

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 39-4-L84-835-A-(L60)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 19011.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 04-05-2022

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 4' SURFACE MOUNT LED LUMINAIRE

[MORE] WITH FROSTED ACRYLIC RIBBED LENS

[LUMCAT] 39-4-L84-835-A-(L60)-DIM-UNV

[LAMPCAT] HLM 80 CRI, 3500K CCT

[\_SEARCH\_SOURCE TYPE] LED

[\_SEARCH\_APPLICATION] INDOOR, ARCHITECTURAL, COMMERCIAL, DIRECT, LINEAR

[\_SEARCH\_MOUNTING] SURFACE, SUSPENDED

### CHARACTERISTICS

|                                 |                     |
|---------------------------------|---------------------|
| Lumens Per Lamp                 | N.A. (absolute)     |
| Total Lamp Lumens               | N.A. (absolute)     |
| Luminaire Lumens                | 5998                |
| Total Luminaire Efficiency      | N.A.                |
| Luminaire Efficacy Rating (LER) | 134                 |
| Total Luminaire Watts           | 44.7                |
| Ballast Factor                  | 1.00                |
| CIE Type                        | Direct              |
| Spacing Criterion (0-180)       | 1.18                |
| Spacing Criterion (90-270)      | 1.18                |
| Spacing Criterion (Diagonal)    | 1.30                |
| Basic Luminous Shape            | Rectangular w/Sides |
| Luminous Length (0-180)         | 4.01 ft             |
| Luminous Width (90-270)         | 0.79 ft             |
| Luminous Height                 | 0.18 ft             |

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

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 5946             | 5379              | 5315              |
| 55                  | 4961             | 4421              | 4444              |
| 65                  | 4104             | 3619              | 3860              |
| 75                  | 2993             | 2869              | 3331              |
| 85                  | 1765             | 2391              | 3103              |

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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   | 2292.502   | 2292.502    | 2292.502    | 2292.502    | 2292.502    |
| 5   | 2305.232   | 2304.075    | 2302.918    | 2302.918    | 2304.075    |
| 10  | 2254.313   | 2253.156    | 2253.156    | 2254.313    | 2256.628    |
| 15  | 2174.463   | 2176.778    | 2180.250    | 2182.564    | 2184.879    |
| 20  | 2108.500   | 2109.658    | 2116.601    | 2117.758    | 2117.758    |
| 25  | 1931.442   | 1936.071    | 1941.857    | 1945.329    | 1945.329    |
| 30  | 1784.472   | 1790.258    | 1798.359    | 1802.988    | 1804.145    |
| 35  | 1660.647   | 1669.905    | 1682.634    | 1688.421    | 1691.892    |
| 40  | 1456.972   | 1468.544    | 1485.903    | 1496.318    | 1500.947    |
| 45  | 1294.957   | 1311.159    | 1334.304    | 1350.505    | 1356.291    |
| 50  | 1082.024   | 1098.226    | 1129.471    | 1153.773    | 1163.031    |
| 55  | 892.236    | 911.909     | 950.098     | 979.029     | 991.759     |
| 60  | 711.706    | 732.536     | 773.040     | 815.858     | 833.216     |
| 65  | 560.107    | 582.094     | 634.170     | 693.190     | 711.706     |
| 70  | 407.350    | 433.967     | 502.244     | 565.893     | 591.352     |
| 75  | 266.166    | 298.569     | 373.790     | 442.068     | 466.370     |
| 80  | 156.228    | 197.889     | 280.053     | 349.488     | 373.790     |
| 85  | 68.277     | 113.410     | 194.417     | 260.380     | 283.525     |
| 90  | 0.000      | 49.762      | 115.725     | 168.958     | 189.788     |
| 95  | 0.000      | 20.830      | 74.064      | 121.511     | 140.027     |
| 100 | 0.000      | 0.000       | 45.133      | 82.164      | 94.894      |
| 105 | 0.000      | 0.000       | 28.931      | 54.391      | 65.963      |
| 110 | 0.000      | 0.000       | 0.000       | 37.032      | 45.133      |
| 115 | 0.000      | 0.000       | 0.000       | 27.774      | 33.560      |
| 120 | 0.000      | 0.000       | 0.000       | 23.145      | 25.459      |
| 125 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 130 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 135 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 140 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 145 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 150 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 155 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 160 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 165 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 170 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 175 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| 180 | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |

**IES INDOOR REPORT**  
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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 834.89  | N.A.  | 13.90  |
| 0-30    | 1733.06 | N.A.  | 28.90  |
| 0-40    | 2772.41 | N.A.  | 46.20  |
| 0-60    | 4637.44 | N.A.  | 77.30  |
| 0-80    | 5667.66 | N.A.  | 94.50  |
| 0-90    | 5872.75 | N.A.  | 97.90  |
| 10-90   | 5654.76 | N.A.  | 94.30  |
| 20-40   | 1937.52 | N.A.  | 32.30  |
| 20-50   | 2954.68 | N.A.  | 49.30  |
| 40-70   | 2495.58 | N.A.  | 41.60  |
| 60-80   | 1030.22 | N.A.  | 17.20  |
| 70-80   | 399.67  | N.A.  | 6.70   |
| 80-90   | 205.08  | N.A.  | 3.40   |
| 90-110  | 111.29  | N.A.  | 1.90   |
| 90-120  | 122.77  | N.A.  | 2.00   |
| 90-130  | 124.84  | N.A.  | 2.10   |
| 90-150  | 124.84  | N.A.  | 2.10   |
| 90-180  | 124.84  | N.A.  | 2.10   |
| 110-180 | 13.55   | N.A.  | 0.20   |
| 0-180   | 5997.59 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  |
|---------|---------|
| 0-10    | 217.99  |
| 10-20   | 616.91  |
| 20-30   | 898.17  |
| 30-40   | 1039.35 |
| 40-50   | 1017.17 |
| 50-60   | 847.86  |
| 60-70   | 630.55  |
| 70-80   | 399.67  |
| 80-90   | 205.08  |
| 90-100  | 80.32   |
| 100-110 | 30.96   |
| 110-120 | 11.48   |
| 120-130 | 2.07    |
| 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 | 110 | 110 | 110 | 105 | 105 | 105 | 100 | 100 | 100 | 98 |
| 1  | 108 | 103 | 99  | 95  | 105 | 101 | 97  | 93  | 96  | 93  | 90  | 92  | 89  | 86  | 88  | 86  | 83  | 81 |
| 2  | 98  | 90  | 83  | 77  | 95  | 88  | 82  | 76  | 84  | 79  | 74  | 80  | 76  | 72  | 77  | 74  | 70  | 68 |
| 3  | 90  | 79  | 71  | 65  | 87  | 78  | 70  | 64  | 74  | 68  | 63  | 71  | 66  | 61  | 69  | 64  | 60  | 58 |
| 4  | 82  | 71  | 62  | 55  | 80  | 69  | 61  | 55  | 66  | 59  | 54  | 64  | 58  | 53  | 61  | 56  | 52  | 50 |
| 5  | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 48  | 60  | 52  | 47  | 58  | 51  | 46  | 55  | 50  | 45  | 43 |
| 6  | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 42  | 54  | 47  | 41  | 52  | 46  | 41  | 50  | 45  | 40  | 38 |
| 7  | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  | 49  | 42  | 37  | 48  | 41  | 36  | 46  | 40  | 36  | 34 |
| 8  | 61  | 48  | 39  | 33  | 59  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 37  | 33  | 43  | 37  | 32  | 30 |
| 9  | 57  | 44  | 36  | 30  | 55  | 43  | 35  | 30  | 42  | 35  | 30  | 41  | 34  | 30  | 39  | 34  | 29  | 27 |
| 10 | 53  | 40  | 33  | 27  | 52  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 27  | 37  | 31  | 27  | 25 |

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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 | 16.1 | 17.6 | 16.5 | 18.0 | 18.4 | UGR Viewed Endwise |      |      |      |
|      | 3H   | 17.4 | 18.9 | 17.8 | 19.2 | 19.6 | 17.2               | 18.8 | 17.6 | 19.2 |
|      | 4H   | 17.8 | 19.2 | 18.3 | 19.6 | 20.0 | 19.3               | 20.7 | 19.7 | 21.1 |
|      | 6H   | 18.1 | 19.4 | 18.5 | 19.8 | 20.2 | 20.2               | 21.5 | 20.6 | 21.9 |
|      | 8H   | 18.2 | 19.4 | 18.6 | 19.8 | 20.2 | 21.1               | 22.3 | 21.5 | 22.7 |
|      | 12H  | 18.2 | 19.3 | 18.7 | 19.8 | 20.2 | 21.5               | 22.7 | 22.0 | 23.1 |

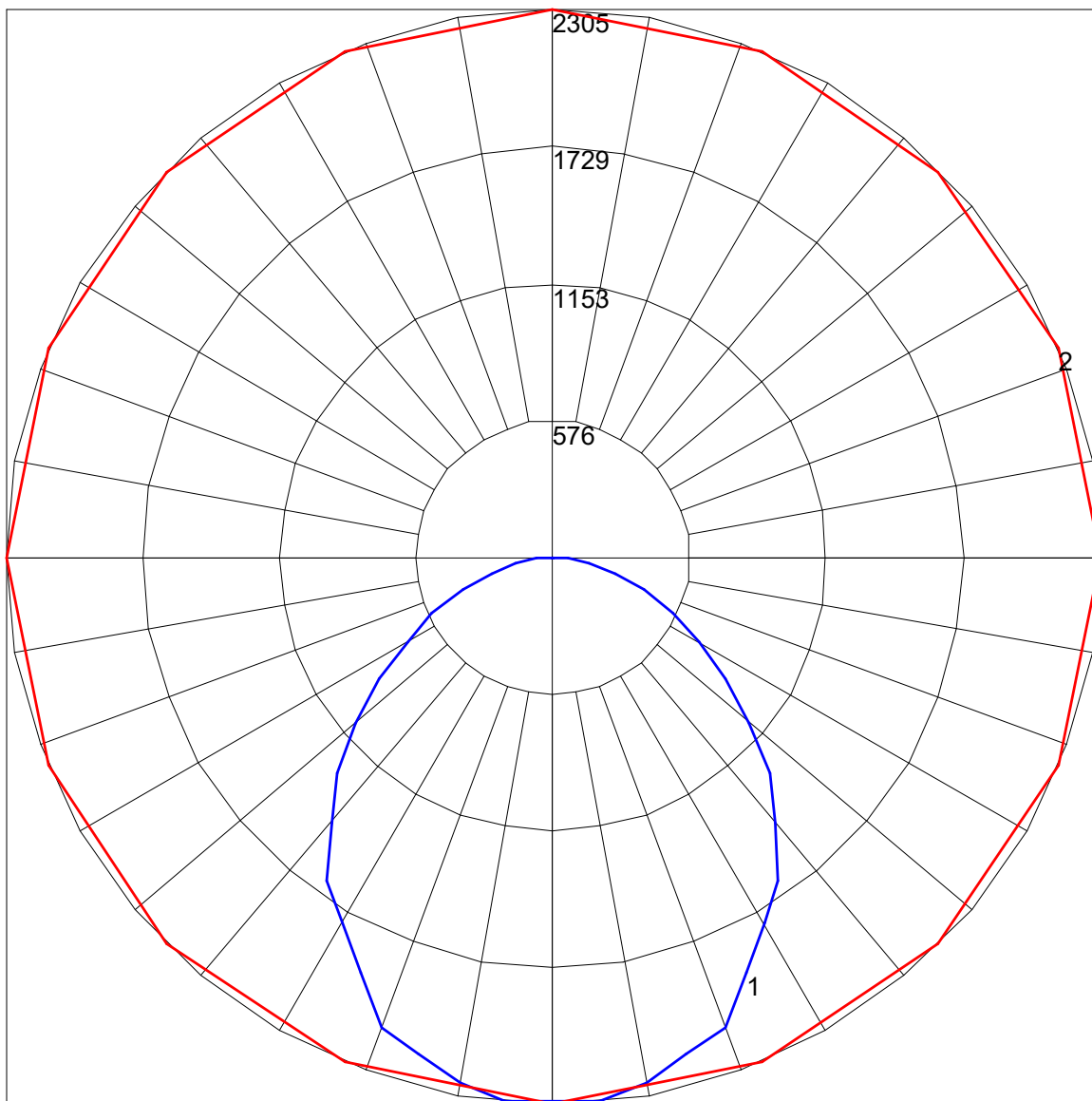
|    |     |      |      |      |      |      |      |      |      |      |
|----|-----|------|------|------|------|------|------|------|------|------|
|    |     |      |      |      |      |      | 21.9 | 23.1 | 22.4 | 23.5 |
| 4H | 2H  | 16.7 | 18.1 | 17.2 | 18.5 | 18.9 | 17.7 | 19.0 | 18.1 | 19.4 |
|    | 3H  | 18.3 | 19.4 | 18.8 | 19.9 | 20.3 | 19.9 | 21.1 | 20.4 | 21.5 |
|    | 4H  | 18.8 | 19.9 | 19.3 | 20.3 | 20.8 | 21.0 | 22.0 | 21.5 | 22.5 |
|    | 6H  | 19.2 | 20.1 | 19.7 | 20.6 | 21.1 | 22.1 | 23.0 | 22.5 | 23.4 |
|    | 8H  | 19.3 | 20.2 | 19.8 | 20.6 | 21.1 | 22.6 | 23.4 | 23.1 | 23.9 |
|    | 12H | 19.4 | 20.1 | 19.9 | 20.6 | 21.2 | 22.6 | 23.4 | 23.1 | 23.9 |

|    |     |      |      |      |      |      |      |      |      |      |
|----|-----|------|------|------|------|------|------|------|------|------|
|    |     |      |      |      |      |      | 23.1 | 23.9 | 23.7 | 24.4 |
| 8H | 4H  | 19.3 | 20.1 | 19.8 | 20.6 | 21.1 | 23.1 | 23.9 | 23.7 | 24.4 |
|    | 6H  | 19.8 | 20.5 | 20.3 | 21.0 | 21.5 | 23.1 | 23.7 | 23.6 | 24.2 |
|    | 8H  | 19.9 | 20.6 | 20.5 | 21.1 | 21.7 | 23.0 | 23.7 | 23.6 | 24.2 |
|    | 12H | 20.1 | 20.6 | 20.6 | 21.2 | 21.8 | 23.0 | 23.7 | 23.6 | 24.2 |

|     |    |      |      |      |      |      |      |      |      |      |
|-----|----|------|------|------|------|------|------|------|------|------|
|     |    |      |      |      |      |      | 23.8 | 24.3 | 24.3 | 24.9 |
| 12H | 4H | 19.4 | 20.1 | 19.9 | 20.7 | 21.2 | 23.8 | 24.3 | 24.3 | 24.9 |
|     | 6H | 19.9 | 20.6 | 20.5 | 21.1 | 21.7 | 21.2 | 21.9 | 21.7 | 22.5 |
|     | 8H | 20.2 | 20.8 | 20.7 | 21.3 | 21.9 | 22.4 | 23.1 | 23.0 | 23.6 |

Maximum UGR = 25.5

POLAR GRAPH



Maximum Candela = 2305.232 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.)