



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : MX4RG-4-L8-840-F-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] 08-04-2020  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
[LUMINAIRE] 4' RECESSED GRID LUMINAIRE  
[MORE] FLAT FROST LENS  
[LUMCAT] MX4Rx-4-L8-840-x-xxx-xxx  
[LAMPCAT] HLM-80 CRI, 4000K CCT

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3294
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	125
Total Luminaire Watts	26.3
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	9510	9308	8925
55	8807	8279	8141
65	7428	7164	6938
75	5541	5480	5541
85	2560	2560	2560

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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>	1347.736	1347.736	1347.736	1347.736	1347.736
<b>5</b>	1355.276	1340.197	1330.772	1328.887	1328.887
<b>10</b>	1330.772	1315.692	1304.383	1302.498	1300.613
<b>15</b>	1293.073	1274.223	1261.029	1259.144	1253.489
<b>20</b>	1227.100	1213.905	1210.135	1202.596	1193.171
<b>25</b>	1155.472	1144.162	1136.622	1125.313	1119.658
<b>30</b>	1076.304	1063.110	1049.915	1042.375	1034.835
<b>35</b>	991.482	983.942	961.322	965.092	944.358
<b>40</b>	897.234	891.579	884.040	861.420	850.111
<b>45</b>	795.447	787.907	778.483	755.863	746.439
<b>50</b>	691.775	688.005	669.156	657.846	650.306
<b>55</b>	597.528	584.333	561.714	561.714	552.289
<b>60</b>	471.236	475.006	458.042	452.387	441.077
<b>65</b>	371.334	367.564	358.140	350.600	346.830
<b>70</b>	275.202	267.662	258.238	254.468	252.583
<b>75</b>	169.645	165.875	167.760	163.990	169.645
<b>80</b>	86.708	82.938	86.708	94.247	86.708
<b>85</b>	26.389	26.389	26.389	32.044	26.389
<b>90</b>	1.885	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	483.60	N.A.	14.70
0-30	1006.54	N.A.	30.60
0-40	1612.53	N.A.	49.00
0-60	2718.59	N.A.	82.50
0-80	3254.65	N.A.	98.80
0-90	3293.69	N.A.	100.00
10-90	3167.00	N.A.	96.20
20-40	1128.93	N.A.	34.30
20-50	1726.57	N.A.	52.40
40-70	1462.18	N.A.	44.40
60-80	536.06	N.A.	16.30
70-80	179.93	N.A.	5.50
80-90	39.05	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	3293.69	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	126.70
10-20	356.90
20-30	522.94
30-40	606.00
40-50	597.64
50-60	508.42
60-70	356.13
70-80	179.93
80-90	39.05
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	98	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	19.5	21.1	19.8	21.4	21.7	19.1	20.7	19.5	21.0	21.3
	3H	21.0	22.5	21.4	22.8	23.1	20.7	22.1	21.0	22.4	22.8
	4H	21.5	22.9	21.9	23.2	23.6	21.2	22.5	21.6	22.9	23.2
	6H	21.8	23.0	22.2	23.4	23.8	21.5	22.7	21.9	23.1	23.5
	8H	21.8	23.0	22.3	23.4	23.8	21.6	22.8	22.0	23.1	23.5
	12H	21.9	23.0	22.3	23.4	23.8	21.6	22.7	22.0	23.1	23.5

UGR Viewed Endwise

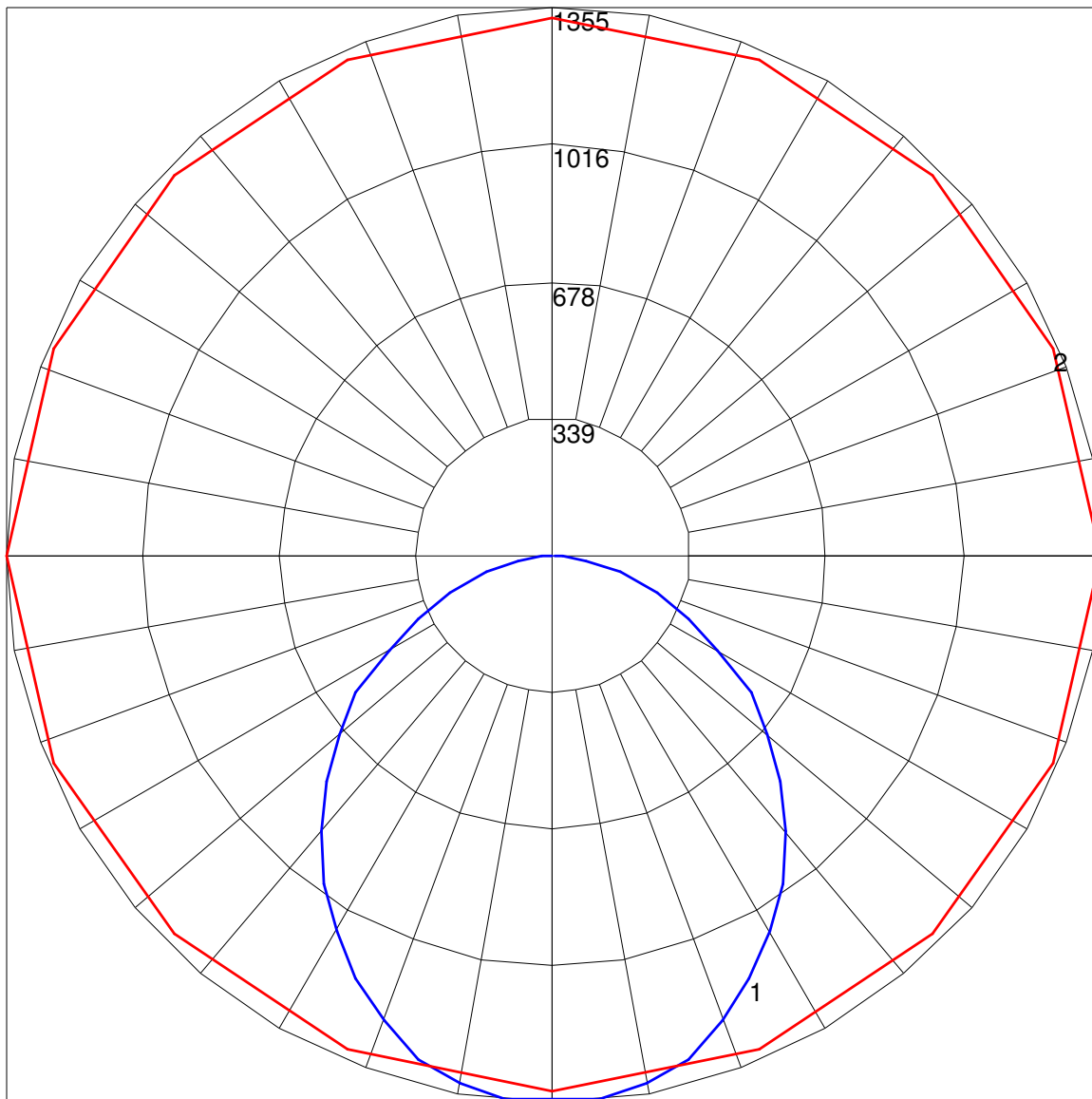
4H	2H	20.0	21.3	20.4	21.7	22.1	19.7	21.0	20.1	21.4	21.8
	3H	21.7	22.9	22.2	23.3	23.7	21.4	22.5	21.8	22.9	23.3
	4H	22.3	23.3	22.8	23.7	24.2	22.1	23.0	22.5	23.5	23.9
	6H	22.7	23.6	23.2	24.0	24.5	22.5	23.4	22.9	23.8	24.3
	8H	22.8	23.6	23.3	24.0	24.5	22.6	23.4	23.1	23.9	24.3
	12H	22.8	23.6	23.3	24.0	24.5	22.7	23.4	23.1	23.9	24.3

8H	4H	22.5	23.3	23.0	23.8	24.3	22.3	23.1	22.7	23.5	24.0
	6H	23.0	23.6	23.5	24.1	24.6	22.8	23.5	23.3	24.0	24.4
	8H	23.1	23.7	23.6	24.2	24.7	23.0	23.6	23.5	24.1	24.6
	12H	23.2	23.7	23.7	24.2	24.8	23.1	23.6	23.6	24.1	24.7

12H	4H	22.5	23.3	23.0	23.7	24.2	22.3	23.0	22.8	23.5	24.0
	6H	23.0	23.6	23.5	24.1	24.6	22.8	23.4	23.4	23.9	24.4
	8H	23.2	23.7	23.7	24.2	24.7	23.0	23.6	23.5	24.1	24.6

Maximum UGR = 24.8

POLAR GRAPH



Maximum Candela = 1355.276 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.)