



## IES ROAD REPORT

PHOTOMETRIC FILENAME : ALX MD 4 UV 850-EHS.IES

### DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] Q2018031901 scaled from 256w

[TESTLAB] QSSI

[ISSUEDATE] 2018-3-19

[MANUFAC] LumenFocus, LLC

[LUMCAT] ALX MD 4 UV 850-EHS

[LUMINAIRE] ALX WITH TWO 167W LED ARRAYS, HOUSE SIDE SHIELD

[LAMPCAT] SAMSUNG 351B-N WITH TYPE IV OPTICS

[LAMP] SAMSUNG 351B-N LEDs

### CHARACTERISTICS

IES Classification	Type IV
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	29021
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	82
Total Luminaire Watts	354
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	23115.935
Maximum Candela Angle	350H 65V
Maximum Candela (<90 Degrees Vertical)	23115.935
Maximum Candela Angle (<90 Degrees Vertical)	350H 65V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	2292.722 (7.9% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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**LUMINAIRE CLASSIFICATION SYSTEM (LCS)**

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	2137.6	N.A.	7.4
FM - Front-Medium (30-60)	12171.3	N.A.	41.9
FH - Front-High (60-80)	10866.7	N.A.	37.4
FVH - Front-Very High (80-90)	296.8	N.A.	1.0
BL - Back-Low (0-30)	1317.9	N.A.	4.5
BM - Back-Medium (30-60)	1885.2	N.A.	6.5
BH - Back-High (60-80)	307.5	N.A.	1.1
BVH - Back-Very High (80-90)	37.8	N.A.	0.1
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	29020.8	N.A.	100.0
BUG Rating	B3-U0-G4		

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**CANDELA TABULATION**

Vert. Angles	Horizontal Angles									
	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>
<b>0</b>	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320
<b>5</b>	3972.291	3954.925	3950.294	3935.244	3913.245	3894.721	3876.197	3836.832	3798.627	3873.881
<b>10</b>	4162.165	4154.061	4154.061	4141.325	4127.431	4110.065	4071.859	4013.971	3920.192	3932.928
<b>15</b>	4561.594	4594.011	4660.004	4678.528	4685.474	4626.428	4482.866	4321.937	4112.381	3993.131
<b>20</b>	5288.670	5319.930	5293.302	5271.303	5189.103	5104.586	4985.336	4808.197	4548.858	4243.208
<b>25</b>	6170.888	6159.309	6100.263	5946.281	5638.315	5472.755	5280.566	5112.690	4845.246	4523.387
<b>30</b>	7513.894	7444.429	7216.349	6984.796	6539.055	5969.436	5501.699	5180.999	4919.343	4588.223
<b>35</b>	9644.183	9470.517	8824.484	8405.373	7916.796	7402.749	6383.915	5272.462	4854.508	4519.914
<b>40</b>	12677.526	12457.550	11702.688	10072.555	9585.135	9316.534	8227.077	6058.584	4708.630	4316.148
<b>45</b>	14217.354	14275.241	13970.748	12012.969	11520.918	11362.305	10473.142	7792.914	4722.523	3973.449
<b>50</b>	15502.471	15201.453	14277.555	13424.283	13133.685	13248.303	12194.737	9523.774	5693.888	3563.601
<b>55</b>	16706.546	16393.948	15296.390	14470.902	14795.077	14748.767	13383.762	10358.523	6793.764	3785.891
<b>60</b>	21094.474	20469.278	18027.558	16491.207	16186.703	15546.466	13476.384	10260.113	7062.365	4424.977
<b>65</b>	23081.202	22304.646	22535.890	20674.215	16868.639	15320.703	12403.134	9178.761	6737.034	4250.155
<b>70</b>	15614.774	16449.518	18816.001	18732.639	17632.751	114355.127	11604.278	7546.311	3897.037	1960.097
<b>75</b>	5444.969	5786.509	6852.811	9494.830	11317.152	9324.640	5645.262	2272.576	763.547	600.880
<b>80</b>	1450.679	1568.656	1968.085	2271.882	2292.722	2140.592	970.439	393.872	229.469	153.983
<b>85</b>	383.568	423.742	521.110	569.274	617.089	433.120	267.676	181.654	111.377	75.254
<b>90</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>110</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>115</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>120</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>125</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>130</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>135</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>140</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>145</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>150</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>155</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>160</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>165</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>170</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>175</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>180</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles	Horizontal Angles									
	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>	<u>190</u>
<b>0</b>	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320
<b>5</b>	3822.941	3773.155	3729.161	3686.323	3648.118	3615.699	3596.018	3584.439	3577.494	3578.652
<b>10</b>	3826.412	3729.161	3653.906	3586.755	3532.341	3486.031	3433.931	3411.933	3404.986	3418.879
<b>15</b>	3789.365	3613.385	3481.399	3337.836	3241.742	3195.432	3159.541	3146.805	3138.702	3147.963
<b>20</b>	3822.941	3498.765	3180.380	2974.299	2866.626	2828.420	2819.157	2806.422	2806.422	2808.737
<b>25</b>	3967.661	3370.253	2843.470	2554.030	2453.304	2472.986	2558.660	2596.867	2615.390	2603.813
<b>30</b>	3973.449	3137.543	2488.037	2161.547	2044.613	2138.391	2300.480	2422.044	2455.620	2427.833
<b>35</b>	3815.992	2878.203	2125.657	1782.958	1723.911	1774.854	1956.623	2129.130	2158.074	2129.130
<b>40</b>	3568.232	2547.083	1781.801	1457.625	1407.842	1424.051	1558.351	1726.228	1777.168	1737.805
<b>45</b>	3102.810	2168.494	1451.838	1156.608	1091.772	1073.248	1161.238	1312.905	1353.428	1321.011
<b>50</b>	2651.281	1767.907	1131.136	859.062	788.438	762.966	789.596	932.001	1045.462	964.418
<b>55</b>	2511.193	1439.102	818.539	604.353	597.406	445.624	533.845	944.736	1272.384	1077.879

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**CANDELA TABULATION - (Cont.)**

<b>60</b>	2256.484	1052.408	606.669	325.563	236.068	179.338	125.849	99.684	101.652	104.199
<b>65</b>	1544.458	602.038	221.944	118.439	68.771	41.795	17.019	13.545	11.925	12.156
<b>70</b>	607.826	191.726	89.495	35.775	20.261	19.683	20.955	19.913	18.524	18.987
<b>75</b>	163.940	81.507	27.208	22.345	25.355	32.071	46.426	64.372	68.192	71.665
<b>80</b>	75.139	24.544	25.586	33.576	55.458	95.863	164.403	144.953	158.267	154.677
<b>85</b>	21.303	28.250	42.374	47.121	64.140	83.706	316.996	173.318	68.077	171.349
<b>90</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>110</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>115</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>120</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>125</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>130</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>135</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>140</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>145</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>150</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>155</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>160</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>165</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>170</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>175</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>180</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert.  
Angles**

**Horizontal Angles**

	<b><u>200</u></b>	<b><u>210</u></b>	<b><u>220</u></b>	<b><u>230</u></b>	<b><u>240</u></b>	<b><u>250</u></b>	<b><u>260</u></b>	<b><u>270</u></b>	<b><u>280</u></b>	<b><u>290</u></b>
<b>0</b>	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320
<b>5</b>	3591.386	3593.702	3615.699	3631.908	3664.325	3692.112	3722.215	3884.301	3910.931	3935.244
<b>10</b>	3433.931	3470.979	3506.871	3540.445	3594.859	3659.695	3731.476	3938.715	4017.444	4078.805
<b>15</b>	3146.805	3175.749	3229.006	3332.048	3435.089	3548.549	3686.323	3982.711	4162.165	4338.145
<b>20</b>	2813.369	2819.157	2872.415	2953.459	3153.752	3400.355	3686.323	4205.002	4556.963	4812.829
<b>25</b>	2563.291	2474.143	2415.097	2547.083	2787.897	3268.370	3785.891	4451.607	4870.717	5146.266
<b>30</b>	2324.791	2140.707	2022.615	2116.394	2461.407	3032.186	3790.522	4533.807	4986.493	5288.670
<b>35</b>	1999.460	1784.115	1714.650	1754.014	2080.504	2791.370	3671.272	4441.187	4897.346	5366.240
<b>40</b>	1583.822	1440.259	1391.634	1452.995	1772.538	2485.721	3442.035	4187.635	4802.409	6007.642
<b>45</b>	1185.551	1102.192	1090.615	1154.292	1424.051	2100.186	3072.709	3809.047	4780.411	7572.940
<b>50</b>	816.225	779.176	791.912	862.535	1103.349	1723.911	2613.076	3553.181	5674.206	9434.627
<b>55</b>	614.773	514.395	605.512	597.406	797.699	1409.001	2367.630	3791.681	6815.761	10556.501
<b>60</b>	147.730	198.673	255.982	334.363	605.512	1054.725	2147.654	4281.414	7251.083	10475.458
<b>65</b>	14.587	41.217	69.929	118.208	211.176	618.246	1469.204	3618.015	6843.548	9627.973
<b>70</b>	18.987	18.293	19.335	35.196	83.244	171.002	636.772	1513.431	4291.834	7719.976
<b>75</b>	45.384	30.449	25.355	21.766	24.429	66.919	140.437	295.925	925.401	2046.118
<b>80</b>	176.791	102.231	53.141	31.608	22.808	19.335	60.551	121.103	228.195	397.692
<b>85</b>	351.151	103.388	68.655	46.543	40.984	22.345	14.472	53.372	118.439	196.704
<b>90</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>110</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>115</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>120</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>125</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>130</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**CANDELA TABULATION - (Cont.)**

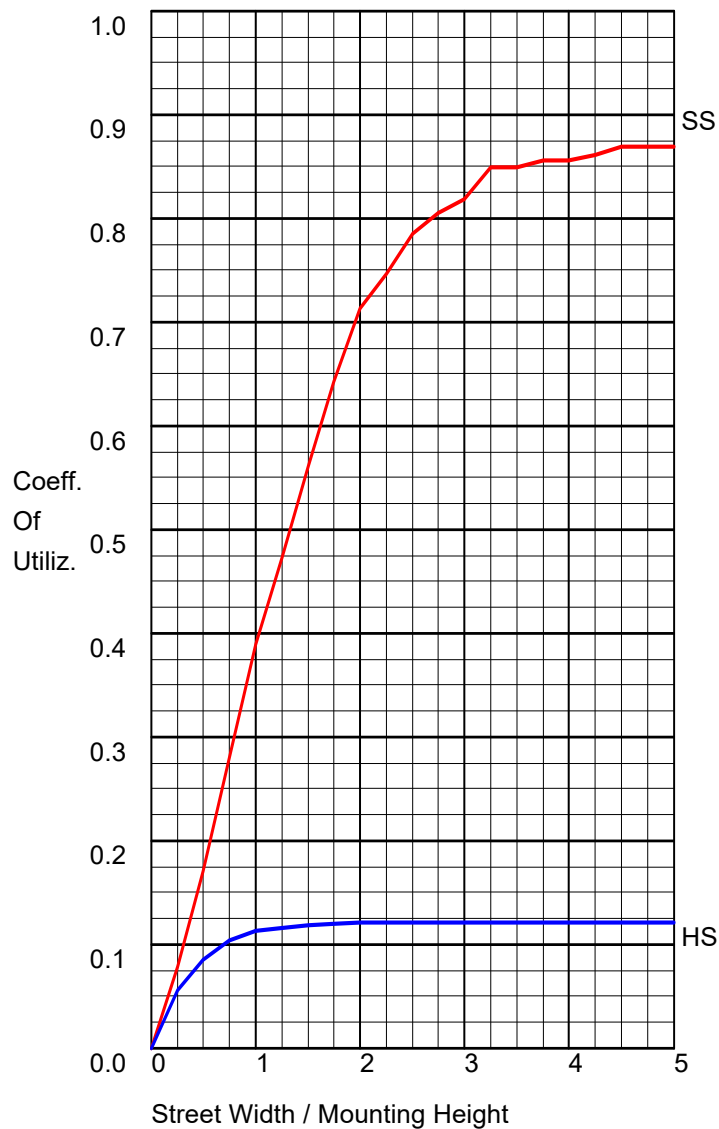
135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Vert.  
Angles**

**Horizontal Angles**

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320	3779.320
5	3954.925	3966.502	3969.975	3969.975	3973.449	3973.449	3972.291
10	4133.221	4165.638	4181.847	4176.058	4177.217	4173.742	4162.165
15	4484.024	4631.060	4714.419	4712.103	4636.848	4595.168	4561.594
20	5005.017	5139.319	5222.677	5304.879	5322.246	5279.407	5288.670
25	5343.086	5512.119	5668.416	5949.753	6103.737	6159.309	6170.888
30	5561.903	5947.438	6466.117	6946.588	7288.130	7444.429	7513.894
35	6214.882	7158.460	7702.610	8237.496	8777.015	9354.741	9644.183
40	8004.786	8996.991	9292.221	9691.650	11267.368	12353.351	12677.526
45	10223.065	10958.245	11076.336	11467.661	13266.828	13962.645	14217.354
50	11855.513	12683.315	12715.732	12978.544	13820.240	15189.876	15502.471
55	13261.039	14469.746	14316.921	14142.100	14888.857	16162.405	16706.546
60	13716.041	15523.312	15891.480	16239.965	17640.862	20237.735	21094.474
65	12899.816	15501.313	16815.377	20648.730	22553.265	23115.935	23081.202
70	11934.241	14602.888	17939.563	19135.540	19100.806	17143.026	15614.774
75	6085.212	9999.616	11607.751	10016.983	7241.820	5794.613	5444.969
80	1182.889	2143.371	2150.201	2246.990	1984.408	1669.150	1450.679
85	274.738	466.001	729.623	601.343	516.478	448.171	383.568
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000	0.000	0.000

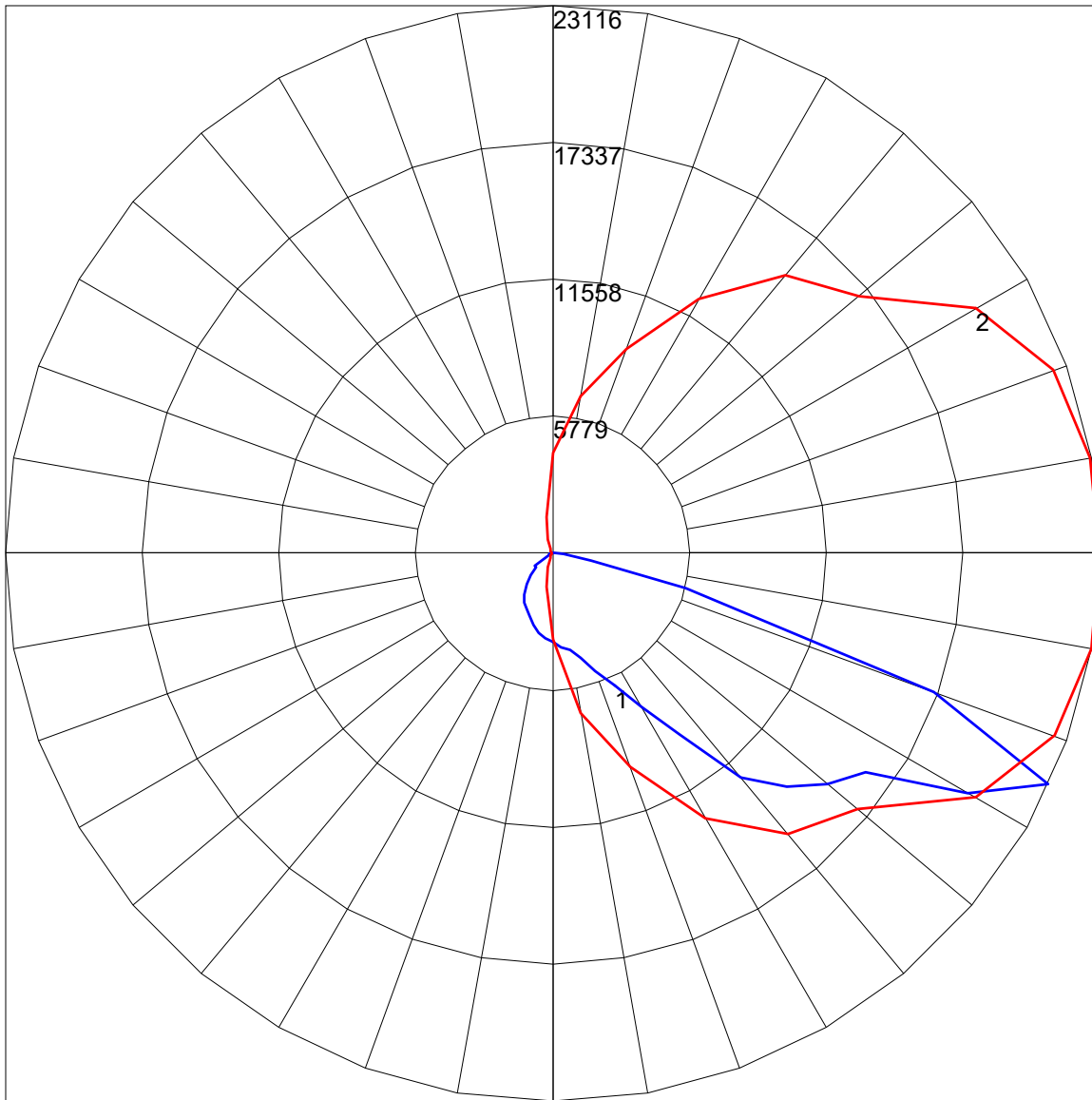
### COEFFICIENTS OF UTILIZATION



### FLUX DISTRIBUTION

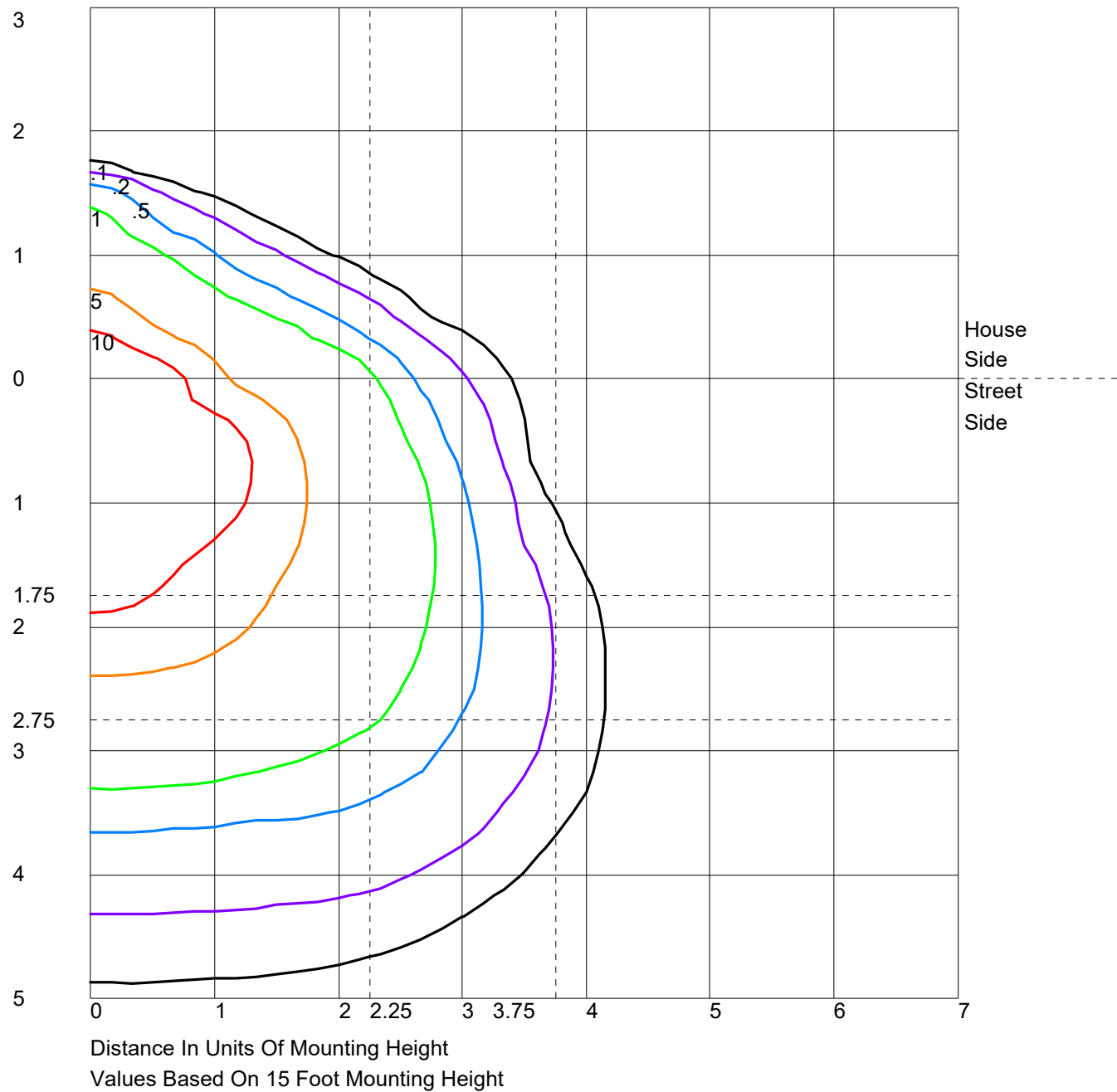
	Lumens	Percent Of Luminaire
Downward Street Side	25472.5	87.8
Downward House Side	3548.4	12.2
Downward Total	29020.9	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	29020.9	100.0

POLAR GRAPH

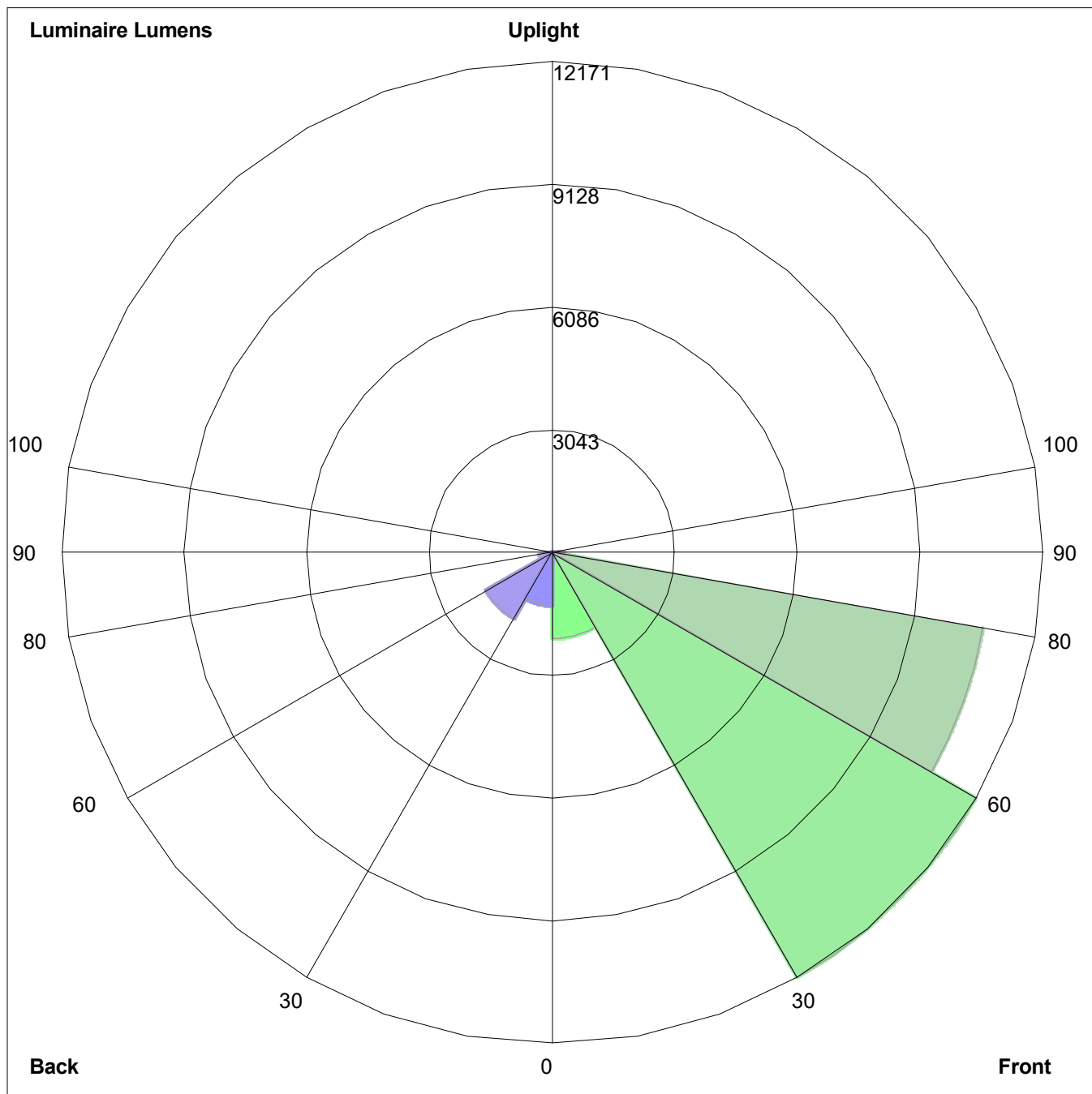


Maximum Candela = 23115.935 Located At Horizontal Angle = 350, Vertical Angle = 65  
# 1 - Vertical Plane Through Horizontal Angles (350 - 170) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (65) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:  
Front: Low=2137.6, Medium=12171.3, High=10866.7, Very High=296.8  
Back: Low=1317.9, Medium=1885.2, High=307.5, Very High=37.8  
Uplight: Low=0.0, High=0.0

BUG Rating : B3-U0-G4