



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4U-4-00-L12-835-F-(L8.4)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20657.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 22-APR-2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 4' INDIRECT SUSPENDED LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS  
 [LUMCAT] MX4U-4-00-L12-835-S-A-(L8.4)-DIM-UNV  
 [LAMPCAT] HLM 80 CRI, 3500K CCT  
 [SEARCH\_SOURCETYPE] LED  
 [SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Indirect  
 [SEARCH\_MOUNTING] Suspended

### CHARACTERISTICS

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 3882            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 134             |
| Total Luminaire Watts           | 28.9            |
| Ballast Factor                  | 1.00            |
| CIE Type                        | Indirect        |
| Spacing Criterion (0-180)       | N.A.            |
| Spacing Criterion (90-270)      | N.A.            |
| Spacing Criterion (Diagonal)    | N.A.            |
| 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               | 0             | 0              | 0              |
| 55               | 0             | 0              | 0              |
| 65               | 0             | 0              | 0              |
| 75               | 0             | 0              | 0              |
| 85               | 0             | 0              | 0              |

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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   | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 5   | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 10  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 15  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 20  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 25  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 30  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 35  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 40  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 45  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 50  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 55  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 60  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 65  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 70  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 75  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 80  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 85  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 90  | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 95  | 69.720     | 68.325      | 71.114      | 69.720      | 73.903      |
| 100 | 147.806    | 149.200     | 140.834     | 147.806     | 146.412     |
| 105 | 249.597    | 248.203     | 248.203     | 244.019     | 239.836     |
| 110 | 356.966    | 351.388     | 347.205     | 344.416     | 337.444     |
| 115 | 472.701    | 465.729     | 457.362     | 443.418     | 443.418     |
| 120 | 587.041    | 574.492     | 561.942     | 554.970     | 547.998     |
| 125 | 691.621    | 688.832     | 674.888     | 660.944     | 653.972     |
| 130 | 800.384    | 798.989     | 785.046     | 772.496     | 768.313     |
| 135 | 903.569    | 906.358     | 891.020     | 874.287     | 868.709     |
| 140 | 1013.727   | 1008.149    | 998.388     | 974.684     | 974.684     |
| 145 | 1112.729   | 1105.757    | 1090.418    | 1084.841    | 1072.291    |
| 150 | 1194.998   | 1203.365    | 1188.026    | 1175.477    | 1169.899    |
| 155 | 1275.873   | 1282.845    | 1271.690    | 1256.352    | 1254.957    |
| 160 | 1346.988   | 1352.565    | 1341.410    | 1334.438    | 1327.466    |
| 165 | 1399.975   | 1406.947    | 1397.186    | 1390.214    | 1386.031    |
| 170 | 1437.623   | 1444.595    | 1436.229    | 1432.046    | 1432.046    |
| 175 | 1457.145   | 1465.511    | 1458.539    | 1454.356    | 1448.779    |
| 180 | 1462.722   | 1462.722    | 1462.722    | 1462.722    | 1462.722    |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4U-4-00-L12-835-F-(L8.4)-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 0.00    | N.A.  | 0.00   |
| 0-30    | 0.00    | N.A.  | 0.00   |
| 0-40    | 0.00    | N.A.  | 0.00   |
| 0-60    | 0.00    | N.A.  | 0.00   |
| 0-80    | 0.00    | N.A.  | 0.00   |
| 0-90    | 0.00    | N.A.  | 0.00   |
| 10-90   | 0.00    | N.A.  | 0.00   |
| 20-40   | 0.00    | N.A.  | 0.00   |
| 20-50   | 0.00    | N.A.  | 0.00   |
| 40-70   | 0.00    | N.A.  | 0.00   |
| 60-80   | 0.00    | N.A.  | 0.00   |
| 70-80   | 0.00    | N.A.  | 0.00   |
| 80-90   | 0.00    | N.A.  | 0.00   |
| 90-110  | 338.30  | N.A.  | 8.70   |
| 90-120  | 789.98  | N.A.  | 20.40  |
| 90-130  | 1393.76 | N.A.  | 35.90  |
| 90-150  | 2764.95 | N.A.  | 71.20  |
| 90-180  | 3881.84 | N.A.  | 100.00 |
| 110-180 | 3543.53 | N.A.  | 91.30  |
| 0-180   | 3881.84 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 0.00   |
| 10-20   | 0.00   |
| 20-30   | 0.00   |
| 30-40   | 0.00   |
| 40-50   | 0.00   |
| 50-60   | 0.00   |
| 60-70   | 0.00   |
| 70-80   | 0.00   |
| 80-90   | 0.00   |
| 90-100  | 78.06  |
| 100-110 | 260.25 |
| 110-120 | 451.68 |
| 120-130 | 603.78 |
| 130-140 | 687.10 |
| 140-150 | 684.09 |
| 150-160 | 584.65 |
| 160-170 | 393.77 |
| 170-180 | 138.47 |

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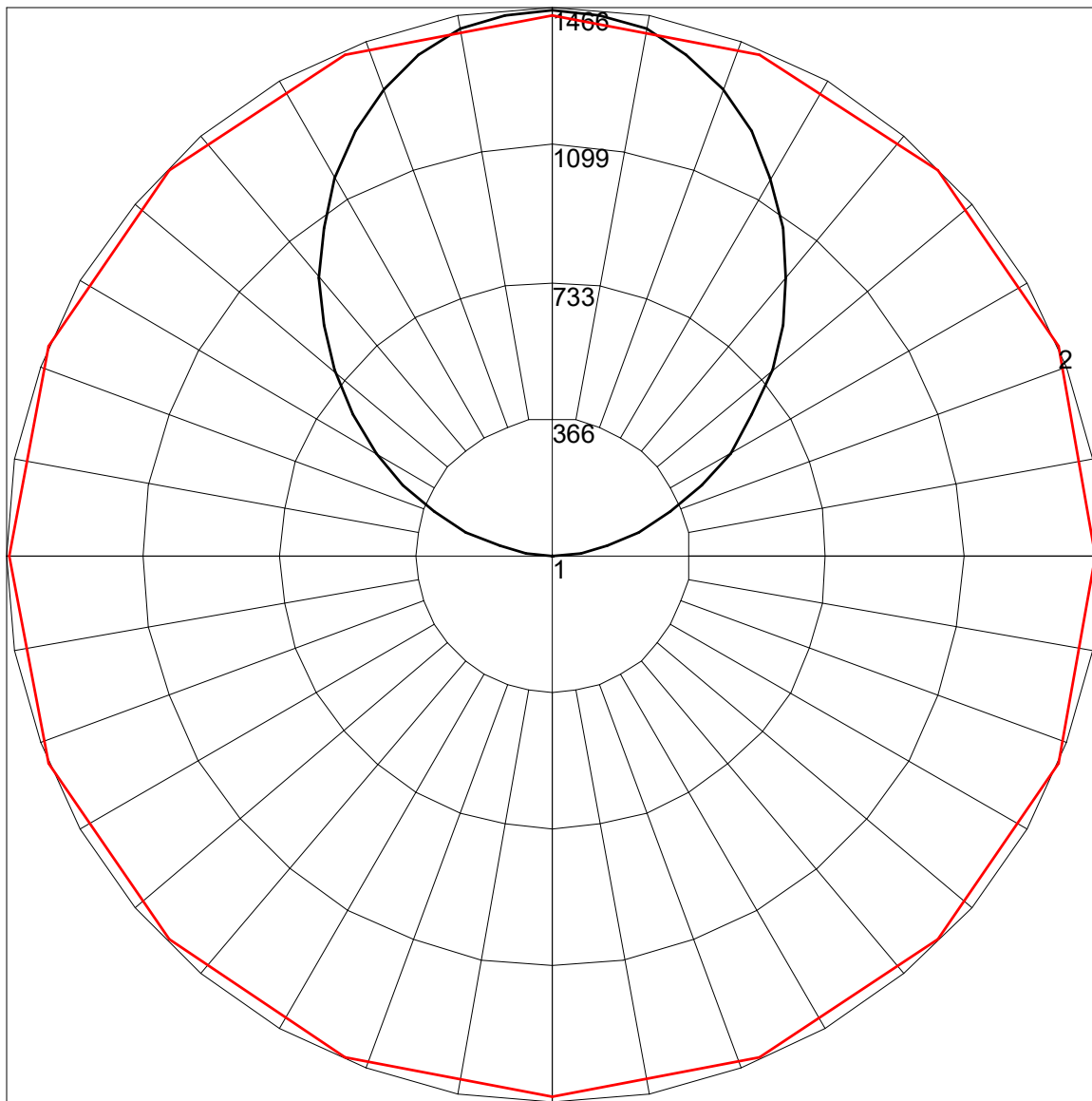
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## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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  | 249 | 249 | 249 | 249 | 213 | 213 | 213 | 213 | 145 | 145 | 145 | 83 | 83 | 83 | 27 | 27 | 27 | 0 |
| 1  | 226 | 216 | 207 | 198 | 193 | 185 | 177 | 171 | 126 | 122 | 118 | 73 | 71 | 69 | 23 | 23 | 22 | 0 |
| 2  | 206 | 188 | 174 | 161 | 175 | 161 | 150 | 140 | 111 | 103 | 97  | 64 | 60 | 57 | 20 | 19 | 19 | 0 |
| 3  | 187 | 165 | 148 | 134 | 159 | 141 | 127 | 116 | 97  | 88  | 81  | 56 | 52 | 48 | 18 | 17 | 16 | 0 |
| 4  | 171 | 145 | 127 | 112 | 145 | 125 | 109 | 98  | 86  | 76  | 69  | 50 | 45 | 41 | 16 | 15 | 13 | 0 |
| 5  | 156 | 129 | 109 | 95  | 133 | 111 | 95  | 83  | 76  | 66  | 58  | 44 | 39 | 35 | 14 | 13 | 11 | 0 |
| 6  | 143 | 115 | 95  | 81  | 122 | 99  | 83  | 71  | 68  | 58  | 50  | 39 | 34 | 30 | 13 | 11 | 10 | 0 |
| 7  | 132 | 103 | 84  | 70  | 112 | 88  | 72  | 61  | 61  | 51  | 43  | 35 | 30 | 26 | 11 | 10 | 9  | 0 |
| 8  | 122 | 92  | 74  | 61  | 104 | 79  | 64  | 53  | 55  | 45  | 38  | 32 | 27 | 23 | 10 | 9  | 7  | 0 |
| 9  | 113 | 83  | 66  | 53  | 96  | 72  | 57  | 47  | 50  | 40  | 33  | 29 | 24 | 20 | 9  | 8  | 7  | 0 |
| 10 | 105 | 76  | 59  | 47  | 89  | 65  | 51  | 41  | 45  | 36  | 29  | 26 | 21 | 17 | 9  | 7  | 6  | 0 |

POLAR GRAPH



Maximum Candela = 1465.511 Located At Horizontal Angle = 22.5, Vertical Angle = 175  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (175) (Through Max. Cd.)