



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LPT-22-L45-835-SAF12095-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 18632.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 27-MAR-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC CARTHAGE, MO  
 [LUMINAIRE] 2-56 LED 22" ARRAYS 2x2' WHITE REFL RECESSED LUMINAIRE  
 [MORE] ARRAYS ON INTERNAL WHITE REFLS w/PAT12 LENS (PRISMS DOWN)  
 [MORE] 0-10V LED DRIVER  
 [LUMCAT] LPT-22-L45-835-SAF12095-DIM-UNV  
 [LAMPCAT] HLM 80 CRI 3500K CCT  
 [SEARCH\_SOURCETYPE] LED  
 [SEARCH\_APPLICATION] INDOOR, DIRECT  
 [SEARCH\_MOUNTING] RECESSED

### CHARACTERISTICS

|                                 |                 |
|---------------------------------|-----------------|
| Lumens Per Lamp                 | N.A. (absolute) |
| Total Lamp Lumens               | N.A. (absolute) |
| Luminaire Lumens                | 4425            |
| Total Luminaire Efficiency      | N.A.            |
| Luminaire Efficacy Rating (LER) | 131             |
| Total Luminaire Watts           | 33.7            |
| Ballast Factor                  | 1.00            |
| CIE Type                        | Direct          |
| Spacing Criterion (0-180)       | 1.20            |
| Spacing Criterion (90-270)      | 1.22            |
| Spacing Criterion (Diagonal)    | 1.28            |
| Basic Luminous Shape            | Rectangular     |
| Luminous Length (0-180)         | 1.77 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                  | 5057             | 5147              | 5187              |
| 55                  | 4038             | 3995              | 3908              |
| 65                  | 3216             | 2999              | 3016              |
| 75                  | 2646             | 2578              | 2919              |
| 85                  | 2552             | 2795              | 3038              |

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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>  | 1925.826   | 1925.826    | 1925.826    | 1925.826    | 1925.826    |
| <b>5</b>  | 1923.778   | 1924.802    | 1917.635    | 1911.492    | 1911.492    |
| <b>10</b> | 1887.944   | 1887.944    | 1891.016    | 1883.849    | 1887.944    |
| <b>15</b> | 1837.777   | 1834.705    | 1839.824    | 1838.800    | 1842.896    |
| <b>20</b> | 1759.966   | 1757.918    | 1759.966    | 1768.156    | 1779.418    |
| <b>25</b> | 1661.678   | 1658.606    | 1664.749    | 1672.940    | 1700.583    |
| <b>30</b> | 1535.747   | 1530.627    | 1534.723    | 1567.485    | 1579.771    |
| <b>35</b> | 1390.363   | 1396.505    | 1396.505    | 1435.411    | 1435.411    |
| <b>40</b> | 1222.454   | 1230.645    | 1235.764    | 1267.503    | 1257.264    |
| <b>45</b> | 1037.141   | 1035.093    | 1055.570    | 1075.023    | 1063.760    |
| <b>50</b> | 844.661    | 838.518     | 857.970     | 872.304     | 853.875     |
| <b>55</b> | 671.633    | 661.395     | 664.466     | 673.681     | 650.133     |
| <b>60</b> | 519.082    | 507.820     | 497.582     | 501.677     | 487.344     |
| <b>65</b> | 394.175    | 374.722     | 367.555     | 368.579     | 369.603     |
| <b>70</b> | 284.625    | 276.434     | 267.220     | 274.387     | 280.530     |
| <b>75</b> | 198.623    | 201.695     | 193.504     | 203.742     | 219.100     |
| <b>80</b> | 130.027    | 131.050     | 132.074     | 141.289     | 158.694     |
| <b>85</b> | 64.501     | 59.382      | 70.644      | 78.835      | 76.787      |
| <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    | 700.00  | N.A.  | 15.80  |
| 0-30    | 1467.21 | N.A.  | 33.20  |
| 0-40    | 2345.55 | N.A.  | 53.00  |
| 0-60    | 3756.92 | N.A.  | 84.90  |
| 0-80    | 4349.43 | N.A.  | 98.30  |
| 0-90    | 4424.83 | N.A.  | 100.00 |
| 10-90   | 4242.75 | N.A.  | 95.90  |
| 20-40   | 1645.55 | N.A.  | 37.20  |
| 20-50   | 2456.59 | N.A.  | 55.50  |
| 40-70   | 1788.43 | N.A.  | 40.40  |
| 60-80   | 592.52  | N.A.  | 13.40  |
| 70-80   | 215.45  | N.A.  | 4.90   |
| 80-90   | 75.40   | N.A.  | 1.70   |
| 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   | 4424.83 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 182.09 |
| 10-20   | 517.91 |
| 20-30   | 767.20 |
| 30-40   | 878.34 |
| 40-50   | 811.05 |
| 50-60   | 600.32 |
| 60-70   | 377.06 |
| 70-80   | 215.45 |
| 80-90   | 75.40  |
| 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  | 198 | 198 | 198 | 198 | 193 | 193 | 193 | 193 | 185 | 185 | 185 | 177 | 177 | 177 | 170 | 170 | 170 | 166 |
| 1  | 182 | 175 | 169 | 163 | 178 | 171 | 165 | 160 | 164 | 159 | 155 | 158 | 154 | 150 | 152 | 149 | 146 | 142 |
| 2  | 167 | 155 | 144 | 136 | 163 | 152 | 142 | 134 | 146 | 138 | 131 | 140 | 134 | 128 | 136 | 130 | 125 | 122 |
| 3  | 154 | 138 | 125 | 115 | 150 | 135 | 123 | 114 | 130 | 120 | 112 | 126 | 117 | 110 | 121 | 114 | 108 | 105 |
| 4  | 142 | 123 | 109 | 99  | 138 | 121 | 108 | 98  | 117 | 106 | 97  | 113 | 104 | 96  | 110 | 101 | 95  | 91  |
| 5  | 131 | 111 | 97  | 87  | 128 | 109 | 96  | 86  | 106 | 94  | 85  | 102 | 92  | 84  | 99  | 91  | 83  | 80  |
| 6  | 121 | 101 | 86  | 76  | 118 | 99  | 86  | 76  | 96  | 84  | 75  | 93  | 83  | 75  | 91  | 81  | 74  | 71  |
| 7  | 113 | 92  | 78  | 68  | 110 | 90  | 77  | 68  | 88  | 76  | 67  | 86  | 75  | 67  | 83  | 74  | 66  | 63  |
| 8  | 106 | 84  | 71  | 61  | 103 | 83  | 70  | 61  | 81  | 69  | 61  | 79  | 68  | 60  | 77  | 67  | 60  | 57  |
| 9  | 99  | 77  | 64  | 55  | 97  | 76  | 64  | 55  | 75  | 63  | 55  | 73  | 62  | 55  | 71  | 62  | 55  | 52  |
| 10 | 93  | 72  | 59  | 51  | 91  | 71  | 59  | 50  | 69  | 58  | 50  | 68  | 57  | 50  | 66  | 57  | 50  | 47  |

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**UGR TABLE - CORRECTED**

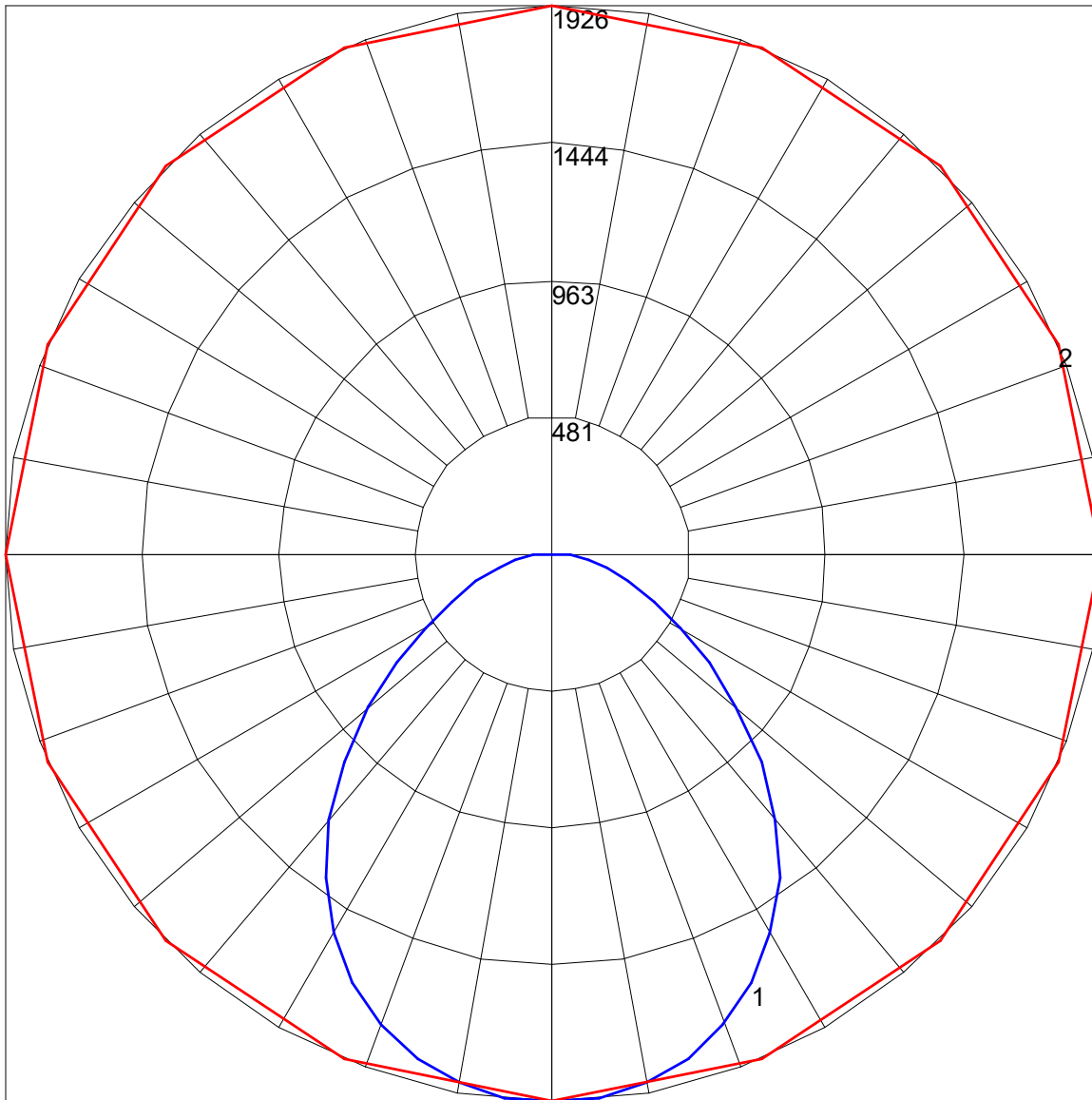
Reflectances

|                |    |    |    |    |    |    |    |    |    |    |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 14.4                 | 15.9 | 14.7 | 16.2 | 16.5 | 14.3               | 15.9 | 14.7 | 16.2 | 16.5 |
|           | 3H   | 15.7                 | 17.1 | 16.1 | 17.4 | 17.8 | 15.7               | 17.0 | 16.0 | 17.4 | 17.7 |
|           | 4H   | 16.3                 | 17.6 | 16.7 | 17.9 | 18.3 | 16.3               | 17.6 | 16.7 | 17.9 | 18.3 |
|           | 6H   | 16.8                 | 17.9 | 17.2 | 18.3 | 18.7 | 16.9               | 18.1 | 17.3 | 18.5 | 18.9 |
|           | 8H   | 16.9                 | 18.1 | 17.4 | 18.5 | 18.9 | 17.2               | 18.3 | 17.6 | 18.7 | 19.1 |
|           | 12H  | 17.1                 | 18.1 | 17.5 | 18.5 | 19.0 | 17.3               | 18.4 | 17.8 | 18.8 | 19.2 |
| 4H        | 2H   | 14.8                 | 16.1 | 15.2 | 16.4 | 16.8 | 14.7               | 16.0 | 15.1 | 16.4 | 16.8 |
|           | 3H   | 16.4                 | 17.5 | 16.8 | 17.9 | 18.3 | 16.3               | 17.4 | 16.7 | 17.8 | 18.2 |
|           | 4H   | 17.1                 | 18.1 | 17.5 | 18.5 | 18.9 | 17.1               | 18.1 | 17.5 | 18.5 | 18.9 |
|           | 6H   | 17.7                 | 18.6 | 18.2 | 19.0 | 19.5 | 17.9               | 18.7 | 18.3 | 19.2 | 19.6 |
|           | 8H   | 17.9                 | 18.7 | 18.4 | 19.2 | 19.6 | 18.2               | 19.0 | 18.7 | 19.4 | 19.9 |
|           | 12H  | 18.1                 | 18.8 | 18.6 | 19.3 | 19.8 | 18.5               | 19.2 | 18.9 | 19.6 | 20.1 |
| 8H        | 4H   | 17.3                 | 18.1 | 17.8 | 18.6 | 19.0 | 17.4               | 18.1 | 17.8 | 18.6 | 19.1 |
|           | 6H   | 18.1                 | 18.8 | 18.6 | 19.3 | 19.7 | 18.3               | 18.9 | 18.8 | 19.4 | 19.9 |
|           | 8H   | 18.4                 | 19.0 | 18.9 | 19.5 | 20.0 | 18.7               | 19.3 | 19.2 | 19.8 | 20.3 |
|           | 12H  | 18.7                 | 19.2 | 19.2 | 19.7 | 20.3 | 19.1               | 19.6 | 19.6 | 20.1 | 20.7 |
| 12H       | 4H   | 17.4                 | 18.1 | 17.9 | 18.6 | 19.0 | 17.4               | 18.1 | 17.9 | 18.6 | 19.0 |
|           | 6H   | 18.2                 | 18.8 | 18.7 | 19.2 | 19.8 | 18.3               | 18.9 | 18.9 | 19.4 | 19.9 |
|           | 8H   | 18.6                 | 19.1 | 19.1 | 19.6 | 20.1 | 18.8               | 19.3 | 19.3 | 19.8 | 20.4 |

Maximum UGR = 20.7

POLAR GRAPH



Maximum Candela = 1925.826 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.)