



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RX-4-00-L8-835-F-(L5)-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] 12-02-2021

[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] MX4Rx-4-L8-835-F-(L5)-DIM-UNV

[LAMPCAT] MX2472\_2835 REV A 10560314

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2037
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	16.9
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	5883	5758	5521
55	5448	5122	5036
65	4595	4432	4292
75	3428	3390	3428
85	1583	1583	1583

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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>	833.689	833.689	833.689	833.689	833.689
<b>5</b>	838.353	829.025	823.195	822.029	822.029
<b>10</b>	823.195	813.867	806.871	805.705	804.539
<b>15</b>	799.875	788.215	780.053	778.887	775.389
<b>20</b>	759.065	750.903	748.571	743.907	738.077
<b>25</b>	714.757	707.761	703.097	696.101	692.603
<b>30</b>	665.785	657.623	649.461	644.797	640.133
<b>35</b>	613.316	608.652	594.660	596.992	584.166
<b>40</b>	555.016	551.518	546.854	532.862	525.866
<b>45</b>	492.052	487.388	481.558	467.566	461.736
<b>50</b>	427.922	425.590	413.930	406.934	402.270
<b>55</b>	369.622	361.460	347.468	347.468	341.638
<b>60</b>	291.500	293.832	283.338	279.840	272.844
<b>65</b>	229.702	227.370	221.540	216.876	214.544
<b>70</b>	170.236	165.572	159.742	157.410	156.244
<b>75</b>	104.940	102.608	103.774	101.442	104.940
<b>80</b>	53.636	51.304	53.636	58.300	53.636
<b>85</b>	16.324	16.324	16.324	19.822	16.324
<b>90</b>	1.166	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	299.15	N.A.	14.70
0-30	622.63	N.A.	30.60
0-40	997.49	N.A.	49.00
0-60	1681.68	N.A.	82.50
0-80	2013.28	N.A.	98.80
0-90	2037.43	N.A.	100.00
10-90	1959.06	N.A.	96.20
20-40	698.34	N.A.	34.30
20-50	1068.03	N.A.	52.40
40-70	904.48	N.A.	44.40
60-80	331.60	N.A.	16.30
70-80	111.30	N.A.	5.50
80-90	24.15	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	2037.43	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	78.37
10-20	220.77
20-30	323.48
30-40	374.86
40-50	369.69
50-60	314.50
60-70	220.29
70-80	111.30
80-90	24.15
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	73	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	17.9	19.5	18.2	19.8	20.1	17.5	19.1	17.9	19.4	19.7
	3H	19.4	20.9	19.8	21.2	21.5	19.1	20.5	19.4	20.8	21.2
	4H	19.9	21.3	20.3	21.6	22.0	19.6	20.9	20.0	21.3	21.6
	6H	20.2	21.4	20.6	21.8	22.2	19.9	21.1	20.3	21.5	21.9
	8H	20.2	21.4	20.7	21.8	22.2	20.0	21.2	20.4	21.5	21.9
	12H	20.3	21.4	20.7	21.8	22.2	20.0	21.1	20.4	21.5	21.9

### UGR Viewed Endwise

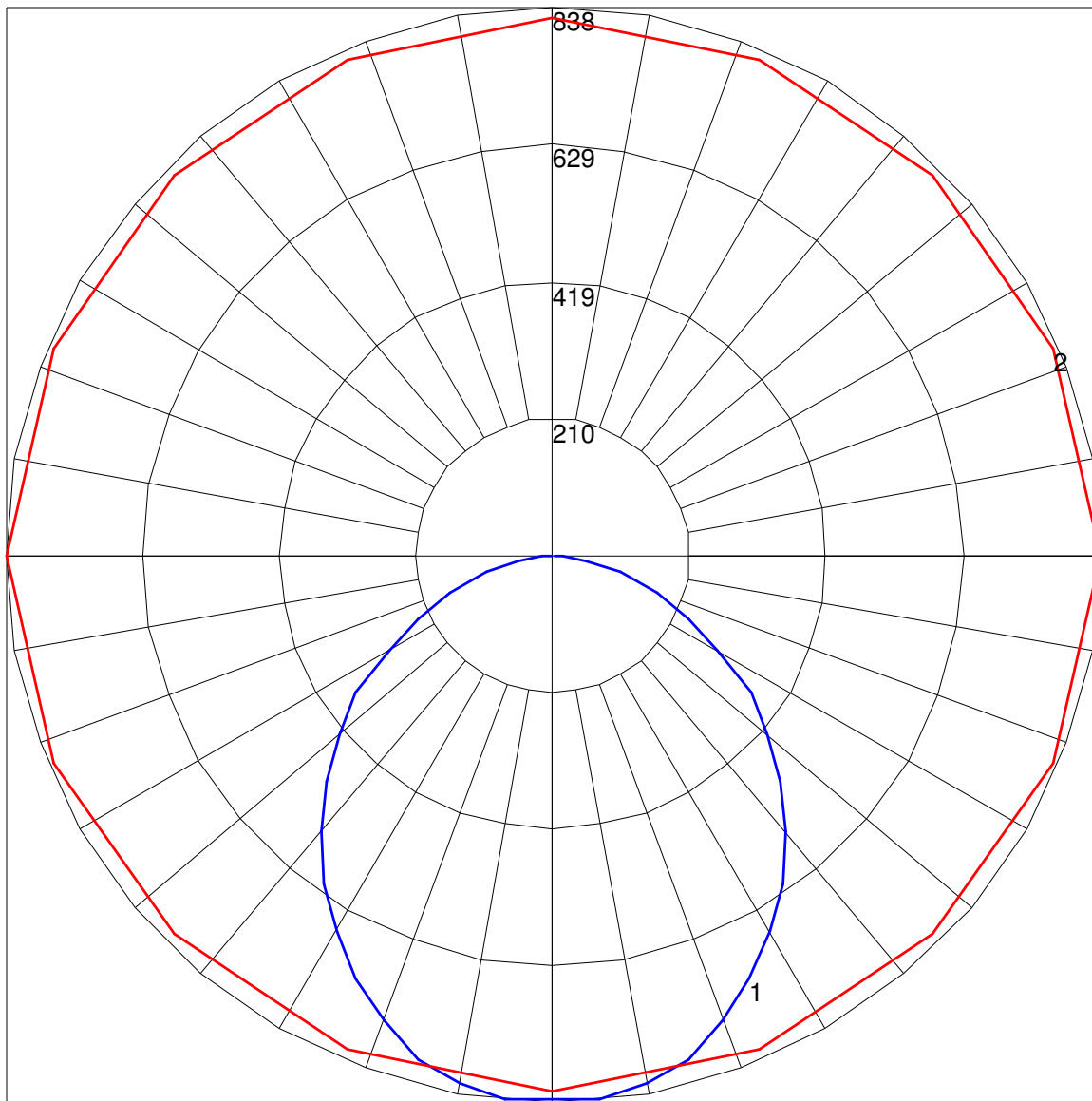
4H	2H	18.4	19.7	18.8	20.1	20.5	18.1	19.4	18.5	19.8	20.2
	3H	20.1	21.3	20.6	21.7	22.1	19.8	20.9	20.2	21.3	21.7
	4H	20.7	21.7	21.2	22.1	22.6	20.5	21.4	20.9	21.9	22.3
	6H	21.1	22.0	21.6	22.4	22.9	20.9	21.8	21.3	22.2	22.7
	8H	21.2	22.0	21.7	22.4	22.9	21.0	21.8	21.5	22.3	22.7
	12H	21.2	22.0	21.7	22.4	22.9	21.1	21.8	21.5	22.3	22.7

8H	4H	20.9	21.7	21.4	22.2	22.7	20.7	21.5	21.1	21.9	22.4
	6H	21.4	22.0	21.9	22.5	23.0	21.2	21.9	21.7	22.4	22.8
	8H	21.5	22.1	22.0	22.6	23.1	21.4	22.0	21.9	22.5	23.0
	12H	21.6	22.1	22.1	22.6	23.2	21.5	22.0	22.0	22.5	23.1

12H	4H	20.9	21.7	21.4	22.1	22.6	20.7	21.4	21.2	21.9	22.4
	6H	21.4	22.0	21.9	22.5	23.0	21.2	21.8	21.8	22.3	22.8
	8H	21.6	22.1	22.1	22.6	23.1	21.4	22.0	21.9	22.5	23.0

Maximum UGR = 23.2

POLAR GRAPH



Maximum Candela = 838.353 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.)