



IES INDOOR REPORT  
PHOTOMETRIC FILENAME : MX4UD-4-00-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] 4' DIRECT/INDIRECT SUSPENDED LUMINAIRE  
[MORE] WITH FROSTED ACRYLIC LENS  
[LUMCAT] MX4UD-4-00-L10U-L10D--RGB835U-RGB835D-F-DMX-UNV - WHITE ONLY  
[ SEARCH\_SOURCETYPE] 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	8608
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	100
Total Luminaire Watts	86.4
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)	0.32 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	12146	11765	11569
55	11174	10804	10669
65	10277	9866	9630
75	8530	8464	8275
85	6438	6588	6513

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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>
<b>0</b>	1679.579	1679.579	1679.579	1679.579	1679.579
<b>5</b>	1697.909	1670.896	1664.143	1669.932	1661.249
<b>10</b>	1670.896	1643.884	1636.167	1640.025	1632.308
<b>15</b>	1622.660	1596.613	1586.966	1590.825	1583.107
<b>20</b>	1556.095	1531.012	1519.435	1520.400	1511.718
<b>25</b>	1473.129	1449.011	1436.469	1429.716	1420.069
<b>30</b>	1372.798	1348.680	1337.103	1332.279	1323.597
<b>35</b>	1261.855	1239.666	1227.125	1220.372	1211.689
<b>40</b>	1142.229	1121.006	1109.429	1101.711	1092.064
<b>45</b>	1015.851	994.627	984.015	975.333	967.615
<b>50</b>	886.578	866.802	857.347	849.630	842.105
<b>55</b>	758.078	739.941	732.995	729.811	723.830
<b>60</b>	637.488	621.570	612.598	606.809	600.346
<b>65</b>	513.714	500.208	493.165	487.570	481.396
<b>70</b>	386.274	379.425	374.601	371.707	366.980
<b>75</b>	261.150	259.028	259.124	256.712	253.336
<b>80</b>	154.355	153.873	155.513	154.838	153.101
<b>85</b>	66.373	67.241	67.916	67.434	67.145
<b>90</b>	0.000	0.000	0.000	0.000	0.000
<b>95</b>	77.254	75.709	78.799	77.254	81.889
<b>100</b>	163.778	165.323	156.052	163.778	162.233
<b>105</b>	276.568	275.023	275.023	270.388	265.752
<b>110</b>	395.539	389.358	384.723	381.633	373.908
<b>115</b>	523.780	516.054	506.784	491.333	491.333
<b>120</b>	650.475	636.570	622.664	614.939	607.213
<b>125</b>	766.356	763.266	747.815	732.364	724.639
<b>130</b>	886.872	885.327	869.876	855.970	851.335
<b>135</b>	1001.207	1004.297	987.301	968.760	962.580
<b>140</b>	1123.268	1117.087	1106.272	1080.006	1080.006
<b>145</b>	1232.968	1225.242	1208.247	1202.066	1188.161
<b>150</b>	1324.127	1333.398	1316.402	1302.496	1296.316
<b>155</b>	1413.741	1421.467	1409.106	1392.110	1390.565
<b>160</b>	1492.540	1498.720	1486.360	1478.634	1470.909
<b>165</b>	1551.253	1558.978	1548.163	1540.437	1535.802
<b>170</b>	1592.970	1600.695	1591.425	1586.789	1586.789
<b>175</b>	1614.601	1623.871	1616.146	1611.511	1605.330
<b>180</b>	1620.781	1620.781	1620.781	1620.781	1620.781

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Zone	Lumens	%Lamp	%Fixt
0-20	607.82	N.A.	7.10
0-30	1271.03	N.A.	14.80
0-40	2040.82	N.A.	23.70
0-60	3461.58	N.A.	40.20
0-80	4227.67	N.A.	49.10
0-90	4306.38	N.A.	50.00
10-90	4147.77	N.A.	48.20
20-40	1433.00	N.A.	16.60
20-50	2194.6	N.A.	25.50
40-70	1910.85	N.A.	22.20
60-80	766.08	N.A.	8.90
70-80	275.99	N.A.	3.20
80-90	78.71	N.A.	0.90
90-110	374.86	N.A.	4.40
90-120	875.34	N.A.	10.20
90-130	1544.36	N.A.	17.90
90-150	3063.72	N.A.	35.60
90-180	4301.3	N.A.	50.00
110-180	3926.44	N.A.	45.60
0-180	8607.68	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	158.61
10-20	449.20
20-30	663.21
30-40	769.79
40-50	761.60
50-60	659.16
60-70	490.09
70-80	275.99
80-90	78.71
90-100	86.49
100-110	288.37
110-120	500.48
120-130	669.02
130-140	761.35
140-150	758.01
150-160	647.83
160-170	436.32
170-180	153.43

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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	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	75	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	63	56	50	68	59	52	47	50	45	41	42	38	35	35	32	29	26
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	26	22
6	63	51	43	37	58	47	40	35	40	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	16.4	17.2	17.3	18.2	19.5
	3H	18.3	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	20.6	21.9	18.6	19.4	19.6	20.3	21.7
	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	20.9	22.2
	12H	19.5	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	20.1	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	20.6	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	20.4	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	20.5	20.8	21.5	21.9	23.2
	8H	20.8	21.2	21.9	22.2	23.6	20.7	21.1	21.8	22.1	23.5
	12H	21.0	21.3	22.1	22.4	23.8	20.9	21.2	22.0	22.2	23.7

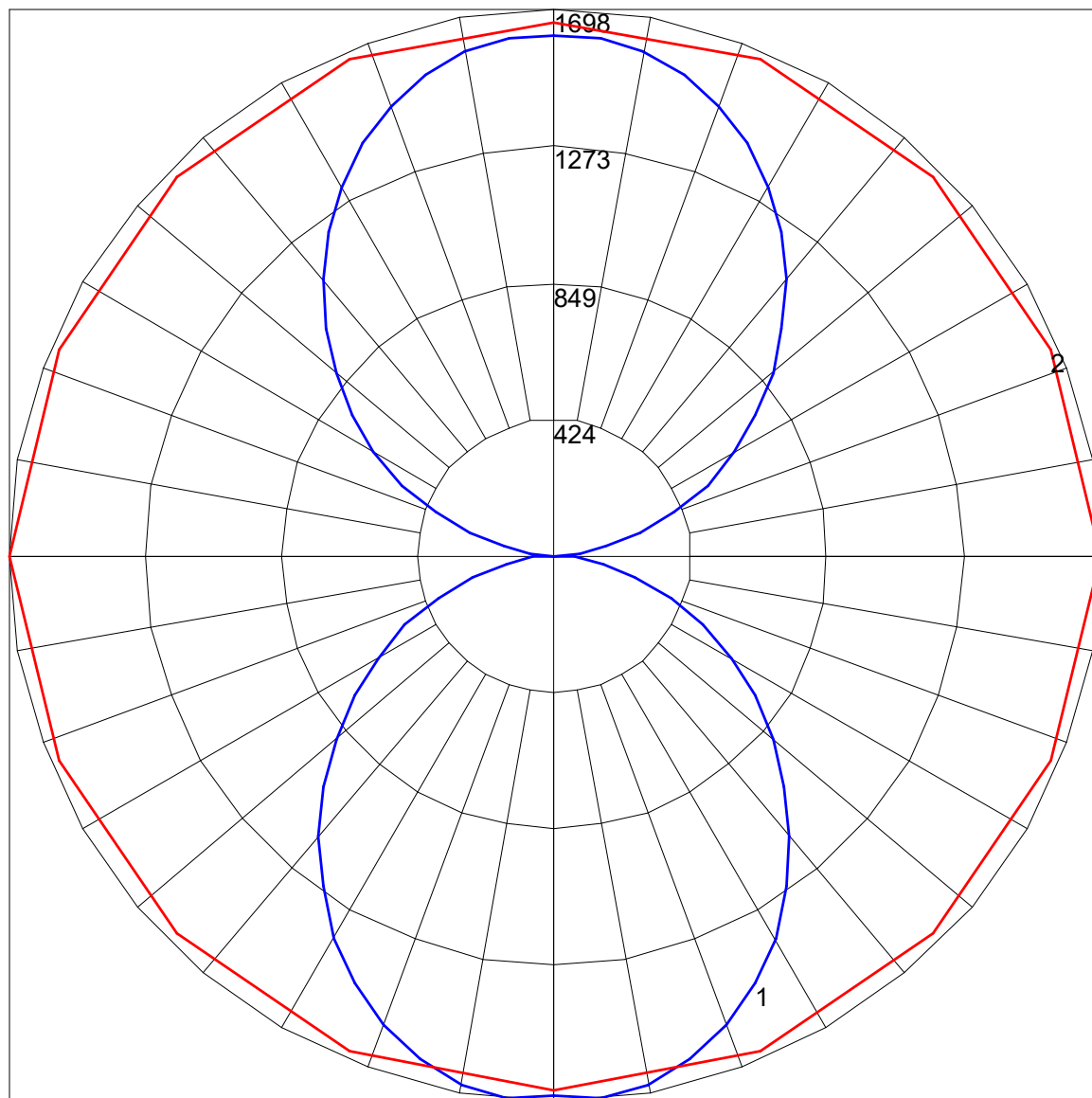
12H	4H	19.9	20.3	20.9	21.3	22.7	19.8	20.2	20.8	21.2	22.6
	6H	20.6	20.9	21.7	22.0	23.4	20.5	20.8	21.5	21.9	23.3
	8H	20.9	21.2	22.0	22.2	23.7	20.8	21.1	21.9	22.1	23.6

Maximum UGR = 23.8

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## POLAR GRAPH



Maximum Candela = 1697.909 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.)