



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-24-L70-835-D-(L60)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 19260.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 11-13-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 2x4' RECESSED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] AT3-24-L70-835-D-(L60)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K CCT
 [_SEARCH_SOURCETYPE]LED
 [_SEARCH_APPLICATION]INDOOR,COMMERCIAL,DIRECT,OFFICE,ARCHITECTURAL
 [_SEARCH_MOUNTING]RECESSED

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 6006 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 113 |
| Total Luminaire Watts | 53.3 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.12 |
| Spacing Criterion (90-270) | 1.22 |
| Spacing Criterion (Diagonal) | 1.30 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 3.76 ft |
| Luminous Width (90-270) | 1.88 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 2736 | 3058 | 3262 |
| 55 | 2331 | 2702 | 2874 |
| 65 | 2117 | 2586 | 2777 |
| 75 | 1800 | 2462 | 2462 |
| 85 | 1595 | 1137 | 1063 |

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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> |
|-----------|------------|-------------|-------------|-------------|-------------|
| 0 | 2392.950 | 2392.950 | 2392.950 | 2392.950 | 2392.950 |
| 5 | 2380.293 | 2381.137 | 2381.137 | 2381.980 | 2382.824 |
| 10 | 2332.198 | 2334.729 | 2340.635 | 2348.229 | 2353.292 |
| 15 | 2246.132 | 2252.039 | 2265.539 | 2285.790 | 2295.071 |
| 20 | 2117.035 | 2129.691 | 2161.755 | 2200.569 | 2216.600 |
| 25 | 1943.217 | 1959.249 | 2006.500 | 2058.814 | 2082.440 |
| 30 | 1760.117 | 1932.248 | 1825.088 | 1819.182 | 1951.655 |
| 35 | 1574.487 | 1603.175 | 1685.021 | 1765.180 | 1795.556 |
| 40 | 1396.450 | 1429.357 | 1527.235 | 1605.706 | 1631.020 |
| 45 | 1268.196 | 1308.697 | 1417.544 | 1489.265 | 1512.047 |
| 50 | 1067.377 | 1113.785 | 1215.038 | 1274.102 | 1289.290 |
| 55 | 876.684 | 924.779 | 1015.907 | 1064.002 | 1080.877 |
| 60 | 712.991 | 762.774 | 840.401 | 884.278 | 898.622 |
| 65 | 586.425 | 641.270 | 716.366 | 757.711 | 769.524 |
| 70 | 443.826 | 502.047 | 570.393 | 603.300 | 609.206 |
| 75 | 305.447 | 363.668 | 417.669 | 422.732 | 417.669 |
| 80 | 197.444 | 256.508 | 251.445 | 174.662 | 158.630 |
| 85 | 91.128 | 104.628 | 64.971 | 61.596 | 60.752 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 864.86 | N.A. | 14.40 |
| 0-30 | 1792.07 | N.A. | 29.80 |
| 0-40 | 2848.25 | N.A. | 47.40 |
| 0-60 | 4810.63 | N.A. | 80.10 |
| 0-80 | 5905.29 | N.A. | 98.30 |
| 0-90 | 6005.65 | N.A. | 100.00 |
| 10-90 | 5779.61 | N.A. | 96.20 |
| 20-40 | 1983.4 | N.A. | 33.00 |
| 20-50 | 3048.84 | N.A. | 50.80 |
| 40-70 | 2648.52 | N.A. | 44.10 |
| 60-80 | 1094.66 | N.A. | 18.20 |
| 70-80 | 408.52 | N.A. | 6.80 |
| 80-90 | 100.35 | 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 | 6005.65 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 226.03 |
| 10-20 | 638.82 |
| 20-30 | 927.21 |
| 30-40 | 1056.19 |
| 40-50 | 1065.44 |
| 50-60 | 896.93 |
| 60-70 | 686.14 |
| 70-80 | 408.52 |
| 80-90 | 100.35 |
| 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 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 85 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 74 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 51 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 55 | 48 | 61 | 53 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 49 | 43 | 55 | 48 | 42 | 53 | 47 | 42 | 52 | 46 | 41 | 39 |
| 7 | 66 | 53 | 44 | 38 | 64 | 52 | 44 | 38 | 50 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 40 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 9 | 57 | 44 | 36 | 31 | 56 | 44 | 36 | 31 | 43 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 53 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 28 | 38 | 32 | 27 | 26 |

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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

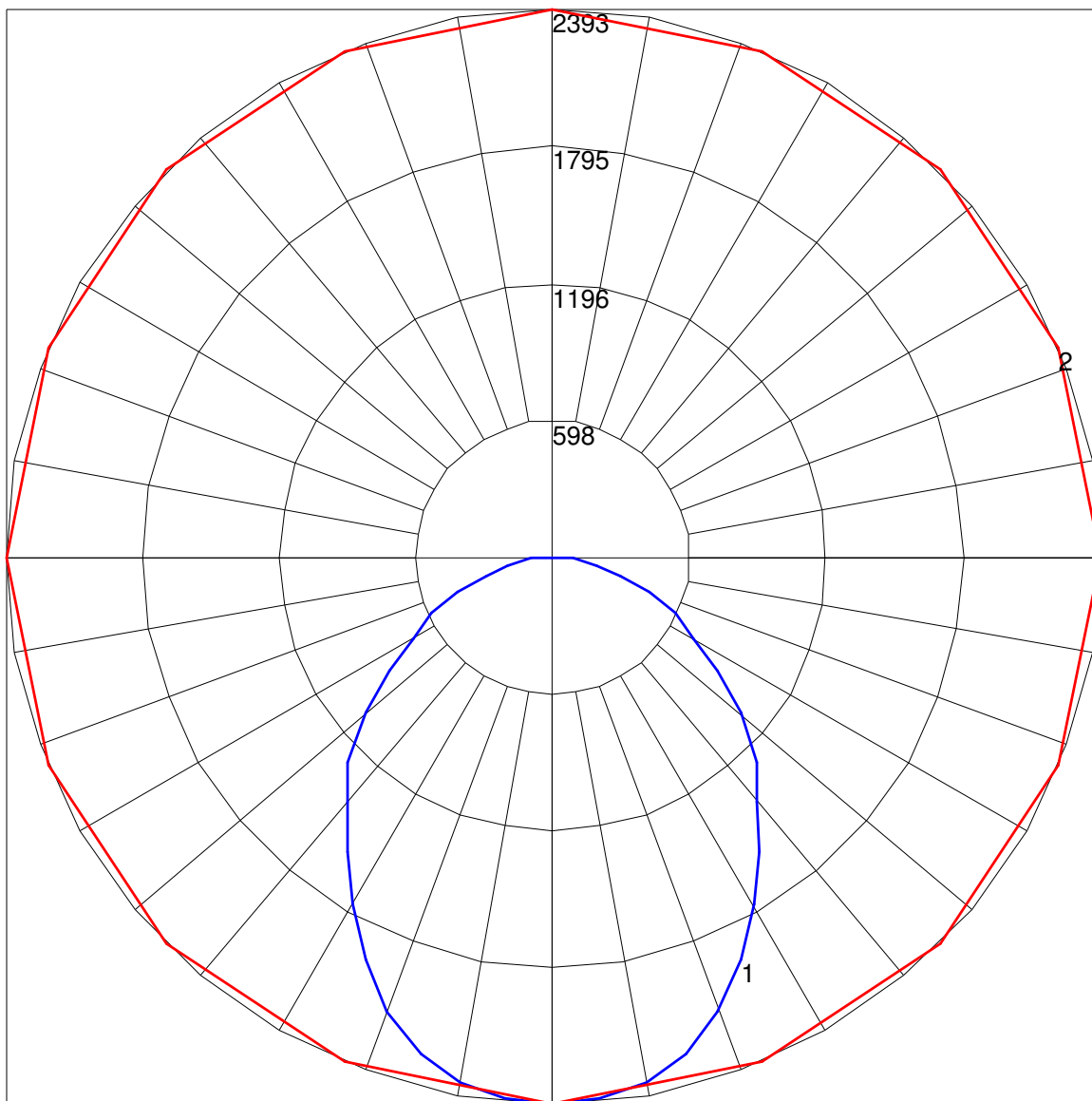
| | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|
| X=2H | Y=2H | 14.6 | 16.2 | 15.0 | 16.5 | 16.8 | 15.7 | 17.3 | 16.0 | 17.6 | 17.9 |
| | 3H | 16.4 | 17.8 | 16.7 | 18.1 | 18.5 | 17.7 | 19.2 | 18.1 | 19.5 | 19.8 |
| | 4H | 17.0 | 18.4 | 17.4 | 18.7 | 19.1 | 18.4 | 19.8 | 18.8 | 20.2 | 20.5 |
| | 6H | 17.5 | 18.8 | 17.9 | 19.2 | 19.6 | 18.8 | 20.0 | 19.2 | 20.4 | 20.8 |
| | 8H | 17.7 | 18.9 | 18.1 | 19.3 | 19.7 | 18.8 | 20.0 | 19.2 | 20.4 | 20.8 |
| | 12H | 17.9 | 19.0 | 18.3 | 19.4 | 19.8 | 18.9 | 20.0 | 19.3 | 20.4 | 20.8 |

UGR Viewed Endwise

| | | | | | | | | | | | |
|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H | 2H | 15.4 | 16.8 | 15.8 | 17.2 | 17.5 | 16.3 | 17.6 | 16.7 | 18.0 | 18.4 |
| | 3H | 17.5 | 18.6 | 17.9 | 19.0 | 19.4 | 18.5 | 19.7 | 19.0 | 20.1 | 20.5 |
| | 4H | 18.3 | 19.3 | 18.7 | 19.7 | 20.1 | 19.4 | 20.5 | 19.8 | 20.9 | 21.3 |
| | 6H | 18.9 | 19.9 | 19.4 | 20.3 | 20.7 | 19.8 | 20.7 | 20.3 | 21.2 | 21.6 |
| | 8H | 19.2 | 20.0 | 19.6 | 20.5 | 20.9 | 19.9 | 20.8 | 20.4 | 21.2 | 21.7 |
| | 12H | 19.3 | 20.1 | 19.8 | 20.6 | 21.1 | 19.9 | 20.7 | 20.4 | 21.2 | 21.7 |
| 8H | 4H | 18.7 | 19.6 | 19.2 | 20.0 | 20.5 | 19.7 | 20.6 | 20.2 | 21.0 | 21.5 |
| | 6H | 19.6 | 20.3 | 20.1 | 20.8 | 21.3 | 20.2 | 20.9 | 20.7 | 21.4 | 21.9 |
| | 8H | 19.9 | 20.5 | 20.4 | 21.1 | 21.5 | 20.3 | 21.0 | 20.8 | 21.5 | 22.0 |
| | 12H | 20.2 | 20.7 | 20.7 | 21.2 | 21.8 | 20.4 | 21.0 | 20.9 | 21.5 | 22.0 |
| 12H | 4H | 18.8 | 19.5 | 19.2 | 20.0 | 20.5 | 19.7 | 20.5 | 20.2 | 21.0 | 21.5 |
| | 6H | 19.7 | 20.3 | 20.2 | 20.8 | 21.3 | 20.3 | 20.9 | 20.8 | 21.4 | 21.9 |
| | 8H | 20.0 | 20.6 | 20.5 | 21.1 | 21.6 | 20.4 | 21.0 | 21.0 | 21.5 | 22.1 |

Maximum UGR = 22.1

POLAR GRAPH



Maximum Candela = 2392.95 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.)