



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-00-L12-835-F-(L9)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM BALLABS TEST NO. 20647.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 04-16-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 4'RECESSED GRID LUMINAIRE  
 [MORE] WHITE ALUM BODY w/WHITE REFL & FLAT FROST LENS  
 [LUMCAT] MX4RG-4-00-L12-835-F-(L9)-DIM-UNV  
 [LAMPCAT] HLM 80 CRI, 3500K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3612
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	29.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.30
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	10429	10206	9786
55	9658	9079	8927
65	8146	7856	7608
75	6077	6009	6077
85	2807	2807	2807

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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>	1477.885	1477.885	1477.885	1477.885	1477.885
<b>5</b>	1486.153	1469.617	1459.282	1457.215	1457.215
<b>10</b>	1459.282	1442.746	1430.345	1428.278	1426.211
<b>15</b>	1417.943	1397.273	1382.804	1380.737	1374.536
<b>20</b>	1345.599	1331.130	1326.996	1318.728	1308.393
<b>25</b>	1267.054	1254.652	1246.384	1233.982	1227.781
<b>30</b>	1180.241	1165.772	1151.303	1143.036	1134.768
<b>35</b>	1087.227	1078.959	1054.156	1058.290	1035.553
<b>40</b>	983.879	977.678	969.410	944.606	932.204
<b>45</b>	872.262	863.994	853.659	828.856	818.521
<b>50</b>	758.579	754.445	733.775	721.373	713.105
<b>55</b>	655.230	640.761	615.958	615.958	605.623
<b>60</b>	516.743	520.877	502.274	496.073	483.671
<b>65</b>	407.193	403.060	392.725	384.457	380.323
<b>70</b>	301.778	293.510	283.175	279.041	276.974
<b>75</b>	186.027	181.894	183.961	179.827	186.027
<b>80</b>	95.081	90.947	95.081	103.349	95.081
<b>85</b>	28.938	28.938	28.938	35.139	28.938
<b>90</b>	2.067	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	530.30	N.A.	14.70
0-30	1103.74	N.A.	30.60
0-40	1768.25	N.A.	49.00
0-60	2981.12	N.A.	82.50
0-80	3568.94	N.A.	98.80
0-90	3611.76	N.A.	100.00
10-90	3472.83	N.A.	96.20
20-40	1237.95	N.A.	34.30
20-50	1893.3	N.A.	52.40
40-70	1603.38	N.A.	44.40
60-80	587.82	N.A.	16.30
70-80	197.31	N.A.	5.50
80-90	42.82	N.A.	1.20
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3611.76	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	138.93
10-20	391.37
20-30	573.43
30-40	664.52
40-50	655.35
50-60	557.52
60-70	390.52
70-80	197.31
80-90	42.82
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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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	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	77	84	79	76	81	77	74	72
3	92	81	74	67	89	80	73	67	77	71	66	74	69	64	72	67	63	61
4	84	72	64	58	82	71	63	57	69	62	56	66	60	56	64	59	55	53
5	77	65	56	50	75	64	56	50	62	55	49	60	54	49	58	52	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	42	40
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26

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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

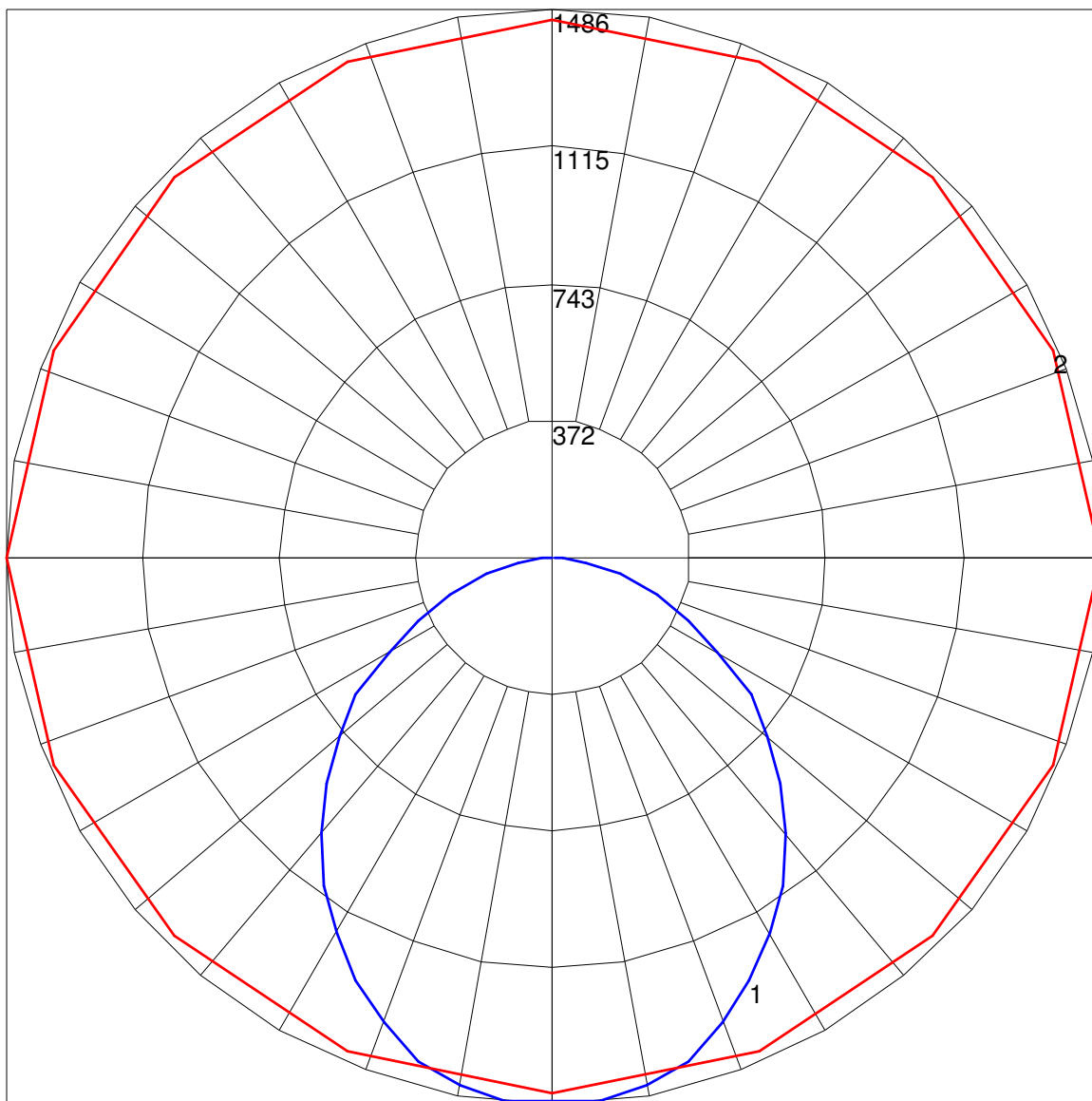
X=2H	Y=2H	19.9	21.5	20.2	21.8	22.1	19.5	21.1	19.9	21.4	21.7
	3H	21.4	22.9	21.8	23.2	23.5	21.1	22.5	21.4	22.8	23.2
	4H	21.9	23.3	22.3	23.6	24.0	21.6	22.9	22.0	23.3	23.6
	6H	22.2	23.4	22.6	23.8	24.2	21.9	23.1	22.3	23.5	23.9
	8H	22.2	23.4	22.7	23.8	24.2	22.0	23.2	22.4	23.5	23.9
	12H	22.3	23.4	22.7	23.8	24.2	22.0	23.1	22.4	23.5	23.9

### UGR Viewed Endwise

4H	2H	20.4	21.7	20.8	22.1	22.5	20.1	21.4	20.5	21.8	22.2
	3H	22.1	23.3	22.6	23.7	24.1	21.8	22.9	22.2	23.3	23.7
	4H	22.7	23.7	23.2	24.1	24.6	22.5	23.4	22.9	23.9	24.3
	6H	23.1	24.0	23.6	24.4	24.9	22.9	23.8	23.3	24.2	24.7
	8H	23.2	24.0	23.7	24.4	24.9	23.0	23.8	23.5	24.3	24.7
	12H	23.2	24.0	23.7	24.4	24.9	23.1	23.8	23.5	24.3	24.7
8H	4H	22.9	23.7	23.4	24.2	24.7	22.7	23.5	23.1	23.9	24.4
	6H	23.4	24.0	23.9	24.5	25.0	23.2	23.9	23.7	24.4	24.8
	8H	23.5	24.1	24.0	24.6	25.1	23.4	24.0	23.9	24.5	25.0
	12H	23.6	24.1	24.1	24.6	25.2	23.5	24.0	24.0	24.5	25.1
12H	4H	22.9	23.7	23.4	24.1	24.6	22.7	23.4	23.2	23.9	24.4
	6H	23.4	24.0	23.9	24.5	25.0	23.2	23.8	23.8	24.3	24.8
	8H	23.6	24.1	24.1	24.6	25.1	23.4	24.0	23.9	24.5	25.0

Maximum UGR = 25.2

POLAR GRAPH



Maximum Candela = 1486.153 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.)