



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AVX-4-L36-840-CPC-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM BALLABS TEST NO. 20624.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 02-25-2022  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 4'SURFACE MNT LUMINAIRE  
 [MORE] WHITE FROST INTERIOR LENS w/CLEAR POLYCARB LENS  
 [LUMCAT] AVX-4-L36-840-CPC-DIM-UNV  
 [LAMPCAT] HLM 80 CRI, 4000K CCT  
 [ \_SEARCH\_SOURCETYPE] 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                | 3787                |
| Total Luminaire Efficiency      | N.A.                |
| Luminaire Efficacy Rating (LER) | 122                 |
| Total Luminaire Watts           | 31                  |
| Ballast Factor                  | 1.00                |
| CIE Type                        | Direct              |
| Spacing Criterion (0-180)       | 1.14                |
| Spacing Criterion (90-270)      | 1.64                |
| Spacing Criterion (Diagonal)    | 1.50                |
| Basic Luminous Shape            | Rectangular w/Sides |
| Luminous Length (0-180)         | 3.90 ft             |
| Luminous Width (90-270)         | 0.58 ft             |
| Luminous Height                 | 0.06 ft             |

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

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 3899             | 5593              | 6901              |
| 55                  | 3434             | 5331              | 6667              |
| 65                  | 2818             | 4911              | 6054              |
| 75                  | 1512             | 4071              | 5169              |
| 85                  | 351              | 3071              | 4326              |

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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>   | 1147.484   | 1147.484    | 1147.484    | 1147.484    | 1147.484    |
| <b>5</b>   | 1150.546   | 1144.805    | 1147.867    | 1156.287    | 1158.584    |
| <b>10</b>  | 1119.926   | 1126.816    | 1152.077    | 1176.956    | 1188.056    |
| <b>15</b>  | 1072.082   | 1096.961    | 1152.843    | 1193.797    | 1212.552    |
| <b>20</b>  | 1006.249   | 1048.352    | 1139.064    | 1209.872    | 1234.368    |
| <b>25</b>  | 935.823    | 991.322     | 1123.371    | 1220.207    | 1260.013    |
| <b>30</b>  | 854.298    | 921.279     | 1090.837    | 1226.331    | 1279.150    |
| <b>35</b>  | 766.265    | 848.939     | 1044.142    | 1211.021    | 1258.864    |
| <b>40</b>  | 677.850    | 752.486     | 985.581     | 1167.770    | 1215.614    |
| <b>45</b>  | 591.731    | 655.651     | 908.648     | 1103.851    | 1142.126    |
| <b>50</b>  | 504.464    | 558.432     | 821.381     | 1015.053    | 1044.524    |
| <b>55</b>  | 425.618    | 463.893     | 726.842     | 904.438     | 932.379     |
| <b>60</b>  | 346.389    | 376.626     | 625.413     | 795.354     | 805.689     |
| <b>65</b>  | 260.270    | 290.890     | 520.923     | 647.996     | 665.602     |
| <b>70</b>  | 172.237    | 212.043     | 405.715     | 515.564     | 534.702     |
| <b>75</b>  | 87.650     | 132.814     | 295.483     | 384.664     | 396.529     |
| <b>80</b>  | 32.916     | 70.043      | 194.437     | 260.653     | 277.494     |
| <b>85</b>  | 7.655      | 24.113      | 113.294     | 163.817     | 177.979     |
| <b>90</b>  | 0.000      | 5.741       | 52.054      | 87.650      | 97.984      |
| <b>95</b>  | 0.000      | 0.000       | 15.310      | 37.892      | 44.782      |
| <b>100</b> | 0.000      | 0.000       | 1.914       | 9.569       | 12.631      |
| <b>105</b> | 0.000      | 0.000       | 0.000       | 1.914       | 2.679       |
| <b>110</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>115</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>120</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>125</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>130</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>135</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>140</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>145</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>150</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>155</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>160</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>165</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>170</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>175</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |
| <b>180</b> | 0.000      | 0.000       | 0.000       | 0.000       | 0.000       |

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**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  | %Lamp | %Fixt  |
|---------|---------|-------|--------|
| 0-20    | 433.81  | N.A.  | 11.50  |
| 0-30    | 944.94  | N.A.  | 24.90  |
| 0-40    | 1587.39 | N.A.  | 41.90  |
| 0-60    | 2888.59 | N.A.  | 76.30  |
| 0-80    | 3647.7  | N.A.  | 96.30  |
| 0-90    | 3760.97 | N.A.  | 99.30  |
| 10-90   | 3651.09 | N.A.  | 96.40  |
| 20-40   | 1153.58 | N.A.  | 30.50  |
| 20-50   | 1834.23 | N.A.  | 48.40  |
| 40-70   | 1778.13 | N.A.  | 46.90  |
| 60-80   | 759.12  | N.A.  | 20.00  |
| 70-80   | 282.18  | N.A.  | 7.50   |
| 80-90   | 113.27  | N.A.  | 3.00   |
| 90-110  | 26.45   | N.A.  | 0.70   |
| 90-120  | 26.45   | N.A.  | 0.70   |
| 90-130  | 26.45   | N.A.  | 0.70   |
| 90-150  | 26.45   | N.A.  | 0.70   |
| 90-180  | 26.45   | N.A.  | 0.70   |
| 110-180 | 0.00    | N.A.  | 0.00   |
| 0-180   | 3787.42 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens |
|---------|--------|
| 0-10    | 109.87 |
| 10-20   | 323.94 |
| 20-30   | 511.13 |
| 30-40   | 642.45 |
| 40-50   | 680.65 |
| 50-60   | 620.54 |
| 60-70   | 476.93 |
| 70-80   | 282.18 |
| 80-90   | 113.27 |
| 90-100  | 24.83  |
| 100-110 | 1.62   |
| 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 | 101 | 101 | 101 | 99 |
| 1  | 108 | 103 | 98  | 94  | 105 | 101 | 96  | 93  | 96  | 93  | 90  | 92  | 89  | 87  | 88  | 86  | 84  | 82 |
| 2  | 98  | 89  | 82  | 76  | 95  | 87  | 81  | 75  | 84  | 78  | 73  | 80  | 75  | 71  | 77  | 73  | 70  | 67 |
| 3  | 89  | 78  | 70  | 63  | 86  | 76  | 68  | 62  | 73  | 66  | 61  | 70  | 65  | 60  | 68  | 63  | 59  | 56 |
| 4  | 81  | 69  | 60  | 53  | 79  | 67  | 59  | 52  | 65  | 57  | 52  | 62  | 56  | 51  | 60  | 55  | 50  | 48 |
| 5  | 75  | 61  | 52  | 45  | 72  | 60  | 51  | 45  | 58  | 50  | 44  | 56  | 49  | 44  | 54  | 48  | 43  | 41 |
| 6  | 69  | 55  | 46  | 39  | 67  | 54  | 45  | 39  | 52  | 44  | 39  | 50  | 43  | 38  | 49  | 43  | 38  | 36 |
| 7  | 64  | 50  | 41  | 35  | 62  | 49  | 40  | 34  | 47  | 40  | 34  | 46  | 39  | 34  | 44  | 38  | 33  | 31 |
| 8  | 59  | 45  | 37  | 31  | 58  | 45  | 36  | 31  | 43  | 36  | 30  | 42  | 35  | 30  | 41  | 34  | 30  | 28 |
| 9  | 55  | 42  | 33  | 27  | 54  | 41  | 33  | 27  | 40  | 32  | 27  | 39  | 32  | 27  | 37  | 31  | 27  | 25 |
| 10 | 52  | 38  | 30  | 25  | 50  | 38  | 30  | 25  | 37  | 30  | 25  | 36  | 29  | 24  | 35  | 29  | 24  | 22 |

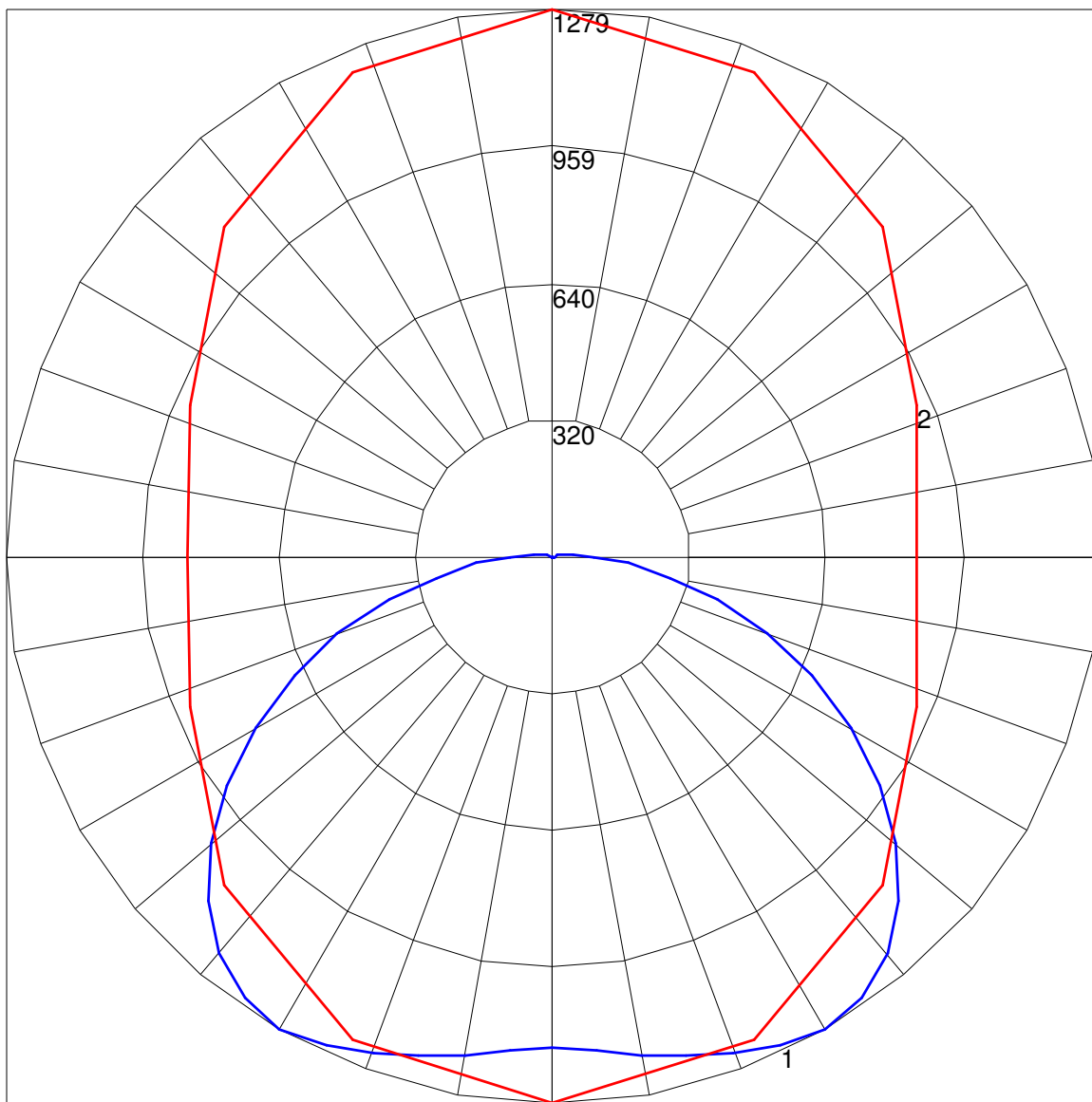
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**UGR TABLE - CORRECTED**

|                |      |                      |      |      |      |      |                    |      |      |      |      |
|----------------|------|----------------------|------|------|------|------|--------------------|------|------|------|------|
| 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 | 16.9 | 19.9               | 21.5 | 20.3 | 21.9 | 22.2 |
|                | 3H   | 15.8                 | 17.3 | 16.2 | 17.7 | 18.0 | 21.9               | 23.4 | 22.3 | 23.7 | 24.1 |
|                | 4H   | 16.1                 | 17.5 | 16.5 | 17.9 | 18.3 | 22.7               | 24.1 | 23.1 | 24.4 | 24.8 |
|                | 6H   | 16.2                 | 17.5 | 16.6 | 17.9 | 18.3 | 23.4               | 24.7 | 23.8 | 25.1 | 25.5 |
|                | 8H   | 16.2                 | 17.4 | 16.6 | 17.8 | 18.3 | 23.7               | 24.9 | 24.1 | 25.3 | 25.7 |
|                | 12H  | 16.2                 | 17.4 | 16.6 | 17.8 | 18.2 | 24.0               | 25.2 | 24.4 | 25.6 | 26.0 |
| 4H             | 2H   | 16.3                 | 17.8 | 16.8 | 18.1 | 18.5 | 20.2               | 21.6 | 20.6 | 22.0 | 22.4 |
|                | 3H   | 17.7                 | 18.9 | 18.1 | 19.3 | 19.7 | 22.5               | 23.6 | 22.9 | 24.1 | 24.5 |
|                | 4H   | 18.0                 | 19.1 | 18.4 | 19.5 | 20.0 | 23.4               | 24.5 | 23.9 | 25.0 | 25.4 |
|                | 6H   | 18.1                 | 19.1 | 18.6 | 19.5 | 20.0 | 24.3               | 25.3 | 24.8 | 25.7 | 26.2 |
|                | 8H   | 18.1                 | 19.0 | 18.6 | 19.5 | 20.0 | 24.7               | 25.6 | 25.2 | 26.0 | 26.5 |
|                | 12H  | 18.1                 | 18.9 | 18.6 | 19.4 | 19.9 | 25.1               | 25.9 | 25.6 | 26.4 | 26.9 |
| 8H             | 4H   | 19.0                 | 19.9 | 19.5 | 20.3 | 20.8 | 23.6               | 24.5 | 24.1 | 24.9 | 25.4 |
|                | 6H   | 19.2                 | 20.0 | 19.8 | 20.5 | 21.0 | 24.6               | 25.3 | 25.1 | 25.8 | 26.3 |
|                | 8H   | 19.3                 | 19.9 | 19.8 | 20.5 | 21.0 | 25.1               | 25.8 | 25.6 | 26.3 | 26.8 |
|                | 12H  | 19.3                 | 19.9 | 19.8 | 20.4 | 21.0 | 25.6               | 26.2 | 26.1 | 26.7 | 27.3 |
| 12H            | 4H   | 19.2                 | 20.0 | 19.7 | 20.5 | 21.0 | 23.6               | 24.4 | 24.1 | 24.9 | 25.4 |
|                | 6H   | 19.6                 | 20.2 | 20.1 | 20.7 | 21.3 | 24.6               | 25.3 | 25.1 | 25.8 | 26.3 |
|                | 8H   | 19.7                 | 20.3 | 20.2 | 20.8 | 21.4 | 25.2               | 25.8 | 25.7 | 26.3 | 26.8 |

Maximum UGR = 27.3

POLAR GRAPH



Maximum Candela = 1279.15 Located At Horizontal Angle = 90, Vertical Angle = 30  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (30) (Through Max. Cd.)