



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-L8-935-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] 11-DEC-2019

[MANUFAC] WILLIAMS INDOOR

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

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

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

[MORE] ADVANCE #XI036C100V054DSM5

[LUMCAT] MX4RG-4-L8-935-x

[LAMPCAT] MX2472\_2835 REV A 10560314

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2674
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
Total Luminaire Watts	29.1
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	7720	7555	7244
55	7149	6721	6608
65	6030	5816	5632
75	4498	4448	4498
85	2078	2078	2078

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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>	1093.986	1093.986	1093.986	1093.986	1093.986
<b>5</b>	1100.107	1087.866	1080.216	1078.686	1078.686
<b>10</b>	1080.216	1067.976	1058.795	1057.265	1055.735
<b>15</b>	1049.615	1034.314	1023.604	1022.074	1017.484
<b>20</b>	996.063	985.353	982.293	976.173	968.522
<b>25</b>	937.921	928.741	922.621	913.440	908.850
<b>30</b>	873.659	862.949	852.238	846.118	839.998
<b>35</b>	804.807	798.687	780.326	783.386	766.556
<b>40</b>	728.304	723.714	717.594	699.233	690.053
<b>45</b>	645.682	639.561	631.911	613.550	605.900
<b>50</b>	561.529	558.469	543.168	533.988	527.868
<b>55</b>	485.026	474.316	455.955	455.955	448.305
<b>60</b>	382.513	385.573	371.802	367.212	358.032
<b>65</b>	301.420	298.360	290.710	284.589	281.529
<b>70</b>	223.387	217.267	209.617	206.557	205.027
<b>75</b>	137.705	134.644	136.175	133.114	137.705
<b>80</b>	70.382	67.322	70.382	76.503	70.382
<b>85</b>	21.421	21.421	21.421	26.011	21.421
<b>90</b>	1.530	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	392.55	N.A.	14.70
0-30	817.03	N.A.	30.60
0-40	1308.93	N.A.	49.00
0-60	2206.74	N.A.	82.50
0-80	2641.87	N.A.	98.80
0-90	2673.56	N.A.	100.00
10-90	2570.72	N.A.	96.20
20-40	916.38	N.A.	34.30
20-50	1401.49	N.A.	52.40
40-70	1186.88	N.A.	44.40
60-80	435.13	N.A.	16.30
70-80	146.05	N.A.	5.50
80-90	31.70	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	2673.56	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	102.84
10-20	289.70
20-30	424.48
30-40	491.90
40-50	485.11
50-60	412.69
60-70	289.07
70-80	146.05
80-90	31.70
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	95	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**

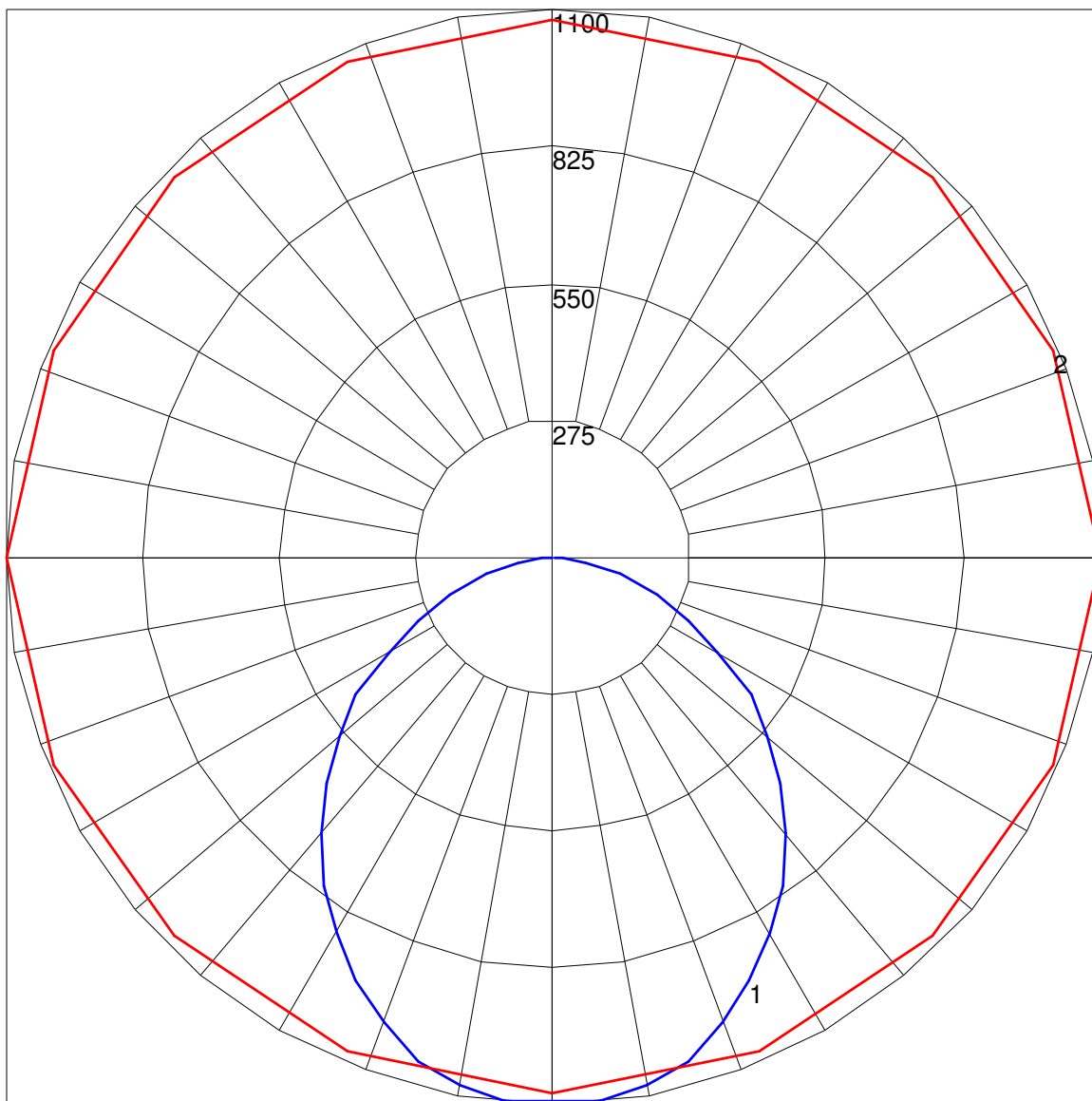
Reflectances

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	18.8	20.4	19.1	20.7	21.0	18.4	20.0	18.8	20.3	20.6
	3H	20.3	21.8	20.7	22.1	22.4	20.0	21.4	20.3	21.7	22.1
	4H	20.8	22.2	21.2	22.5	22.9	20.5	21.8	20.9	22.2	22.5
	6H	21.1	22.3	21.5	22.7	23.1	20.8	22.0	21.2	22.4	22.8
	8H	21.1	22.3	21.6	22.7	23.1	20.9	22.1	21.3	22.4	22.8
	12H	21.2	22.3	21.6	22.7	23.1	20.9	22.0	21.3	22.4	22.8
4H	2H	19.3	20.6	19.7	21.0	21.4	19.0	20.3	19.4	20.7	21.1
	3H	21.0	22.2	21.5	22.6	23.0	20.7	21.8	21.1	22.2	22.6
	4H	21.6	22.6	22.1	23.0	23.5	21.4	22.3	21.8	22.8	23.2
	6H	22.0	22.9	22.5	23.3	23.8	21.8	22.7	22.2	23.1	23.6
	8H	22.1	22.9	22.6	23.3	23.8	21.9	22.7	22.4	23.2	23.6
	12H	22.1	22.9	22.6	23.3	23.8	22.0	22.7	22.4	23.2	23.6
8H	4H	21.8	22.6	22.3	23.1	23.6	21.6	22.4	22.0	22.8	23.3
	6H	22.3	22.9	22.8	23.4	23.9	22.1	22.8	22.6	23.3	23.7
	8H	22.4	23.0	22.9	23.5	24.0	22.3	22.9	22.8	23.4	23.9
	12H	22.5	23.0	23.0	23.5	24.1	22.4	22.9	22.9	23.4	24.0
12H	4H	21.8	22.6	22.3	23.0	23.5	21.6	22.3	22.1	22.8	23.3
	6H	22.3	22.9	22.8	23.4	23.9	22.1	22.7	22.7	23.2	23.7
	8H	22.5	23.0	23.0	23.5	24.0	22.3	22.9	22.8	23.4	23.9

Maximum UGR = 24.1

POLAR GRAPH



Maximum Candela = 1100.107 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.)