



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-P7-835U-P7-835D-ASYUD-POE\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM ul #13323616.01

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 26 AUG 2020

[MANUFAC] H E Williams Inc

[LUMCAT] MX4UD-4'00-P7/835U/P7/835D-ASYUD-PoE

[LUMINAIRE] White aluminum housing, frosted lens enclosure

[OTHER] This test was performed using the calibrated photodetector met

[MORE] hod of absolute photometry.

[\_CONVERT] Luminaire test position and photometric web converted from original test data

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5740
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
Total Luminaire Watts	48
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7323	8755	9293
55	6961	8501	9071
65	6478	8120	8709
75	5601	7579	8267
85	4079	7012	8149

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MX4UD-4-00-P7-835U-P7-835D-ASYUD-POE\_.IES**

**CANDELA TABULATION**

	<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>
<b>0.0</b>	1017.602	1017.602	1017.602	1017.602	1017.602	1017.602	1017.602	1017.602	1017.602	1017.602
<b>2.5</b>	1018.492	1028.721	1027.387	1032.279	1034.058	1032.279	1027.387	1028.721	1018.492	1012.265
<b>5.0</b>	1014.489	1032.724	1037.172	1046.512	1048.735	1046.512	1037.172	1032.724	1014.489	999.812
<b>7.5</b>	1007.818	1033.614	1043.843	1057.186	1061.633	1057.186	1043.843	1033.614	1007.818	985.580
<b>10.0</b>	998.478	1031.390	1047.846	1064.747	1071.418	1064.747	1047.846	1031.390	998.478	969.569
<b>12.5</b>	986.469	1026.942	1048.291	1069.639	1076.755	1069.639	1048.291	1026.942	986.469	951.778
<b>15.0</b>	972.237	1019.381	1046.067	1070.528	1077.645	1070.528	1046.067	1019.381	972.237	932.209
<b>17.5</b>	955.781	1009.152	1039.840	1066.526	1075.421	1066.526	1039.840	1009.152	955.781	910.416
<b>20.0</b>	937.101	995.365	1030.500	1060.299	1070.528	1060.299	1030.500	995.365	937.101	886.844
<b>22.5</b>	916.198	978.909	1018.047	1050.959	1061.189	1050.959	1018.047	978.909	916.198	861.938
<b>25.0</b>	892.626	959.339	1002.481	1037.616	1048.291	1037.616	1002.481	959.339	892.626	835.252
<b>27.5</b>	866.830	936.657	983.356	1020.271	1031.835	1020.271	983.356	936.657	866.830	807.677
<b>30.0</b>	838.366	910.861	961.118	998.923	1010.486	998.923	961.118	910.861	838.366	778.324
<b>32.5</b>	808.567	882.841	933.988	973.127	985.135	973.127	933.988	882.841	808.567	747.191
<b>35.0</b>	777.879	852.153	903.745	944.218	956.226	944.218	903.745	852.153	777.879	714.723
<b>37.5</b>	745.856	819.241	872.612	912.640	923.759	912.640	872.612	819.241	745.856	680.922
<b>40.0</b>	712.055	786.329	839.700	878.838	889.068	878.838	839.700	786.329	712.055	646.676
<b>42.5</b>	676.919	752.083	803.675	841.924	853.043	841.924	803.675	752.083	676.919	611.985
<b>45.0</b>	641.339	716.502	766.760	803.230	813.904	803.230	766.760	716.502	641.339	576.849
<b>47.5</b>	605.758	678.698	728.511	763.646	773.431	763.646	728.511	678.698	605.758	542.158
<b>50.0</b>	570.178	639.560	688.483	723.174	732.514	723.174	688.483	639.560	570.178	508.356
<b>52.5</b>	533.263	599.976	647.120	680.922	689.817	680.922	647.120	599.976	533.263	473.665
<b>55.0</b>	494.569	559.948	603.979	637.336	644.452	637.336	603.979	559.948	494.569	438.396
<b>57.5</b>	455.875	518.586	560.393	591.526	598.642	591.526	560.393	518.586	455.875	403.083
<b>60.0</b>	417.181	476.334	515.473	544.826	551.498	544.826	515.473	476.334	417.181	366.924
<b>62.5</b>	378.043	433.282	470.552	497.237	503.464	497.237	470.552	433.282	378.043	331.254
<b>65.0</b>	339.127	389.829	425.054	449.649	455.875	449.649	425.054	389.829	339.127	295.274
<b>67.5</b>	299.499	346.287	378.888	402.282	407.753	402.282	378.888	346.287	299.499	258.937
<b>70.0</b>	258.804	304.213	333.834	353.893	359.363	353.893	333.834	304.213	258.804	222.289
<b>72.5</b>	218.820	260.449	288.691	307.593	312.708	307.593	288.691	260.449	218.820	185.953
<b>75.0</b>	179.548	216.952	242.970	260.360	265.030	260.360	242.970	216.952	179.548	150.817
<b>77.5</b>	141.388	174.611	198.361	214.061	217.975	214.061	198.361	174.611	141.388	117.683
<b>80.0</b>	105.096	134.361	155.087	169.052	172.877	169.052	155.087	134.361	105.096	86.461
<b>82.5</b>	72.451	96.423	113.858	125.733	129.469	125.733	113.858	96.423	72.451	57.907
<b>85.0</b>	44.031	61.866	75.698	84.993	87.973	84.993	75.698	61.866	44.031	32.690
<b>87.5</b>	20.058	31.756	41.273	47.900	50.257	47.900	41.273	31.756	20.058	11.297
<b>90.0</b>	4.158	11.842	22.689	30.464	34.080	30.464	22.689	11.842	4.158	0.633
<b>92.5</b>	20.711	32.789	42.615	49.458	51.892	49.458	42.615	32.789	20.711	11.665
<b>95.0</b>	45.462	63.878	78.159	87.757	90.834	87.757	78.159	63.878	45.462	33.753
<b>97.5</b>	74.807	99.559	117.561	129.821	133.679	129.821	117.561	99.559	74.807	59.791
<b>100.0</b>	108.513	138.730	160.130	174.550	178.499	174.550	160.130	138.730	108.513	89.272
<b>102.5</b>	145.986	180.290	204.812	221.022	225.064	221.022	204.812	180.290	145.986	121.510
<b>105.0</b>	185.387	224.007	250.872	268.828	273.649	268.828	250.872	224.007	185.387	155.721
<b>107.5</b>	225.936	268.919	298.080	317.597	322.878	317.597	298.080	268.919	225.936	192.000
<b>110.0</b>	267.220	314.106	344.690	365.401	371.050	365.401	344.690	314.106	267.220	229.518
<b>112.5</b>	309.239	357.548	391.209	415.364	421.013	415.364	391.209	357.548	309.239	267.358
<b>115.0</b>	350.155	402.506	438.877	464.271	470.700	464.271	438.877	402.506	350.155	304.876
<b>117.5</b>	390.337	447.372	485.854	513.408	519.837	513.408	485.854	447.372	390.337	342.027
<b>120.0</b>	430.748	491.825	532.236	562.544	569.433	562.544	532.236	491.825	430.748	378.856
<b>122.5</b>	470.700	535.450	578.617	610.762	618.110	610.762	578.617	535.450	470.700	416.191
<b>125.0</b>	510.652	578.157	623.621	658.062	665.409	658.062	623.621	578.157	510.652	452.653
<b>127.5</b>	550.604	619.487	668.165	703.065	712.250	703.065	668.165	619.487	550.604	489.069
<b>130.0</b>	588.720	660.358	710.872	746.691	756.335	746.691	710.872	660.358	588.720	524.889
<b>132.5</b>	625.458	700.769	752.202	788.481	798.584	788.481	752.202	700.769	625.458	559.789

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MX4UD-4-00-P7-835U-P7-835D-ASYUD-POE\_.IES**

**CANDELA TABULATION - (Cont.)**

135.0	662.195	739.803	791.695	829.351	840.372	829.351	791.695	739.803	662.195	595.608
137.5	698.932	776.541	829.810	869.303	880.784	869.303	829.810	776.541	698.932	631.887
140.0	735.211	811.900	867.007	907.419	917.980	907.419	867.007	811.900	735.211	667.706
142.5	770.112	845.883	900.989	942.319	953.799	942.319	900.989	845.883	770.112	703.065
145.0	803.176	879.865	933.135	974.924	987.322	974.924	933.135	879.865	803.176	737.966
147.5	834.862	911.551	964.362	1004.772	1017.172	1004.772	964.362	911.551	834.862	771.489
150.0	865.629	940.482	992.374	1031.407	1043.347	1031.407	992.374	940.482	865.629	803.634
152.5	895.019	967.117	1015.335	1053.450	1065.390	1053.450	1015.335	967.117	895.019	833.943
155.0	921.654	990.537	1035.081	1071.360	1082.381	1071.360	1035.081	990.537	921.654	862.415
157.5	945.993	1010.743	1051.154	1085.137	1095.698	1085.137	1051.154	1010.743	945.993	889.968
160.0	967.576	1027.734	1064.013	1094.780	1105.342	1094.780	1064.013	1027.734	967.576	915.685
162.5	986.863	1041.970	1073.656	1101.209	1110.393	1101.209	1073.656	1041.970	986.863	940.023
165.0	1003.854	1052.531	1080.085	1105.342	1112.689	1105.342	1080.085	1052.531	1003.854	962.525
167.5	1018.549	1060.339	1082.381	1104.424	1111.772	1104.424	1082.381	1060.339	1018.549	982.730
170.0	1030.949	1064.931	1081.922	1099.372	1106.261	1099.372	1081.922	1064.931	1030.949	1001.099
172.5	1040.592	1067.227	1077.789	1091.566	1096.158	1091.566	1077.789	1067.227	1040.592	1017.631
175.0	1047.481	1066.308	1070.900	1080.544	1082.840	1080.544	1070.900	1066.308	1047.481	1032.326
177.5	1051.613	1062.176	1060.797	1065.849	1067.686	1065.849	1060.797	1062.176	1051.613	1045.184
180.0	1050.226	1050.226	1050.226	1050.226	1050.226	1050.226	1050.226	1050.226	1050.226	1050.226

**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	1017.602	1017.602	1017.602	1017.602	1017.602	1017.602	1017.602
2.5	998.478	996.254	997.144	996.254	998.478	1012.265	1018.492
5.0	980.243	975.350	974.461	975.350	980.243	999.812	1014.489
7.5	961.118	952.223	950.444	952.223	961.118	985.580	1007.818
10.0	940.660	928.206	924.648	928.206	940.660	969.569	998.478
12.5	918.866	902.855	897.963	902.855	918.866	951.778	986.469
15.0	894.850	875.725	870.388	875.725	894.850	932.209	972.237
17.5	869.054	848.595	841.479	848.595	869.054	910.416	955.781
20.0	841.924	819.241	811.680	819.241	841.924	886.844	937.101
22.5	814.349	788.553	780.992	788.553	814.349	861.938	916.198
25.0	785.884	758.754	749.859	758.754	785.884	835.252	892.626
27.5	756.975	728.511	718.726	728.511	756.975	807.677	866.830
30.0	726.287	698.267	688.483	698.267	726.287	778.324	838.366
32.5	693.820	666.245	657.795	666.245	693.820	747.191	808.567
35.0	660.908	632.443	624.438	632.443	660.908	714.723	777.879
37.5	627.551	598.197	588.857	598.197	627.551	680.922	745.856
40.0	593.305	563.506	553.277	563.506	593.305	646.676	712.055
42.5	559.503	529.705	519.920	529.705	559.503	611.985	676.919
45.0	526.147	498.127	489.677	498.127	526.147	576.849	641.339
47.5	493.680	467.439	458.988	467.439	493.680	542.158	605.758
50.0	461.212	435.906	428.033	435.906	461.212	508.356	570.178
52.5	428.790	404.328	396.367	404.328	428.790	473.665	533.263
55.0	395.967	372.483	364.745	372.483	395.967	438.396	494.569
57.5	362.877	340.594	334.101	340.594	362.877	403.083	455.875
60.0	331.432	310.573	304.258	310.573	331.432	366.924	417.181
62.5	298.209	279.885	273.703	279.885	298.209	331.254	378.043
65.0	265.030	248.930	243.415	248.930	265.030	295.274	339.127
67.5	232.741	218.286	213.127	218.286	232.741	258.937	299.499
70.0	200.185	188.132	183.595	188.132	200.185	222.289	258.804
72.5	168.251	158.511	154.464	158.511	168.251	185.953	218.820
75.0	137.029	129.469	125.910	129.469	137.029	150.817	179.548
77.5	107.498	101.627	98.958	101.627	107.498	117.683	141.388
80.0	79.433	74.941	72.940	74.941	79.433	86.461	105.096

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4UD-4-00-P7-835U-P7-835D-ASYUD-POE\_.IES****CANDELA TABULATION - (Cont.)**

82.5	53.415	49.902	48.389	49.902	53.415	57.907	72.451
85.0	29.443	26.819	25.574	26.819	29.443	32.690	44.031
87.5	8.361	6.493	5.826	6.493	8.361	11.297	20.058
90.0	0.542	0.542	0.452	0.542	0.542	0.633	4.158
92.5	8.633	6.704	6.016	6.704	8.633	11.665	20.711
95.0	30.400	27.691	26.405	27.691	30.400	33.753	45.462
97.5	55.152	51.525	49.963	51.525	55.152	59.791	74.807
100.0	82.017	77.378	75.312	77.378	82.017	89.272	108.513
102.5	110.993	104.931	102.176	104.931	110.993	121.510	145.986
105.0	141.486	133.679	130.006	133.679	141.486	155.721	185.387
107.5	173.723	163.666	159.487	163.666	173.723	192.000	225.936
110.0	206.695	194.250	189.566	194.250	206.695	229.518	267.220
112.5	240.309	225.385	220.058	225.385	240.309	267.358	309.239
115.0	273.649	257.025	251.331	257.025	273.649	304.876	350.155
117.5	307.907	288.987	282.604	288.987	307.907	342.027	390.337
120.0	342.210	320.673	314.152	320.673	342.210	378.856	430.748
122.5	374.677	351.671	344.966	351.671	374.677	416.191	470.700
125.0	408.843	384.597	376.606	384.597	408.843	452.653	510.652
127.5	442.734	417.477	409.257	417.477	442.734	489.069	550.604
130.0	476.211	450.081	441.953	450.081	476.211	524.889	588.720
132.5	509.734	482.640	473.915	482.640	509.734	559.789	625.458
135.0	543.257	514.326	505.601	514.326	543.257	595.608	662.195
137.5	577.699	546.931	536.828	546.931	577.699	631.887	698.932
140.0	612.599	581.831	571.269	581.831	612.599	667.706	735.211
142.5	647.959	617.650	608.007	617.650	647.959	703.065	770.112
145.0	682.401	653.011	644.745	653.011	682.401	737.966	803.176
147.5	716.382	687.912	679.186	687.912	716.382	771.489	834.862
150.0	749.906	720.975	710.872	720.975	749.906	803.634	865.629
152.5	781.592	752.202	742.099	752.202	781.592	833.943	895.019
155.0	811.442	783.429	774.244	783.429	811.442	862.415	921.654
157.5	840.832	814.197	806.390	814.197	840.832	889.968	945.993
160.0	869.303	845.883	838.076	845.883	869.303	915.685	967.576
162.5	897.316	876.191	868.844	876.191	897.316	940.023	986.863
165.0	923.950	904.203	898.693	904.203	923.950	962.525	1003.854
167.5	948.748	932.216	927.165	932.216	948.748	982.730	1018.549
170.0	971.250	958.392	954.718	958.392	971.250	1001.099	1030.949
172.5	992.374	983.190	981.353	983.190	992.374	1017.631	1040.592
175.0	1012.120	1007.069	1006.151	1007.069	1012.120	1032.326	1047.481
177.5	1030.949	1028.652	1029.570	1028.652	1030.949	1045.184	1051.613
180.0	1050.226	1050.226	1050.226	1050.226	1050.226	1050.226	1050.226

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4UD-4-00-P7-835U-P7-835D-ASYUD-POE\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	370.63	N.A.	6.50
0-30	783.53	N.A.	13.70
0-40	1274.1	N.A.	22.20
0-60	2221.63	N.A.	38.70
0-80	2763.72	N.A.	48.10
0-90	2824.06	N.A.	49.20
10-90	2727.91	N.A.	47.50
20-40	903.46	N.A.	15.70
20-50	1403.26	N.A.	24.40
40-70	1289.27	N.A.	22.50
60-80	542.09	N.A.	9.40
70-80	200.36	N.A.	3.50
80-90	60.34	N.A.	1.10
90-110	269.12	N.A.	4.70
90-120	621.97	N.A.	10.80
90-130	1084.27	N.A.	18.90
90-150	2106.83	N.A.	36.70
90-180	2915.85	N.A.	50.80
110-180	2646.72	N.A.	46.10
0-180	5739.91	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	96.15
10-20	274.48
20-30	412.90
30-40	490.56
40-50	499.80
50-60	447.74
60-70	341.73
70-80	200.36
80-90	60.34
90-100	62.25
100-110	206.88
110-120	352.84
120-130	462.30
130-140	516.05
140-150	506.51
150-160	426.33
160-170	283.41
170-180	99.28

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-P7-835U-P7-835D-ASYUD-POE\_.IES

## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49
1	97	93	89	86	90	86	82	79	72	70	68	60	58	57	49	48	46	41
2	89	81	75	70	81	75	69	65	63	59	56	53	50	47	43	41	39	34
3	81	71	64	58	74	66	59	54	56	51	47	46	43	40	38	35	33	29
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	34	31	28	25
5	68	56	48	42	62	52	45	39	44	38	34	37	33	29	30	27	25	21
6	62	50	42	36	57	47	39	34	40	34	30	33	29	26	27	24	22	19
7	58	45	37	32	53	42	35	30	36	30	26	30	26	23	25	22	19	16
8	53	41	33	28	49	38	31	26	33	27	23	28	23	20	23	20	17	15
9	50	37	30	25	46	35	28	23	30	25	21	25	21	18	21	18	15	13
10	46	34	27	22	43	32	25	21	28	22	19	23	19	16	20	16	14	12

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-4-00-P7-835U-P7-835D-ASYUD-POE\_.IES

## UGR TABLE - CORRECTED

### Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

### Room Size UGR Viewed Crosswise

X=2H	Y=2H	15.0	15.9	16.0	16.9	18.1	16.7	17.6	17.7	18.6	19.9
	3H	16.8	17.5	17.7	18.5	19.8	18.6	19.4	19.6	20.4	21.7
	4H	17.4	18.1	18.4	19.1	20.4	19.4	20.1	20.4	21.1	22.4
	6H	17.8	18.5	18.8	19.5	20.8	20.0	20.7	21.0	21.7	23.0
	8H	17.9	18.6	18.9	19.6	20.9	20.2	20.9	21.2	21.9	23.2
	12H	18.0	18.6	19.0	19.6	21.0	20.4	21.0	21.4	22.0	23.3

### UGR Viewed Endwise

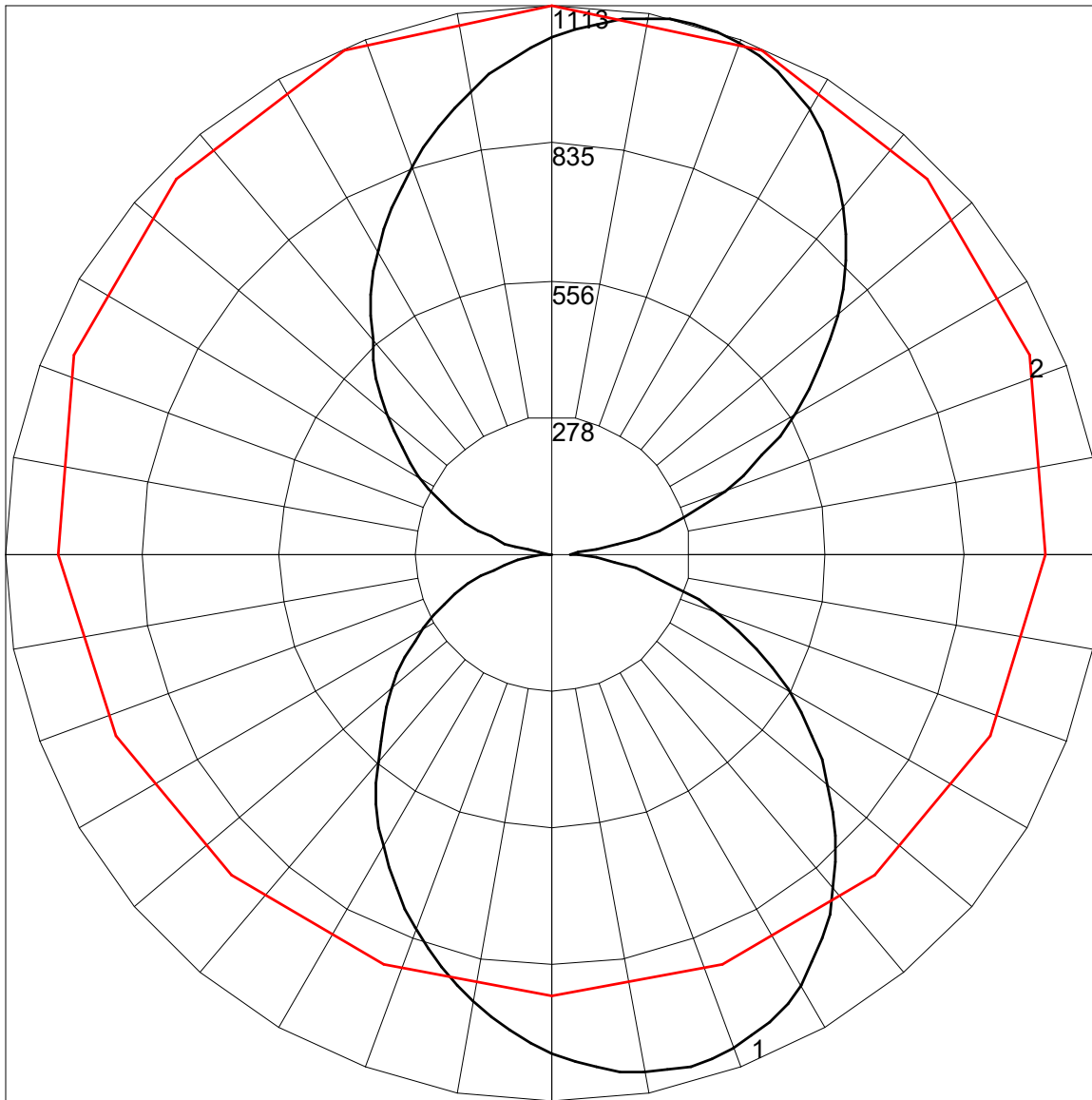
4H	2H	15.6	16.4	16.6	17.3	18.7	17.3	18.0	18.2	19.0	20.3
	3H	17.6	18.2	18.6	19.2	20.5	19.4	20.0	20.4	21.0	22.3
	4H	18.3	18.9	19.3	19.9	21.3	20.3	20.8	21.3	21.9	23.2
	6H	18.9	19.4	19.9	20.4	21.8	21.0	21.5	22.0	22.5	23.9
	8H	19.1	19.5	20.1	20.5	21.9	21.3	21.8	22.3	22.8	24.2
	12H	19.1	19.6	20.2	20.6	22.0	21.5	21.9	22.6	23.0	24.3

8H	4H	18.6	19.1	19.7	20.1	21.5	20.5	21.0	21.5	22.0	23.4
	6H	19.3	19.7	20.4	20.8	22.1	21.4	21.8	22.5	22.9	24.2
	8H	19.6	19.9	20.6	21.0	22.4	21.8	22.1	22.9	23.2	24.6
	12H	19.8	20.1	20.8	21.1	22.5	22.1	22.4	23.2	23.5	24.9

12H	4H	18.6	19.1	19.7	20.1	21.5	20.5	20.9	21.6	22.0	23.3
	6H	19.4	19.7	20.5	20.8	22.2	21.5	21.8	22.5	22.9	24.3
	8H	19.7	20.0	20.8	21.0	22.5	21.9	22.2	23.0	23.2	24.7

Maximum UGR = 24.9

POLAR GRAPH



Maximum Candela = 1112.689 Located At Horizontal Angle = 90, Vertical Angle = 165  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (165) (Through Max. Cd.)