



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-24-L40-835-D-(L30)-EM10W-DIM-UNV\_(EMER MODE).IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18887.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 08-03-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4' RECESSED LUMINAIRE

[MORE] WITH FROST CONCAVE ACRYLIC LENS w/DEEP ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT2-24-L40-835-D-(L30)-EM10W-DIM-UNV

[LAMPCAT] HLM 80 CRI, 3500K CCT

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Office, Direct

[\_SEARCH\_MOUNTING] Ceiling, Recessed

[\_SEARCH\_CERTIFICATION] DLC

### CHARACTERISTICS

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 1286            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 129             |
| Total Luminaire Watts           | 10              |
| Ballast Factor                  | 1.00            |
| CIE Type                        | Direct          |
| Spacing Criterion (0-180)       | 1.12            |
| Spacing Criterion (90-270)      | 1.20            |
| Spacing Criterion (Diagonal)    | 1.26            |
| Basic Luminous Shape            | Rectangular     |
| Luminous Length (0-180)         | 3.76 ft         |
| Luminous Width (90-270)         | 1.77 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                  | 635              | 676               | 704               |
| 55                  | 547              | 590               | 612               |
| 65                  | 476              | 527               | 552               |
| 75                  | 394              | 471               | 495               |
| 85                  | 300              | 377               | 346               |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : AT2-24-L40-835-D-(L30)-EM10W-DIM-UNV\_(EMER MODE).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>  | 540.145    | 540.145     | 540.145     | 540.145     | 540.145     |
| <b>5</b>  | 540.145    | 540.145     | 540.145     | 540.973     | 540.973     |
| <b>10</b> | 524.416    | 524.830     | 526.486     | 528.556     | 530.211     |
| <b>15</b> | 505.377    | 507.033     | 511.172     | 514.897     | 517.380     |
| <b>20</b> | 476.404    | 479.301     | 485.923     | 492.546     | 495.857     |
| <b>25</b> | 436.669    | 439.980     | 449.500     | 457.364     | 460.261     |
| <b>30</b> | 399.004    | 403.970     | 414.318     | 423.838     | 427.563     |
| <b>35</b> | 365.891    | 370.858     | 382.861     | 393.209     | 396.106     |
| <b>40</b> | 316.637    | 322.845     | 335.262     | 344.368     | 348.507     |
| <b>45</b> | 277.316    | 283.110     | 295.114     | 303.392     | 307.531     |
| <b>50</b> | 234.270    | 240.064     | 250.826     | 259.104     | 261.173     |
| <b>55</b> | 193.707    | 198.674     | 209.022     | 216.058     | 216.886     |
| <b>60</b> | 157.697    | 162.664     | 171.356     | 176.737     | 179.220     |
| <b>65</b> | 124.171    | 129.138     | 137.416     | 141.969     | 144.039     |
| <b>70</b> | 93.128     | 96.854      | 105.132     | 109.685     | 111.340     |
| <b>75</b> | 62.913     | 67.466      | 75.331      | 79.056      | 79.056      |
| <b>80</b> | 37.251     | 41.804      | 48.841      | 47.185      | 45.943      |
| <b>85</b> | 16.142     | 20.281      | 20.281      | 18.626      | 18.626      |
| <b>90</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : AT2-24-L40-835-D-(L30)-EM10W-DIM-UNV\_(EMER MODE).IES****ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 194.84  | N.A.  | 15.10  |
| 0-30    | 402.06  | N.A.  | 31.30  |
| 0-40    | 638.67  | N.A.  | 49.70  |
| 0-60    | 1050.98 | N.A.  | 81.70  |
| 0-80    | 1263.56 | N.A.  | 98.20  |
| 0-90    | 1286.19 | N.A.  | 100.00 |
| 10-90   | 1235.09 | N.A.  | 96.00  |
| 20-40   | 443.82  | N.A.  | 34.50  |
| 20-50   | 669.68  | N.A.  | 52.10  |
| 40-70   | 547.12  | N.A.  | 42.50  |
| 60-80   | 212.58  | N.A.  | 16.50  |
| 70-80   | 77.77   | N.A.  | 6.00   |
| 80-90   | 22.63   | N.A.  | 1.80   |
| 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   | 1286.19 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 51.10  |
| 10-20   | 143.74 |
| 20-30   | 207.22 |
| 30-40   | 236.61 |
| 40-50   | 225.85 |
| 50-60   | 186.46 |
| 60-70   | 134.81 |
| 70-80   | 77.77  |
| 80-90   | 22.63  |
| 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 | 102 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 89  | 91  | 89  | 87  | 85  |
| 2  | 100 | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 87  | 81  | 77  | 83  | 79  | 75  | 80  | 77  | 74  | 72  |
| 3  | 91  | 81  | 73  | 67  | 89  | 80  | 72  | 67  | 77  | 71  | 65  | 74  | 69  | 64  | 71  | 67  | 63  | 61  |
| 4  | 84  | 72  | 64  | 57  | 82  | 71  | 63  | 57  | 69  | 62  | 56  | 66  | 60  | 56  | 64  | 59  | 55  | 53  |
| 5  | 78  | 65  | 56  | 50  | 75  | 64  | 56  | 50  | 62  | 55  | 49  | 60  | 54  | 49  | 58  | 53  | 48  | 46  |
| 6  | 72  | 59  | 50  | 44  | 70  | 58  | 50  | 44  | 56  | 49  | 43  | 54  | 48  | 43  | 53  | 47  | 43  | 41  |
| 7  | 67  | 54  | 45  | 39  | 65  | 53  | 45  | 39  | 51  | 44  | 39  | 50  | 43  | 38  | 49  | 43  | 38  | 36  |
| 8  | 62  | 49  | 41  | 35  | 61  | 48  | 40  | 35  | 47  | 40  | 35  | 46  | 39  | 35  | 45  | 39  | 34  | 33  |
| 9  | 58  | 45  | 37  | 32  | 57  | 45  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 31  | 41  | 36  | 31  | 29  |
| 10 | 55  | 42  | 34  | 29  | 53  | 41  | 34  | 29  | 40  | 33  | 29  | 39  | 33  | 29  | 39  | 33  | 29  | 27  |

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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 | 9.6  | 11.1 | 9.9  | 11.4 | 11.8 | 10.2 | 11.8 | 10.5 | 12.1 | 12.4 |
|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 3H   | 11.2 | 12.6 | 11.6 | 12.9 | 13.3 | 11.9 | 13.4 | 12.3 | 13.7 | 14.1 |
|      | 4H   | 11.8 | 13.1 | 12.2 | 13.4 | 13.8 | 12.6 | 14.0 | 13.0 | 14.3 | 14.7 |
|      | 6H   | 12.2 | 13.4 | 12.6 | 13.8 | 14.2 | 13.1 | 14.4 | 13.5 | 14.7 | 15.1 |
|      | 8H   | 12.3 | 13.5 | 12.7 | 13.9 | 14.3 | 13.3 | 14.5 | 13.7 | 14.8 | 15.2 |
|      | 12H  | 12.4 | 13.5 | 12.8 | 13.9 | 14.4 | 13.4 | 14.5 | 13.8 | 14.9 | 15.3 |

### UGR Viewed Endwise

|    |     |      |      |      |      |      |      |      |      |      |      |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H | 2H  | 10.2 | 11.6 | 10.6 | 11.9 | 12.3 | 10.7 | 12.1 | 11.1 | 12.4 | 12.8 |
|    | 3H  | 12.1 | 13.2 | 12.5 | 13.6 | 14.0 | 12.7 | 13.8 | 13.1 | 14.2 | 14.6 |
|    | 4H  | 12.8 | 13.8 | 13.2 | 14.2 | 14.6 | 13.5 | 14.6 | 14.0 | 15.0 | 15.4 |
|    | 6H  | 13.3 | 14.2 | 13.8 | 14.7 | 15.1 | 14.2 | 15.1 | 14.6 | 15.5 | 16.0 |
|    | 8H  | 13.5 | 14.3 | 14.0 | 14.8 | 15.3 | 14.4 | 15.2 | 14.8 | 15.7 | 16.1 |
|    | 12H | 13.6 | 14.4 | 14.1 | 14.9 | 15.3 | 14.5 | 15.3 | 15.0 | 15.7 | 16.2 |

|    |     |      |      |      |      |      |      |      |      |      |      |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 8H | 4H  | 13.2 | 14.0 | 13.6 | 14.4 | 14.9 | 13.8 | 14.7 | 14.3 | 15.1 | 15.6 |
|    | 6H  | 13.9 | 14.5 | 14.4 | 15.0 | 15.5 | 14.6 | 15.3 | 15.1 | 15.8 | 16.3 |
|    | 8H  | 14.1 | 14.7 | 14.6 | 15.2 | 15.7 | 14.9 | 15.5 | 15.4 | 16.0 | 16.5 |
|    | 12H | 14.3 | 14.9 | 14.9 | 15.4 | 15.9 | 15.1 | 15.6 | 15.6 | 16.1 | 16.7 |

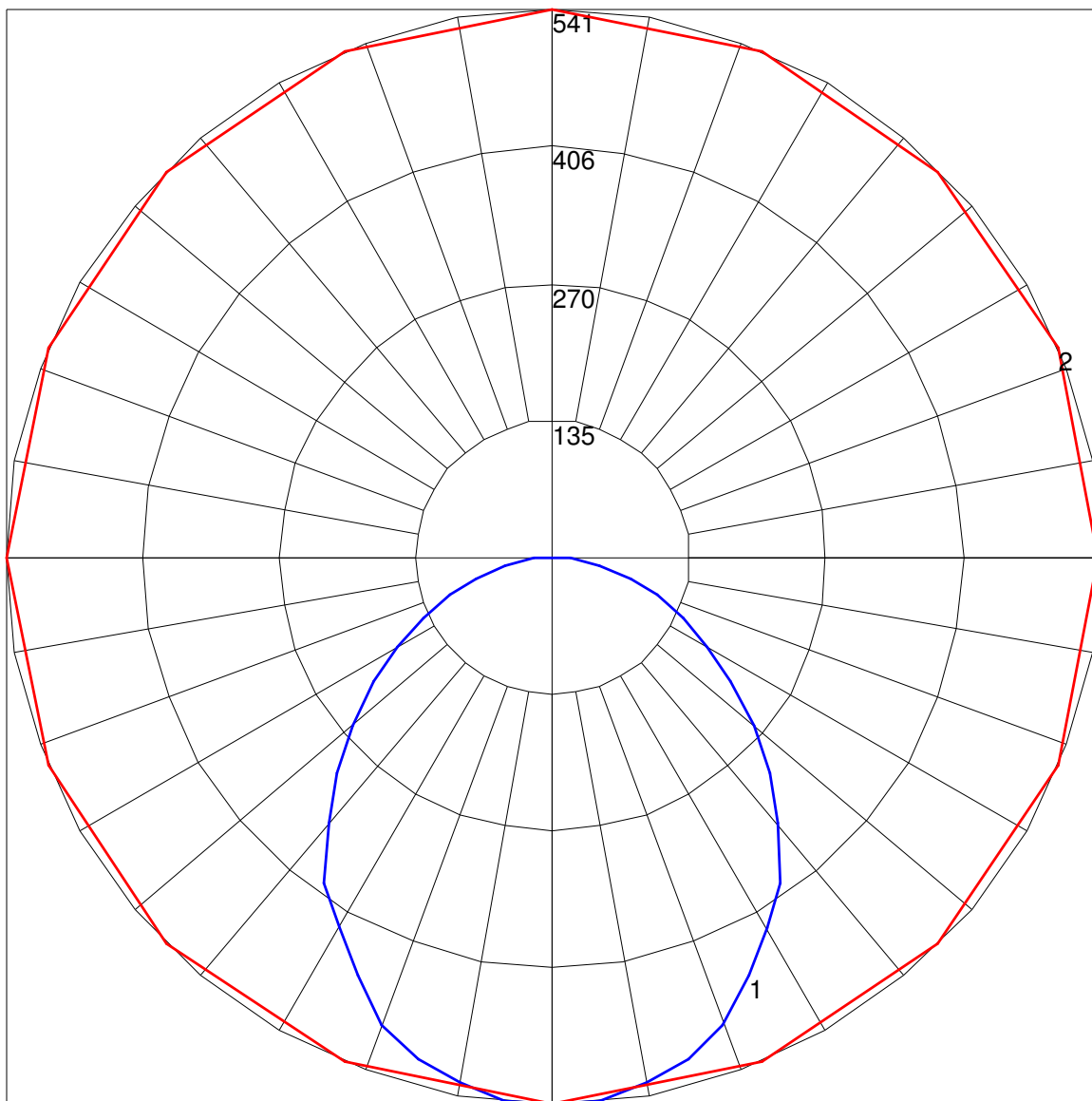
|     |    |      |      |      |      |      |      |      |      |      |      |
|-----|----|------|------|------|------|------|------|------|------|------|------|
| 12H | 4H | 13.2 | 13.9 | 13.7 | 14.4 | 14.9 | 13.9 | 14.6 | 14.3 | 15.1 | 15.5 |
|     | 6H | 13.9 | 14.6 | 14.5 | 15.0 | 15.6 | 14.7 | 15.3 | 15.2 | 15.7 | 16.3 |
|     | 8H | 14.3 | 14.8 | 14.8 | 15.3 | 15.9 | 15.0 | 15.5 | 15.5 | 16.0 | 16.6 |

Maximum UGR = 16.7

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## POLAR GRAPH



Maximum Candela = 540.973 Located At Horizontal Angle = 67.5, Vertical Angle = 5

# 1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)