



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-8-00-L12-835-F-(L9)-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] 12-MAR-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] MX4RG-8-00-L12-835-x-(L9)

### CHARACTERISTICS

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 7409            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 127             |
| Total Luminaire Watts           | 58.3            |
| 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)         | 8.00 ft         |
| Luminous Width (90-270)         | 0.32 ft         |
| Luminous Height                 | 0.00 ft         |

### LUMINANCE DATA (cd/sq.m)

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 10696            | 10468             | 10037             |
| 55                  | 9906             | 9312              | 9156              |
| 65                  | 8355             | 8058              | 7803              |
| 75                  | 6232             | 6163              | 6232              |
| 85                  | 2879             | 2879              | 2879              |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4RG-8-00-L12-835-F-(L9)-DIM-UNV\_.IES****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>  | 3031.60    | 3031.60     | 3031.60     | 3031.60     | 3031.60     |
| <b>5</b>  | 3048.56    | 3014.64     | 2993.44     | 2989.20     | 2989.20     |
| <b>10</b> | 2993.44    | 2959.52     | 2934.08     | 2929.84     | 2925.60     |
| <b>15</b> | 2908.64    | 2866.24     | 2836.56     | 2832.32     | 2819.60     |
| <b>20</b> | 2760.24    | 2730.56     | 2722.08     | 2705.12     | 2683.92     |
| <b>25</b> | 2599.12    | 2573.68     | 2556.72     | 2531.28     | 2518.56     |
| <b>30</b> | 2421.04    | 2391.36     | 2361.68     | 2344.72     | 2327.76     |
| <b>35</b> | 2230.24    | 2213.28     | 2162.40     | 2170.88     | 2124.24     |
| <b>40</b> | 2018.24    | 2005.52     | 1988.56     | 1937.68     | 1912.24     |
| <b>45</b> | 1789.28    | 1772.32     | 1751.12     | 1700.24     | 1679.04     |
| <b>50</b> | 1556.08    | 1547.60     | 1505.20     | 1479.76     | 1462.80     |
| <b>55</b> | 1344.08    | 1314.40     | 1263.52     | 1263.52     | 1242.32     |
| <b>60</b> | 1060.00    | 1068.48     | 1030.32     | 1017.60     | 992.16      |
| <b>65</b> | 835.28     | 826.80      | 805.60      | 788.64      | 780.16      |
| <b>70</b> | 619.04     | 602.08      | 580.88      | 572.40      | 568.16      |
| <b>75</b> | 381.60     | 373.12      | 377.36      | 368.88      | 381.60      |
| <b>80</b> | 195.04     | 186.56      | 195.04      | 212.00      | 195.04      |
| <b>85</b> | 59.36      | 59.36       | 59.36       | 72.08       | 59.36       |
| <b>90</b> | 4.24       | 0.00        | 0.00        | 0.00        | 0.00        |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4RG-8-00-L12-835-F-(L9)-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 1087.81 | N.A.  | 14.70  |
| 0-30    | 2264.1  | N.A.  | 30.60  |
| 0-40    | 3627.24 | N.A.  | 49.00  |
| 0-60    | 6115.2  | N.A.  | 82.50  |
| 0-80    | 7321.01 | N.A.  | 98.80  |
| 0-90    | 7408.84 | N.A.  | 100.00 |
| 10-90   | 7123.85 | N.A.  | 96.20  |
| 20-40   | 2539.43 | N.A.  | 34.30  |
| 20-50   | 3883.75 | N.A.  | 52.40  |
| 40-70   | 3289.03 | N.A.  | 44.40  |
| 60-80   | 1205.8  | N.A.  | 16.30  |
| 70-80   | 404.74  | N.A.  | 5.50   |
| 80-90   | 87.84   | 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   | 7408.84 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  |
|---------|---------|
| 0-10    | 285.00  |
| 10-20   | 802.82  |
| 20-30   | 1176.29 |
| 30-40   | 1363.13 |
| 40-50   | 1344.33 |
| 50-60   | 1143.64 |
| 60-70   | 801.07  |
| 70-80   | 404.74  |
| 80-90   | 87.84   |
| 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

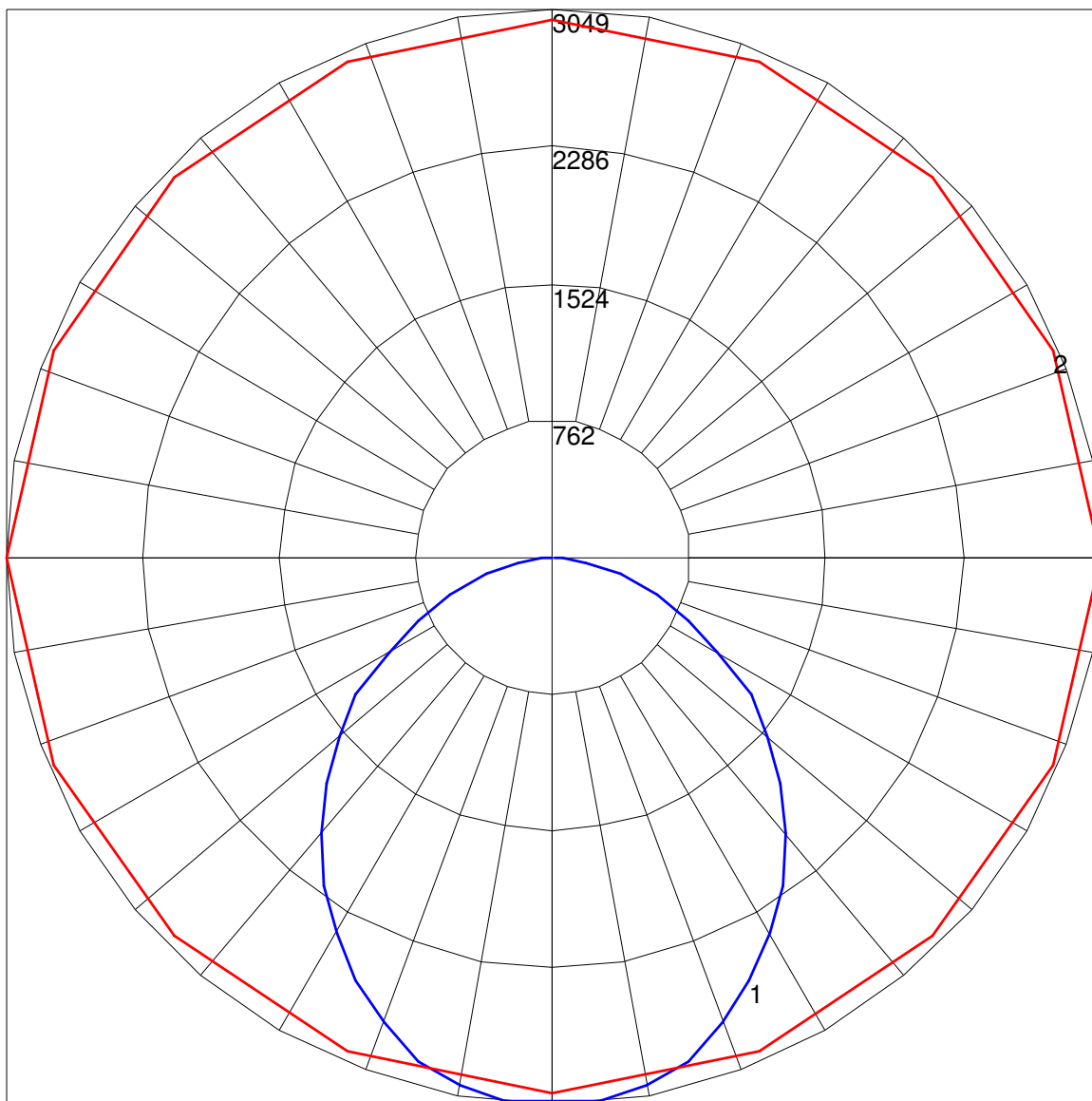
| X=2H | Y=2H | 20.0 | 21.6 | 20.3 | 21.9 | 22.2 | 19.6 | 21.2 | 20.0 | 21.5 | 21.8 |
|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 3H   | 21.5 | 22.9 | 21.9 | 23.3 | 23.6 | 21.1 | 22.6 | 21.5 | 22.9 | 23.3 |
|      | 4H   | 22.0 | 23.3 | 22.4 | 23.7 | 24.1 | 21.7 | 23.0 | 22.1 | 23.3 | 23.7 |
|      | 6H   | 22.3 | 23.5 | 22.7 | 23.9 | 24.3 | 22.0 | 23.2 | 22.4 | 23.6 | 24.0 |
|      | 8H   | 22.3 | 23.5 | 22.8 | 23.9 | 24.3 | 22.1 | 23.2 | 22.5 | 23.6 | 24.0 |
|      | 12H  | 22.4 | 23.5 | 22.8 | 23.9 | 24.3 | 22.1 | 23.2 | 22.5 | 23.6 | 24.0 |

### UGR Viewed Endwise

|     |     |      |      |      |      |      |      |      |      |      |      |
|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H  | 2H  | 20.5 | 21.8 | 20.9 | 22.2 | 22.5 | 20.2 | 21.5 | 20.6 | 21.9 | 22.3 |
|     | 3H  | 22.2 | 23.3 | 22.6 | 23.7 | 24.1 | 21.9 | 23.0 | 22.3 | 23.4 | 23.8 |
|     | 4H  | 22.8 | 23.8 | 23.3 | 24.2 | 24.7 | 22.5 | 23.5 | 23.0 | 24.0 | 24.4 |
|     | 6H  | 23.2 | 24.1 | 23.7 | 24.5 | 25.0 | 23.0 | 23.8 | 23.4 | 24.3 | 24.7 |
|     | 8H  | 23.3 | 24.1 | 23.7 | 24.5 | 25.0 | 23.1 | 23.9 | 23.6 | 24.3 | 24.8 |
|     | 12H | 23.3 | 24.1 | 23.8 | 24.5 | 25.0 | 23.1 | 23.9 | 23.6 | 24.4 | 24.8 |
| 8H  | 4H  | 23.0 | 23.8 | 23.5 | 24.3 | 24.7 | 22.8 | 23.6 | 23.2 | 24.0 | 24.5 |
|     | 6H  | 23.5 | 24.1 | 24.0 | 24.6 | 25.1 | 23.3 | 24.0 | 23.8 | 24.5 | 24.9 |
|     | 8H  | 23.6 | 24.2 | 24.1 | 24.7 | 25.2 | 23.5 | 24.1 | 24.0 | 24.6 | 25.1 |
|     | 12H | 23.7 | 24.2 | 24.2 | 24.7 | 25.3 | 23.6 | 24.1 | 24.1 | 24.6 | 25.2 |
| 12H | 4H  | 23.0 | 23.8 | 23.5 | 24.2 | 24.7 | 22.8 | 23.5 | 23.3 | 24.0 | 24.5 |
|     | 6H  | 23.5 | 24.1 | 24.0 | 24.6 | 25.1 | 23.3 | 23.9 | 23.8 | 24.4 | 24.9 |
|     | 8H  | 23.6 | 24.2 | 24.2 | 24.7 | 25.2 | 23.5 | 24.1 | 24.0 | 24.6 | 25.1 |

Maximum UGR = 25.3

POLAR GRAPH



Maximum Candela = 3048.56 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.)