



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-00-L8-830-R-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

[ISSUEDATE] 07-08-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2-72 LED 23.75" ARRAYS 4' RECESSED GRID LUMINAIRE

[MORE] WHITE ALUM BODY w/WHITE REFL & REGRESSED FROST LENS

[LUMCAT] MX4RG-4-00-L8-830-R-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3133
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
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	9046	8853	8488
55	8377	7875	7743
65	7065	6814	6599
75	5270	5212	5270
85	2435	2435	2435

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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>	1281.843	1281.843	1281.843	1281.843	1281.843
<b>5</b>	1289.015	1274.672	1265.708	1263.916	1263.916
<b>10</b>	1265.708	1251.366	1240.609	1238.817	1237.024
<b>15</b>	1229.853	1211.925	1199.375	1197.582	1192.204
<b>20</b>	1167.105	1154.555	1150.970	1143.799	1134.835
<b>25</b>	1098.979	1088.222	1081.051	1070.294	1064.916
<b>30</b>	1023.682	1011.132	998.583	991.412	984.241
<b>35</b>	943.007	935.835	914.322	917.907	898.187
<b>40</b>	853.367	847.989	840.818	819.304	808.547
<b>45</b>	756.557	749.385	740.421	718.908	709.944
<b>50</b>	657.953	654.368	636.440	625.683	618.512
<b>55</b>	568.314	555.764	534.251	534.251	525.287
<b>60</b>	448.197	451.783	435.647	430.269	419.512
<b>65</b>	353.179	349.594	340.630	333.459	329.873
<b>70</b>	261.747	254.576	245.612	242.026	240.234
<b>75</b>	161.351	157.765	159.558	155.973	161.351
<b>80</b>	82.468	78.883	82.468	89.639	82.468
<b>85</b>	25.099	25.099	25.099	30.477	25.099
<b>90</b>	1.793	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	459.96	N.A.	14.70
0-30	957.32	N.A.	30.60
0-40	1533.7	N.A.	49.00
0-60	2585.67	N.A.	82.50
0-80	3095.52	N.A.	98.80
0-90	3132.66	N.A.	100.00
10-90	3012.16	N.A.	96.20
20-40	1073.74	N.A.	34.30
20-50	1642.16	N.A.	52.40
40-70	1390.69	N.A.	44.40
60-80	509.85	N.A.	16.30
70-80	171.13	N.A.	5.50
80-90	37.14	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	3132.66	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	120.50
10-20	339.45
20-30	497.37
30-40	576.37
40-50	568.42
50-60	483.56
60-70	338.71
70-80	171.13
80-90	37.14
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**

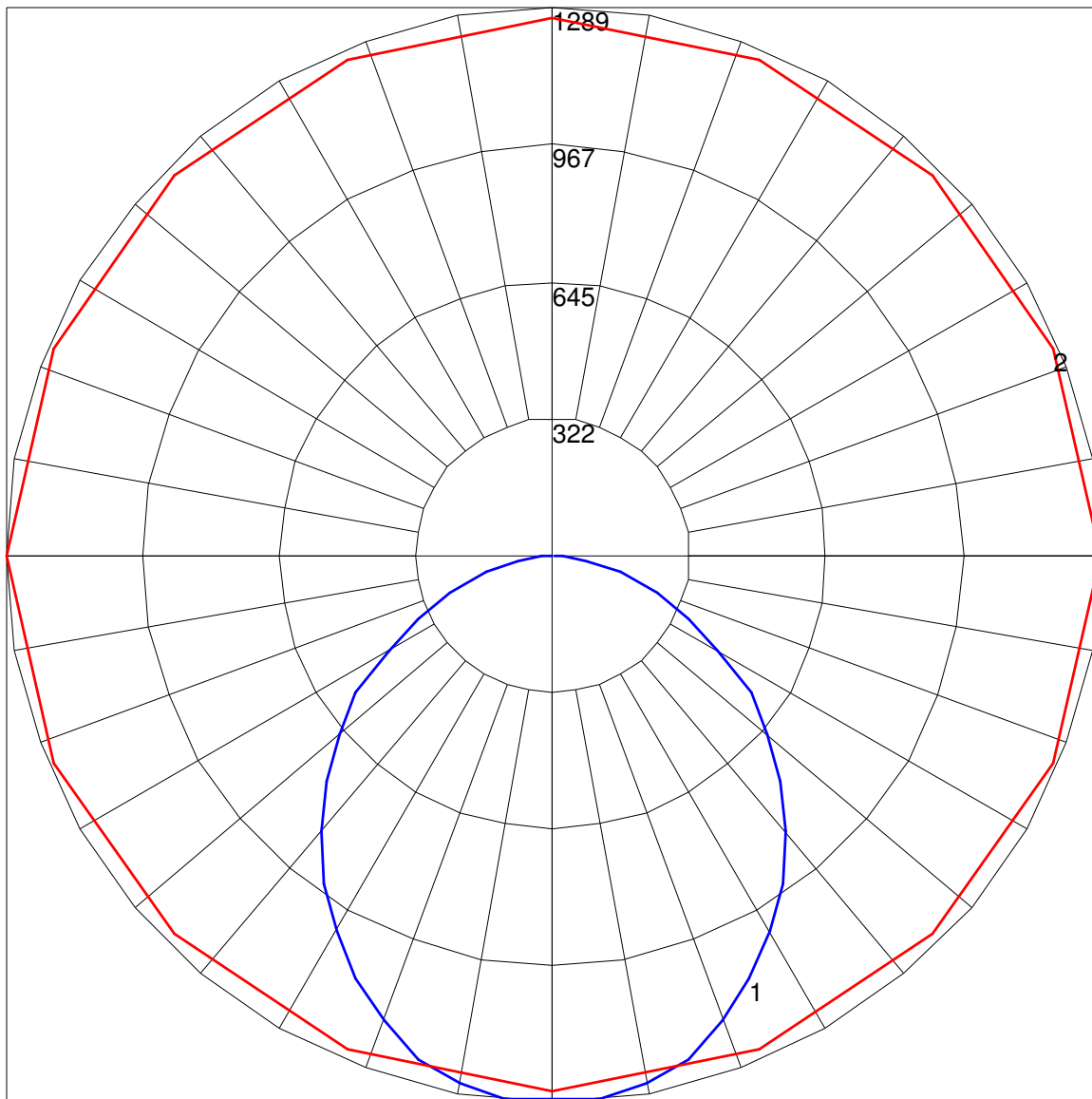
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	19.4	21.0	19.7	21.3	21.6	19.0	20.6	19.4	20.9	21.2
	3H	20.9	22.4	21.3	22.7	23.0	20.6	22.0	20.9	22.3	22.7
	4H	21.4	22.8	21.8	23.1	23.5	21.1	22.4	21.5	22.8	23.1
	6H	21.7	22.9	22.1	23.3	23.7	21.4	22.6	21.8	23.0	23.4
	8H	21.7	22.9	22.2	23.3	23.7	21.5	22.7	21.9	23.0	23.4
	12H	21.8	22.9	22.2	23.3	23.7	21.5	22.6	21.9	23.0	23.4
4H	2H	19.9	21.2	20.3	21.6	22.0	19.6	20.9	20.0	21.3	21.7
	3H	21.6	22.8	22.1	23.2	23.6	21.3	22.4	21.7	22.8	23.2
	4H	22.2	23.2	22.7	23.6	24.1	22.0	22.9	22.4	23.4	23.8
	6H	22.6	23.5	23.1	23.9	24.4	22.4	23.3	22.8	23.7	24.2
	8H	22.7	23.5	23.2	23.9	24.4	22.5	23.3	23.0	23.8	24.2
	12H	22.7	23.5	23.2	23.9	24.4	22.6	23.3	23.0	23.8	24.2
8H	4H	22.4	23.2	22.9	23.7	24.2	22.2	23.0	22.6	23.4	23.9
	6H	22.9	23.5	23.4	24.0	24.5	22.7	23.4	23.2	23.9	24.3
	8H	23.0	23.6	23.5	24.1	24.6	22.9	23.5	23.4	24.0	24.5
	12H	23.1	23.6	23.6	24.1	24.7	23.0	23.5	23.5	24.0	24.6
12H	4H	22.4	23.2	22.9	23.6	24.1	22.2	22.9	22.7	23.4	23.9
	6H	22.9	23.5	23.4	24.0	24.5	22.7	23.3	23.3	23.8	24.3
	8H	23.1	23.6	23.6	24.1	24.6	22.9	23.5	23.4	24.0	24.5

Maximum UGR = 24.7

POLAR GRAPH



Maximum Candela = 1289.015 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.)