



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L10U-L10D-RGB835U-RGB835D-F-DMX-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20657.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 7 May, 2024

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 8' DIRECT/INDIRECT SUSPENDED LUMINAIRE - WHITE ONLY

[MORE] WITH FROSTED ACRYLIC LENS

[LUMCAT] MX4UD-8-00-L10U-L10D-RGB835U-RGB835D-F-DMX-UNV

[\_SEARCH\_SOURCE TYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Indirect

[\_SEARCH\_MOUNTING] Suspended

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	17217
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	100
Total Luminaire Watts	172.8
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)	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	12147	11766	11570
55	11175	10805	10670
65	10278	9867	9631
75	8531	8465	8276
85	6439	6589	6514

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	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
<b>0</b>	3359.494	3359.494	3359.494	3359.494	3359.494
<b>5</b>	3396.157	3342.127	3328.620	3340.198	3322.831
<b>10</b>	3342.127	3288.097	3272.660	3280.379	3264.942
<b>15</b>	3245.645	3193.545	3174.249	3181.968	3166.530
<b>20</b>	3112.501	3062.330	3039.175	3041.104	3023.738
<b>25</b>	2946.552	2898.311	2873.226	2859.719	2840.422
<b>30</b>	2745.870	2697.629	2674.474	2664.825	2647.459
<b>35</b>	2523.962	2479.581	2454.495	2440.988	2423.621
<b>40</b>	2284.687	2242.235	2219.080	2203.643	2184.346
<b>45</b>	2031.905	1989.453	1968.227	1950.861	1935.424
<b>50</b>	1773.334	1733.777	1714.866	1699.429	1684.378
<b>55</b>	1516.307	1480.030	1466.136	1459.769	1447.805
<b>60</b>	1275.103	1243.264	1225.318	1213.740	1200.812
<b>65</b>	1027.530	1000.516	986.429	975.237	962.888
<b>70</b>	772.626	758.925	749.277	743.488	734.033
<b>75</b>	522.352	518.107	518.300	513.476	506.722
<b>80</b>	308.742	307.777	311.057	309.706	306.233
<b>85</b>	132.759	134.496	135.846	134.881	134.303
<b>90</b>	0.000	0.000	0.000	0.000	0.000
<b>95</b>	154.523	151.432	157.613	154.523	163.794
<b>100</b>	327.588	330.679	312.136	327.588	324.498
<b>105</b>	553.191	550.101	550.101	540.829	531.558
<b>110</b>	791.156	778.794	769.523	763.342	747.890
<b>115</b>	1047.664	1032.212	1013.669	982.764	982.764
<b>120</b>	1301.081	1273.267	1245.453	1230.001	1214.548
<b>125</b>	1532.865	1526.684	1495.780	1464.875	1449.423
<b>130</b>	1773.921	1770.830	1739.926	1712.111	1702.840
<b>135</b>	2002.614	2008.795	1974.800	1937.715	1925.353
<b>140</b>	2246.760	2234.398	2212.765	2160.227	2160.227
<b>145</b>	2466.182	2450.730	2416.735	2404.373	2376.559
<b>150</b>	2648.519	2667.062	2633.067	2605.253	2592.891
<b>155</b>	2827.765	2843.218	2818.494	2784.499	2781.409
<b>160</b>	2985.378	2997.740	2973.017	2957.564	2942.112
<b>165</b>	3102.816	3118.268	3096.635	3081.183	3071.911
<b>170</b>	3186.258	3201.710	3183.168	3173.896	3173.896
<b>175</b>	3229.524	3248.067	3232.615	3223.343	3210.982
<b>180</b>	3241.886	3241.886	3241.886	3241.886	3241.886

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Zone	Lumens	%Lamp	%Fixt
0-20	1215.75	N.A.	7.10
0-30	2542.31	N.A.	14.80
0-40	4082.04	N.A.	23.70
0-60	6923.86	N.A.	40.20
0-80	8456.18	N.A.	49.10
0-90	8613.62	N.A.	50.00
10-90	8296.36	N.A.	48.20
20-40	2866.29	N.A.	16.60
20-50	4389.65	N.A.	25.50
40-70	3822.09	N.A.	22.20
60-80	1532.32	N.A.	8.90
70-80	552.04	N.A.	3.20
80-90	157.44	N.A.	0.90
90-110	749.80	N.A.	4.40
90-120	1750.86	N.A.	10.20
90-130	3089.04	N.A.	17.90
90-150	6128.06	N.A.	35.60
90-180	8603.46	N.A.	50.00
110-180	7853.66	N.A.	45.60
0-180	17217.08	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	317.25
10-20	898.50
20-30	1326.56
30-40	1539.73
40-50	1523.36
50-60	1318.46
60-70	980.28
70-80	552.04
80-90	157.44
90-100	173.00
100-110	576.80
110-120	1001.07
120-130	1338.17
130-140	1522.85
140-150	1516.18
150-160	1295.79
160-170	872.72
170-180	306.90

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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	90	86	90	86	83	80	73	71	68	61	59	58	50	48	47	42
2	89	82	75	70	82	76	70	66	64	60	57	53	51	48	44	42	40	35
3	81	72	64	59	75	66	60	55	56	52	48	47	44	41	39	36	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	29	26
5	68	57	48	43	63	53	45	40	45	39	35	38	34	30	31	28	26	22
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	28	25	23	20
7	58	46	38	32	53	43	36	31	37	31	27	31	27	23	26	23	20	17
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18	16
9	50	38	31	25	46	36	29	24	31	25	21	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15	13

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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	16.5	17.4	17.5	18.4	19.6	16.3	17.2	17.3	18.2	19.4
	3H	18.2	19.0	19.2	20.0	21.3	18.0	18.8	19.0	19.8	21.1
	4H	18.8	19.6	19.8	20.5	21.9	18.6	19.4	19.6	20.3	21.6
	6H	19.3	19.9	20.3	20.9	22.2	19.1	19.7	20.1	20.7	22.0
	8H	19.4	20.0	20.4	21.0	22.3	19.2	19.8	20.2	20.8	22.2
	12H	19.4	20.1	20.5	21.1	22.4	19.3	19.9	20.3	20.9	22.2

### UGR Viewed Endwise

4H	2H	17.0	17.8	18.0	18.7	20.0	16.9	17.6	17.9	18.6	19.9
	3H	19.0	19.6	20.0	20.6	21.9	18.8	19.4	19.8	20.4	21.7
	4H	19.7	20.2	20.7	21.2	22.6	19.5	20.1	20.5	21.1	22.4
	6H	20.2	20.7	21.2	21.7	23.1	20.1	20.5	21.1	21.6	22.9
	8H	20.4	20.8	21.4	21.9	23.2	20.3	20.7	21.3	21.7	23.1
	12H	20.5	20.9	21.5	21.9	23.3	20.4	20.8	21.4	21.8	23.2

8H	4H	19.9	20.3	20.9	21.4	22.7	19.8	20.2	20.8	21.2	22.6
	6H	20.6	20.9	21.6	22.0	23.4	20.4	20.8	21.5	21.9	23.2
	8H	20.8	21.2	21.9	22.2	23.6	20.7	21.0	21.8	22.1	23.5
	12H	21.0	21.3	22.1	22.3	23.8	20.9	21.2	22.0	22.2	23.7

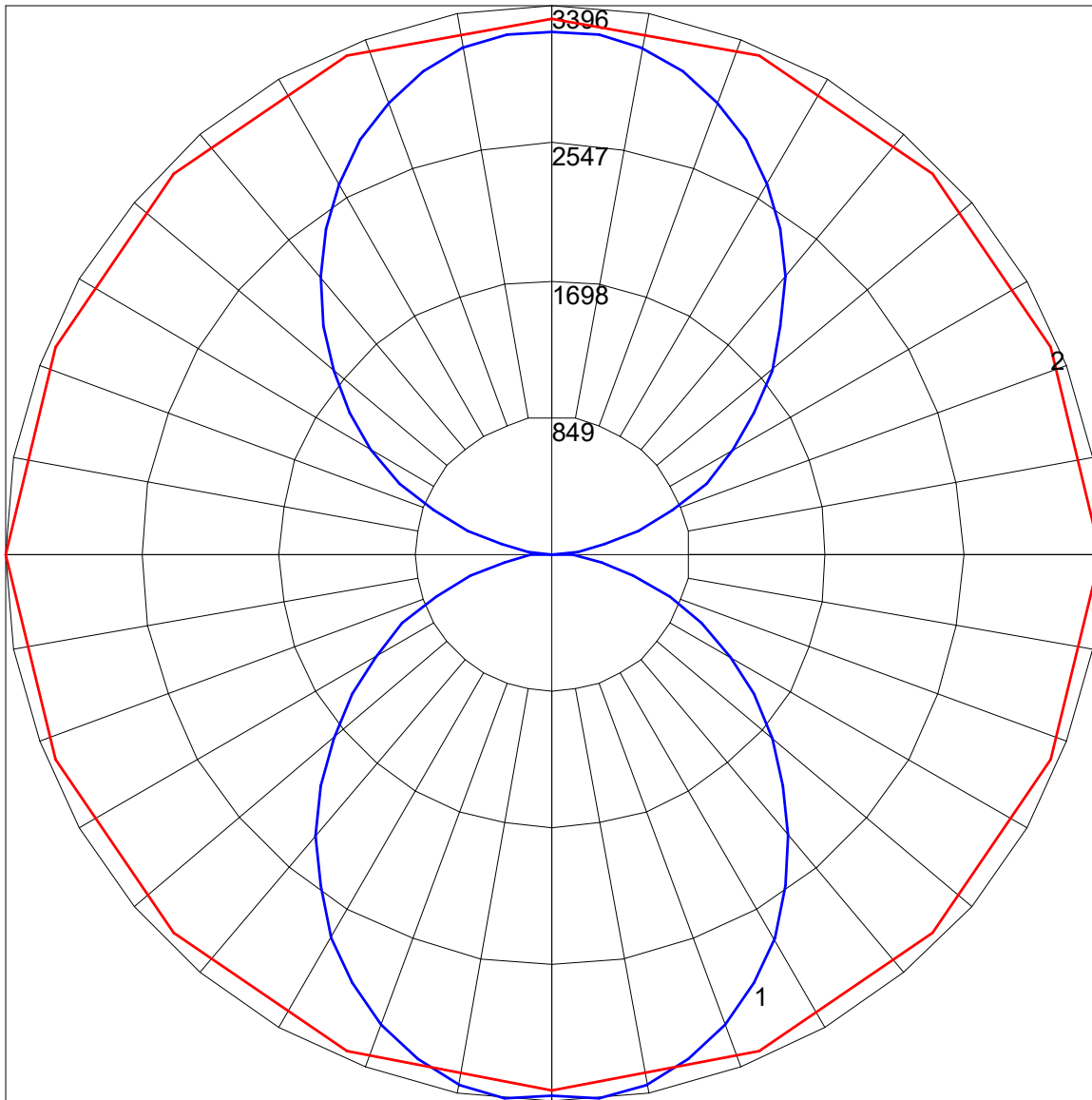
12H	4H	19.9	20.3	20.9	21.3	22.7	19.8	20.2	20.8	21.2	22.6
	6H	20.6	20.9	21.7	22.0	23.4	20.5	20.8	21.5	21.9	23.2
	8H	20.9	21.2	22.0	22.2	23.7	20.8	21.1	21.9	22.1	23.5

Maximum UGR = 23.8

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## POLAR GRAPH



Maximum Candela = 3396.157 Located At Horizontal Angle = 0, Vertical Angle = 5

# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)