



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-00-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-4-00-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	2902
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	99
Total Luminaire Watts	29.2
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)	0.33 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8001	7830	7508
55	7409	6965	6848
65	6249	6027	5837
75	4662	4610	4662
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	1187.301	1187.301	1187.301	1187.301	1187.301
5	1193.943	1180.659	1172.356	1170.695	1170.695
10	1172.356	1159.072	1149.108	1147.448	1145.787
15	1139.145	1122.539	1110.915	1109.255	1104.273
20	1081.025	1069.401	1066.080	1059.438	1051.135
25	1017.924	1007.961	1001.318	991.355	986.373
30	948.180	936.556	924.932	918.290	911.648
35	873.455	866.813	846.886	850.207	831.941
40	790.427	785.445	778.803	758.876	748.913
45	700.757	694.114	685.812	665.885	657.582
50	609.426	606.105	589.499	579.536	572.894
55	526.398	514.774	494.847	494.847	486.544
60	415.140	418.461	403.516	398.535	388.571
65	327.131	323.809	315.507	308.864	305.543
70	242.442	235.800	227.497	224.176	222.515
75	149.450	146.129	147.790	144.469	149.450
80	76.386	73.065	76.386	83.028	76.386
85	23.248	23.248	23.248	28.230	23.248
90	1.661	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	426.03	N.A.	14.70
0-30	886.72	N.A.	30.60
0-40	1420.58	N.A.	49.00
0-60	2394.97	N.A.	82.50
0-80	2867.21	N.A.	98.80
0-90	2901.61	N.A.	100.00
10-90	2790.00	N.A.	96.20
20-40	994.54	N.A.	34.30
20-50	1521.04	N.A.	52.40
40-70	1288.12	N.A.	44.40
60-80	472.24	N.A.	16.30
70-80	158.51	N.A.	5.50
80-90	34.40	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	2901.61	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	111.62
10-20	314.42
20-30	460.68
30-40	533.86
40-50	526.49
50-60	447.90
60-70	313.73
70-80	158.51
80-90	34.40
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	98	95	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

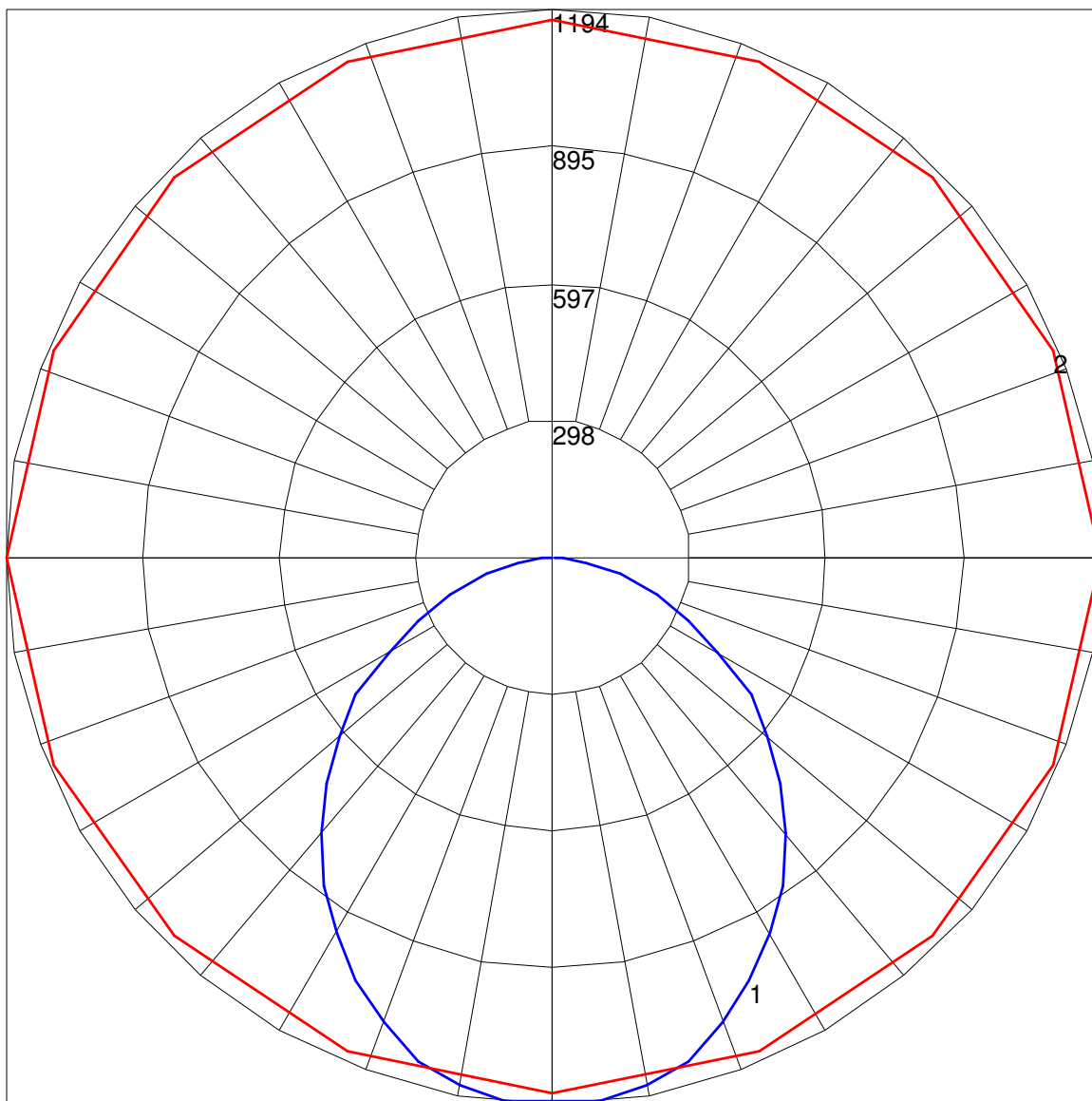
X=2H	Y=2H	18.9	20.5	19.3	20.8	21.1	18.6	20.2	18.9	20.5	20.8
	3H	20.5	21.9	20.9	22.2	22.6	20.1	21.5	20.5	21.8	22.2
	4H	21.0	22.3	21.4	22.6	23.0	20.6	21.9	21.0	22.3	22.7
	6H	21.2	22.5	21.6	22.8	23.2	20.9	22.2	21.4	22.5	22.9
	8H	21.3	22.5	21.7	22.9	23.3	21.0	22.2	21.4	22.6	23.0
	12H	21.3	22.5	21.7	22.8	23.3	21.0	22.2	21.5	22.6	23.0

UGR Viewed Endwise

4H	2H	19.4	20.8	19.8	21.1	21.5	19.2	20.5	19.6	20.8	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	23.3
	6H	22.1	23.0	22.6	23.5	23.9	21.9	22.8	22.4	23.2	23.7
	8H	22.2	23.0	22.7	23.5	24.0	22.0	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	22.4	23.2	23.7	21.7	22.5	22.2	23.0	23.4
	6H	22.4	23.1	22.9	23.6	24.1	22.2	22.9	22.7	23.4	23.9
	8H	22.6	23.2	23.1	23.7	24.1	22.4	23.0	22.9	23.5	24.0
	12H	22.6	23.2	23.1	23.6	24.2	22.5	23.1	23.0	23.5	24.1
12H	4H	22.0	22.7	22.5	23.2	23.7	21.7	22.5	22.2	22.9	23.4
	6H	22.5	23.1	23.0	23.5	24.1	22.3	22.9	22.8	23.3	23.9
	8H	22.6	23.1	23.1	23.6	24.2	22.5	23.0	23.0	23.5	24.1

Maximum UGR = 24.2

POLAR GRAPH



Maximum Candela = 1193.943 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.)