



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-00-L8-840-F-(L4)-DIM1-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] 01-23-2024

[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-L8-840-F-(L4)-DIM1-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1629
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	123
Total Luminaire Watts	13.2
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)	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	4705	4604	4415
55	4357	4096	4027
65	3675	3544	3432
75	2741	2711	2741
85	1266	1266	1266

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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	666.706	666.706	666.706	666.706	666.706
5	670.436	662.976	658.314	657.381	657.381
10	658.314	650.854	645.259	644.327	643.394
15	639.665	630.340	623.813	622.880	620.083
20	607.029	600.501	598.637	594.907	590.244
25	571.595	566.001	562.271	556.676	553.879
30	532.432	525.905	519.378	515.648	511.918
35	490.472	486.742	475.552	477.417	467.160
40	443.849	441.052	437.322	426.132	420.538
45	393.496	389.766	385.104	373.915	369.252
50	342.211	340.346	331.022	325.427	321.697
55	295.588	289.061	277.872	277.872	273.210
60	233.114	234.979	226.587	223.789	218.195
65	183.694	181.829	177.167	173.437	171.572
70	136.139	132.409	127.746	125.882	124.949
75	83.921	82.056	82.989	81.124	83.921
80	42.893	41.028	42.893	46.623	42.893
85	13.054	13.054	13.054	15.852	13.054
90	0.932	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	239.23	N.A.	14.70
0-30	497.92	N.A.	30.60
0-40	797.70	N.A.	49.00
0-60	1344.85	N.A.	82.50
0-80	1610.03	N.A.	98.80
0-90	1629.34	N.A.	100.00
10-90	1566.67	N.A.	96.20
20-40	558.47	N.A.	34.30
20-50	854.11	N.A.	52.40
40-70	723.32	N.A.	44.40
60-80	265.18	N.A.	16.30
70-80	89.01	N.A.	5.50
80-90	19.32	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	1629.34	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	62.68
10-20	176.55
20-30	258.69
30-40	299.78
40-50	295.64
50-60	251.51
60-70	176.17
70-80	89.01
80-90	19.32
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	17.1	18.7	17.4	19.0	19.3	16.7	18.3	17.1	18.6	18.9
	3H	18.6	20.1	19.0	20.4	20.7	18.3	19.7	18.6	20.0	20.4
	4H	19.1	20.5	19.5	20.8	21.2	18.8	20.1	19.2	20.5	20.8
	6H	19.4	20.6	19.8	21.0	21.4	19.1	20.3	19.5	20.7	21.1
	8H	19.4	20.6	19.9	21.0	21.4	19.2	20.4	19.6	20.7	21.1
	12H	19.5	20.6	19.9	21.0	21.4	19.2	20.3	19.6	20.7	21.1

UGR Viewed Endwise

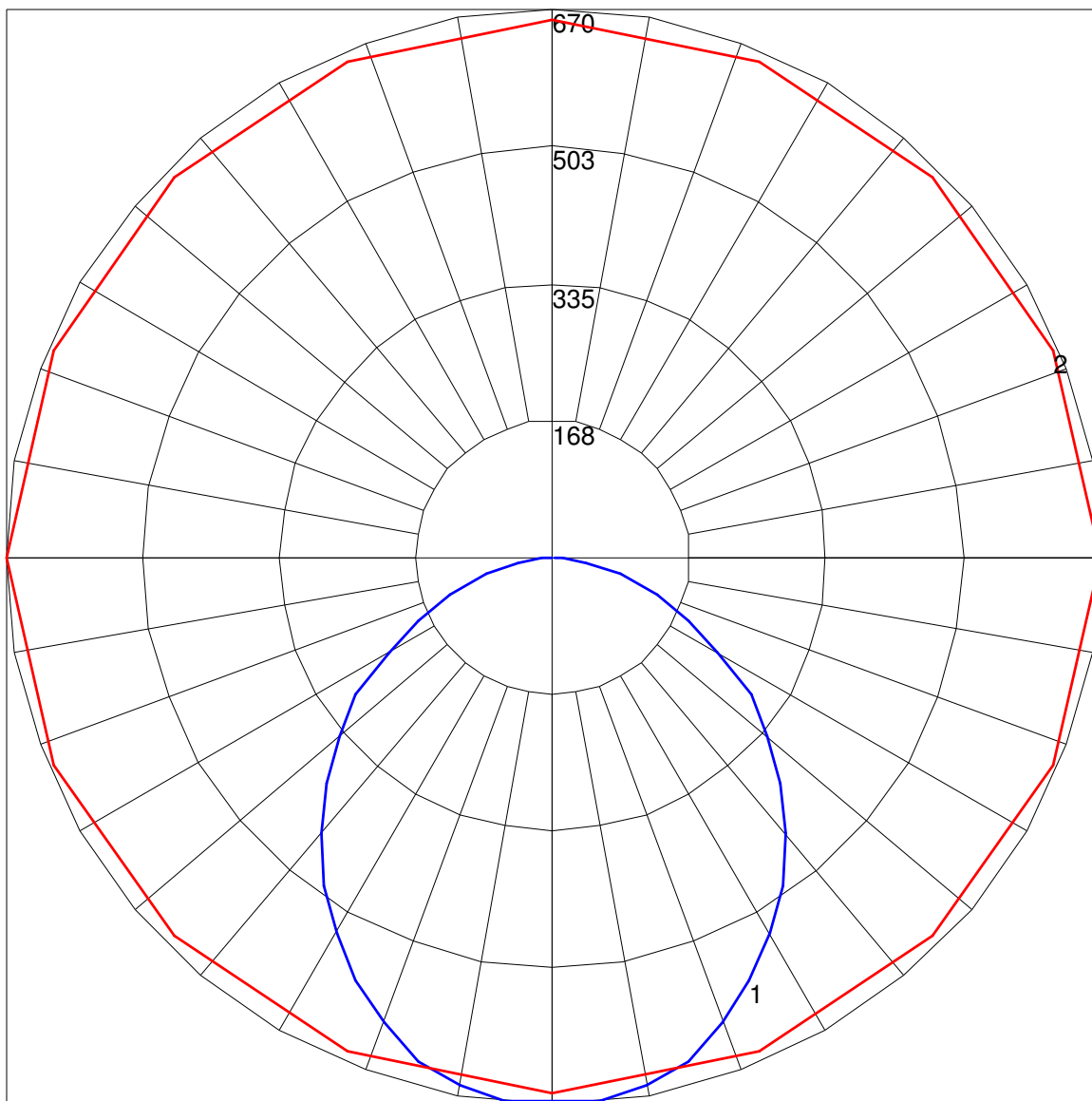
4H	2H	17.6	18.9	18.0	19.3	19.7	17.3	18.6	17.7	19.0	19.4
	3H	19.3	20.5	19.8	20.9	21.3	19.0	20.1	19.4	20.5	20.9
	4H	19.9	20.9	20.4	21.3	21.8	19.7	20.6	20.1	21.1	21.5
	6H	20.3	21.2	20.8	21.6	22.1	20.1	21.0	20.5	21.4	21.9
	8H	20.4	21.2	20.9	21.6	22.1	20.2	21.0	20.7	21.5	21.9
	12H	20.4	21.2	20.9	21.6	22.1	20.3	21.0	20.7	21.5	21.9

8H	4H	20.1	20.9	20.6	21.4	21.9	19.9	20.7	20.3	21.1	21.6
	6H	20.6	21.2	21.1	21.7	22.2	20.4	21.1	20.9	21.6	22.0
	8H	20.7	21.3	21.2	21.8	22.3	20.6	21.2	21.1	21.7	22.2
	12H	20.8	21.3	21.3	21.8	22.4	20.7	21.2	21.2	21.7	22.3

12H	4H	20.1	20.9	20.6	21.3	21.8	19.9	20.6	20.4	21.1	21.6
	6H	20.6	21.2	21.1	21.7	22.2	20.4	21.0	21.0	21.5	22.0
	8H	20.8	21.3	21.3	21.8	22.3	20.6	21.2	21.1	21.7	22.2

Maximum UGR = 22.4

POLAR GRAPH



Maximum Candela = 670.436 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.)