



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L12-835U-L8-835D-F-(L8.5U-L3.6D)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20195.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 16-APR-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 8' DIRECT/INDIRECT SUSPENDED LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS  
 [LUMCAT] MX4UD-8-L12/835U/L8/835D-S-A-(L8.5U/L3.6D)-DIM-UNV  
 [LAMPCAT] HLM 80 CRI, 3500K CCT  
 [ SEARCH\_SOURCETYPE] LED  
 [ SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Direct  
 [ SEARCH\_MOUNTING] Suspended

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9883
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	76.7
Ballast Factor	1.00
CIE Type	Semi-Indirect
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)	8.00 ft
Luminous Width (90-270)	0.32 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4301	4107	3953
55	3963	3778	3544
65	3506	3298	3157
75	2698	2588	2568
85	1246	1543	1424

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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>
0	1178.135	1178.135	1178.135	1178.135	1178.135
5	1202.369	1176.271	1168.815	1162.601	1156.387
10	1186.213	1158.251	1149.552	1140.231	1133.396
15	1161.979	1130.911	1114.755	1099.842	1095.492
20	1111.026	1079.957	1071.258	1045.782	1041.432
25	1039.568	1015.334	1006.635	987.372	983.022
30	968.109	946.361	935.176	921.506	914.670
35	901.000	875.524	857.504	849.426	841.969
40	826.435	806.550	780.453	768.025	758.083
45	730.742	717.072	697.809	686.003	671.711
50	642.506	619.515	615.787	594.039	582.232
55	546.192	532.522	520.716	502.075	488.404
60	457.335	437.451	430.616	413.839	402.032
65	356.050	345.487	334.923	324.360	320.632
70	261.601	252.280	245.445	235.503	239.852
75	167.772	168.394	160.937	160.937	159.695
80	82.643	87.615	85.129	90.100	83.886
85	26.098	31.069	32.312	37.904	29.826
90	0.000	0.000	0.000	0.000	0.000
95	85.310	89.373	85.310	85.310	77.185
100	194.995	194.995	194.995	174.683	170.620
105	337.178	337.178	308.742	296.554	284.367
110	544.360	519.986	471.237	430.613	426.551
115	771.854	731.230	658.107	613.421	601.234
120	1007.472	954.661	873.414	800.291	788.103
125	1279.653	1214.654	1096.845	1019.660	987.161
130	1564.020	1490.897	1348.713	1255.278	1239.029
135	1803.701	1689.954	1604.644	1507.146	1490.897
140	2051.506	1962.134	1844.325	1754.952	1730.578
145	2274.938	2246.501	2071.818	1986.508	1966.196
150	2465.870	2433.371	2279.000	2209.940	2173.378
155	2632.428	2591.804	2465.870	2429.309	2392.747
160	2774.612	2750.237	2668.990	2624.303	2591.804
165	2876.171	2876.171	2819.298	2786.799	2758.362
170	2953.357	2961.482	2937.107	2924.920	2900.546
175	2993.981	3014.293	3006.168	2989.918	2977.731
180	3014.293	3014.293	3014.293	3014.293	3014.293

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4UD-8-00-L12-835U-L8-835D-F-(L8.5U-L3.6D)-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	426.13	N.A.	4.30
0-30	889.27	N.A.	9.00
0-40	1429.61	N.A.	14.50
0-60	2433.97	N.A.	24.60
0-80	2940.87	N.A.	29.80
0-90	2982.01	N.A.	30.20
10-90	2870.79	N.A.	29.00
20-40	1003.48	N.A.	10.20
20-50	1543.77	N.A.	15.60
40-70	1337.32	N.A.	13.50
60-80	506.89	N.A.	5.10
70-80	173.93	N.A.	1.80
80-90	41.14	N.A.	0.40
90-110	437.68	N.A.	4.40
90-120	1106.4	N.A.	11.20
90-130	2109.62	N.A.	21.30
90-150	4669.24	N.A.	47.20
90-180	6901.35	N.A.	69.80
110-180	6463.67	N.A.	65.40
0-180	9883.36	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	111.22
10-20	314.91
20-30	463.14
30-40	540.34
40-50	540.29
50-60	464.07
60-70	332.96
70-80	173.93
80-90	41.14
90-100	97.32
100-110	340.36
110-120	668.72
120-130	1003.22
130-140	1246.93
140-150	1312.68
150-160	1152.21
160-170	795.65
170-180	284.26

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## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38	30
1	93	89	86	82	84	80	77	74	63	61	59	48	47	45	34	33	32	26
2	85	78	72	67	76	70	65	61	56	52	49	42	40	38	30	28	27	22
3	78	69	61	56	69	62	56	51	49	45	41	37	34	32	26	25	23	18
4	71	61	53	47	63	55	48	43	43	39	35	33	30	27	23	22	20	16
5	65	54	46	40	58	49	42	37	39	34	30	30	26	24	21	19	17	14
6	60	48	40	35	53	44	37	32	35	30	26	27	23	21	19	17	15	12
7	55	43	36	30	49	39	33	28	32	27	23	24	21	18	17	15	14	11
8	51	39	32	27	46	36	29	25	29	24	20	22	19	16	16	14	12	10
9	47	36	28	24	43	32	26	22	26	21	18	20	17	14	15	13	11	9
10	44	33	26	21	40	30	24	19	24	19	16	19	15	13	14	11	10	8

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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	10.8	11.5	11.9	12.6	14.2	10.3	11.0	11.5	12.2	13.7
	3H	12.4	13.0	13.5	14.1	15.7	11.9	12.5	13.0	13.6	15.2
	4H	12.9	13.5	14.0	14.6	16.2	12.4	13.0	13.5	14.1	15.7
	6H	13.2	13.7	14.3	14.8	16.4	12.7	13.3	13.9	14.4	16.0
	8H	13.2	13.7	14.4	14.9	16.4	12.8	13.3	13.9	14.4	16.0
	12H	13.2	13.7	14.4	14.8	16.4	12.8	13.3	14.0	14.4	16.0

### UGR Viewed Endwise

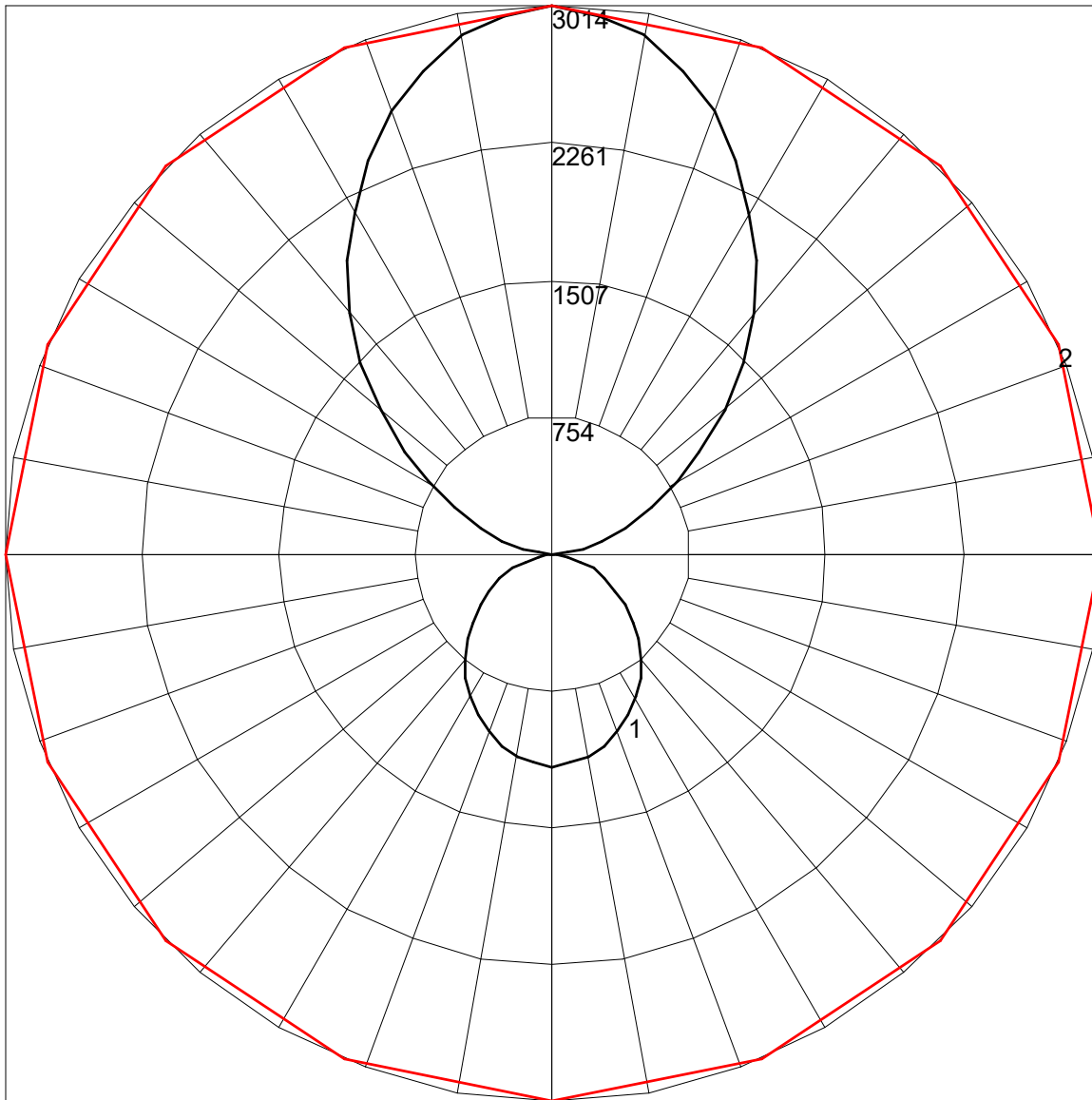
4H	2H	11.2	11.8	12.4	13.0	14.5	10.9	11.5	12.0	12.6	14.1
	3H	13.0	13.5	14.1	14.6	16.2	12.6	13.1	13.7	14.2	15.8
	4H	13.6	14.1	14.8	15.2	16.8	13.2	13.7	14.4	14.8	16.4
	6H	14.0	14.4	15.2	15.6	17.1	13.6	14.0	14.8	15.2	16.8
	8H	14.1	14.5	15.2	15.6	17.2	13.8	14.1	14.9	15.3	16.9
	12H	14.1	14.4	15.3	15.6	17.2	13.8	14.1	15.0	15.3	16.9
8H	4H	13.8	14.1	14.9	15.3	16.9	13.4	13.8	14.6	14.9	16.5
	6H	14.3	14.6	15.4	15.7	17.3	13.9	14.3	15.1	15.4	17.0
	8H	14.4	14.7	15.6	15.8	17.4	14.1	14.4	15.3	15.6	17.2
	12H	14.5	14.7	15.7	15.9	17.5	14.2	14.5	15.4	15.6	17.3
12H	4H	13.8	14.1	14.9	15.2	16.8	13.4	13.7	14.6	14.9	16.5
	6H	14.3	14.5	15.4	15.7	17.3	14.0	14.2	15.1	15.4	17.0
	8H	14.4	14.7	15.6	15.8	17.5	14.2	14.4	15.4	15.6	17.2

Maximum UGR = 17.5

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## POLAR GRAPH



Maximum Candela = 3014.293 Located At Horizontal Angle = 0, Vertical Angle = 180

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

# 2 - Horizontal Cone Through Vertical Angle (180) (Through Max. Cd.)