



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-00-L8-835-F-(L7.5)-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] 23-JAN-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 4' RECESSED GRID LED LUMINAIRE
 [MORE] WHITE ALUM BODY w/WHITE REFL & FLAT FROST LENS
 [LUMCAT] MX4RG-4-00-L8-835-F-(L7.5)-DIM-UNV
 [LAMPCAT] MX2472_2835 REV A 10560314

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3104
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
Total Luminaire Watts	25
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	8962	8771	8410
55	8299	7802	7671
65	7000	6751	6538
75	5222	5164	5222
85	2412	2412	2412

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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	1269.969	1269.969	1269.969	1269.969	1269.969
5	1277.073	1262.864	1253.983	1252.207	1252.207
10	1253.983	1239.774	1229.117	1227.340	1225.564
15	1218.459	1200.698	1188.264	1186.488	1181.160
20	1156.293	1143.860	1140.308	1133.203	1124.322
25	1088.798	1078.141	1071.037	1060.379	1055.051
30	1014.199	1001.766	989.332	982.228	975.123
35	934.271	927.166	905.852	909.404	889.866
40	845.462	840.133	833.028	811.714	801.057
45	749.548	742.443	733.562	712.248	703.367
50	651.858	648.306	630.544	619.887	612.782
55	563.049	550.616	529.302	529.302	520.421
60	444.045	447.597	431.612	426.283	415.626
65	349.907	346.355	337.474	330.369	326.817
70	259.322	252.218	243.337	239.784	238.008
75	159.856	156.304	158.080	154.528	159.856
80	81.704	78.152	81.704	88.809	81.704
85	24.867	24.867	24.867	30.195	24.867
90	1.776	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	455.70	N.A.	14.70
0-30	948.46	N.A.	30.60
0-40	1519.49	N.A.	49.00
0-60	2561.72	N.A.	82.50
0-80	3066.85	N.A.	98.80
0-90	3103.64	N.A.	100.00
10-90	2984.25	N.A.	96.20
20-40	1063.79	N.A.	34.30
20-50	1626.94	N.A.	52.40
40-70	1377.81	N.A.	44.40
60-80	505.12	N.A.	16.30
70-80	169.55	N.A.	5.50
80-90	36.80	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	3103.64	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	119.39
10-20	336.31
20-30	492.76
30-40	571.03
40-50	563.15
50-60	479.08
60-70	335.58
70-80	169.55
80-90	36.80
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	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

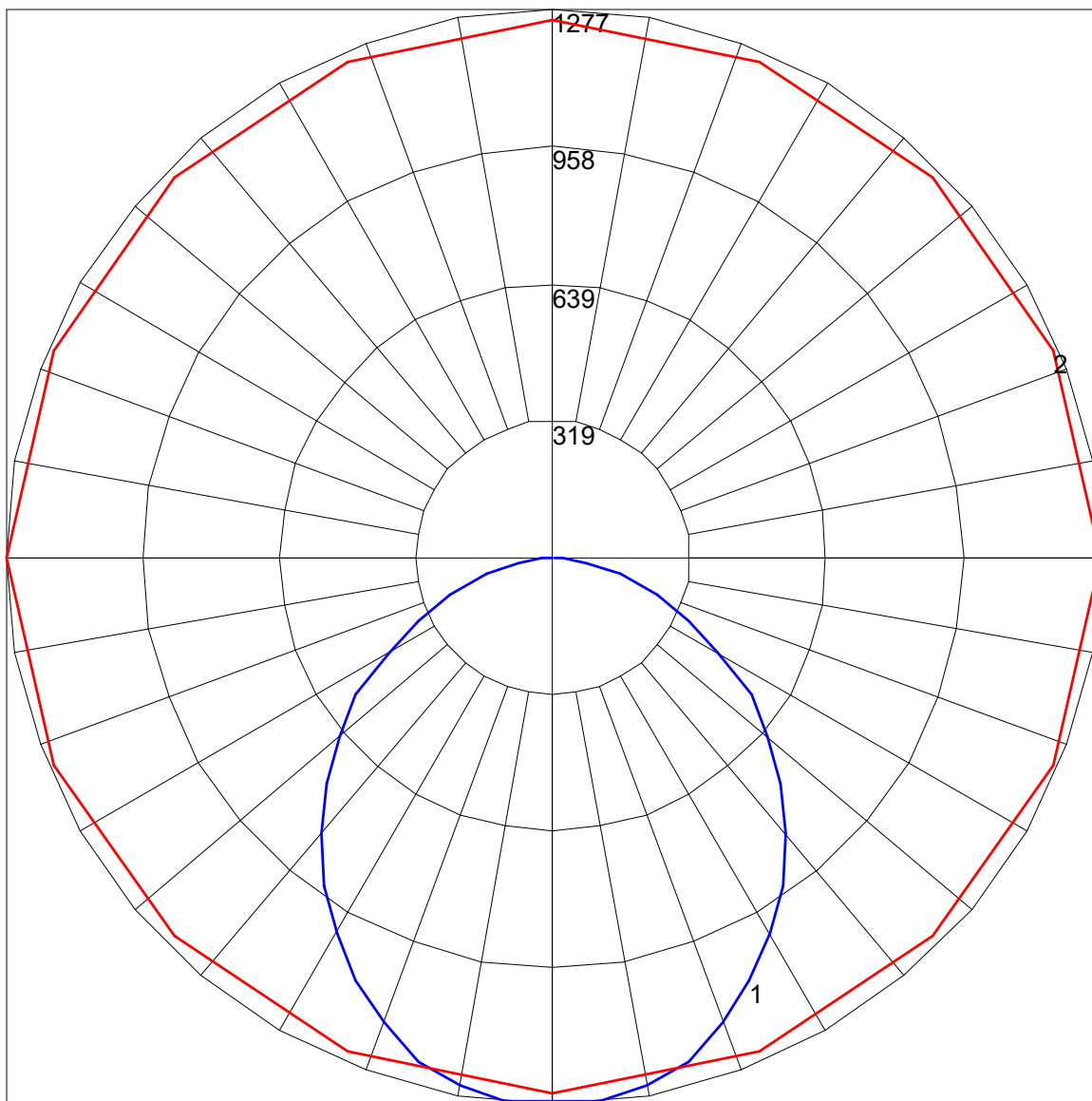
X=2H	Y=2H	19.3	20.9	19.6	21.2	21.5	18.9	20.5	19.3	20.8	21.1
	3H	20.8	22.3	21.2	22.6	22.9	20.5	21.9	20.8	22.2	22.6
	4H	21.3	22.7	21.7	23.0	23.4	21.0	22.3	21.4	22.7	23.0
	6H	21.6	22.8	22.0	23.2	23.6	21.3	22.5	21.7	22.9	23.3
	8H	21.6	22.8	22.1	23.2	23.6	21.4	22.6	21.8	22.9	23.3
	12H	21.7	22.8	22.1	23.2	23.6	21.4	22.5	21.8	22.9	23.3

UGR Viewed Endwise

4H	2H	19.8	21.1	20.2	21.5	21.9	19.5	20.8	19.9	21.2	21.6
	3H	21.5	22.7	22.0	23.1	23.5	21.2	22.3	21.6	22.7	23.1
	4H	22.1	23.1	22.6	23.5	24.0	21.9	22.8	22.3	23.3	23.7
	6H	22.5	23.4	23.0	23.8	24.3	22.3	23.2	22.7	23.6	24.1
	8H	22.6	23.4	23.1	23.8	24.3	22.4	23.2	22.9	23.7	24.1
	12H	22.6	23.4	23.1	23.8	24.3	22.5	23.2	22.9	23.7	24.1
8H	4H	22.3	23.1	22.8	23.6	24.1	22.1	22.9	22.5	23.3	23.8
	6H	22.8	23.4	23.3	23.9	24.4	22.6	23.3	23.1	23.8	24.2
	8H	22.9	23.5	23.4	24.0	24.5	22.8	23.4	23.3	23.9	24.4
	12H	23.0	23.5	23.5	24.0	24.6	22.9	23.4	23.4	23.9	24.5
12H	4H	22.3	23.1	22.8	23.5	24.0	22.1	22.8	22.6	23.3	23.8
	6H	22.8	23.4	23.3	23.9	24.4	22.6	23.2	23.2	23.7	24.2
	8H	23.0	23.5	23.5	24.0	24.5	22.8	23.4	23.3	23.9	24.4

Maximum UGR = 24.6

POLAR GRAPH



Maximum Candela = 1277.073 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.)