.811	189.667	198.331	204.209	218.133	232.675	245.051
7.5	180.694	178.219	176.053	176.981	178.529	184.098	193.999	209.779	231.128	247.217
10.0	168.937	161.511	157.798	163.368	168.318	174.816	184.098	203.591	230.819	249.383
12.5	152.229	148.516	145.112	149.444	153.157	166.771	176.053	196.784	227.415	254.334
15.0	140.471	132.427	129.023	133.974	140.781	155.014	167.699	189.667	224.630	256.809
17.5	124.692	115.100	110.768	116.956	125.310	141.709	157.489	181.623	218.752	256.499
20.0	110.459	103.033	99.011	101.795	109.840	129.951	148.516	175.434	213.801	250.311
22.5	97.773	91.275	87.872	90.657	95.917	118.503	139.543	168.627	211.016	237.625
25.0	86.944	80.137	78.590	80.446	86.944	106.436	130.261	162.439	206.066	231.128
27.5	76.733	72.402	69.926	72.092	77.661	94.988	120.669	157.798	203.281	228.962
30.0	68.070	64.357	59.716	63.119	68.689	84.159	111.696	150.372	189.977	224.012
32.5	59.406	54.456	48.577	54.146	59.716	73.949	101.486	142.018	176.981	211.945
35.0	52.599	44.864	40.842	44.864	52.599	64.976	93.132	131.498	169.556	193.999
37.5	46.102	36.820	33.107	36.820	45.483	58.169	84.468	123.763	156.870	182.860
40.0	38.985	31.250	29.084	30.631	38.985	51.052	77.352	116.647	143.565	175.744
42.5	33.416	28.775	26.300	28.466	33.725	44.245	69.617	106.436	127.476	152.848
45.0	30.631	25.062	21.659	25.371	31.250	39.295	61.572	94.369	115.719	129.333
47.5	28.775	21.349	17.946	21.659	29.703	34.963	54.765	88.181	106.127	111.696
50.0	25.062	18.255	15.780	18.564	25.990	34.963	49.505	83.231	93.132	104.580
52.5	21.659	17.017	16.089	17.636	22.277	34.035	45.483	73.020	75.805	100.558
55.0	20.112	18.564	17.327	18.874	20.730	29.703	41.151	63.738	68.998	96.535
57.5	20.421	18.564	15.780	19.183	20.730	25.371	38.057	55.384	62.500	90.657
60.0	21.659	17.327	14.542	17.946	22.277	23.824	36.510	45.174	59.097	85.397
62.5	21.968	16.399	13.923	17.017	22.587	23.824	33.725	38.676	56.003	83.231
65.0	21.659	17.017	14.233	17.946	22.277	26.300	29.703	33.725	52.909	79.208
67.5	22.277	16.399	12.067	17.017	22.896	26.919	27.228	30.322	50.434	77.043
70.0	22.587	15.780	11.139	16.089	23.824	27.537	25.371	27.537	45.792	81.065
72.5	22.587	15.470	9.901	16.089	24.134	27.847	25.681	25.371	43.008	78.899
75.0	23.515	13.923	8.354	14.542	25.062	30.322	26.919	23.824	39.604	79.827
77.5	23.515	13.614	7.735	14.233	25.990	30.631	26.300	21.968	36.510	78.280

IES ROAD REPORT
PHOTOMETRIC FILENAME : EPM LW F UV CPP 850.IES

CANDELA TABULATION - (Cont.)

80.0	23.515	12.995	5.879	13.614	25.990	30.941	25.062	20.730	33.107	76.424
82.5	22.896	12.376	4.641	12.686	25.681	31.869	25.990	20.421	30.941	73.639
85.0	22.896	11.139	3.094	11.758	25.681	32.488	27.228	21.040	29.084	71.473
87.5	21.659	8.973	0.619	9.592	24.134	32.178	27.537	21.659	27.537	67.142
90.0	20.421	8.663	0.309	8.973	23.206	30.322	27.537	22.587	26.300	62.810
92.5	19.183	8.045	0.309	8.045	21.659	29.394	26.609	21.968	24.134	59.716
95.0	17.327	6.807	0.000	7.116	19.183	25.681	22.896	18.564	20.730	50.434
97.5	14.852	5.260	0.309	5.569	16.089	21.659	19.183	15.161	17.946	41.461
100.0	12.686	4.332	0.309	4.332	13.614	18.255	16.089	12.995	15.470	35.273
102.5	10.829	3.403	0.309	3.403	11.139	15.470	13.614	11.758	14.233	28.775
105.0	8.973	2.475	0.000	2.785	9.282	12.995	12.067	10.829	13.614	25.371
107.5	7.426	2.166	0.309	2.475	7.735	11.139	11.139	10.520	13.305	22.896
110.0	6.498	1.856	0.309	1.856	6.807	9.901	9.901	10.520	13.305	21.659
112.5	5.569	1.547	0.309	1.856	5.879	9.282	9.901	10.829	14.233	21.349
115.0	5.260	1.547	0.309	1.856	5.569	8.663	9.901	11.758	15.161	21.349
117.5	4.951	0.928	0.309	1.238	4.951	8.045	9.282	12.686	16.089	21.040
120.0	4.332	0.928	0.309	0.928	4.332	7.426	9.282	13.305	16.708	21.040
122.5	3.713	0.619	0.309	0.928	3.713	6.807	9.282	13.614	17.327	20.730
125.0	3.403	0.928	0.309	0.928	3.403	6.188	8.663	13.614	17.327	20.112
127.5	2.785	0.619	0.309	0.619	3.094	5.569	8.045	13.305	17.017	19.493
130.0	2.475	0.309	0.000	0.309	2.785	4.951	7.116	12.686	15.470	17.946
132.5	2.166	0.619	0.309	0.309	2.166	4.332	6.498	12.067	13.923	16.399
135.0	1.856	0.619	0.309	0.309	1.856	3.713	5.879	11.139	12.686	14.233
137.5	1.547	0.309	0.309	0.309	1.547	3.094	5.569	9.592	11.758	12.995
140.0	1.238	0.309	0.309	0.309	1.238	2.785	4.951	8.354	10.520	11.448
142.5	0.928	0.309	0.309	0.000	0.928	2.166	4.332	7.116	9.282	9.901
145.0	0.928	0.000	0.309	0.309	0.619	1.856	3.403	5.879	7.735	8.045
147.5	0.619	0.309	0.309	0.309	0.619	1.238	2.785	4.951	5.879	6.188
150.0	0.309	0.309	0.309	0.309	0.619	1.238	1.856	3.713	4.332	4.332
152.5	0.309	0.309	0.309	0.619	0.309	0.928	1.547	2.475	2.785	2.785
155.0	0.309	0.309	0.619	0.309	0.309	0.619	0.928	1.856	2.166	2.166
157.5	0.309	0.309	0.000	0.309	0.309	0.309	0.619	1.238	1.238	1.547
160.0	0.309	0.309	0.309	0.309	0.309	0.309	0.619	0.928	0.928	0.928
162.5	0.309	0.309	0.309	0.309	0.309	0.309	0.619	0.309	0.619	0.619
165.0	0.619	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.619	0.000
167.5	0.309	0.309	0.309	0.619	0.309	0.309	0.619	0.309	0.309	0.309
170.0	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309
172.5	0.619	0.309	0.000	0.000	0.309	0.309	0.309	0.309	0.309	0.309
175.0	0.309	0.309	0.309	0.309	0.309	0.000	0.619	0.309	0.309	0.309
177.5	0.000	0.309	0.309	0.309	0.309	0.309	0.000	0.309	0.309	0.309
180.0	0.284	0.284	0.284	0.284	0.284	0.284	0.284	0.284	0.284	0.284

Vert. Angles **Horizontal Angles**

	<u>300</u>	<u>315</u>	<u>330</u>	<u>345</u>	<u>360</u>
0.0	230.398	230.398	230.398	230.398	230.398
2.5	243.195	248.145	249.074	251.858	250.621
5.0	252.477	260.831	266.710	273.826	272.589
7.5	261.450	277.539	286.512	294.557	295.485
10.0	272.279	288.678	295.175	293.010	293.938
12.5	278.467	285.584	290.534	297.341	301.054
15.0	278.777	284.656	297.032	303.220	308.171
17.5	269.185	289.297	298.269	308.480	313.740
20.0	264.853	287.131	298.888	295.794	299.817
22.5	261.759	281.252	287.131	295.794	298.269
25.0	260.522	266.091	282.799	296.104	298.888

IES ROAD REPORT
PHOTOMETRIC FILENAME : EPM LW F UV CPP 850.IES

CANDELA TABULATION - (Cont.)

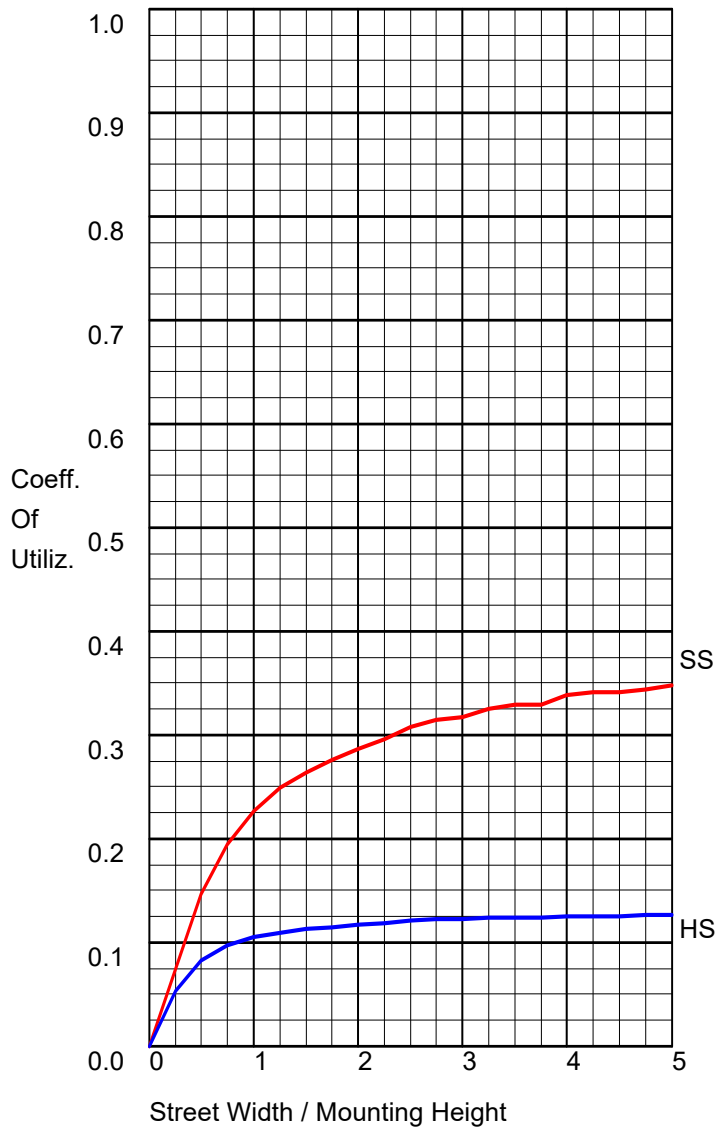
27.5	247.217	262.378	282.490	296.722	294.247
30.0	240.101	260.522	267.329	275.992	281.871
32.5	234.531	247.527	258.665	273.207	280.633
35.0	228.034	237.935	223.393	209.779	213.492
37.5	203.281	195.237	182.860	186.883	192.761
40.0	188.430	169.246	172.340	174.816	178.529
42.5	155.942	157.489	161.511	166.462	170.484
45.0	139.853	145.112	153.466	163.058	163.986
47.5	127.476	136.449	152.538	152.538	153.466
50.0	118.503	130.880	146.969	140.471	139.543
52.5	113.243	128.404	132.736	127.167	125.310
55.0	110.149	124.692	118.194	119.432	122.526
57.5	108.912	115.719	113.243	126.239	128.404
60.0	107.365	110.459	120.050	127.167	124.692
62.5	109.221	107.055	126.548	127.476	130.880
65.0	111.078	113.243	123.144	145.422	169.246
67.5	105.508	119.122	130.880	152.229	147.897
70.0	108.602	125.001	131.808	136.140	128.404
72.5	112.315	131.498	134.283	144.494	142.018
75.0	110.149	133.664	131.498	151.301	142.328
77.5	116.028	150.063	168.937	176.053	164.296
80.0	123.144	164.915	183.170	184.407	173.578
82.5	127.167	162.749	181.623	178.529	169.246
85.0	124.073	158.108	186.264	182.241	176.672
87.5	121.597	167.080	204.209	192.142	189.048
90.0	117.885	161.202	193.690	177.910	169.246
92.5	113.243	153.466	185.335	169.246	161.820
95.0	94.988	124.382	152.538	137.377	132.427
97.5	82.303	108.293	129.333	115.409	111.387
100.0	71.164	93.751	112.315	101.795	96.535
102.5	56.003	66.213	72.402	60.335	60.953
105.0	47.649	58.788	61.882	52.290	48.577
107.5	42.389	54.146	61.572	50.434	48.268
110.0	36.820	47.339	55.384	47.030	44.864
112.5	31.560	38.367	42.389	34.344	31.560
115.0	28.466	32.488	33.416	26.300	23.515
117.5	24.443	26.919	26.300	20.730	17.946
120.0	22.277	22.277	21.349	16.399	13.923
122.5	20.421	19.183	16.399	11.139	9.282
125.0	19.183	17.017	13.305	8.973	7.426
127.5	17.946	15.161	11.448	7.116	6.498
130.0	16.708	13.614	9.901	5.879	5.260
132.5	14.542	11.758	8.354	4.951	4.332
135.0	13.305	10.520	7.426	4.332	4.022
137.5	12.067	8.973	5.879	3.403	3.403
140.0	10.520	7.735	4.951	3.094	3.403
142.5	8.973	6.498	4.332	3.094	3.094
145.0	6.807	4.951	3.094	2.785	3.094
147.5	5.260	3.713	2.475	2.166	2.785
150.0	3.713	2.785	1.856	2.475	2.785
152.5	2.785	1.856	1.547	1.856	2.475
155.0	1.856	1.547	1.238	1.547	1.856
157.5	0.928	0.928	0.928	1.238	1.238
160.0	0.619	0.309	0.619	1.238	0.928
162.5	0.309	0.619	0.619	0.928	0.928
165.0	0.309	0.309	0.309	0.619	0.619

IES ROAD REPORT
PHOTOMETRIC FILENAME : EPM LW F UV CPP 850.IES

CANDELA TABULATION - (Cont.)

167.5	0.309	0.309	0.309	0.619	0.619
170.0	0.309	0.309	0.309	0.309	0.309
172.5	0.309	0.000	0.309	0.000	0.309
175.0	0.309	0.309	0.309	0.309	0.309
177.5	0.000	0.000	0.309	0.000	0.309
180.0	0.284	0.284	0.284	0.284	0.284

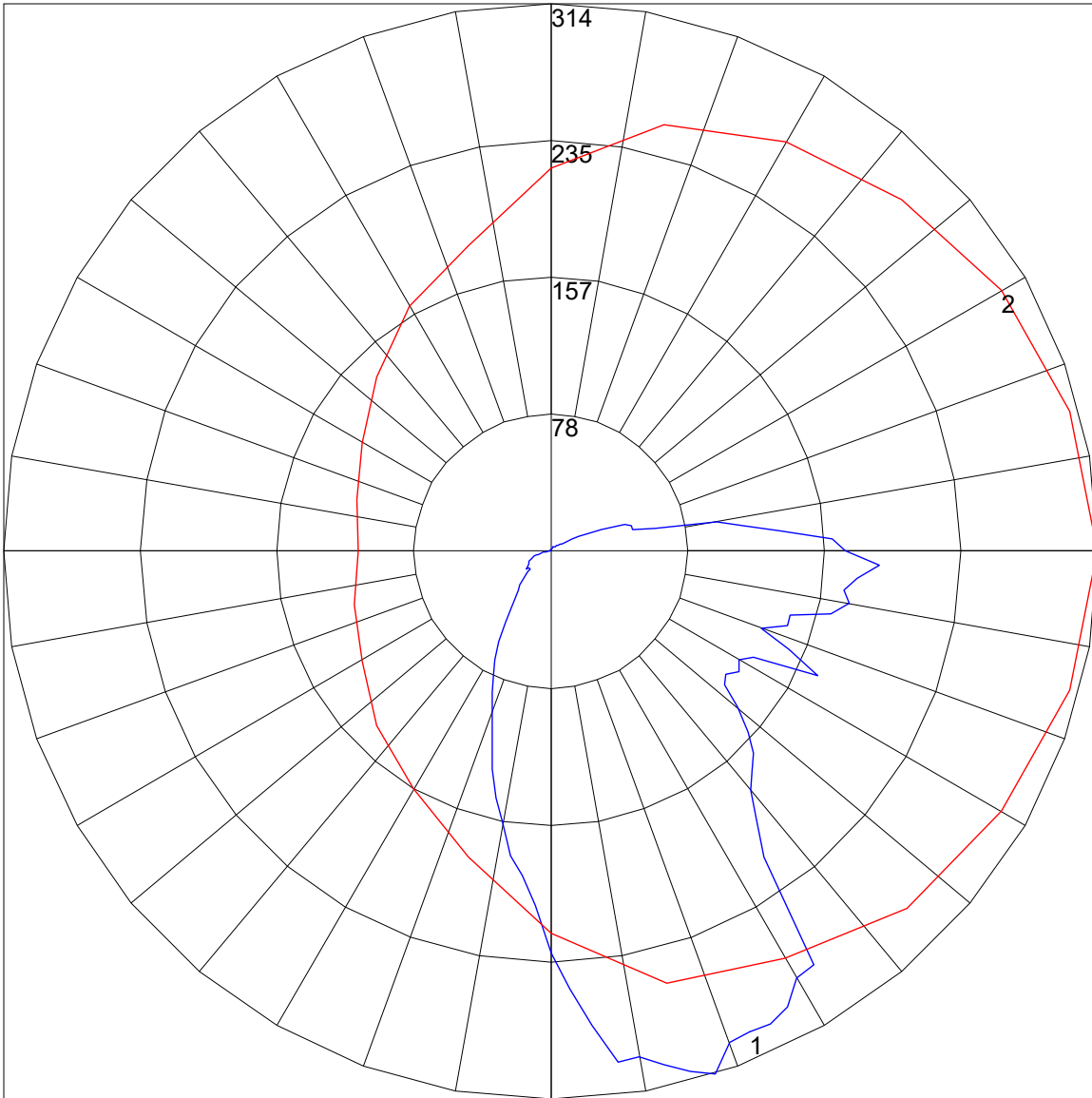
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

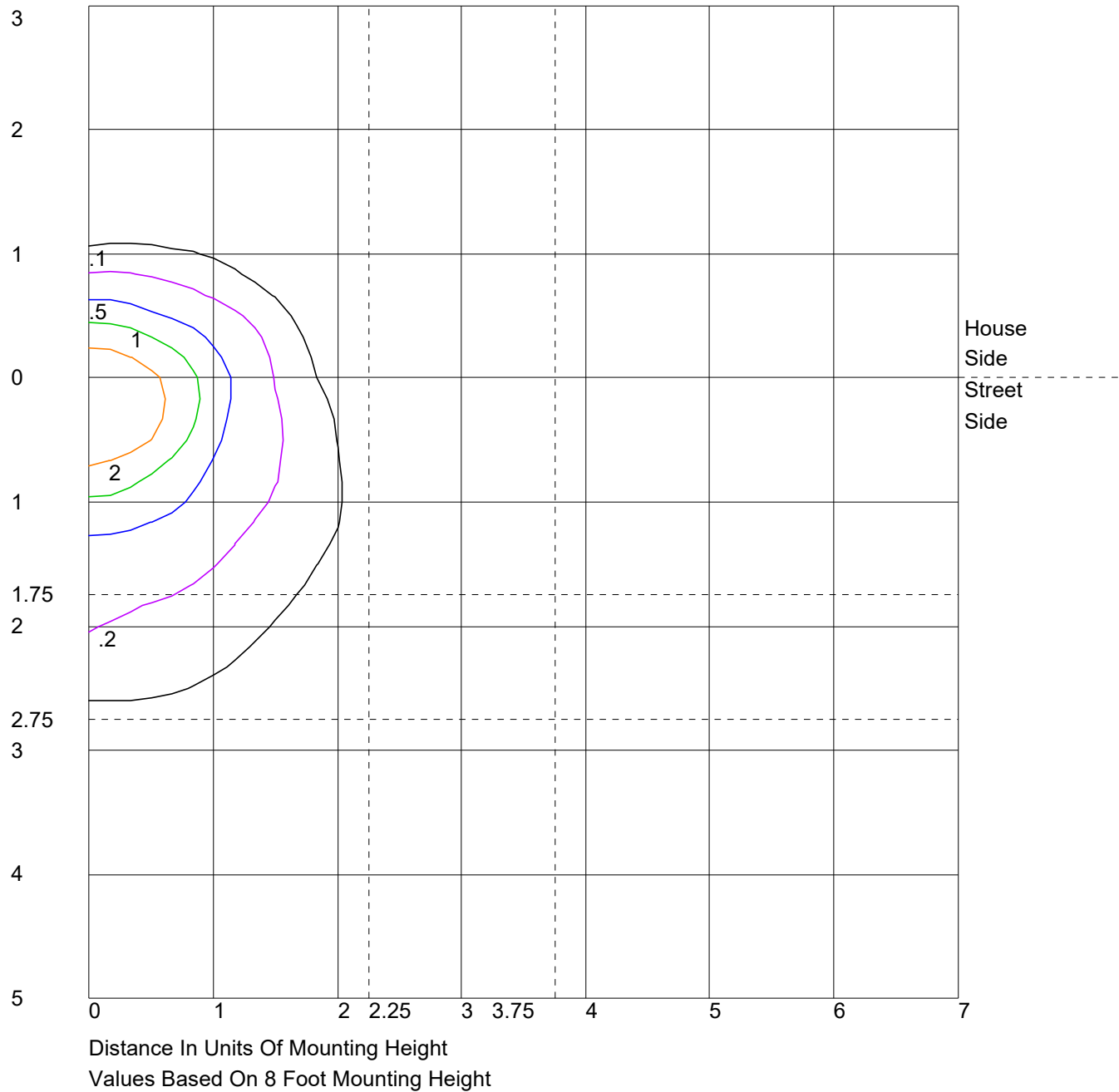
	Lumens	Percent Of Lamp
Downward Street Side	482.1	40.1
Downward House Side	160.0	13.3
Downward Total	642.1	53.5
Upward Street Side	114.4	9.5
Upward House Side	23.9	2.0
Upward Total	138.3	11.5
Total Flux	780.4	65.0

POLAR GRAPH

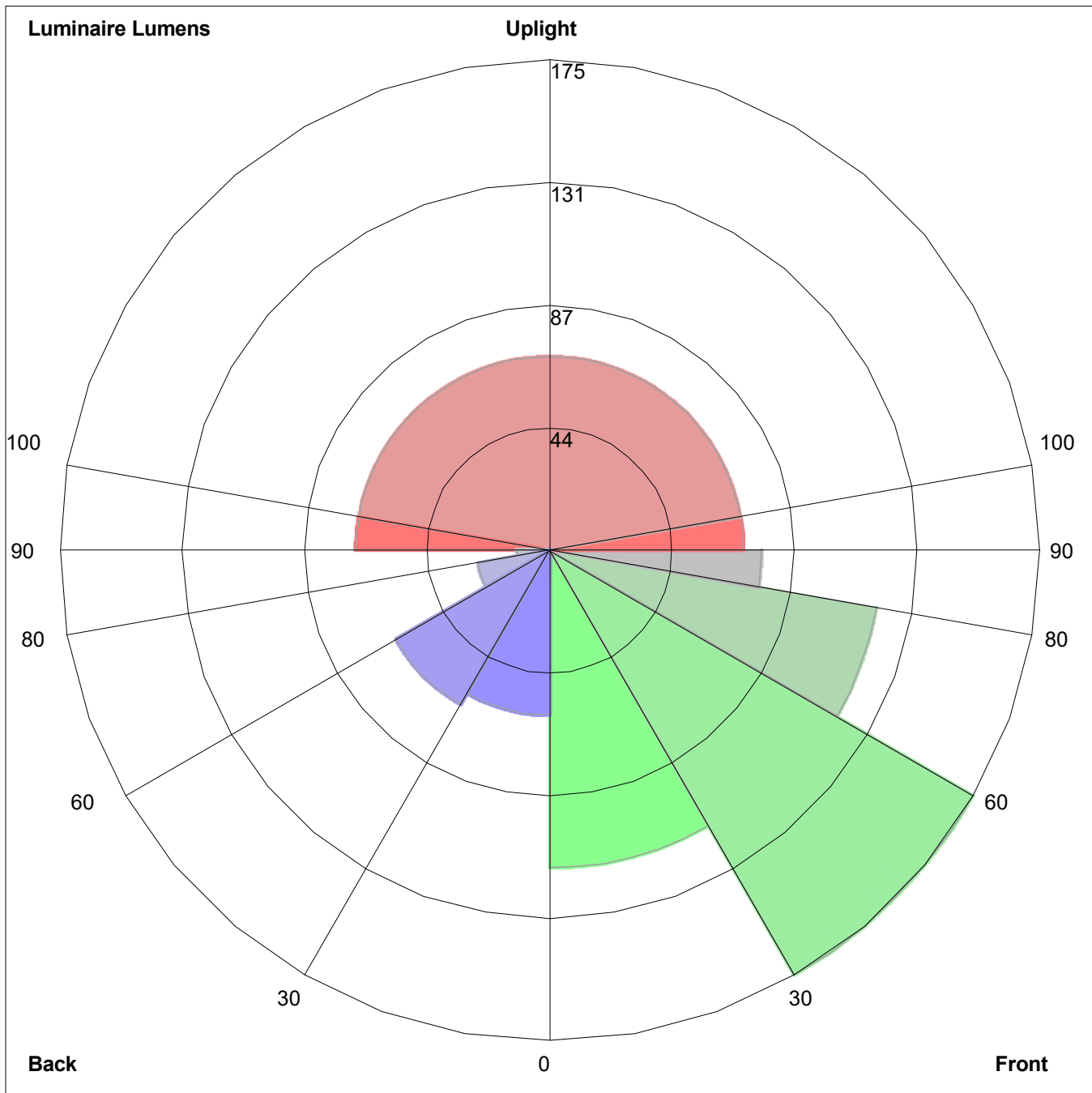


Maximum Candela = 313.74 Located At Horizontal Angle = 360, Vertical Angle = 17.5
1 - Vertical Plane Through Horizontal Angles (360 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (17.5) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
 Front: Low=113.2, Medium=174.8, High=118.4, Very High=75.7
 Back: Low=58.8, Medium=63.5, High=26.0, Very High=11.8
 Uplight: Low=69.2, High=69.1

BUG Rating : B0-U3-G1