



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-6-00-L8-835U-L8-835D-AF-(L5U-L5D)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20659.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 07-02-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 6' DIRECT/INDIRECT SUSPENDED LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS TOP/BTM  
 [LUMCAT] MX4UD-6-00-L8-835U-L8-835D-AF-(L5U-L5D)-DIM-UNV  
 [LAMPCAT] HLM 80 CRI, 3500K CCT  
 [ \_SEARCH\_SOURCETYPE] LED  
 [ \_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Direct-Indirect  
 [ \_SEARCH\_MOUNTING] Suspended

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6209
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
Total Luminaire Watts	50
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)	6.00 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	5352	5234	5102
55	4876	4713	4550
65	4133	4010	3838
75	3133	3053	3053
85	1670	1789	1551

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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>	1145.511	1145.511	1145.511	1145.511	1145.511
<b>5</b>	1158.423	1141.822	1136.288	1132.599	1130.754
<b>10</b>	1134.443	1115.997	1112.308	1104.929	1104.929
<b>15</b>	1099.395	1080.949	1073.571	1068.037	1064.347
<b>20</b>	1047.746	1031.144	1023.766	1018.232	1012.698
<b>25</b>	986.873	970.272	964.738	955.515	951.825
<b>30</b>	913.088	902.021	896.487	883.574	872.507
<b>35</b>	833.770	831.925	822.702	807.945	798.722
<b>40</b>	756.295	743.383	741.538	726.781	719.403
<b>45</b>	671.443	662.220	656.686	638.240	640.084
<b>50</b>	582.901	577.367	571.833	557.076	551.542
<b>55</b>	496.204	490.670	479.602	468.534	463.000
<b>60</b>	400.283	398.439	385.526	379.992	374.458
<b>65</b>	309.897	308.052	300.674	295.140	287.761
<b>70</b>	228.733	223.199	213.976	217.666	213.976
<b>75</b>	143.881	140.191	140.191	143.881	140.191
<b>80</b>	71.940	79.319	79.319	79.319	73.785
<b>85</b>	25.825	27.669	27.669	27.669	23.980
<b>90</b>	1.845	1.845	1.845	1.845	1.845
<b>95</b>	42.426	44.271	42.426	36.892	36.892
<b>100</b>	99.610	97.765	97.765	90.387	83.008
<b>105</b>	171.550	171.550	162.327	153.104	140.191
<b>110</b>	269.315	263.781	247.179	239.801	226.889
<b>115</b>	365.235	356.012	344.944	326.498	311.741
<b>120</b>	483.291	483.291	453.777	433.486	422.419
<b>125</b>	601.347	610.570	569.988	557.076	538.630
<b>130</b>	728.626	736.005	700.957	680.666	665.909
<b>135</b>	844.837	833.770	822.702	813.479	809.789
<b>140</b>	953.670	951.825	946.292	933.379	937.068
<b>145</b>	1047.746	1049.590	1044.057	1034.833	1049.590
<b>150</b>	1134.443	1138.132	1136.288	1123.375	1141.822
<b>155</b>	1200.850	1206.383	1206.383	1197.160	1215.607
<b>160</b>	1252.499	1263.567	1258.033	1252.499	1263.567
<b>165</b>	1294.925	1305.993	1294.925	1294.925	1300.459
<b>170</b>	1318.905	1331.818	1320.750	1318.905	1315.216
<b>175</b>	1337.352	1348.419	1337.352	1335.507	1326.284
<b>180</b>	1341.041	1341.041	1341.041	1341.041	1341.041

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Zone	Lumens	%Lamp	%Fixt
0-20	410.97	N.A.	6.60
0-30	854.99	N.A.	13.80
0-40	1367.09	N.A.	22.00
0-60	2299.79	N.A.	37.00
0-80	2751.7	N.A.	44.30
0-90	2788.03	N.A.	44.90
10-90	2680.16	N.A.	43.20
20-40	956.12	N.A.	15.40
20-50	1460.45	N.A.	23.50
40-70	1231.67	N.A.	19.80
60-80	451.91	N.A.	7.30
70-80	152.93	N.A.	2.50
80-90	36.34	N.A.	0.60
90-110	223.91	N.A.	3.60
90-120	567.44	N.A.	9.10
90-130	1084.61	N.A.	17.50
90-150	2373.36	N.A.	38.20
90-180	3420.92	N.A.	55.10
110-180	3197.01	N.A.	51.50
0-180	6208.95	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	107.87
10-20	303.10
20-30	444.02
30-40	512.10
40-50	504.33
50-60	428.37
60-70	298.97
70-80	152.93
80-90	36.34
90-100	48.39
100-110	175.52
110-120	343.53
120-130	517.17
130-140	636.22
140-150	652.53
150-160	554.22
160-170	366.13
170-180	127.20

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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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45
1	97	93	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44	38
2	88	81	75	70	81	75	69	65	62	59	55	51	48	46	40	39	37	32
3	81	71	64	58	74	66	59	54	55	50	47	45	42	39	36	34	32	27
4	74	63	55	50	67	58	51	46	49	44	40	40	37	34	32	30	27	24
5	68	56	48	42	62	52	45	40	44	38	34	36	32	29	29	26	24	21
6	62	51	43	37	57	47	40	35	39	34	30	33	29	26	26	23	21	18
7	58	46	38	32	53	42	35	30	36	30	26	30	26	23	24	21	19	16
8	54	41	34	29	49	38	32	27	33	27	23	27	23	20	22	19	17	14
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	20	17	15	13
10	47	35	28	23	43	32	26	21	28	22	19	23	19	16	19	16	14	12

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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	13.1	13.9	14.1	14.9	16.3	12.7	13.5	13.7	14.6	15.9
	3H	14.6	15.3	15.6	16.3	17.7	14.2	14.9	15.2	16.0	17.3
	4H	15.0	15.7	16.1	16.7	18.1	14.7	15.4	15.7	16.4	17.8
	6H	15.3	15.9	16.3	16.9	18.3	15.0	15.6	16.0	16.7	18.0
	8H	15.3	15.9	16.4	17.0	18.4	15.1	15.7	16.1	16.7	18.1
	12H	15.3	15.9	16.4	17.0	18.4	15.1	15.6	16.1	16.7	18.1

### UGR Viewed Endwise

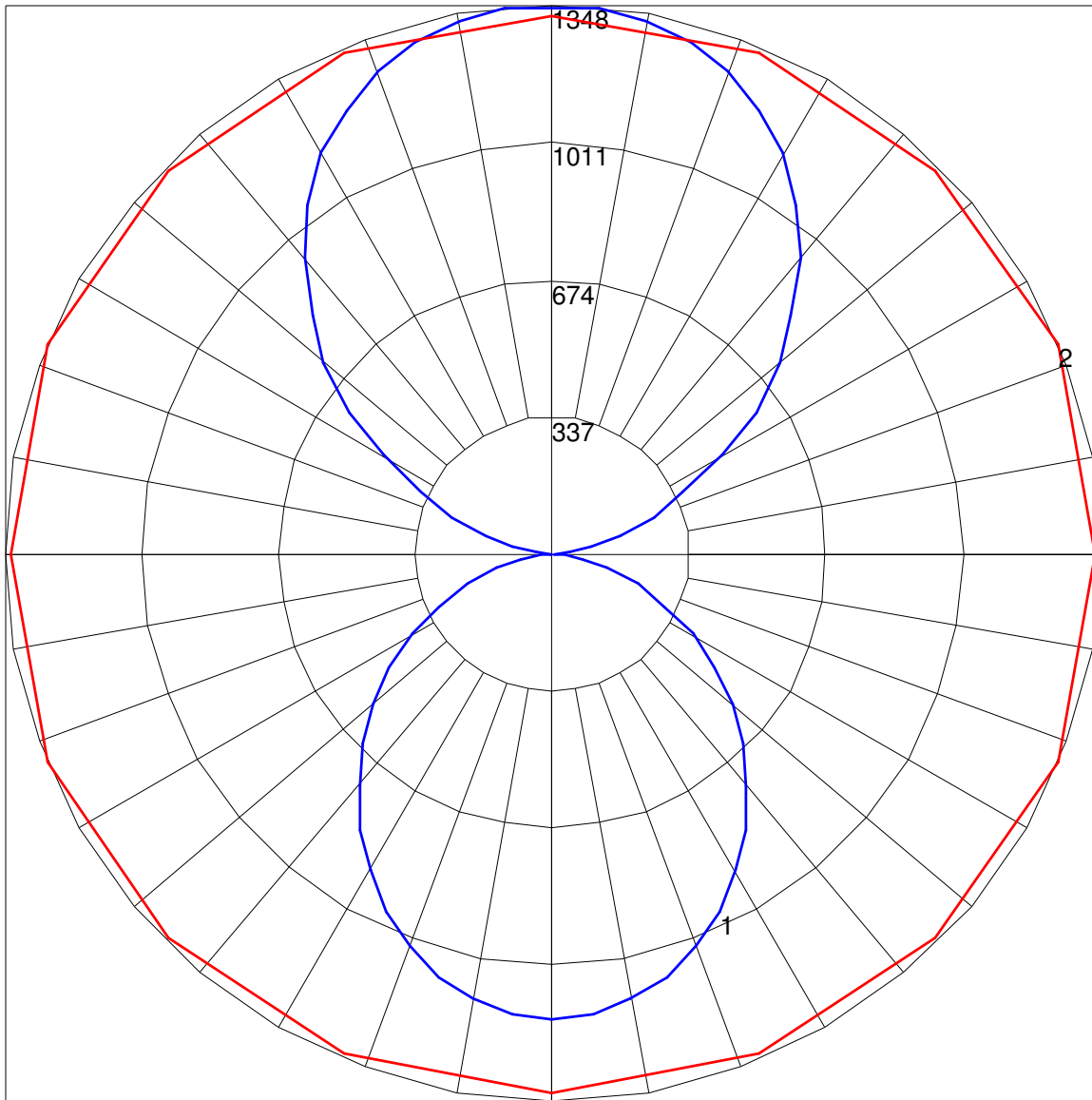
4H	2H	13.5	14.2	14.5	15.2	16.6	13.2	13.9	14.3	14.9	16.3
	3H	15.2	15.7	16.2	16.8	18.2	14.9	15.5	15.9	16.5	17.9
	4H	15.7	16.3	16.8	17.3	18.7	15.5	16.0	16.6	17.1	18.5
	6H	16.1	16.6	17.2	17.6	19.0	15.9	16.4	17.0	17.4	18.8
	8H	16.2	16.6	17.2	17.7	19.1	16.0	16.4	17.1	17.5	18.9
	12H	16.2	16.6	17.3	17.7	19.1	16.0	16.4	17.1	17.5	18.9
8H	4H	15.9	16.3	16.9	17.4	18.8	15.7	16.1	16.7	17.2	18.6
	6H	16.4	16.7	17.4	17.8	19.2	16.2	16.5	17.3	17.6	19.1
	8H	16.5	16.8	17.6	17.9	19.3	16.4	16.7	17.4	17.7	19.2
	12H	16.6	16.9	17.7	17.9	19.4	16.4	16.7	17.5	17.8	19.3
12H	4H	15.9	16.2	16.9	17.3	18.7	15.7	16.0	16.7	17.1	18.5
	6H	16.4	16.7	17.5	17.8	19.2	16.2	16.5	17.3	17.6	19.0
	8H	16.6	16.8	17.7	17.9	19.4	16.4	16.7	17.5	17.8	19.2

Maximum UGR = 19.4

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## POLAR GRAPH



Maximum Candela = 1348.419 Located At Horizontal Angle = 22.5, Vertical Angle = 175

# 1 - Vertical Plane Through Horizontal Angles (22.5 - 202.5) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (175) (Through Max. Cd.)