



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : PTDC-24-L61-830-RA-DIM-UNV\_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 19235.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 2022-05-06  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2x4' RECESSED LED LUMINAIRE  
 [MORE] w/RIBBED FROSTED ACRYLIC CENTER DIFFUSER  
 [LUMCAT] PTDC-24-L61-830-RA-DIM-UNV  
 [LAMPCAT] HLM 80 CRI 3000K CCT  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_APPLICATION] Indoor, Architectural, Office, Direct  
 [\_SEARCH\_MOUNTING] Recessed

**CHARACTERISTICS**

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 5999            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 124             |
| Total Luminaire Watts           | 48.5            |
| Ballast Factor                  | 1.00            |
| CIE Type                        | Direct          |
| Spacing Criterion (0-180)       | 1.14            |
| Spacing Criterion (90-270)      | 1.18            |
| Spacing Criterion (Diagonal)    | 1.28            |
| Basic Luminous Shape            | Rectangular     |
| Luminous Length (0-180)         | 3.92 ft         |
| Luminous Width (90-270)         | 1.92 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                  | 2572             | 2714              | 2853              |
| 55                  | 2306             | 2524              | 2726              |
| 65                  | 2027             | 2401              | 2729              |
| 75                  | 1568             | 2409              | 2982              |
| 85                  | 947              | 3161              | 3621              |

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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>  | 2294.861   | 2294.861    | 2294.861    | 2294.861    | 2294.861    |
| <b>5</b>  | 2259.819   | 2256.704    | 2256.704    | 2248.917    | 2245.024    |
| <b>10</b> | 2252.811   | 2252.811    | 2256.704    | 2259.819    | 2259.819    |
| <b>15</b> | 2193.629   | 2196.743    | 2200.637    | 2206.088    | 2209.982    |
| <b>20</b> | 2048.788   | 2056.575    | 2065.920    | 2078.379    | 2082.273    |
| <b>25</b> | 1932.760   | 1939.769    | 1958.458    | 1974.811    | 1982.598    |
| <b>30</b> | 1693.696   | 1641.523    | 1854.889    | 1793.371    | 1784.027    |
| <b>35</b> | 1562.094   | 1576.890    | 1611.932    | 1641.523    | 1653.203    |
| <b>40</b> | 1389.999   | 1408.688    | 1447.624    | 1486.559    | 1501.355    |
| <b>45</b> | 1270.077   | 1286.430    | 1340.161    | 1389.999    | 1408.688    |
| <b>50</b> | 1103.433   | 1129.131    | 1188.313    | 1240.486    | 1258.397    |
| <b>55</b> | 923.551    | 951.585     | 1010.767    | 1069.949    | 1091.753    |
| <b>60</b> | 753.013    | 782.604     | 849.574     | 910.313     | 932.896     |
| <b>65</b> | 598.050    | 636.986     | 708.627     | 779.490     | 805.187     |
| <b>70</b> | 440.750    | 486.694     | 571.574     | 646.330     | 672.028     |
| <b>75</b> | 283.451    | 340.297     | 435.299     | 510.834     | 538.868     |
| <b>80</b> | 155.742    | 229.720     | 338.739     | 412.717     | 435.299     |
| <b>85</b> | 57.625     | 131.602     | 192.342     | 216.482     | 220.375     |
| <b>90</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |

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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 831.88  | N.A.  | 13.90  |
| 0-30    | 1724.07 | N.A.  | 28.70  |
| 0-40    | 2729.81 | N.A.  | 45.50  |
| 0-60    | 4661.93 | N.A.  | 77.70  |
| 0-80    | 5819.17 | N.A.  | 97.00  |
| 0-90    | 5998.56 | N.A.  | 100.00 |
| 10-90   | 5782.85 | N.A.  | 96.40  |
| 20-40   | 1897.93 | N.A.  | 31.60  |
| 20-50   | 2923.76 | N.A.  | 48.70  |
| 40-70   | 2631.72 | N.A.  | 43.90  |
| 60-80   | 1157.24 | N.A.  | 19.30  |
| 70-80   | 457.64  | N.A.  | 7.60   |
| 80-90   | 179.39  | N.A.  | 3.00   |
| 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   | 5998.56 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  |
|---------|---------|
| 0-10    | 215.72  |
| 10-20   | 616.17  |
| 20-30   | 892.19  |
| 30-40   | 1005.74 |
| 40-50   | 1025.83 |
| 50-60   | 906.29  |
| 60-70   | 699.61  |
| 70-80   | 457.64  |
| 80-90   | 179.39  |
| 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  | 108 | 103 | 99  | 95  | 106 | 101 | 97  | 93  | 97  | 93  | 90  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |
| 2  | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 85  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |
| 3  | 90  | 79  | 71  | 64  | 87  | 78  | 70  | 64  | 75  | 68  | 63  | 72  | 66  | 61  | 69  | 64  | 60  | 58  |
| 4  | 82  | 70  | 61  | 55  | 80  | 69  | 61  | 54  | 66  | 59  | 53  | 64  | 58  | 53  | 62  | 56  | 52  | 50  |
| 5  | 76  | 63  | 54  | 47  | 74  | 62  | 53  | 47  | 60  | 52  | 46  | 58  | 51  | 46  | 56  | 50  | 45  | 43  |
| 6  | 70  | 57  | 48  | 41  | 68  | 56  | 47  | 41  | 54  | 46  | 41  | 52  | 46  | 40  | 51  | 45  | 40  | 38  |
| 7  | 65  | 52  | 43  | 37  | 63  | 51  | 42  | 37  | 49  | 42  | 36  | 48  | 41  | 36  | 46  | 40  | 36  | 34  |
| 8  | 61  | 47  | 39  | 33  | 59  | 46  | 38  | 33  | 45  | 38  | 32  | 44  | 37  | 32  | 43  | 37  | 32  | 30  |
| 9  | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 30  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 29  | 27  |
| 10 | 53  | 40  | 32  | 27  | 52  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 27  | 37  | 31  | 27  | 25  |

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**UGR TABLE - CORRECTED**

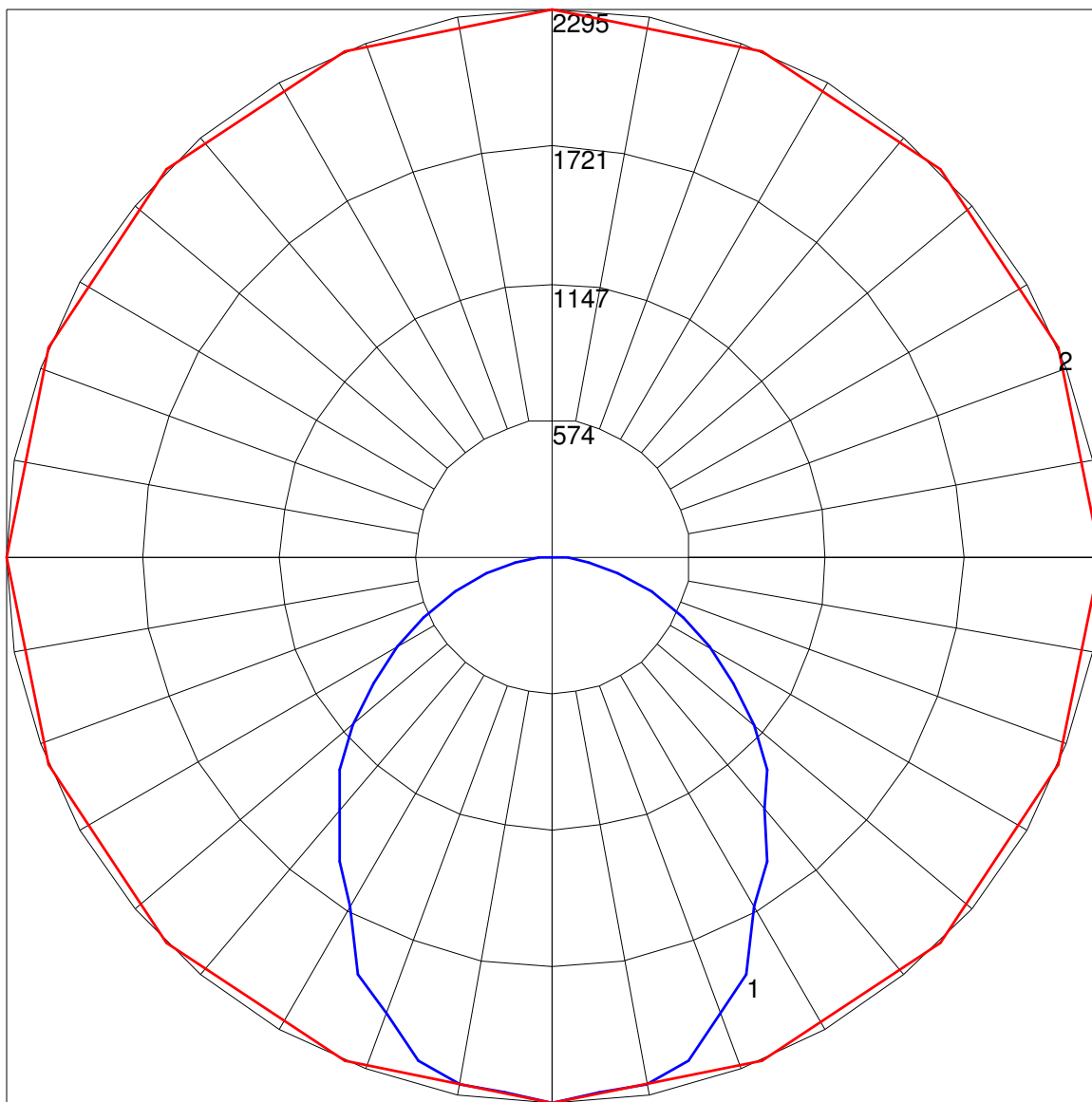
Reflectances

|                |    |    |    |    |    |    |    |    |    |    |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 |      |      |      |      | UGR Viewed Endwise |      |      |      |      |
|-----------|------|----------------------|------|------|------|------|--------------------|------|------|------|------|
| X=2H      | Y=2H | 14.6                 | 16.2 | 14.9 | 16.5 | 16.8 | 15.6               | 17.2 | 15.9 | 17.5 | 17.8 |
|           | 3H   | 16.2                 | 17.7 | 16.6 | 18.0 | 18.4 | 17.7               | 19.2 | 18.1 | 19.6 | 19.9 |
|           | 4H   | 16.8                 | 18.2 | 17.2 | 18.5 | 18.9 | 18.7               | 20.1 | 19.1 | 20.5 | 20.9 |
|           | 6H   | 17.1                 | 18.5 | 17.6 | 18.8 | 19.2 | 19.8               | 21.1 | 20.2 | 21.4 | 21.8 |
|           | 8H   | 17.3                 | 18.5 | 17.7 | 18.9 | 19.3 | 20.2               | 21.4 | 20.6 | 21.8 | 22.2 |
|           | 12H  | 17.3                 | 18.5 | 17.8 | 18.9 | 19.3 | 20.5               | 21.7 | 21.0 | 22.1 | 22.5 |
| 4H        | 2H   | 15.3                 | 16.7 | 15.7 | 17.1 | 17.5 | 16.1               | 17.5 | 16.5 | 17.9 | 18.2 |
|           | 3H   | 17.2                 | 18.4 | 17.7 | 18.8 | 19.2 | 18.6               | 19.8 | 19.0 | 20.2 | 20.6 |
|           | 4H   | 17.9                 | 19.0 | 18.4 | 19.4 | 19.9 | 19.7               | 20.8 | 20.2 | 21.2 | 21.7 |
|           | 6H   | 18.5                 | 19.4 | 18.9 | 19.9 | 20.3 | 21.0               | 21.9 | 21.4 | 22.4 | 22.8 |
|           | 8H   | 18.6                 | 19.5 | 19.1 | 20.0 | 20.4 | 21.5               | 22.4 | 22.0 | 22.8 | 23.3 |
|           | 12H  | 18.8                 | 19.6 | 19.3 | 20.0 | 20.5 | 21.9               | 22.7 | 22.4 | 23.2 | 23.7 |
| 8H        | 4H   | 18.5                 | 19.4 | 19.0 | 19.9 | 20.3 | 20.1               | 21.0 | 20.5 | 21.4 | 21.9 |
|           | 6H   | 19.3                 | 20.0 | 19.8 | 20.5 | 21.0 | 21.5               | 22.3 | 22.0 | 22.8 | 23.2 |
|           | 8H   | 19.6                 | 20.2 | 20.1 | 20.7 | 21.2 | 22.2               | 22.9 | 22.7 | 23.4 | 23.8 |
|           | 12H  | 19.8                 | 20.4 | 20.3 | 20.9 | 21.4 | 22.8               | 23.3 | 23.3 | 23.8 | 24.4 |
| 12H       | 4H   | 18.7                 | 19.5 | 19.2 | 20.0 | 20.4 | 20.1               | 20.9 | 20.6 | 21.4 | 21.9 |
|           | 6H   | 19.5                 | 20.2 | 20.1 | 20.7 | 21.2 | 21.6               | 22.3 | 22.2 | 22.8 | 23.3 |
|           | 8H   | 19.9                 | 20.5 | 20.4 | 21.0 | 21.6 | 22.4               | 22.9 | 22.9 | 23.4 | 24.0 |

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 2294.861 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)