



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2WUD-4-00-L8-840U-L8-840D-FA-F-(L6U-L6D)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 13012869.06  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 01-17-2024  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] MX2WUD-4-00-L8-840-FA/F-(L6U/L6D))-DIM-UNV  
 [LUMINAIRE] Formed White aluminum housing,frosted plastic lens  
 [LAMP] 144 White LEDs  
 [BALLAST] One Philips Advance XI040C110V054BST1  
 [\_ CONVERT] Photometric web converted from original test data  
 [\_ 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	4866
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	38.6
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)	0.17 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	13851	12715	11717
55	12310	11107	10087
65	10666	9528	8644
75	8771	8049	7498
85	6489	7040	7070

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## 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>
0.0	1092.665	1092.665	1092.665	1092.665	1092.665	1092.665	1092.665	1092.665	1092.665	1092.665
2.5	1088.636	1091.859	1091.053	1089.442	1095.888	1089.442	1091.053	1091.859	1088.636	1091.859
5.0	1082.995	1087.024	1086.218	1083.801	1088.636	1083.801	1086.218	1087.024	1082.995	1087.024
7.5	1074.937	1078.160	1076.549	1072.520	1077.355	1072.520	1076.549	1078.160	1074.937	1078.160
10.0	1062.850	1066.073	1062.044	1056.404	1060.433	1056.404	1062.044	1066.073	1062.850	1066.073
12.5	1047.540	1049.957	1042.705	1033.841	1036.259	1033.841	1042.705	1049.957	1047.540	1049.957
15.0	1029.007	1029.812	1019.337	1007.250	1008.056	1007.250	1019.337	1029.812	1029.007	1029.812
17.5	1007.250	1007.250	992.746	975.824	975.018	975.824	992.746	1007.250	1007.250	1007.250
20.0	981.464	979.853	961.319	941.174	939.563	941.174	961.319	979.853	981.464	979.853
22.5	953.261	950.038	926.670	904.108	900.079	904.108	926.670	950.038	953.261	950.038
25.0	922.641	917.000	890.409	863.818	858.983	863.818	890.409	917.000	922.641	917.000
27.5	887.992	880.739	851.731	821.916	816.275	821.916	851.731	880.739	887.992	880.739
30.0	851.731	842.867	811.441	779.450	772.682	779.450	811.441	842.867	851.731	842.867
32.5	814.664	803.866	769.458	736.904	728.927	736.904	769.458	803.866	814.664	803.866
35.0	775.341	763.415	727.476	693.471	685.494	693.471	727.476	763.415	775.341	763.415
37.5	734.326	721.755	685.413	650.281	642.303	650.281	685.413	721.755	734.326	721.755
40.0	692.182	679.692	642.948	607.573	599.515	607.573	642.948	679.692	692.182	679.692
42.5	650.361	637.549	600.563	565.591	556.566	565.591	600.563	637.549	650.361	637.549
45.0	608.379	594.922	558.500	523.689	514.664	523.689	558.500	594.922	608.379	594.922
47.5	565.672	552.215	516.518	482.755	474.052	482.755	516.518	552.215	565.672	552.215
50.0	522.561	509.830	475.341	443.351	435.132	443.351	475.341	509.830	522.561	509.830
52.5	480.176	468.412	435.051	405.076	396.856	405.076	435.051	468.412	480.176	468.412
55.0	438.597	427.396	395.728	367.445	359.387	367.445	395.728	427.396	438.597	427.396
57.5	397.582	387.026	357.614	331.184	323.851	331.184	357.614	387.026	397.582	387.026
60.0	357.211	347.622	320.305	296.857	290.249	296.857	320.305	347.622	357.211	347.622
62.5	317.727	309.669	284.367	264.141	257.937	264.141	284.367	309.669	317.727	309.669
65.0	280.015	272.763	250.120	232.634	226.913	232.634	250.120	272.763	280.015	272.763
67.5	243.352	236.583	217.405	202.417	197.502	202.417	217.405	236.583	243.352	236.583
70.0	207.171	201.611	185.898	174.053	170.346	174.053	185.898	201.611	207.171	201.611
72.5	172.683	168.735	156.728	148.187	144.561	148.187	156.728	168.735	172.683	168.735
75.0	141.015	137.872	129.411	123.449	120.548	123.449	129.411	137.872	141.015	137.872
77.5	111.120	108.783	103.706	99.436	97.502	99.436	103.706	108.783	111.120	108.783
80.0	82.756	81.628	79.694	77.196	76.148	77.196	79.694	81.628	82.756	81.628
82.5	57.212	57.615	57.776	56.970	56.406	56.970	57.776	57.615	57.212	57.615
85.0	35.133	36.583	38.114	38.517	38.276	38.517	38.114	36.583	35.133	36.583
87.5	16.680	18.292	20.709	21.918	22.079	21.918	20.709	18.292	16.680	18.292
90.0	8.554	12.356	15.841	17.425	17.901	17.425	15.841	12.356	8.554	12.356
92.5	16.112	17.668	20.004	21.170	21.326	21.170	20.004	17.668	16.112	17.668
95.0	33.936	35.337	36.816	37.205	36.972	37.205	36.816	35.337	33.936	35.337
97.5	55.262	55.651	55.807	55.029	54.484	55.029	55.807	55.651	55.262	55.651
100.0	79.936	78.845	76.979	74.566	73.554	74.566	76.979	78.845	79.936	78.845
102.5	107.334	105.076	100.173	96.048	94.179	96.048	100.173	105.076	107.334	105.076
105.0	136.210	133.174	125.002	119.242	116.441	119.242	125.002	133.174	136.210	133.174
107.5	166.798	162.984	151.387	143.138	139.634	143.138	151.387	162.984	166.798	162.984
110.0	200.112	194.742	179.563	168.122	164.541	168.122	179.563	194.742	200.112	194.742
112.5	235.060	228.521	209.997	195.519	190.772	195.519	209.997	228.521	235.060	228.521
115.0	270.474	263.469	241.597	224.708	219.181	224.708	241.597	263.469	270.474	263.469
117.5	306.901	299.118	274.676	255.141	249.147	255.141	274.676	299.118	306.901	299.118
120.0	345.039	335.776	309.391	286.741	280.358	286.741	309.391	335.776	345.039	335.776
122.5	384.034	373.837	345.428	319.899	312.816	319.899	345.428	373.837	384.034	373.837
125.0	423.652	412.832	382.244	354.924	347.141	354.924	382.244	412.832	423.652	412.832
127.5	463.814	452.450	420.227	391.273	383.333	391.273	420.227	452.450	463.814	452.450
130.0	504.754	492.457	459.144	428.243	420.304	428.243	459.144	492.457	504.754	492.457
132.5	546.396	533.398	498.918	466.304	457.899	466.304	498.918	533.398	546.396	533.398

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## CANDELA TABULATION - (Cont.)

135.0	587.648	574.650	539.469	505.845	497.127	505.845	539.469	574.650	587.648	574.650
137.5	628.200	615.825	580.098	546.318	537.601	546.318	580.098	615.825	628.200	615.825
140.0	668.595	656.532	621.039	586.869	579.087	586.869	621.039	656.532	668.595	656.532
142.5	709.304	697.160	662.058	628.122	620.416	628.122	662.058	697.160	709.304	697.160
145.0	748.920	737.401	702.687	669.842	662.135	669.842	702.687	737.401	748.920	737.401
147.5	786.904	776.475	743.239	711.794	704.087	711.794	743.239	776.475	786.904	776.475
150.0	822.708	814.146	783.791	752.890	746.353	752.890	783.791	814.146	822.708	814.146
152.5	857.733	850.727	822.708	793.908	788.461	793.908	822.708	850.727	857.733	850.727
155.0	891.201	885.754	860.067	834.383	829.712	834.383	860.067	885.754	891.201	885.754
157.5	920.779	917.665	895.094	873.300	869.408	873.300	895.094	917.665	920.779	917.665
160.0	948.020	946.463	928.562	909.104	907.547	909.104	928.562	946.463	948.020	946.463
162.5	972.927	972.927	958.917	942.572	941.793	942.572	958.917	972.927	972.927	972.927
165.0	993.943	994.721	984.603	972.927	973.706	972.927	984.603	994.721	993.943	994.721
167.5	1011.845	1014.179	1007.175	998.612	1000.948	998.612	1007.175	1014.179	1011.845	1014.179
170.0	1026.633	1029.746	1025.855	1020.406	1024.298	1020.406	1025.855	1029.746	1026.633	1029.746
172.5	1038.309	1041.422	1039.865	1035.973	1040.643	1035.973	1039.865	1041.422	1038.309	1041.422
175.0	1046.092	1049.983	1049.205	1046.870	1051.540	1046.870	1049.205	1049.983	1046.092	1049.983
177.5	1051.540	1054.653	1053.876	1052.319	1058.546	1052.319	1053.876	1054.653	1051.540	1054.653
180.0	1055.284	1055.284	1055.284	1055.284	1055.284	1055.284	1055.284	1055.284	1055.284	1055.284

## Vert. 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	1092.665	1092.665	1092.665	1092.665	1092.665	1092.665	1092.665
2.5	1091.053	1089.442	1095.888	1089.442	1091.053	1091.859	1088.636
5.0	1086.218	1083.801	1088.636	1083.801	1086.218	1087.024	1082.995
7.5	1076.549	1072.520	1077.355	1072.520	1076.549	1078.160	1074.937
10.0	1062.044	1056.404	1060.433	1056.404	1062.044	1066.073	1062.850
12.5	1042.705	1033.841	1036.259	1033.841	1042.705	1049.957	1047.540
15.0	1019.337	1007.250	1008.056	1007.250	1019.337	1029.812	1029.007
17.5	992.746	975.824	975.018	975.824	992.746	1007.250	1007.250
20.0	961.319	941.174	939.563	941.174	961.319	979.853	981.464
22.5	926.670	904.108	900.079	904.108	926.670	950.038	953.261
25.0	890.409	863.818	858.983	863.818	890.409	917.000	922.641
27.5	851.731	821.916	816.275	821.916	851.731	880.739	887.992
30.0	811.441	779.450	772.682	779.450	811.441	842.867	851.731
32.5	769.458	736.904	728.927	736.904	769.458	803.866	814.664
35.0	727.476	693.471	685.494	693.471	727.476	763.415	775.341
37.5	685.413	650.281	642.303	650.281	685.413	721.755	734.326
40.0	642.948	607.573	599.515	607.573	642.948	679.692	692.182
42.5	600.563	565.591	556.566	565.591	600.563	637.549	650.361
45.0	558.500	523.689	514.664	523.689	558.500	594.922	608.379
47.5	516.518	482.755	474.052	482.755	516.518	552.215	565.672
50.0	475.341	443.351	435.132	443.351	475.341	509.830	522.561
52.5	435.051	405.076	396.856	405.076	435.051	468.412	480.176
55.0	395.728	367.445	359.387	367.445	395.728	427.396	438.597
57.5	357.614	331.184	323.851	331.184	357.614	387.026	397.582
60.0	320.305	296.857	290.249	296.857	320.305	347.622	357.211
62.5	284.367	264.141	257.937	264.141	284.367	309.669	317.727
65.0	250.120	232.634	226.913	232.634	250.120	272.763	280.015
67.5	217.405	202.417	197.502	202.417	217.405	236.583	243.352
70.0	185.898	174.053	170.346	174.053	185.898	201.611	207.171
72.5	156.728	148.187	144.561	148.187	156.728	168.735	172.683
75.0	129.411	123.449	120.548	123.449	129.411	137.872	141.015
77.5	103.706	99.436	97.502	99.436	103.706	108.783	111.120
80.0	79.694	77.196	76.148	77.196	79.694	81.628	82.756

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX2WUD-4-00-L8-840U-L8-840D-FA-F-(L6U-L6D)-DIM-UNV\_.IES****CANDELA TABULATION - (Cont.)**

82.5	57.776	56.970	56.406	56.970	57.776	57.615	57.212
85.0	38.114	38.517	38.276	38.517	38.114	36.583	35.133
87.5	20.709	21.918	22.079	21.918	20.709	18.292	16.680
90.0	15.841	17.425	17.901	17.425	15.841	12.356	8.554
92.5	20.004	21.170	21.326	21.170	20.004	17.668	16.112
95.0	36.816	37.205	36.972	37.205	36.816	35.337	33.936
97.5	55.807	55.029	54.484	55.029	55.807	55.651	55.262
100.0	76.979	74.566	73.554	74.566	76.979	78.845	79.936
102.5	100.173	96.048	94.179	96.048	100.173	105.076	107.334
105.0	125.002	119.242	116.441	119.242	125.002	133.174	136.210
107.5	151.387	143.138	139.634	143.138	151.387	162.984	166.798
110.0	179.563	168.122	164.541	168.122	179.563	194.742	200.112
112.5	209.997	195.519	190.772	195.519	209.997	228.521	235.060
115.0	241.597	224.708	219.181	224.708	241.597	263.469	270.474
117.5	274.676	255.141	249.147	255.141	274.676	299.118	306.901
120.0	309.391	286.741	280.358	286.741	309.391	335.776	345.039
122.5	345.428	319.899	312.816	319.899	345.428	373.837	384.034
125.0	382.244	354.924	347.141	354.924	382.244	412.832	423.652
127.5	420.227	391.273	383.333	391.273	420.227	452.450	463.814
130.0	459.144	428.243	420.304	428.243	459.144	492.457	504.754
132.5	498.918	466.304	457.899	466.304	498.918	533.398	546.396
135.0	539.469	505.845	497.127	505.845	539.469	574.650	587.648
137.5	580.098	546.318	537.601	546.318	580.098	615.825	628.200
140.0	621.039	586.869	579.087	586.869	621.039	656.532	668.595
142.5	662.058	628.122	620.416	628.122	662.058	697.160	709.304
145.0	702.687	669.842	662.135	669.842	702.687	737.401	748.920
147.5	743.239	711.794	704.087	711.794	743.239	776.475	786.904
150.0	783.791	752.890	746.353	752.890	783.791	814.146	822.708
152.5	822.708	793.908	788.461	793.908	822.708	850.727	857.733
155.0	860.067	834.383	829.712	834.383	860.067	885.754	891.201
157.5	895.094	873.300	869.408	873.300	895.094	917.665	920.779
160.0	928.562	909.104	907.547	909.104	928.562	946.463	948.020
162.5	958.917	942.572	941.793	942.572	958.917	972.927	972.927
165.0	984.603	972.927	973.706	972.927	984.603	994.721	993.943
167.5	1007.175	998.612	1000.948	998.612	1007.175	1014.179	1011.845
170.0	1025.855	1020.406	1024.298	1020.406	1025.855	1029.746	1026.633
172.5	1039.865	1035.973	1040.643	1035.973	1039.865	1041.422	1038.309
175.0	1049.205	1046.870	1051.540	1046.870	1049.205	1049.983	1046.092
177.5	1053.876	1052.319	1058.546	1052.319	1053.876	1054.653	1051.540
180.0	1055.284	1055.284	1055.284	1055.284	1055.284	1055.284	1055.284

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX2WUD-4-00-L8-840U-L8-840D-FA-F-(L6U-L6D)-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	389.39	N.A.	8.00
0-30	798.75	N.A.	16.40
0-40	1254.25	N.A.	25.80
0-60	2042.03	N.A.	42.00
0-80	2431.22	N.A.	50.00
0-90	2475.3	N.A.	50.90
10-90	2372.43	N.A.	48.80
20-40	864.85	N.A.	17.80
20-50	1296.72	N.A.	26.60
40-70	1038.26	N.A.	21.30
60-80	389.19	N.A.	8.00
70-80	138.71	N.A.	2.90
80-90	44.08	N.A.	0.90
90-110	176.63	N.A.	3.60
90-120	418.58	N.A.	8.60
90-130	762.37	N.A.	15.70
90-150	1619.49	N.A.	33.30
90-180	2391.02	N.A.	49.10
110-180	2214.39	N.A.	45.50
0-180	4866.32	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	102.87
10-20	286.53
20-30	409.36
30-40	455.49
40-50	431.87
50-60	355.92
60-70	250.48
70-80	138.71
80-90	44.08
90-100	42.65
100-110	133.98
110-120	241.95
120-130	343.79
130-140	417.15
140-150	439.97
150-160	395.41
160-170	276.76
170-180	99.36

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## 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	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	71	69	62	60	59	51	50	48	43
2	90	82	76	71	83	76	71	67	65	61	58	55	52	49	45	43	41	37
3	82	73	65	60	75	67	61	56	58	53	49	48	45	42	40	38	35	31
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	36	33	31	27
5	69	58	50	44	64	54	46	41	46	41	36	39	35	32	33	29	27	24
6	64	52	44	38	59	48	41	36	42	36	32	35	31	28	30	26	24	21
7	59	47	39	33	54	44	37	32	38	32	28	32	28	25	27	24	21	19
8	55	43	35	30	51	40	33	28	35	29	25	30	25	22	25	22	19	17
9	51	39	32	27	47	36	30	25	32	26	23	27	23	20	23	20	17	15
10	48	36	29	24	44	34	27	23	29	24	20	25	21	18	21	18	16	14

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2WUD-4-00-L8-840U-L8-840D-FA-F-(L6U-L6D)-DIM-UNV\_.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	16.8	17.7	17.8	18.6	19.9	15.7	16.5	16.6	17.5	18.8
	3H	18.4	19.2	19.3	20.1	21.4	17.2	18.0	18.2	18.9	20.2
	4H	18.9	19.7	19.9	20.6	21.9	17.8	18.5	18.8	19.5	20.8
	6H	19.3	20.0	20.3	21.0	22.3	18.2	18.9	19.2	19.9	21.2
	8H	19.4	20.1	20.4	21.1	22.4	18.4	19.0	19.4	20.0	21.3
	12H	19.5	20.1	20.5	21.1	22.4	18.5	19.1	19.5	20.1	21.4

### UGR Viewed Endwise

4H	2H	17.2	17.9	18.2	18.9	20.2	16.3	17.0	17.3	18.0	19.3
	3H	19.0	19.6	20.0	20.6	21.9	18.0	18.6	19.0	19.6	20.9
	4H	19.7	20.2	20.7	21.2	22.5	18.7	19.2	19.7	20.2	21.6
	6H	20.2	20.7	21.2	21.7	23.0	19.3	19.7	20.3	20.8	22.1
	8H	20.3	20.8	21.4	21.8	23.1	19.5	19.9	20.5	20.9	22.3
	12H	20.4	20.8	21.5	21.9	23.2	19.6	20.0	20.7	21.1	22.4

8H	4H	19.8	20.3	20.8	21.3	22.6	19.0	19.4	20.0	20.4	21.8
	6H	20.5	20.8	21.5	21.9	23.2	19.7	20.0	20.7	21.1	22.4
	8H	20.7	21.0	21.8	22.1	23.4	20.0	20.3	21.0	21.3	22.7
	12H	20.9	21.2	21.9	22.2	23.6	20.2	20.5	21.3	21.6	23.0

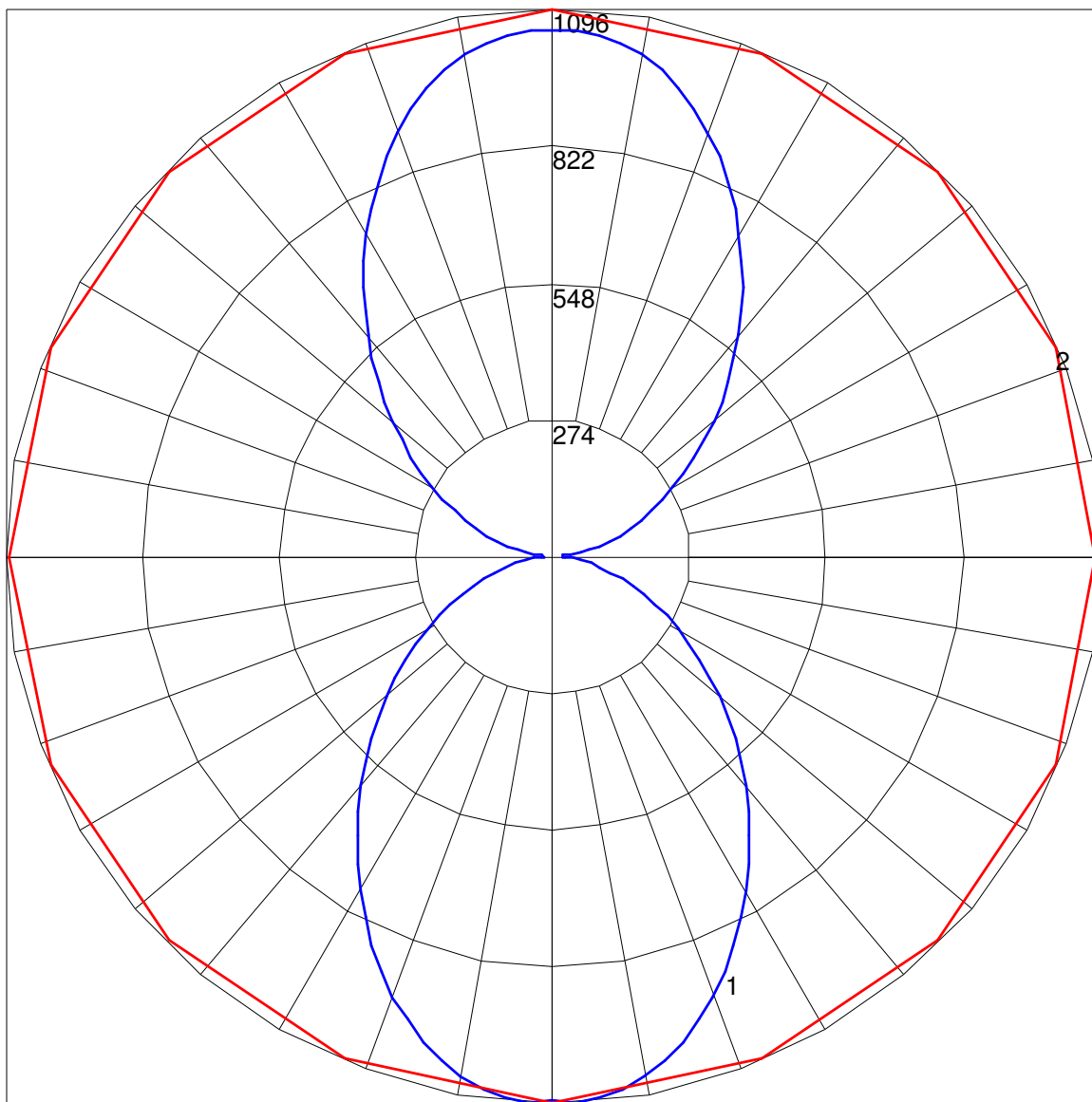
12H	4H	19.8	20.2	20.8	21.3	22.6	19.0	19.4	20.0	20.4	21.8
	6H	20.5	20.8	21.5	21.9	23.2	19.7	20.1	20.8	21.1	22.5
	8H	20.8	21.1	21.8	22.1	23.5	20.1	20.4	21.1	21.4	22.8

Maximum UGR = 23.6

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2WUD-4-00-L8-840U-L8-840D-FA-F-(L6U-L6D)-DIM-UNV\_.IES

## POLAR GRAPH



Maximum Candela = 1095.888 Located At Horizontal Angle = 90, Vertical Angle = 2.5

# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)