



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-00-L15-835-F-(L13)-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] 04-MAY-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-L15-835-F-(L13)-DIM-UNV  
 [LAMPCAT] MX2472\_2835 REV A 10560314

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5282
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	123
Total Luminaire Watts	43
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	15252	14927	14312
55	14124	13278	13055
65	11913	11490	11127
75	8887	8788	8887
85	4105	4105	4105

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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>
<b>0</b>	2161.366	2161.366	2161.366	2161.366	2161.366
<b>5</b>	2173.458	2149.275	2134.160	2131.138	2131.138
<b>10</b>	2134.160	2109.977	2091.840	2088.817	2085.794
<b>15</b>	2073.703	2043.474	2022.313	2019.291	2010.222
<b>20</b>	1967.901	1946.741	1940.695	1928.604	1913.489
<b>25</b>	1853.032	1834.894	1822.803	1804.665	1795.597
<b>30</b>	1726.070	1704.910	1683.750	1671.658	1659.567
<b>35</b>	1590.040	1577.949	1541.674	1547.720	1514.468
<b>40</b>	1438.896	1429.827	1417.735	1381.461	1363.323
<b>45</b>	1275.660	1263.568	1248.454	1212.179	1197.064
<b>50</b>	1109.401	1103.355	1073.126	1054.989	1042.897
<b>55</b>	958.256	937.096	900.821	900.821	885.707
<b>60</b>	755.723	761.768	734.562	725.494	707.356
<b>65</b>	595.509	589.464	574.349	562.258	556.212
<b>70</b>	441.342	429.250	414.136	408.090	405.067
<b>75</b>	272.060	266.014	269.037	262.991	272.060
<b>80</b>	139.053	133.007	139.053	151.145	139.053
<b>85</b>	42.320	42.320	42.320	51.389	42.320
<b>90</b>	3.023	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	775.55	N.A.	14.70
0-30	1614.18	N.A.	30.60
0-40	2586.02	N.A.	49.00
0-60	4359.81	N.A.	82.50
0-80	5219.48	N.A.	98.80
0-90	5282.1	N.A.	100.00
10-90	5078.92	N.A.	96.20
20-40	1810.47	N.A.	34.30
20-50	2768.9	N.A.	52.40
40-70	2344.9	N.A.	44.40
60-80	859.67	N.A.	16.30
70-80	288.55	N.A.	5.50
80-90	62.62	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	5282.1	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	203.19
10-20	572.36
20-30	838.63
30-40	971.84
40-50	958.43
50-60	815.35
60-70	571.12
70-80	288.55
80-90	62.62
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

X=2H	Y=2H	21.2	22.8	21.5	23.1	23.4	20.8	22.4	21.2	22.7	23.0
	3H	22.7	24.2	23.1	24.5	24.8	22.4	23.8	22.7	24.1	24.5
	4H	23.2	24.5	23.6	24.9	25.3	22.9	24.2	23.3	24.6	24.9
	6H	23.5	24.7	23.9	25.1	25.5	23.2	24.4	23.6	24.8	25.2
	8H	23.5	24.7	24.0	25.1	25.5	23.3	24.5	23.7	24.8	25.2
	12H	23.6	24.7	24.0	25.1	25.5	23.3	24.4	23.7	24.8	25.2

### UGR Viewed Endwise

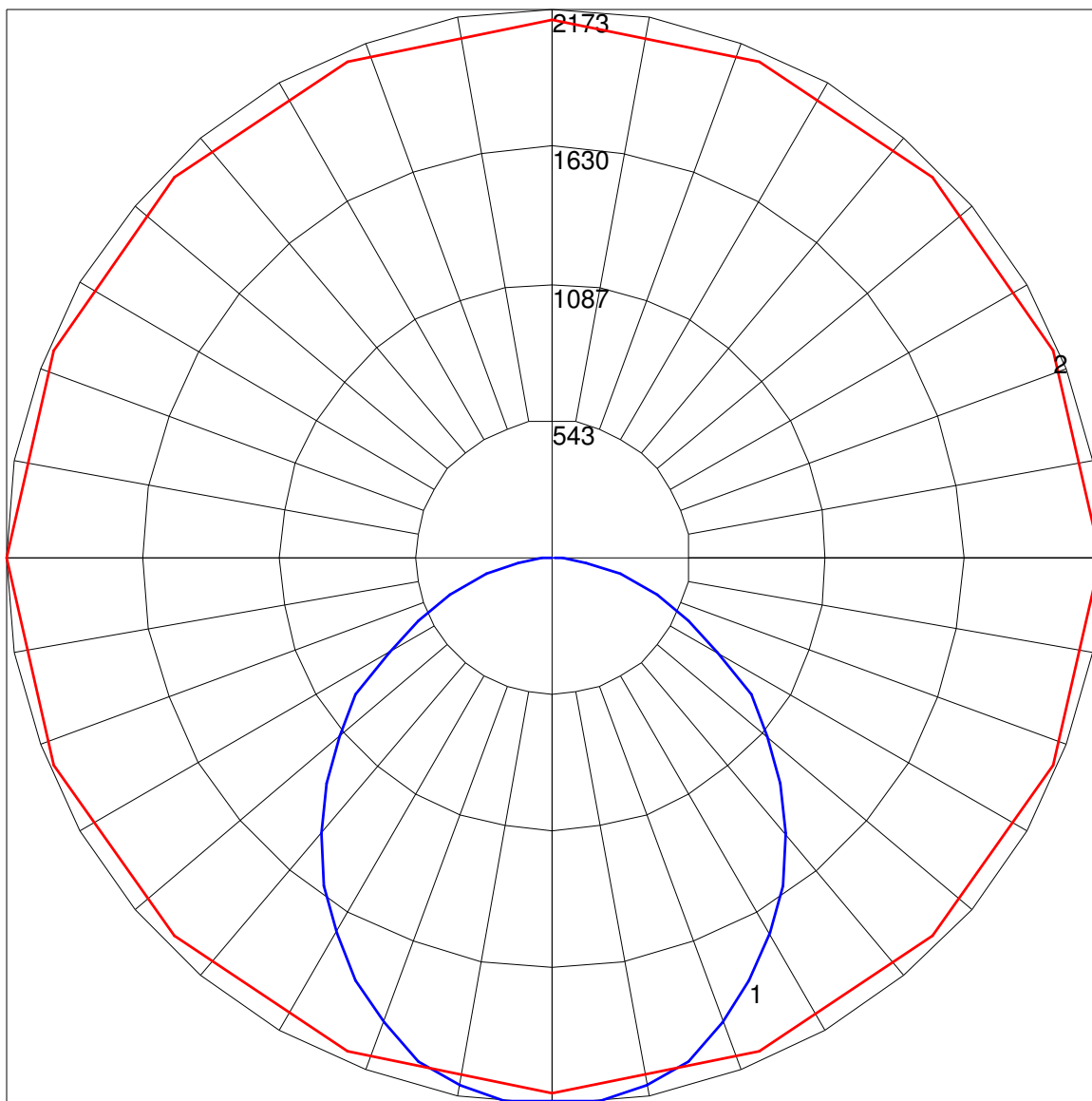
4H	2H	21.7	23.0	22.1	23.4	23.7	21.4	22.7	21.8	23.1	23.5
	3H	23.4	24.6	23.9	25.0	25.4	23.1	24.2	23.5	24.6	25.0
	4H	24.0	25.0	24.5	25.4	25.9	23.7	24.7	24.2	25.2	25.6
	6H	24.4	25.3	24.9	25.7	26.2	24.2	25.1	24.6	25.5	26.0
	8H	24.5	25.3	25.0	25.7	26.2	24.3	25.1	24.8	25.6	26.0
	12H	24.5	25.3	25.0	25.7	26.2	24.4	25.1	24.8	25.6	26.0

8H	4H	24.2	25.0	24.7	25.5	26.0	24.0	24.8	24.4	25.2	25.7
	6H	24.7	25.3	25.2	25.8	26.3	24.5	25.2	25.0	25.7	26.1
	8H	24.8	25.4	25.3	25.9	26.4	24.7	25.3	25.2	25.8	26.3
	12H	24.9	25.4	25.4	25.9	26.5	24.8	25.3	25.3	25.8	26.4

12H	4H	24.2	25.0	24.7	25.4	25.9	24.0	24.7	24.5	25.2	25.7
	6H	24.7	25.3	25.2	25.8	26.3	24.5	25.1	25.0	25.6	26.1
	8H	24.9	25.4	25.4	25.9	26.4	24.7	25.3	25.2	25.8	26.3

Maximum UGR = 26.5

POLAR GRAPH



Maximum Candela = 2173.458 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.)