H.E. WILLIAMS, INC.

**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : 75-4-L85-835-DIM-UNV_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002
[TEST] GEN from BALLABS TEST NO. 17875.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 11-NOV-2019
[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4' STRIP w/WHITE REFLECTOR
[LUMCAT] 75-4-L85/835-DIM-UNV

**CHARACTERISTICS**

| | |
|---|---|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 8530 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 152 |
| Total Luminaire Watts | 56.2 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.32 |
| Spacing Criterion (90-270) | 1.28 |
| Spacing Criterion (Diagonal) | 1.42 |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 3.62 ft |
| Luminous Width (90-270) | 0.22 ft |
| Luminous Height | 0.01 ft |

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

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 38743 | 37059 | 36561 |
| 55 | 37769 | 35728 | 35001 |
| 65 | 35202 | 32431 | 31427 |
| 75 | 29681 | 26228 | 25153 |
| 85 | 15569 | 14819 | 12233 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 2896.069 | 2896.069 | 2896.069 | 2896.069 | 2896.069 |
| **5** | 2917.231 | 2899.092 | 2887.000 | 2878.939 | 2875.916 |
| **10** | 2884.985 | 2866.847 | 2852.739 | 2844.678 | 2840.647 |
| **15** | 2836.616 | 2813.440 | 2799.332 | 2787.240 | 2791.271 |
| **20** | 2760.033 | 2740.887 | 2724.764 | 2712.672 | 2719.726 |
| **25** | 2663.296 | 2647.173 | 2623.996 | 2613.919 | 2609.889 |
| **30** | 2554.466 | 2531.290 | 2505.090 | 2497.029 | 2475.867 |
| **35** | 2415.407 | 2396.261 | 2366.030 | 2359.984 | 2337.815 |
| **40** | 2254.178 | 2213.871 | 2197.748 | 2186.663 | 2180.617 |
| **45** | 2065.742 | 2016.366 | 2006.289 | 1997.220 | 1990.166 |
| **50** | 1857.152 | 1811.807 | 1803.745 | 1799.715 | 1776.538 |
| **55** | 1634.455 | 1587.094 | 1580.041 | 1580.041 | 1559.887 |
| **60** | 1392.612 | 1350.290 | 1330.136 | 1339.205 | 1308.975 |
| **65** | 1123.562 | 1092.324 | 1069.147 | 1088.293 | 1047.986 |
| **70** | 851.489 | 812.189 | 800.097 | 820.251 | 789.013 |
| **75** | 581.431 | 543.139 | 543.139 | 543.139 | 531.047 |
| **80** | 309.357 | 303.311 | 303.311 | 298.273 | 286.181 |
| **85** | 103.791 | 108.829 | 115.883 | 110.845 | 100.768 |
| **90** | 9.069 | 9.069 | 14.108 | 9.069 | 9.069 |
| **95** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **100** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **105** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **110** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **115** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **120** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **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 |

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**ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 1066.53 | N.A. | 12.50 |
| 0-30 | 2279.49 | N.A. | 26.70 |
| 0-40 | 3763.03 | N.A. | 44.10 |
| 0-60 | 6730.47 | N.A. | 78.90 |
| 0-80 | 8382.74 | N.A. | 98.30 |
| 0-90 | 8526.98 | N.A. | 100.00 |
| 10-90 | 8252.21 | N.A. | 96.70 |
| 20-40 | 2696.49 | N.A. | 31.60 |
| 20-50 | 4248.98 | N.A. | 49.80 |
| 40-70 | 4037.68 | N.A. | 47.30 |
| 60-80 | 1652.27 | N.A. | 19.40 |
| 70-80 | 582.04 | N.A. | 6.80 |
| 80-90 | 144.24 | N.A. | 1.70 |
| 90-110 | 2.83 | N.A. | 0.00 |
| 90-120 | 2.83 | N.A. | 0.00 |
| 90-130 | 2.83 | N.A. | 0.00 |
| 90-150 | 2.83 | N.A. | 0.00 |
| 90-180 | 2.83 | N.A. | 0.00 |
| 110-180 | 0.00 | N.A. | 0.00 |
| 0-180 | 8529.81 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

| Zone | Lumens |
|---|---|
| 0-10 | 274.77 |
| 10-20 | 791.76 |
| 20-30 | 1212.96 |
| 30-40 | 1483.54 |
| 40-50 | 1552.49 |
| 50-60 | 1414.95 |
| 60-70 | 1070.24 |
| 70-80 | 582.04 |
| 80-90 | 144.24 |
| 90-100 | 2.83 |
| 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 | 121 | 121 | 121 | 121 | 118 | 118 | 118 | 118 | 113 | 113 | 113 | 108 | 108 | 108 | 104 | 104 | 104 | 102 |
| 1 | 111 | 106 | 101 | 97 | 108 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 85 | 79 | 98 | 90 | 84 | 78 | 86 | 81 | 76 | 83 | 79 | 75 | 80 | 76 | 73 | 71 |
| 3 | 92 | 81 | 72 | 66 | 89 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 59 |
| 4 | 84 | 71 | 62 | 55 | 81 | 70 | 62 | 55 | 67 | 60 | 54 | 65 | 59 | 54 | 63 | 57 | 53 | 51 |
| 5 | 77 | 64 | 54 | 48 | 75 | 63 | 54 | 47 | 60 | 53 | 47 | 58 | 52 | 46 | 56 | 51 | 46 | 44 |
| 6 | 71 | 57 | 48 | 41 | 69 | 56 | 48 | 41 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 40 | 38 |
| 7 | 66 | 52 | 43 | 37 | 64 | 51 | 42 | 36 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 60 | 47 | 38 | 32 | 45 | 38 | 32 | 44 | 37 | 32 | 43 | 36 | 32 | 30 |
| 9 | 57 | 43 | 35 | 29 | 56 | 43 | 35 | 29 | 42 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 32 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 37 | 30 | 26 | 24 |

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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 | 24.7 | 26.3 | 25.0 | 26.6 | 26.9 | 24.6 | 26.3 | 25.0 | 26.6 | 26.9 |
| | 3H | 26.4 | 27.9 | 26.8 | 28.2 | 28.6 | 26.4 | 27.9 | 26.7 | 28.2 | 28.5 |
| | 4H | 27.0 | 28.4 | 27.4 | 28.8 | 29.2 | 27.0 | 28.4 | 27.4 | 28.7 | 29.1 |
| | 6H | 27.4 | 28.7 | 27.8 | 29.1 | 29.5 | 27.3 | 28.6 | 27.7 | 29.0 | 29.4 |
| | 8H | 27.5 | 28.8 | 28.0 | 29.2 | 29.6 | 27.4 | 28.7 | 27.9 | 29.1 | 29.5 |
| | 12H | 27.6 | 28.8 | 28.0 | 29.2 | 29.6 | 27.5 | 28.7 | 27.9 | 29.1 | 29.5 |
| 4H | 2H | 25.3 | 26.7 | 25.7 | 27.0 | 27.4 | 25.2 | 26.6 | 25.6 | 27.0 | 27.4 |
| | 3H | 27.2 | 28.4 | 27.6 | 28.8 | 29.2 | 27.2 | 28.4 | 27.6 | 28.8 | 29.2 |
| | 4H | 27.9 | 29.0 | 28.4 | 29.4 | 29.9 | 27.9 | 29.0 | 28.3 | 29.4 | 29.8 |
| | 6H | 28.4 | 29.4 | 28.9 | 29.8 | 30.3 | 28.4 | 29.3 | 28.9 | 29.8 | 30.2 |
| | 8H | 28.6 | 29.4 | 29.0 | 29.9 | 30.4 | 28.5 | 29.4 | 29.0 | 29.9 | 30.3 |
| | 12H | 28.6 | 29.4 | 29.1 | 29.9 | 30.4 | 28.6 | 29.4 | 29.1 | 29.9 | 30.3 |
| 8H | 4H | 28.2 | 29.1 | 28.7 | 29.5 | 30.0 | 28.2 | 29.0 | 28.6 | 29.5 | 29.9 |
| | 6H | 28.8 | 29.5 | 29.3 | 30.0 | 30.5 | 28.8 | 29.5 | 29.3 | 30.0 | 30.5 |
| | 8H | 29.0 | 29.6 | 29.5 | 30.1 | 30.6 | 29.0 | 29.6 | 29.5 | 30.1 | 30.6 |
| | 12H | 29.1 | 29.7 | 29.6 | 30.2 | 30.7 | 29.1 | 29.7 | 29.6 | 30.2 | 30.7 |
| 12H | 4H | 28.2 | 29.0 | 28.7 | 29.5 | 30.0 | 28.2 | 29.0 | 28.7 | 29.4 | 29.9 |
| | 6H | 28.9 | 29.5 | 29.4 | 30.0 | 30.5 | 28.8 | 29.5 | 29.3 | 29.9 | 30.5 |
| | 8H | 29.1 | 29.6 | 29.6 | 30.1 | 30.7 | 29.0 | 29.6 | 29.5 | 30.1 | 30.7 |

Maximum UGR = 30.7

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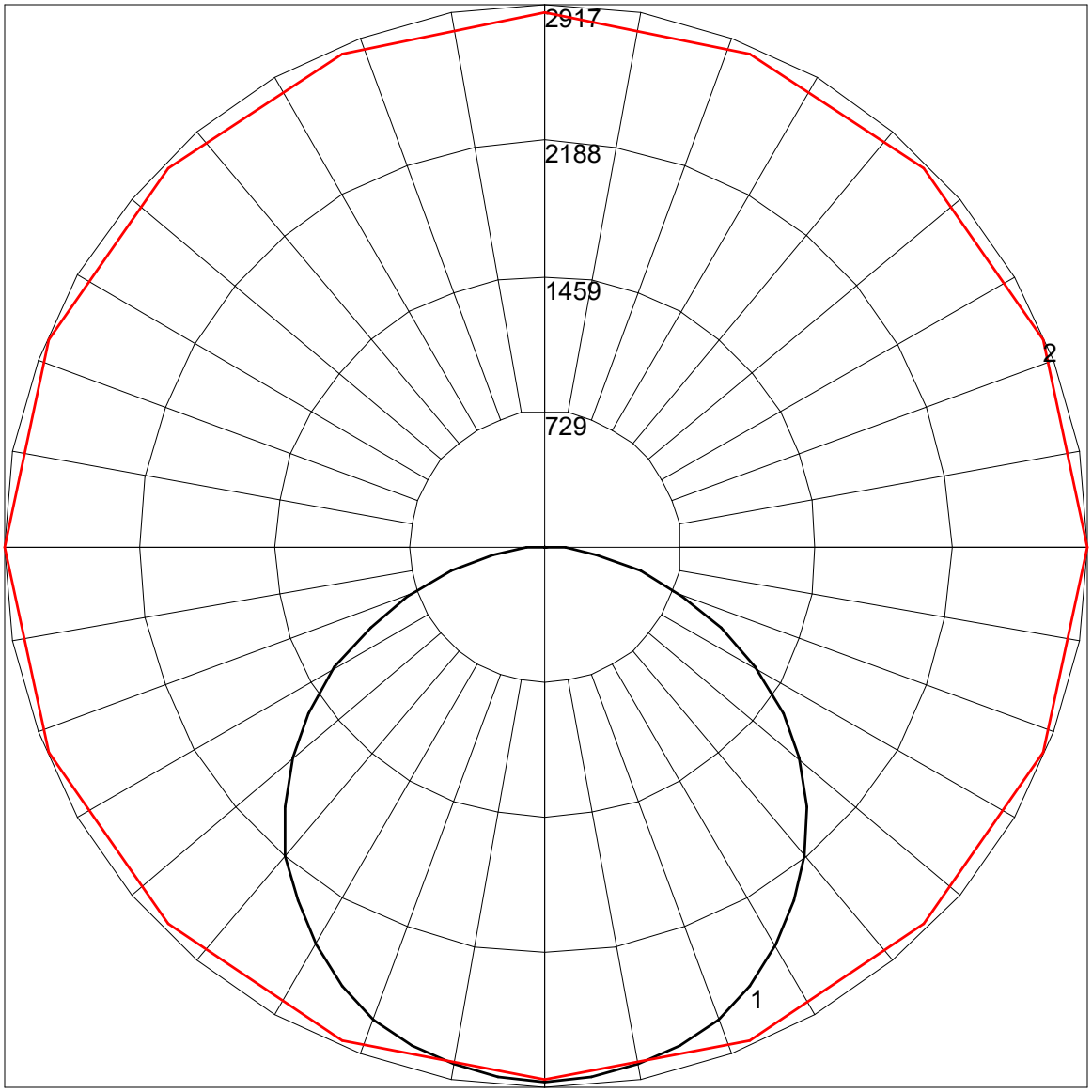
**POLAR GRAPH**




Maximum Candela = 2917.231  Located At Horizontal Angle = 0, Vertical Angle = 5
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

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