



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 80-4-L63-835-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 18635.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 12-30-2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4-32 LED 22" ARRAYS 4' INDUSTRIAL LUMINAIRE
[MORE] WHITE REFLECTOR w/OPEN BOTTOM
[LUMCAT] 80-4-L63-835-DIM-UNV
[LAMPCAT] 80 CRI 3500K CCT

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 6176 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 148 |
| Total Luminaire Watts | 41.7 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.26 |
| Spacing Criterion (90-270) | 1.22 |
| Spacing Criterion (Diagonal) | 1.36 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 4.00 ft |
| Luminous Width (90-270) | 0.88 ft |
| Luminous Height | 0.00 ft |



LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 6700 | 6538 | 6521 |
| 55 | 6456 | 6314 | 6288 |
| 65 | 6150 | 6014 | 3214 |
| 75 | 4945 | 2747 | 526 |
| 85 | 2222 | 972 | 729 |

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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 | 2320.923 | 2320.923 | 2320.923 | 2320.923 | 2320.923 |
| 5 | 2293.352 | 2285.475 | 2278.582 | 2287.444 | 2297.291 |
| 10 | 2247.071 | 2239.194 | 2274.643 | 2280.551 | 2257.903 |
| 15 | 2194.883 | 2217.531 | 2192.913 | 2175.189 | 2175.189 |
| 20 | 2128.908 | 2178.143 | 2108.230 | 2097.398 | 2097.398 |
| 25 | 2043.240 | 2054.071 | 2019.607 | 2013.699 | 2013.699 |
| 30 | 1933.939 | 1917.199 | 1904.398 | 1897.505 | 1895.536 |
| 35 | 1817.745 | 1801.005 | 1786.235 | 1784.265 | 1780.327 |
| 40 | 1689.735 | 1662.163 | 1654.286 | 1651.332 | 1649.362 |
| 45 | 1542.031 | 1510.520 | 1504.612 | 1502.643 | 1500.673 |
| 50 | 1369.709 | 1347.061 | 1340.168 | 1338.199 | 1338.199 |
| 55 | 1205.265 | 1180.648 | 1178.679 | 1173.755 | 1173.755 |
| 60 | 1018.173 | 999.464 | 997.495 | 993.556 | 990.602 |
| 65 | 845.852 | 829.112 | 827.143 | 637.097 | 442.128 |
| 70 | 645.959 | 631.189 | 505.148 | 342.673 | 349.566 |
| 75 | 416.526 | 416.526 | 231.403 | 199.893 | 44.311 |
| 80 | 220.571 | 142.781 | 40.372 | 33.480 | 33.480 |
| 85 | 63.020 | 33.480 | 27.571 | 20.679 | 20.679 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 837.80 | N.A. | 13.60 |
| 0-30 | 1771.68 | N.A. | 28.70 |
| 0-40 | 2892.62 | N.A. | 46.80 |
| 0-60 | 5109.11 | N.A. | 82.70 |
| 0-80 | 6136.24 | N.A. | 99.30 |
| 0-90 | 6176.44 | N.A. | 100.00 |
| 10-90 | 5958.65 | N.A. | 96.50 |
| 20-40 | 2054.82 | N.A. | 33.30 |
| 20-50 | 3218.43 | N.A. | 52.10 |
| 40-70 | 2948.87 | N.A. | 47.70 |
| 60-80 | 1027.13 | N.A. | 16.60 |
| 70-80 | 294.75 | N.A. | 4.80 |
| 80-90 | 40.20 | N.A. | 0.70 |
| 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 | 6176.44 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 217.79 |
| 10-20 | 620.00 |
| 20-30 | 933.88 |
| 30-40 | 1120.95 |
| 40-50 | 1163.61 |
| 50-60 | 1052.88 |
| 60-70 | 732.38 |
| 70-80 | 294.75 |
| 80-90 | 40.20 |
| 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 | 110 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 92 | 90 | 91 | 89 | 88 | 85 |
| 2 | 100 | 92 | 86 | 80 | 97 | 90 | 84 | 79 | 87 | 82 | 77 | 84 | 79 | 76 | 81 | 77 | 74 | 72 |
| 3 | 91 | 81 | 73 | 67 | 89 | 80 | 72 | 66 | 77 | 70 | 65 | 74 | 69 | 64 | 71 | 67 | 63 | 61 |
| 4 | 84 | 72 | 63 | 57 | 81 | 71 | 63 | 56 | 68 | 61 | 56 | 66 | 60 | 55 | 64 | 59 | 54 | 52 |
| 5 | 77 | 64 | 56 | 49 | 75 | 63 | 55 | 49 | 61 | 54 | 48 | 59 | 53 | 48 | 57 | 52 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 49 | 43 | 55 | 48 | 42 | 54 | 47 | 42 | 52 | 46 | 42 | 39 |
| 7 | 66 | 53 | 44 | 38 | 64 | 52 | 43 | 38 | 50 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 40 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 33 | 45 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 36 | 30 | 56 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 52 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 37 | 31 | 27 | 25 |

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UGR TABLE - CORRECTED

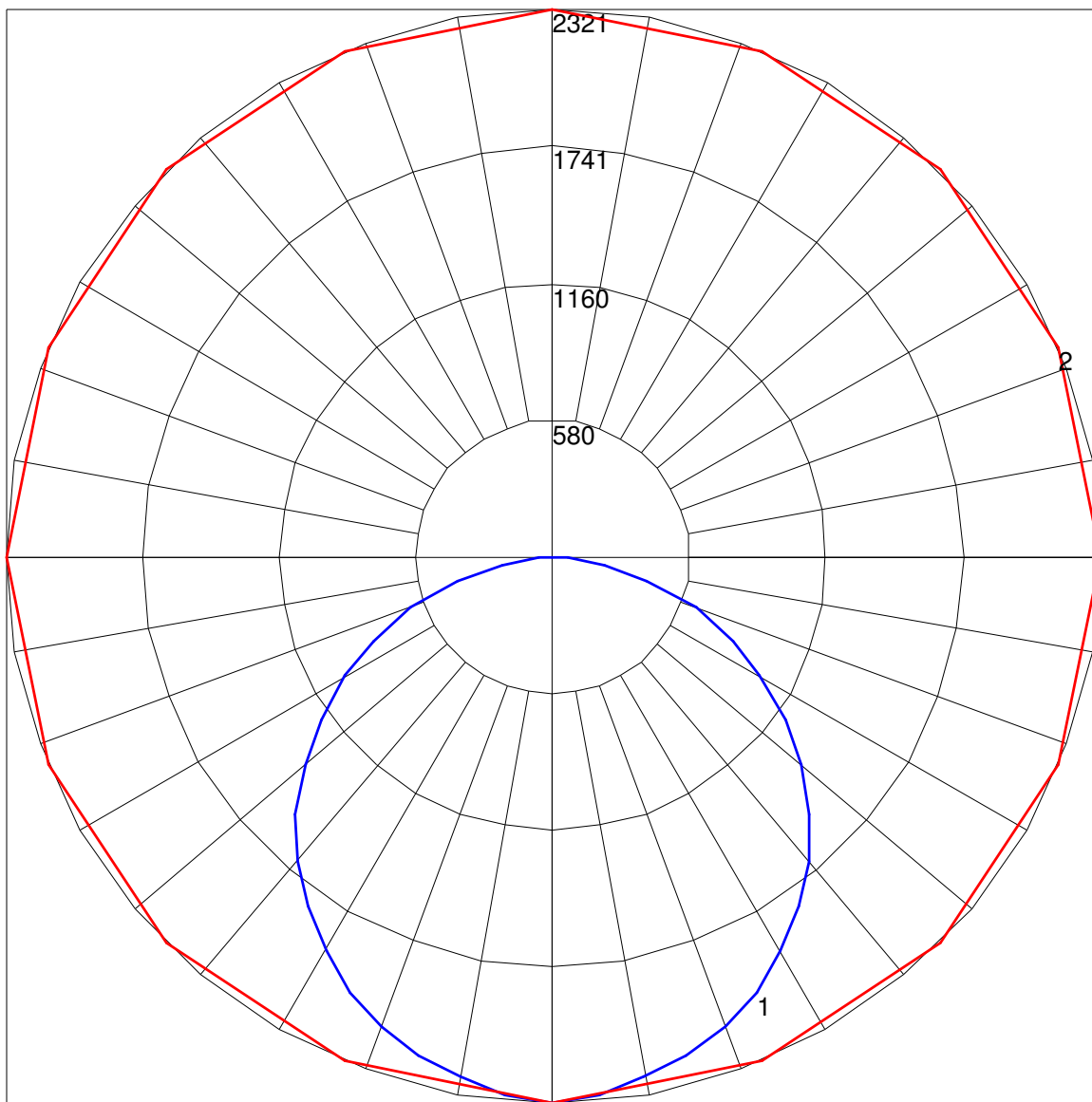
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 18.8 | 20.4 | 19.2 | 20.7 | 21.0 | 18.7 | 20.3 | 19.1 | 20.7 | 21.0 |
| | 3H | 20.7 | 22.1 | 21.1 | 22.5 | 22.8 | 19.4 | 20.9 | 19.8 | 21.2 | 21.6 |
| | 4H | 21.3 | 22.7 | 21.7 | 23.0 | 23.4 | 19.5 | 20.8 | 19.9 | 21.2 | 21.6 |
| | 6H | 21.7 | 22.9 | 22.1 | 23.3 | 23.7 | 19.4 | 20.7 | 19.8 | 21.1 | 21.4 |
| | 8H | 21.7 | 22.9 | 22.2 | 23.3 | 23.7 | 19.4 | 20.6 | 19.8 | 21.0 | 21.4 |
| | 12H | 21.8 | 22.9 | 22.2 | 23.3 | 23.7 | 19.4 | 20.5 | 19.8 | 20.9 | 21.3 |
| 4H | 2H | 19.5 | 20.8 | 19.9 | 21.2 | 21.6 | 19.4 | 20.8 | 19.8 | 21.1 | 21.5 |
| | 3H | 21.5 | 22.6 | 21.9 | 23.0 | 23.4 | 20.2 | 21.4 | 20.7 | 21.8 | 22.2 |
| | 4H | 22.2 | 23.2 | 22.6 | 23.6 | 24.1 | 20.4 | 21.4 | 20.8 | 21.8 | 22.2 |
| | 6H | 22.6 | 23.5 | 23.1 | 23.9 | 24.4 | 20.3 | 21.2 | 20.8 | 21.7 | 22.1 |
| | 8H | 22.7 | 23.5 | 23.2 | 24.0 | 24.4 | 20.3 | 21.2 | 20.8 | 21.6 | 22.1 |
| | 12H | 22.8 | 23.5 | 23.2 | 24.0 | 24.4 | 20.3 | 21.0 | 20.8 | 21.5 | 22.0 |
| 8H | 4H | 22.3 | 23.1 | 22.7 | 23.5 | 24.0 | 20.5 | 21.4 | 21.0 | 21.8 | 22.3 |
| | 6H | 22.7 | 23.3 | 23.2 | 23.8 | 24.3 | 20.5 | 21.2 | 21.0 | 21.7 | 22.2 |
| | 8H | 22.8 | 23.4 | 23.3 | 23.9 | 24.4 | 20.5 | 21.1 | 21.0 | 21.6 | 22.1 |
| | 12H | 22.8 | 23.4 | 23.3 | 23.9 | 24.4 | 20.5 | 21.0 | 21.0 | 21.5 | 22.1 |
| 12H | 4H | 22.2 | 23.0 | 22.7 | 23.4 | 23.9 | 20.5 | 21.3 | 21.0 | 21.7 | 22.2 |
| | 6H | 22.7 | 23.3 | 23.2 | 23.7 | 24.3 | 20.5 | 21.1 | 21.1 | 21.6 | 22.1 |
| | 8H | 22.8 | 23.3 | 23.3 | 23.8 | 24.4 | 20.5 | 21.0 | 21.0 | 21.5 | 22.1 |

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 2320.923 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.)