



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-6-00-L8-940-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] 08-17-2020

[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] MX4Rx-6-00-L8-940-F-DIM-UNV

[LAMPCAT] HLM 90 CRI, 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4065
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	97
Total Luminaire Watts	42.1
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)	6.00 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	7825	7658	7343
55	7246	6812	6698
65	6112	5895	5708
75	4559	4509	4559
85	2106	2106	2106

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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	1663.286	1663.286	1663.286	1663.286	1663.286
5	1672.591	1653.981	1642.349	1640.023	1640.023
10	1642.349	1623.739	1609.782	1607.455	1605.129
15	1595.824	1572.561	1556.277	1553.951	1546.972
20	1514.404	1498.120	1493.468	1484.163	1472.531
25	1426.006	1412.048	1402.743	1388.786	1381.807
30	1328.302	1312.018	1295.735	1286.429	1277.124
35	1223.620	1214.315	1186.400	1191.052	1165.463
40	1107.306	1100.328	1091.022	1063.107	1049.150
45	981.688	972.382	960.751	932.836	921.204
50	853.743	849.090	825.827	811.870	802.565
55	737.429	721.145	693.230	693.230	681.598
60	581.568	586.221	565.285	558.306	544.348
65	458.276	453.623	441.992	432.687	428.034
70	339.636	330.331	318.700	314.047	311.721
75	209.365	204.712	207.038	202.386	209.365
80	107.009	102.356	107.009	116.314	107.009
85	32.568	32.568	32.568	39.547	32.568
90	2.326	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	596.83	N.A.	14.70
0-30	1242.2	N.A.	30.60
0-40	1990.08	N.A.	49.00
0-60	3355.1	N.A.	82.50
0-80	4016.67	N.A.	98.80
0-90	4064.86	N.A.	100.00
10-90	3908.49	N.A.	96.20
20-40	1393.25	N.A.	34.30
20-50	2130.82	N.A.	52.40
40-70	1804.53	N.A.	44.40
60-80	661.56	N.A.	16.30
70-80	222.06	N.A.	5.50
80-90	48.19	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	4064.86	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	156.36
10-20	440.46
20-30	645.37
30-40	747.88
40-50	737.56
50-60	627.46
60-70	439.51
70-80	222.06
80-90	48.19
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

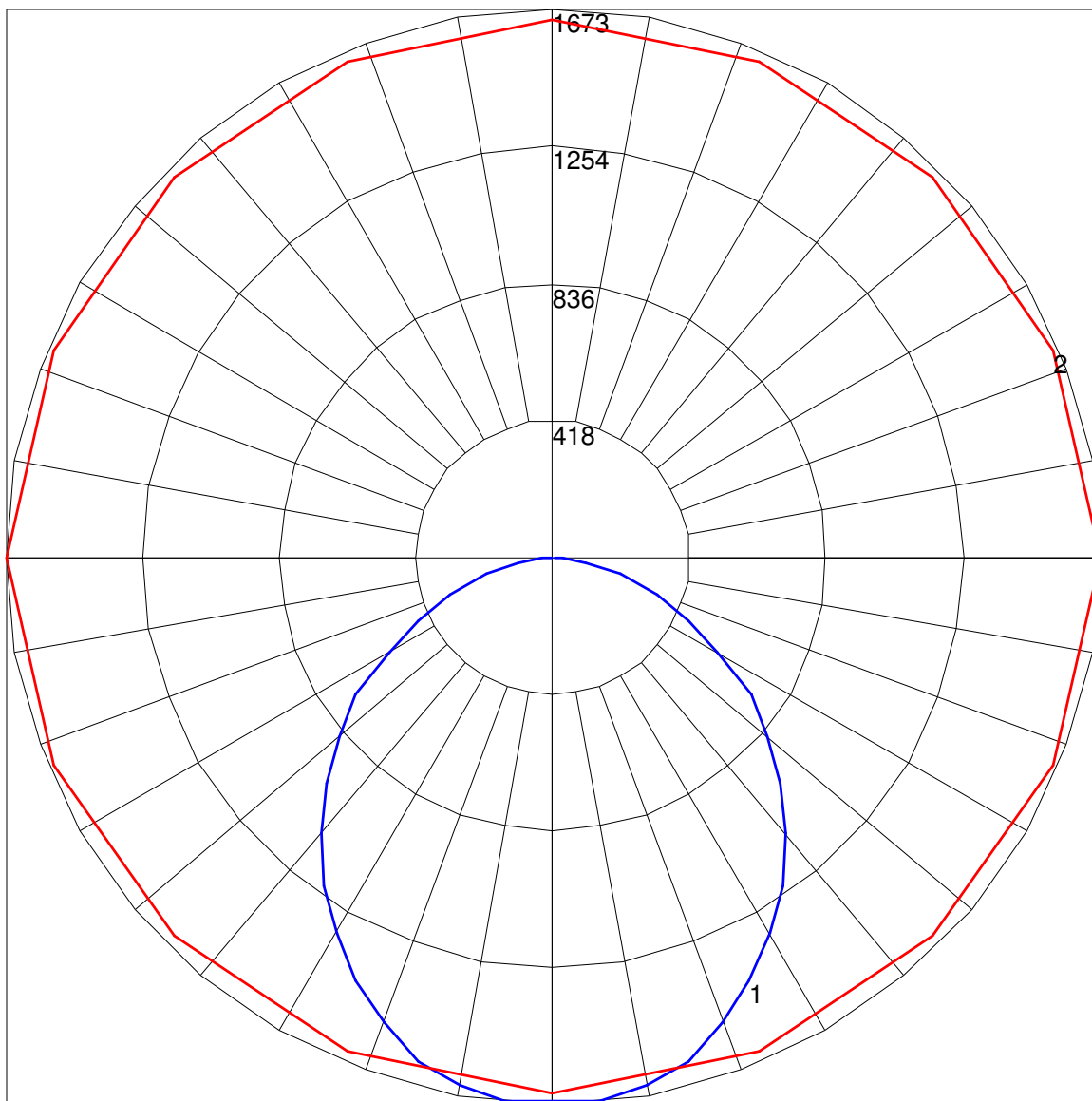
Reflectances

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	19.2	20.8	21.1	18.5	20.1	18.9	20.4	20.7
	3H	20.4	21.8	20.8	22.2	22.5	20.0	21.5	20.4	21.8	22.2
	4H	20.9	22.2	21.3	22.6	23.0	20.6	21.9	21.0	22.2	22.6
	6H	21.2	22.4	21.6	22.8	23.2	20.9	22.1	21.3	22.5	22.9
	8H	21.2	22.4	21.7	22.8	23.2	21.0	22.1	21.4	22.5	22.9
	12H	21.3	22.4	21.7	22.8	23.2	21.0	22.1	21.4	22.5	22.9
4H	2H	19.4	20.7	19.8	21.1	21.4	19.1	20.4	19.5	20.8	21.2
	3H	21.1	22.2	21.5	22.6	23.0	20.8	21.9	21.2	22.3	22.7
	4H	21.7	22.7	22.2	23.1	23.6	21.4	22.4	21.9	22.9	23.3
	6H	22.1	23.0	22.6	23.4	23.9	21.9	22.7	22.3	23.2	23.6
	8H	22.2	23.0	22.6	23.4	23.9	22.0	22.8	22.5	23.2	23.7
	12H	22.2	23.0	22.7	23.4	23.9	22.0	22.8	22.5	23.3	23.7
8H	4H	21.9	22.7	22.4	23.2	23.6	21.7	22.5	22.1	22.9	23.4
	6H	22.4	23.0	22.9	23.5	24.0	22.2	22.9	22.7	23.4	23.8
	8H	22.5	23.1	23.0	23.6	24.1	22.4	23.0	22.9	23.5	24.0
	12H	22.6	23.1	23.1	23.6	24.2	22.5	23.0	23.0	23.5	24.1
12H	4H	21.9	22.7	22.4	23.1	23.6	21.7	22.4	22.2	22.9	23.4
	6H	22.4	23.0	22.9	23.5	24.0	22.2	22.8	22.8	23.3	23.8
	8H	22.5	23.1	23.1	23.6	24.1	22.4	23.0	22.9	23.5	24.0

Maximum UGR = 24.2

POLAR GRAPH



Maximum Candela = 1672.591 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.)