



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2WUD-4-00-L8-840U-L8-840D-FA-F-(L6U-L6D)-EM10WLP-DIM-UNV_EMER MODE.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-L8-840U-L8-840D-FA-F-(L6U-L6D)-EM10WLP-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	1295
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	10
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.08
Spacing Criterion (Diagonal)	1.24
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	7239	6645	6124
55	6433	5805	5272
65	5574	4979	4517
75	4584	4207	3919
85	3391	3679	3695

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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	571.045	571.045	571.045	571.045	571.045	571.045	571.045	571.045	571.045	571.045
2.5	568.940	570.624	570.203	569.361	572.730	569.361	570.203	570.624	568.940	570.624
5.0	565.992	568.097	567.676	566.413	568.940	566.413	567.676	568.097	565.992	568.097
7.5	561.781	563.465	562.623	560.517	563.044	560.517	562.623	563.465	561.781	563.465
10.0	555.464	557.148	555.043	552.095	554.200	552.095	555.043	557.148	555.464	557.148
12.5	547.462	548.726	544.936	540.303	541.567	540.303	544.936	548.726	547.462	548.726
15.0	537.777	538.198	532.723	526.406	526.827	526.406	532.723	538.198	537.777	538.198
17.5	526.406	526.406	518.826	509.982	509.561	509.982	518.826	526.406	526.406	526.406
20.0	512.930	512.088	502.402	491.874	491.032	491.874	502.402	512.088	512.930	512.088
22.5	498.191	496.506	484.294	472.502	470.397	472.502	484.294	496.506	498.191	496.506
25.0	482.188	479.240	465.343	451.446	448.919	451.446	465.343	479.240	482.188	479.240
27.5	464.080	460.290	445.129	429.547	426.600	429.547	445.129	460.290	464.080	460.290
30.0	445.129	440.497	424.073	407.354	403.817	407.354	424.073	440.497	445.129	440.497
32.5	425.757	420.114	402.132	385.119	380.950	385.119	402.132	420.114	425.757	420.114
35.0	405.206	398.974	380.192	362.420	358.251	362.420	380.192	398.974	405.206	398.974
37.5	383.771	377.202	358.209	339.848	335.679	339.848	358.209	377.202	383.771	377.202
40.0	361.746	355.219	336.016	317.528	313.317	317.528	336.016	355.219	361.746	355.219
42.5	339.890	333.194	313.864	295.588	290.871	295.588	313.864	333.194	339.890	333.194
45.0	317.949	310.917	291.882	273.689	268.972	273.689	291.882	310.917	317.949	310.917
47.5	295.630	288.597	269.941	252.296	247.748	252.296	269.941	288.597	295.630	288.597
50.0	273.099	266.446	248.422	231.703	227.407	231.703	248.422	266.446	273.099	266.446
52.5	250.948	244.800	227.365	211.699	207.404	211.699	227.365	244.800	250.948	244.800
55.0	229.218	223.365	206.814	192.033	187.822	192.033	206.814	223.365	229.218	223.365
57.5	207.783	202.266	186.895	173.082	169.250	173.082	186.895	202.266	207.783	202.266
60.0	186.685	181.673	167.397	155.142	151.689	155.142	167.397	181.673	186.685	181.673
62.5	166.050	161.838	148.615	138.045	134.802	138.045	148.615	161.838	166.050	161.838
65.0	146.341	142.551	130.717	121.579	118.589	121.579	130.717	142.551	146.341	142.551
67.5	127.180	123.642	113.620	105.787	103.218	105.787	113.620	123.642	127.180	123.642
70.0	108.271	105.365	97.154	90.963	89.026	90.963	97.154	105.365	108.271	105.365
72.5	90.247	88.184	81.909	77.445	75.550	77.445	81.909	88.184	90.247	88.184
75.0	73.697	72.054	67.633	64.516	63.000	64.516	67.633	72.054	73.697	72.054
77.5	58.073	56.852	54.199	51.967	50.956	51.967	54.199	56.852	58.073	56.852
80.0	43.250	42.660	41.649	40.344	39.796	40.344	41.649	42.660	43.250	42.660
82.5	29.900	30.110	30.195	29.774	29.479	29.774	30.195	30.110	29.900	30.110
85.0	18.361	19.119	19.919	20.130	20.003	20.130	19.919	19.119	18.361	19.119
87.5	8.717	9.560	10.823	11.455	11.539	11.455	10.823	9.560	8.717	9.560
90.0	2.277	3.289	4.216	4.638	4.764	4.638	4.216	3.289	2.277	3.289
92.5	0.010	0.011	0.013	0.014	0.014	0.014	0.013	0.011	0.010	0.011
95.0	0.022	0.023	0.024	0.024	0.024	0.024	0.024	0.023	0.022	0.023
97.5	0.036	0.036	0.036	0.036	0.035	0.036	0.036	0.036	0.036	0.036
100.0	0.052	0.051	0.050	0.048	0.048	0.048	0.050	0.051	0.052	0.051
102.5	0.070	0.068	0.065	0.062	0.061	0.062	0.065	0.068	0.070	0.068
105.0	0.088	0.086	0.081	0.077	0.075	0.077	0.081	0.086	0.088	0.086
107.5	0.108	0.106	0.098	0.093	0.091	0.093	0.098	0.106	0.108	0.106
110.0	0.130	0.126	0.116	0.109	0.107	0.109	0.116	0.126	0.130	0.126
112.5	0.152	0.148	0.136	0.127	0.124	0.127	0.136	0.148	0.152	0.148
115.0	0.175	0.171	0.157	0.146	0.142	0.146	0.157	0.171	0.175	0.171
117.5	0.199	0.194	0.178	0.165	0.161	0.165	0.178	0.194	0.199	0.194
120.0	0.224	0.218	0.201	0.186	0.182	0.186	0.201	0.218	0.224	0.218
122.5	0.249	0.242	0.224	0.207	0.203	0.207	0.224	0.242	0.249	0.242
125.0	0.275	0.268	0.248	0.230	0.225	0.230	0.248	0.268	0.275	0.268
127.5	0.301	0.293	0.272	0.254	0.248	0.254	0.272	0.293	0.301	0.293
130.0	0.327	0.319	0.298	0.278	0.272	0.278	0.298	0.319	0.327	0.319
132.5	0.354	0.346	0.323	0.302	0.297	0.302	0.323	0.346	0.354	0.346

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CANDELA TABULATION - (Cont.)

135.0	0.381	0.372	0.350	0.328	0.322	0.328	0.350	0.372	0.381	0.372
137.5	0.407	0.399	0.376	0.354	0.348	0.354	0.376	0.399	0.407	0.399
140.0	0.433	0.426	0.403	0.380	0.375	0.380	0.403	0.426	0.433	0.426
142.5	0.460	0.452	0.429	0.407	0.402	0.407	0.429	0.452	0.460	0.452
145.0	0.485	0.478	0.455	0.434	0.429	0.434	0.455	0.478	0.485	0.478
147.5	0.510	0.503	0.482	0.461	0.456	0.461	0.482	0.503	0.510	0.503
150.0	0.533	0.528	0.508	0.488	0.484	0.488	0.508	0.528	0.533	0.528
152.5	0.556	0.551	0.533	0.515	0.511	0.515	0.533	0.551	0.556	0.551
155.0	0.578	0.574	0.557	0.541	0.538	0.541	0.557	0.574	0.578	0.574
157.5	0.597	0.595	0.580	0.566	0.564	0.566	0.580	0.595	0.597	0.595
160.0	0.614	0.613	0.602	0.589	0.588	0.589	0.602	0.613	0.614	0.613
162.5	0.631	0.631	0.622	0.611	0.610	0.611	0.622	0.631	0.631	0.631
165.0	0.644	0.645	0.638	0.631	0.631	0.631	0.638	0.645	0.644	0.645
167.5	0.656	0.657	0.653	0.647	0.649	0.647	0.653	0.657	0.656	0.657
170.0	0.665	0.667	0.665	0.661	0.664	0.661	0.665	0.667	0.665	0.667
172.5	0.673	0.675	0.674	0.671	0.675	0.671	0.674	0.675	0.673	0.675
175.0	0.678	0.681	0.680	0.679	0.682	0.679	0.680	0.681	0.678	0.681
177.5	0.682	0.684	0.683	0.682	0.686	0.682	0.683	0.684	0.682	0.684
180.0	0.684	0.684	0.684	0.684	0.684	0.684	0.684	0.684	0.684	0.684

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	571.045	571.045	571.045	571.045	571.045	571.045	571.045
2.5	570.203	569.361	572.730	569.361	570.203	570.624	568.940
5.0	567.676	566.413	568.940	566.413	567.676	568.097	565.992
7.5	562.623	560.517	563.044	560.517	562.623	563.465	561.781
10.0	555.043	552.095	554.200	552.095	555.043	557.148	555.464
12.5	544.936	540.303	541.567	540.303	544.936	548.726	547.462
15.0	532.723	526.406	526.827	526.406	532.723	538.198	537.777
17.5	518.826	509.982	509.561	509.982	518.826	526.406	526.406
20.0	502.402	491.874	491.032	491.874	502.402	512.088	512.930
22.5	484.294	472.502	470.397	472.502	484.294	496.506	498.191
25.0	465.343	451.446	448.919	451.446	465.343	479.240	482.188
27.5	445.129	429.547	426.600	429.547	445.129	460.290	464.080
30.0	424.073	407.354	403.817	407.354	424.073	440.497	445.129
32.5	402.132	385.119	380.950	385.119	402.132	420.114	425.757
35.0	380.192	362.420	358.251	362.420	380.192	398.974	405.206
37.5	358.209	339.848	335.679	339.848	358.209	377.202	383.771
40.0	336.016	317.528	313.317	317.528	336.016	355.219	361.746
42.5	313.864	295.588	290.871	295.588	313.864	333.194	339.890
45.0	291.882	273.689	268.972	273.689	291.882	310.917	317.949
47.5	269.941	252.296	247.748	252.296	269.941	288.597	295.630
50.0	248.422	231.703	227.407	231.703	248.422	266.446	273.099
52.5	227.365	211.699	207.404	211.699	227.365	244.800	250.948
55.0	206.814	192.033	187.822	192.033	206.814	223.365	229.218
57.5	186.895	173.082	169.250	173.082	186.895	202.266	207.783
60.0	167.397	155.142	151.689	155.142	167.397	181.673	186.685
62.5	148.615	138.045	134.802	138.045	148.615	161.838	166.050
65.0	130.717	121.579	118.589	121.579	130.717	142.551	146.341
67.5	113.620	105.787	103.218	105.787	113.620	123.642	127.180
70.0	97.154	90.963	89.026	90.963	97.154	105.365	108.271
72.5	81.909	77.445	75.550	77.445	81.909	88.184	90.247
75.0	67.633	64.516	63.000	64.516	67.633	72.054	73.697
77.5	54.199	51.967	50.956	51.967	54.199	56.852	58.073
80.0	41.649	40.344	39.796	40.344	41.649	42.660	43.250

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX2WUD-4-00-L8-840U-L8-840D-FA-F-(L6U-L6D)-EM10WLP-DIM-UNV_EMER MODE.IES****CANDELA TABULATION - (Cont.)**

82.5	30.195	29.774	29.479	29.774	30.195	30.110	29.900
85.0	19.919	20.130	20.003	20.130	19.919	19.119	18.361
87.5	10.823	11.455	11.539	11.455	10.823	9.560	8.717
90.0	4.216	4.638	4.764	4.638	4.216	3.289	2.277
92.5	0.013	0.014	0.014	0.014	0.013	0.011	0.010
95.0	0.024	0.024	0.024	0.024	0.024	0.023	0.022
97.5	0.036	0.036	0.035	0.036	0.036	0.036	0.036
100.0	0.050	0.048	0.048	0.048	0.050	0.051	0.052
102.5	0.065	0.062	0.061	0.062	0.065	0.068	0.070
105.0	0.081	0.077	0.075	0.077	0.081	0.086	0.088
107.5	0.098	0.093	0.091	0.093	0.098	0.106	0.108
110.0	0.116	0.109	0.107	0.109	0.116	0.126	0.130
112.5	0.136	0.127	0.124	0.127	0.136	0.148	0.152
115.0	0.157	0.146	0.142	0.146	0.157	0.171	0.175
117.5	0.178	0.165	0.161	0.165	0.178	0.194	0.199
120.0	0.201	0.186	0.182	0.186	0.201	0.218	0.224
122.5	0.224	0.207	0.203	0.207	0.224	0.242	0.249
125.0	0.248	0.230	0.225	0.230	0.248	0.268	0.275
127.5	0.272	0.254	0.248	0.254	0.272	0.293	0.301
130.0	0.298	0.278	0.272	0.278	0.298	0.319	0.327
132.5	0.323	0.302	0.297	0.302	0.323	0.346	0.354
135.0	0.350	0.328	0.322	0.328	0.350	0.372	0.381
137.5	0.376	0.354	0.348	0.354	0.376	0.399	0.407
140.0	0.403	0.380	0.375	0.380	0.403	0.426	0.433
142.5	0.429	0.407	0.402	0.407	0.429	0.452	0.460
145.0	0.455	0.434	0.429	0.434	0.455	0.478	0.485
147.5	0.482	0.461	0.456	0.461	0.482	0.503	0.510
150.0	0.508	0.488	0.484	0.488	0.508	0.528	0.533
152.5	0.533	0.515	0.511	0.515	0.533	0.551	0.556
155.0	0.557	0.541	0.538	0.541	0.557	0.574	0.578
157.5	0.580	0.566	0.564	0.566	0.580	0.595	0.597
160.0	0.602	0.589	0.588	0.589	0.602	0.613	0.614
162.5	0.622	0.611	0.610	0.611	0.622	0.631	0.631
165.0	0.638	0.631	0.631	0.631	0.638	0.645	0.644
167.5	0.653	0.647	0.649	0.647	0.653	0.657	0.656
170.0	0.665	0.661	0.664	0.661	0.665	0.667	0.665
172.5	0.674	0.671	0.675	0.671	0.674	0.675	0.673
175.0	0.680	0.679	0.682	0.679	0.680	0.681	0.678
177.5	0.683	0.682	0.686	0.682	0.683	0.684	0.682
180.0	0.684	0.684	0.684	0.684	0.684	0.684	0.684

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Zone	Lumens	%Lamp	%Fixt
0-20	203.50	N.A.	15.70
0-30	417.44	N.A.	32.20
0-40	655.49	N.A.	50.60
0-60	1067.2	N.A.	82.40
0-80	1270.6	N.A.	98.10
0-90	1293.12	N.A.	99.80
10-90	1239.36	N.A.	95.70
20-40	451.99	N.A.	34.90
20-50	677.69	N.A.	52.30
40-70	542.61	N.A.	41.90
60-80	203.40	N.A.	15.70
70-80	72.49	N.A.	5.60
80-90	22.52	N.A.	1.70
90-110	0.65	N.A.	0.10
90-120	0.81	N.A.	0.10
90-130	1.03	N.A.	0.10
90-150	1.58	N.A.	0.10
90-180	2.09	N.A.	0.20
110-180	1.44	N.A.	0.10
0-180	1295.2	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	53.76
10-20	149.74
20-30	213.94
30-40	238.05
40-50	225.70
50-60	186.01
60-70	130.91
70-80	72.49
80-90	22.52
90-100	0.56
100-110	0.09
110-120	0.16
120-130	0.22
130-140	0.27
140-150	0.29
150-160	0.26
160-170	0.18
170-180	0.06

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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	94	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53
5	78	66	57	51	76	64	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	48	41	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	38	32	44	37	32	43	37	32	42	36	32	30
10	55	42	35	30	54	42	34	29	41	34	29	40	34	29	39	33	29	27

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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	18.3	19.9	18.7	20.2	20.5	17.2	18.8	17.6	19.1	19.4
	3H	19.9	21.4	20.3	21.7	22.0	18.8	20.2	19.1	20.5	20.9
	4H	20.5	21.9	20.9	22.2	22.6	19.4	20.7	19.8	21.1	21.4
	6H	20.9	22.2	21.4	22.5	22.9	19.8	21.1	20.3	21.4	21.8
	8H	21.1	22.3	21.5	22.6	23.0	20.0	21.2	20.5	21.6	22.0
	12H	21.2	22.3	21.6	22.7	23.1	20.2	21.3	20.6	21.7	22.1

UGR Viewed Endwise

4H	2H	18.8	20.1	19.2	20.5	20.8	17.8	19.2	18.2	19.5	19.9
	3H	20.6	21.7	21.0	22.1	22.5	19.6	20.8	20.1	21.2	21.6
	4H	21.3	22.3	21.8	22.8	23.2	20.4	21.4	20.8	21.8	22.2
	6H	21.9	22.8	22.4	23.2	23.7	21.0	21.9	21.4	22.3	22.8
	8H	22.1	22.9	22.5	23.3	23.8	21.2	22.0	21.7	22.5	22.9
	12H	22.2	22.9	22.7	23.4	23.9	21.4	22.1	21.9	22.6	23.1

8H	4H	21.6	22.4	22.0	22.8	23.3	20.7	21.5	21.2	22.0	22.4
	6H	22.2	22.9	22.7	23.4	23.9	21.4	22.1	21.9	22.6	23.1
	8H	22.5	23.1	23.0	23.6	24.1	21.7	22.4	22.2	22.9	23.3
	12H	22.7	23.2	23.2	23.7	24.3	22.0	22.6	22.5	23.1	23.6

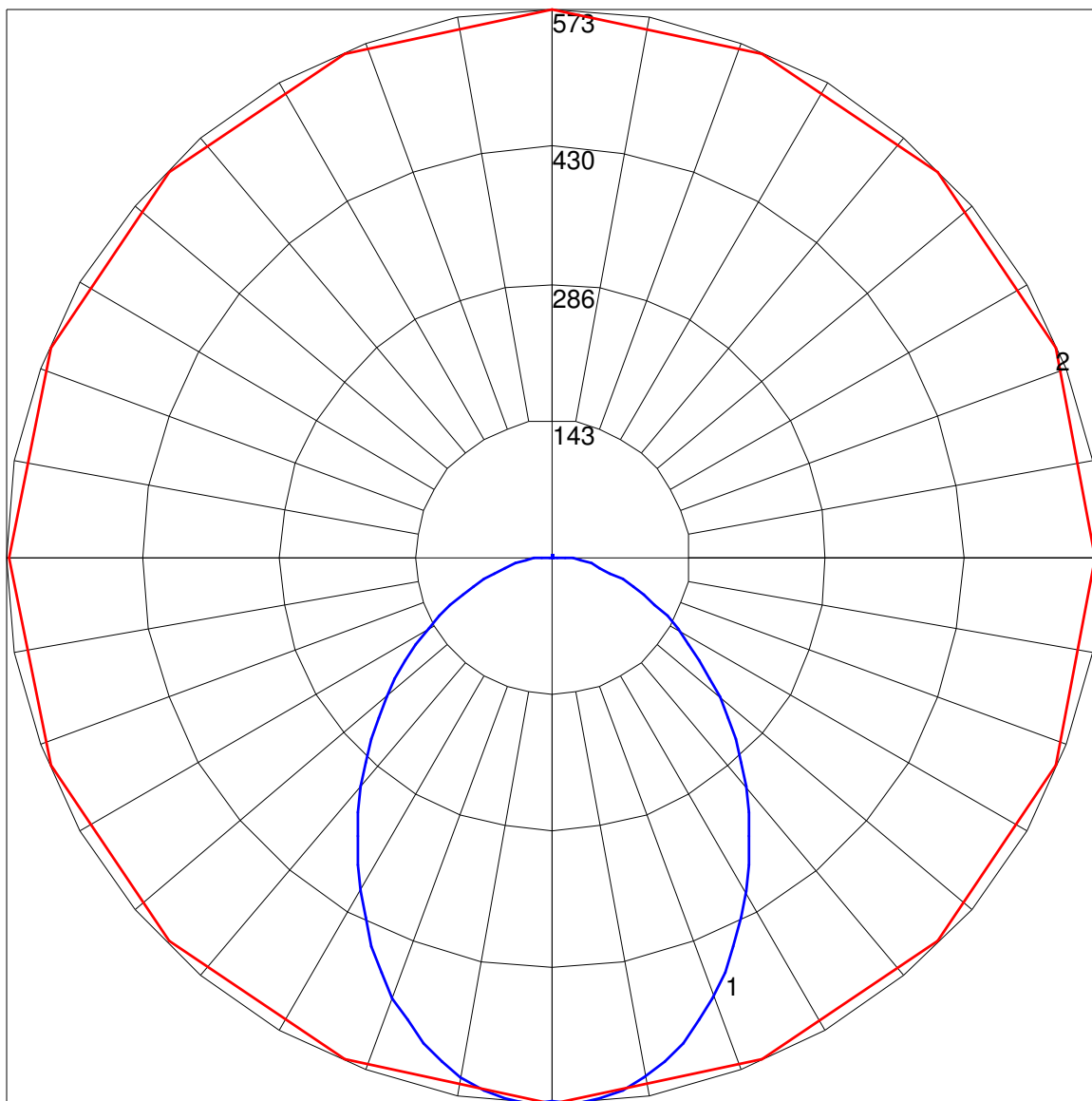
12H	4H	21.6	22.3	22.0	22.8	23.3	20.7	21.5	21.2	21.9	22.4
	6H	22.3	22.9	22.8	23.4	23.9	21.5	22.1	22.0	22.6	23.1
	8H	22.6	23.1	23.1	23.6	24.2	21.9	22.4	22.4	22.9	23.5

Maximum UGR = 24.3

IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX2WUD-4-00-L8-840U-L8-840D-FA-F-(L6U-L6D)-EM10WLP-DIM-UNV_EMER MODE.IES

POLAR GRAPH



Maximum Candela = 572.73 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.)