



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-5-00-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

[ISSUEDATE] 31 MARCH 2020

[MANUFAC] WILLIAMS INDOOR

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

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

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

[MORE] ADVANCE #XI036C100V054DSM5

[LUMCAT] MX4RG-5-00-L8-935-F-DIM-UNV

[LAMPCAT] MX2472_2835 REV A 10560314

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3628
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	99
Total Luminaire Watts	36.5
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)	5.00 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8003	7832	7510
55	7411	6967	6850
65	6251	6029	5838
75	4663	4611	4663
85	2154	2154	2154

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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	1484.433	1484.433	1484.433	1484.433	1484.433
5	1492.737	1476.128	1465.748	1463.672	1463.672
10	1465.748	1449.139	1436.682	1434.606	1432.530
15	1424.225	1403.464	1388.931	1386.855	1380.626
20	1351.561	1337.028	1332.875	1324.571	1314.190
25	1272.668	1260.211	1251.906	1239.450	1233.221
30	1185.470	1170.937	1156.404	1148.100	1139.795
35	1092.044	1083.740	1058.826	1062.979	1040.141
40	988.238	982.009	973.705	948.791	936.335
45	876.127	867.822	857.442	832.528	822.147
50	761.940	757.787	737.026	724.569	716.265
55	658.133	643.600	618.687	618.687	608.306
60	519.032	523.185	504.500	498.271	485.814
65	408.998	404.845	394.465	386.160	382.008
70	303.115	294.810	284.430	280.278	278.201
75	186.852	182.699	184.776	180.623	186.852
80	95.502	91.350	95.502	103.806	95.502
85	29.066	29.066	29.066	35.294	29.066
90	2.076	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	532.65	N.A.	14.70
0-30	1108.63	N.A.	30.60
0-40	1776.09	N.A.	49.00
0-60	2994.33	N.A.	82.50
0-80	3584.75	N.A.	98.80
0-90	3627.76	N.A.	100.00
10-90	3488.21	N.A.	96.20
20-40	1243.44	N.A.	34.30
20-50	1901.69	N.A.	52.40
40-70	1610.49	N.A.	44.40
60-80	590.43	N.A.	16.30
70-80	198.18	N.A.	5.50
80-90	43.01	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	3627.76	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	139.55
10-20	393.10
20-30	575.97
30-40	667.46
40-50	658.25
50-60	559.99
60-70	392.25
70-80	198.18
80-90	43.01
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	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

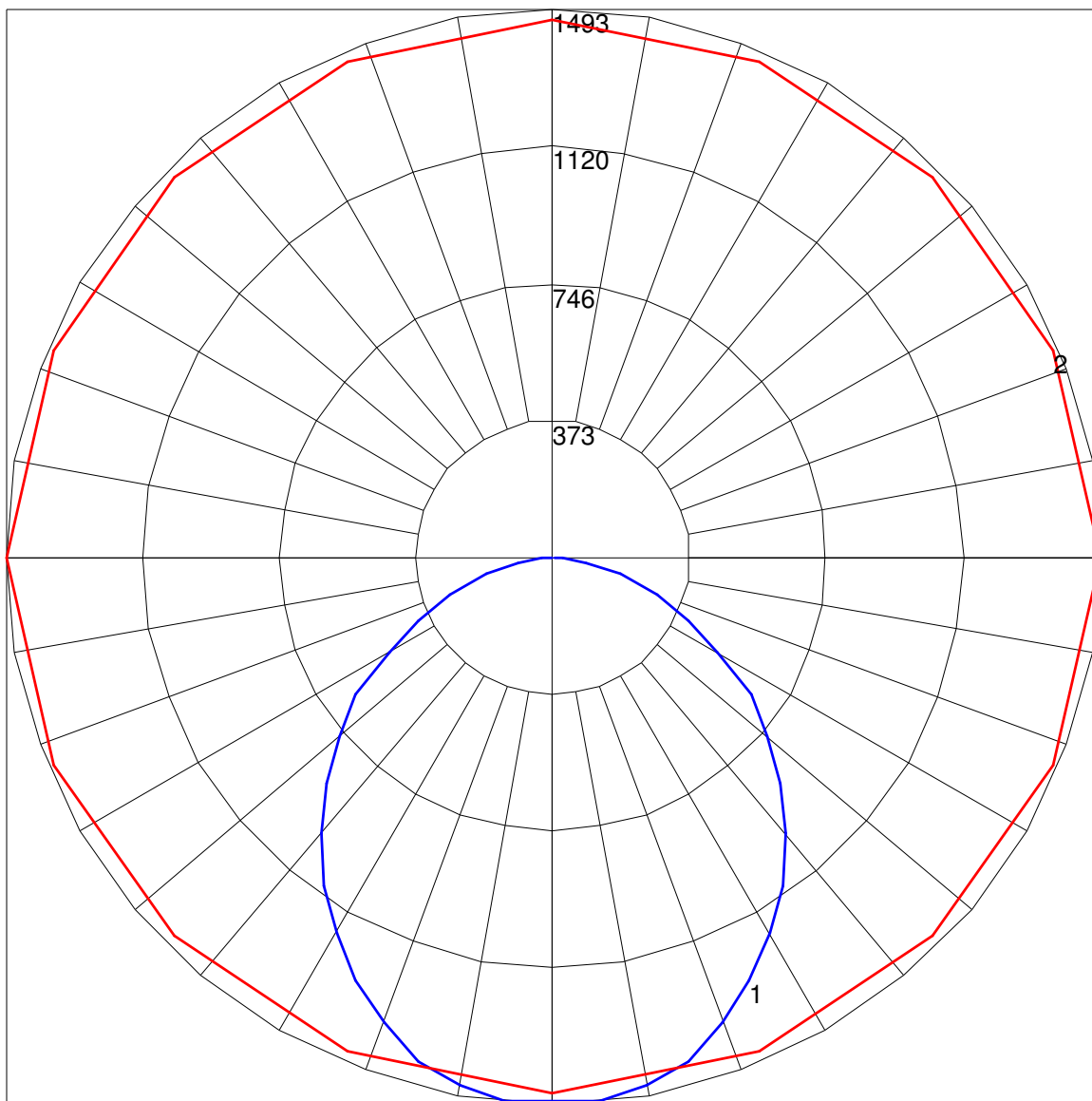
Reflectances

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	18.9	20.5	19.3	20.8	21.2	18.6	20.2	19.0	20.5	20.8
	3H	20.5	21.9	20.9	22.2	22.6	20.1	21.5	20.5	21.9	22.2
	4H	21.0	22.3	21.4	22.7	23.0	20.6	22.0	21.0	22.3	22.7
	6H	21.3	22.5	21.7	22.9	23.3	21.0	22.2	21.4	22.6	23.0
	8H	21.3	22.5	21.7	22.9	23.3	21.0	22.2	21.5	22.6	23.0
	12H	21.3	22.5	21.8	22.9	23.3	21.1	22.2	21.5	22.6	23.0
4H	2H	19.5	20.8	19.9	21.1	21.5	19.2	20.5	19.6	20.9	21.2
	3H	21.2	22.3	21.6	22.7	23.1	20.9	22.0	21.3	22.4	22.8
	4H	21.8	22.8	22.2	23.2	23.6	21.5	22.5	21.9	22.9	23.4
	6H	22.2	23.0	22.6	23.5	23.9	22.0	22.8	22.4	23.3	23.7
	8H	22.3	23.1	22.7	23.5	24.0	22.1	22.9	22.5	23.3	23.8
	12H	22.3	23.0	22.8	23.5	24.0	22.1	22.8	22.6	23.3	23.8
8H	4H	22.0	22.8	22.5	23.3	23.7	21.7	22.6	22.2	23.0	23.5
	6H	22.4	23.1	22.9	23.6	24.1	22.3	22.9	22.8	23.4	23.9
	8H	22.6	23.2	23.1	23.7	24.2	22.4	23.0	23.0	23.6	24.0
	12H	22.6	23.2	23.2	23.7	24.2	22.5	23.1	23.0	23.6	24.1
12H	4H	22.0	22.7	22.5	23.2	23.7	21.8	22.5	22.2	23.0	23.4
	6H	22.5	23.1	23.0	23.5	24.1	22.3	22.9	22.8	23.4	23.9
	8H	22.6	23.2	23.1	23.6	24.2	22.5	23.0	23.0	23.5	24.1

Maximum UGR = 24.2

POLAR GRAPH



Maximum Candela = 1492.737 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.)