



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-8-00-L12-835-X.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] 12-MAR-2020

[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

[LUMCAT] MX4RG-8-00-L12-835-x

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	10312
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	118
Total Luminaire Watts	87.2
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)	8.00 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	14888	14570	13971
55	13787	12961	12743
65	11629	11215	10861
75	8675	8578	8675
85	4007	4007	4007

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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>
0	4219.573	4219.573	4219.573	4219.573	4219.573
5	4243.179	4195.967	4166.459	4160.558	4160.558
10	4166.459	4119.247	4083.838	4077.937	4072.035
15	4048.429	3989.414	3948.104	3942.202	3924.498
20	3841.877	3800.566	3788.763	3765.157	3735.650
25	3617.620	3582.211	3558.605	3523.196	3505.491
30	3369.757	3328.446	3287.136	3263.530	3239.924
35	3104.189	3080.583	3009.765	3021.568	2956.652
40	2809.114	2791.410	2767.804	2696.986	2661.577
45	2490.433	2466.827	2437.320	2366.502	2336.994
50	2165.851	2154.048	2095.033	2059.624	2036.018
55	1870.776	1829.465	1758.647	1758.647	1729.140
60	1475.375	1487.178	1434.065	1416.360	1380.951
65	1162.596	1150.793	1121.285	1097.679	1085.876
70	861.619	838.013	808.506	796.703	790.801
75	531.135	519.332	525.234	513.431	531.135
80	271.469	259.666	271.469	295.075	271.469
85	82.621	82.621	82.621	100.326	82.621
90	5.902	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1514.09	N.A.	14.70
0-30	3151.32	N.A.	30.60
0-40	5048.62	N.A.	49.00
0-60	8511.52	N.A.	82.50
0-80	10189.84	N.A.	98.80
0-90	10312.1	N.A.	100.00
10-90	9915.42	N.A.	96.20
20-40	3534.53	N.A.	34.30
20-50	5405.65	N.A.	52.40
40-70	4577.89	N.A.	44.40
60-80	1678.32	N.A.	16.30
70-80	563.34	N.A.	5.50
80-90	122.26	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	10312.1	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	396.68
10-20	1117.41
20-30	1637.24
30-40	1897.3
40-50	1871.12
50-60	1591.79
60-70	1114.98
70-80	563.34
80-90	122.26
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	175	175	175	175	171	171	171	171	163	163	163	156	156	156	150	150	150	147
1	161	154	148	143	157	151	145	141	145	140	136	139	135	132	134	131	128	125
2	147	135	126	118	143	132	124	116	127	120	114	123	116	111	118	113	109	106
3	134	119	108	99	131	117	107	98	113	104	96	109	101	95	105	99	93	90
4	123	106	94	84	120	104	93	84	101	91	83	97	89	82	94	87	80	77
5	114	95	83	73	111	94	82	73	91	80	72	88	79	71	85	77	70	67
6	105	86	73	64	102	85	73	64	82	71	63	80	70	63	77	69	62	59
7	98	78	66	57	95	77	65	57	75	64	56	73	63	56	71	62	56	53
8	91	72	59	51	89	71	59	51	69	58	51	67	57	50	65	57	50	47
9	85	66	54	46	83	65	54	46	63	53	46	62	52	46	60	52	45	43
10	80	61	50	42	78	60	49	42	59	49	42	57	48	41	56	47	41	39

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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

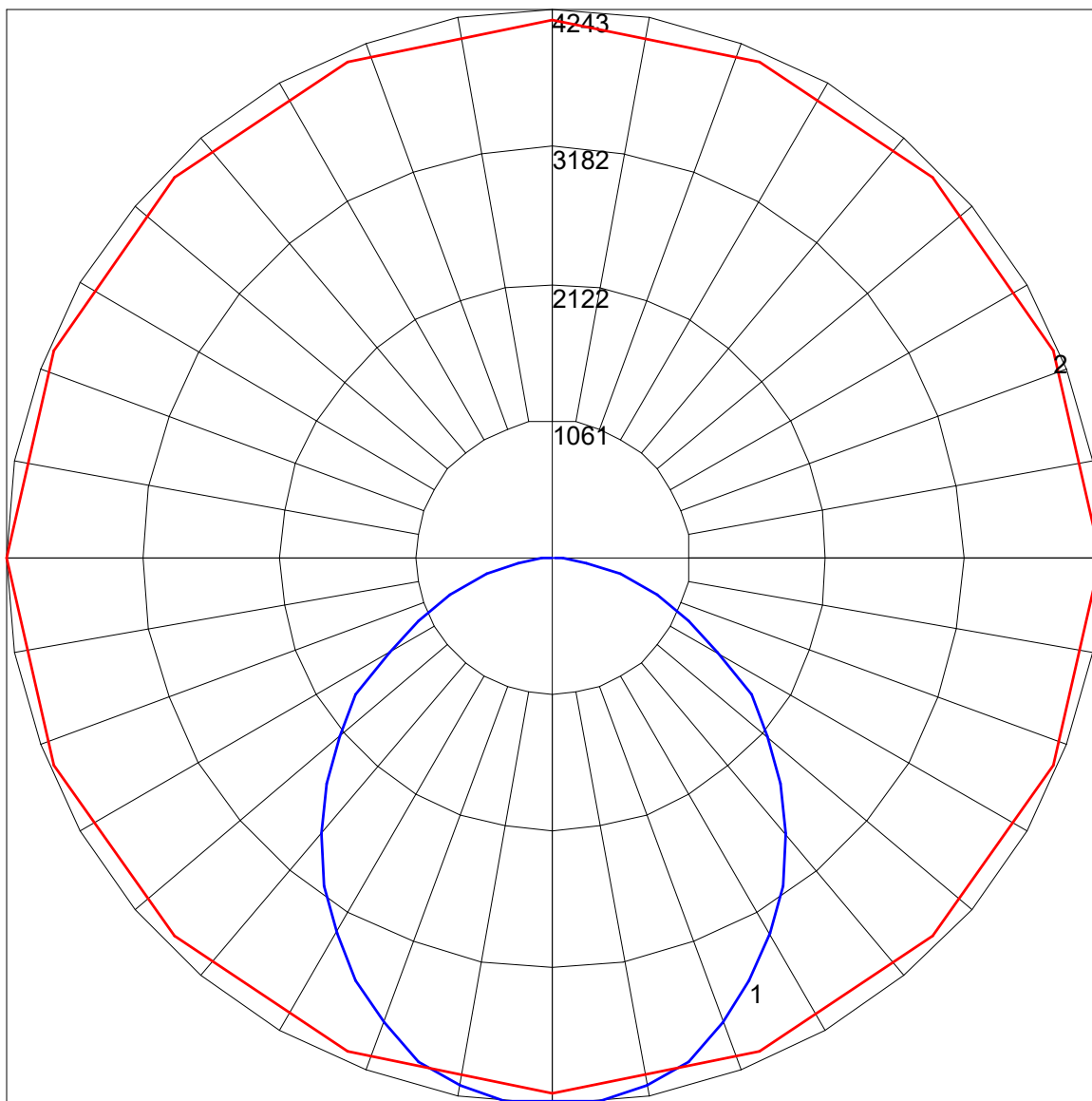
X=2H	Y=2H	19.8	21.4	20.1	21.7	22.0	19.4	21.0	19.8	21.3	21.6
	3H	21.3	22.7	21.7	23.1	23.4	20.9	22.4	21.3	22.7	23.1
	4H	21.8	23.1	22.2	23.5	23.9	21.5	22.8	21.9	23.1	23.5
	6H	22.1	23.3	22.5	23.7	24.1	21.8	23.0	22.2	23.4	23.8
	8H	22.1	23.3	22.6	23.7	24.1	21.9	23.0	22.3	23.4	23.8
	12H	22.2	23.3	22.6	23.7	24.1	21.9	23.0	22.3	23.4	23.8

UGR Viewed Endwise

4H	2H	20.3	21.6	20.7	22.0	22.3	20.0	21.3	20.4	21.7	22.1
	3H	22.0	23.1	22.4	23.5	23.9	21.7	22.8	22.1	23.2	23.6
	4H	22.6	23.6	23.1	24.0	24.5	22.3	23.3	22.8	23.8	24.2
	6H	23.0	23.9	23.5	24.3	24.8	22.8	23.6	23.2	24.1	24.5
	8H	23.1	23.9	23.5	24.3	24.8	22.9	23.7	23.4	24.1	24.6
	12H	23.1	23.9	23.6	24.3	24.8	22.9	23.7	23.4	24.2	24.6
8H	4H	22.8	23.6	23.3	24.1	24.5	22.6	23.4	23.0	23.8	24.3
	6H	23.3	23.9	23.8	24.4	24.9	23.1	23.8	23.6	24.3	24.7
	8H	23.4	24.0	23.9	24.5	25.0	23.3	23.9	23.8	24.4	24.9
	12H	23.5	24.0	24.0	24.5	25.1	23.4	23.9	23.9	24.4	25.0
12H	4H	22.8	23.6	23.3	24.0	24.5	22.6	23.3	23.1	23.8	24.3
	6H	23.3	23.9	23.8	24.4	24.9	23.1	23.7	23.6	24.2	24.7
	8H	23.4	24.0	24.0	24.5	25.0	23.3	23.9	23.8	24.4	24.9

Maximum UGR = 25.1

POLAR GRAPH



Maximum Candela = 4243.179 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.)