



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-00-L15-835-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] 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-4-00-L16-835-F-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6404
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
Total Luminaire Watts	54.8
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	18492	18097	17352
55	17125	16098	15828
65	14443	13930	13490
75	10774	10655	10774
85	4977	4977	4977

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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	2620.475	2620.475	2620.475	2620.475	2620.475
5	2635.135	2605.815	2587.490	2583.825	2583.825
10	2587.490	2558.170	2536.180	2532.515	2528.850
15	2514.190	2477.540	2451.885	2448.220	2437.225
20	2385.915	2360.260	2352.930	2338.270	2319.945
25	2246.645	2224.655	2209.995	2188.005	2177.010
30	2092.715	2067.060	2041.405	2026.745	2012.085
35	1927.790	1913.130	1869.150	1876.480	1836.165
40	1744.540	1733.545	1718.885	1674.905	1652.915
45	1546.630	1531.970	1513.645	1469.665	1451.340
50	1345.055	1337.725	1301.075	1279.085	1264.425
55	1161.805	1136.150	1092.170	1092.170	1073.845
60	916.250	923.580	890.595	879.600	857.610
65	722.005	714.675	696.350	681.690	674.360
70	535.090	520.430	502.105	494.775	491.110
75	329.850	322.520	326.185	318.855	329.850
80	168.590	161.260	168.590	183.250	168.590
85	51.310	51.310	51.310	62.305	51.310
90	3.665	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	940.29	N.A.	14.70
0-30	1957.06	N.A.	30.60
0-40	3135.34	N.A.	49.00
0-60	5285.9	N.A.	82.50
0-80	6328.18	N.A.	98.80
0-90	6404.11	N.A.	100.00
10-90	6157.76	N.A.	96.20
20-40	2195.05	N.A.	34.30
20-50	3357.06	N.A.	52.40
40-70	2843.00	N.A.	44.40
60-80	1042.28	N.A.	16.30
70-80	349.85	N.A.	5.50
80-90	75.92	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	6404.11	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	246.35
10-20	693.94
20-30	1016.77
30-40	1178.28
40-50	1162.02
50-60	988.55
60-70	692.43
70-80	349.85
80-90	75.92
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	218	218	218	218	213	213	213	213	204	204	204	195	195	195	187	187	187	183
1	201	192	185	178	196	188	182	175	180	175	170	173	169	165	167	163	160	156
2	183	169	157	147	178	165	155	145	159	150	142	153	145	139	148	141	136	132
3	168	149	135	123	163	146	133	122	141	130	120	136	126	118	131	123	116	112
4	154	133	117	105	150	130	116	105	126	113	103	122	111	102	118	108	101	97
5	142	119	103	91	138	117	102	91	113	100	90	110	98	89	106	96	88	84
6	131	108	92	80	128	106	91	80	103	89	79	100	88	78	97	86	78	74
7	122	98	82	71	119	96	81	71	94	80	70	91	79	70	88	78	69	66
8	114	89	74	64	111	88	74	64	86	73	63	84	72	63	81	71	62	59
9	106	82	68	58	104	81	67	57	79	66	57	77	65	57	75	64	57	53
10	100	76	62	52	97	75	61	52	73	61	52	72	60	52	70	59	52	48

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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	19.7	21.3	20.0	21.6	21.9	19.3	20.9	19.7	21.2	21.5
	3H	21.2	22.7	21.6	23.0	23.3	20.9	22.3	21.2	22.6	23.0
	4H	21.7	23.1	22.1	23.4	23.8	21.4	22.7	21.8	23.1	23.4
	6H	22.0	23.2	22.4	23.6	24.0	21.7	22.9	22.1	23.3	23.7
	8H	22.0	23.2	22.5	23.6	24.0	21.8	23.0	22.2	23.3	23.7
	12H	22.1	23.2	22.5	23.6	24.0	21.8	22.9	22.2	23.3	23.7

UGR Viewed Endwise

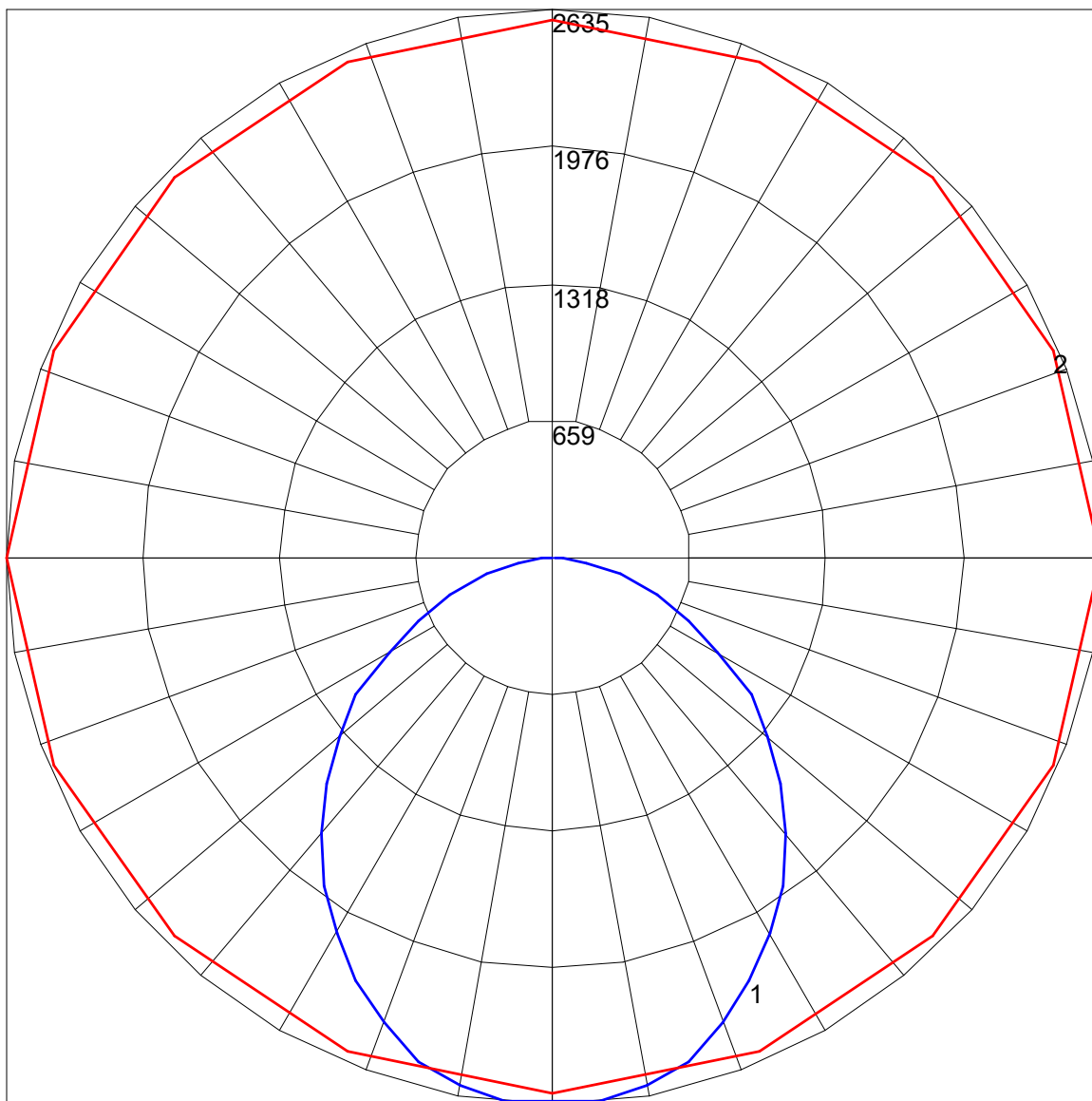
4H	2H	20.2	21.5	20.6	21.9	22.2	19.9	21.2	20.3	21.6	22.0
	3H	21.9	23.1	22.4	23.5	23.9	21.6	22.7	22.0	23.1	23.5
	4H	22.5	23.5	23.0	23.9	24.4	22.2	23.2	22.7	23.7	24.1
	6H	22.9	23.8	23.4	24.2	24.7	22.7	23.6	23.1	24.0	24.5
	8H	23.0	23.8	23.5	24.2	24.7	22.8	23.6	23.3	24.1	24.5
	12H	23.0	23.8	23.5	24.2	24.7	22.9	23.6	23.3	24.1	24.5

8H	4H	22.7	23.5	23.2	24.0	24.5	22.5	23.3	22.9	23.7	24.2
	6H	23.2	23.8	23.7	24.3	24.8	23.0	23.7	23.5	24.2	24.6
	8H	23.3	23.9	23.8	24.4	24.9	23.2	23.8	23.7	24.3	24.8
	12H	23.4	23.9	23.9	24.4	25.0	23.3	23.8	23.8	24.3	24.9

12H	4H	22.7	23.5	23.2	23.9	24.4	22.5	23.2	23.0	23.7	24.2
	6H	23.2	23.8	23.7	24.3	24.8	23.0	23.6	23.5	24.1	24.6
	8H	23.4	23.9	23.9	24.4	24.9	23.2	23.8	23.7	24.3	24.8

Maximum UGR = 25.0

POLAR GRAPH



Maximum Candela = 2635.135 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.)