



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-840-DCL-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20011.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 03-29-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2-56 LED 22"ARRAYS 4'VAPORTITE LUMINAIRE
 [MORE] WHITE FLAT REFLECTOR w/DCL LENS
 [LUMCAT] 96-4-L64-840-DCL-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 4000K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] INDOOR, COMMERCIAL, INDUSTRIAL
 [_SEARCH_MOUNTING] SURFACE, SUSPENDED

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 6820 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 142 |
| Total Luminaire Watts | 48 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.30 |
| Spacing Criterion (90-270) | 1.30 |
| Spacing Criterion (Diagonal) | 1.44 |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 4.25 ft |
| Luminous Width (90-270) | 0.50 ft |
| Luminous Height | 0.27 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 10668 | 8337 | 7727 |
| 55 | 9651 | 6440 | 6325 |
| 65 | 8103 | 5390 | 4760 |
| 75 | 4530 | 3562 | 3451 |
| 85 | 1314 | 909 | 793 |

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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 | 2294.729 | 2294.729 | 2294.729 | 2294.729 | 2294.729 |
| 5 | 2286.706 | 2301.750 | 2262.635 | 2236.558 | 2245.585 |
| 10 | 2256.617 | 2224.523 | 2260.629 | 2305.761 | 2276.676 |
| 15 | 2212.488 | 2219.508 | 2264.641 | 2015.911 | 2034.967 |
| 20 | 2150.306 | 2139.273 | 2009.894 | 2176.382 | 1965.764 |
| 25 | 2078.094 | 2128.241 | 2106.176 | 2041.988 | 2083.108 |
| 30 | 1990.838 | 2192.429 | 1933.670 | 2050.011 | 1908.597 |
| 35 | 1876.503 | 1838.391 | 1953.729 | 1985.823 | 1954.732 |
| 40 | 1746.120 | 1512.435 | 1856.444 | 1807.300 | 1720.044 |
| 45 | 1585.650 | 1489.367 | 1663.879 | 1665.885 | 1664.882 |
| 50 | 1387.067 | 1232.615 | 1387.067 | 1471.314 | 1395.091 |
| 55 | 1193.500 | 1173.441 | 1176.450 | 1232.615 | 1271.729 |
| 60 | 982.882 | 1046.067 | 985.891 | 1094.209 | 1056.097 |
| 65 | 769.256 | 808.370 | 863.532 | 886.600 | 859.520 |
| 70 | 528.550 | 544.597 | 655.923 | 713.091 | 677.988 |
| 75 | 286.841 | 356.044 | 473.388 | 530.556 | 533.565 |
| 80 | 118.347 | 221.650 | 267.785 | 247.726 | 228.671 |
| 85 | 39.115 | 95.279 | 92.271 | 110.324 | 98.288 |
| 90 | 15.044 | 35.103 | 49.144 | 60.176 | 66.194 |
| 95 | 13.038 | 35.103 | 28.082 | 34.100 | 35.103 |
| 100 | 16.047 | 43.126 | 28.082 | 28.082 | 28.082 |
| 105 | 15.044 | 13.038 | 124.365 | 61.179 | 34.100 |
| 110 | 13.038 | 8.024 | 20.059 | 144.424 | 138.406 |
| 115 | 11.032 | 7.021 | 9.026 | 25.074 | 66.194 |
| 120 | 5.015 | 4.012 | 6.018 | 12.035 | 16.047 |
| 125 | 4.012 | 4.012 | 4.012 | 6.018 | 7.021 |
| 130 | 0.000 | 0.000 | 4.012 | 6.018 | 7.021 |
| 135 | 0.000 | 0.000 | 4.012 | 5.015 | 7.021 |
| 140 | 0.000 | 0.000 | 0.000 | 5.015 | 6.018 |
| 145 | 0.000 | 0.000 | 0.000 | 0.000 | 5.015 |
| 150 | 0.000 | 0.000 | 0.000 | 0.000 | 4.012 |
| 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 | 829.25 | N.A. | 12.20 |
| 0-30 | 1789.67 | N.A. | 26.20 |
| 0-40 | 2981.14 | N.A. | 43.70 |
| 0-60 | 5279.31 | N.A. | 77.40 |
| 0-80 | 6568.56 | N.A. | 96.30 |
| 0-90 | 6693.08 | N.A. | 98.10 |
| 10-90 | 6476.46 | N.A. | 95.00 |
| 20-40 | 2151.9 | N.A. | 31.60 |
| 20-50 | 3372.51 | N.A. | 49.50 |
| 40-70 | 3127.94 | N.A. | 45.90 |
| 60-80 | 1289.25 | N.A. | 18.90 |
| 70-80 | 459.47 | N.A. | 6.70 |
| 80-90 | 124.52 | N.A. | 1.80 |
| 90-110 | 91.31 | N.A. | 1.30 |
| 90-120 | 118.90 | N.A. | 1.70 |
| 90-130 | 123.71 | N.A. | 1.80 |
| 90-150 | 126.58 | N.A. | 1.90 |
| 90-180 | 126.65 | N.A. | 1.90 |
| 110-180 | 35.34 | N.A. | 0.50 |
| 0-180 | 6819.73 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 216.63 |
| 10-20 | 612.62 |
| 20-30 | 960.42 |
| 30-40 | 1191.47 |
| 40-50 | 1220.61 |
| 50-60 | 1077.55 |
| 60-70 | 829.78 |
| 70-80 | 459.47 |
| 80-90 | 124.52 |
| 90-100 | 37.46 |
| 100-110 | 53.85 |
| 110-120 | 27.59 |
| 120-130 | 4.81 |
| 130-140 | 2.27 |
| 140-150 | 0.61 |
| 150-160 | 0.06 |
| 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 | 110 | 110 | 110 | 105 | 105 | 105 | 100 | 100 | 100 | 98 |
| 1 | 108 | 103 | 99 | 95 | 105 | 101 | 97 | 94 | 96 | 93 | 90 | 92 | 90 | 87 | 88 | 86 | 84 | 82 |
| 2 | 98 | 90 | 83 | 78 | 96 | 88 | 82 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 77 | 74 | 71 | 68 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 64 | 74 | 68 | 62 | 71 | 66 | 61 | 68 | 64 | 60 | 57 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | 63 | 57 | 52 | 61 | 55 | 51 | 49 |
| 5 | 75 | 62 | 53 | 47 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 70 | 56 | 47 | 41 | 67 | 55 | 47 | 40 | 53 | 46 | 40 | 51 | 45 | 39 | 49 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 41 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 29 | 54 | 42 | 34 | 29 | 41 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 25 | 35 | 29 | 25 | 23 |

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UGR TABLE - CORRECTED

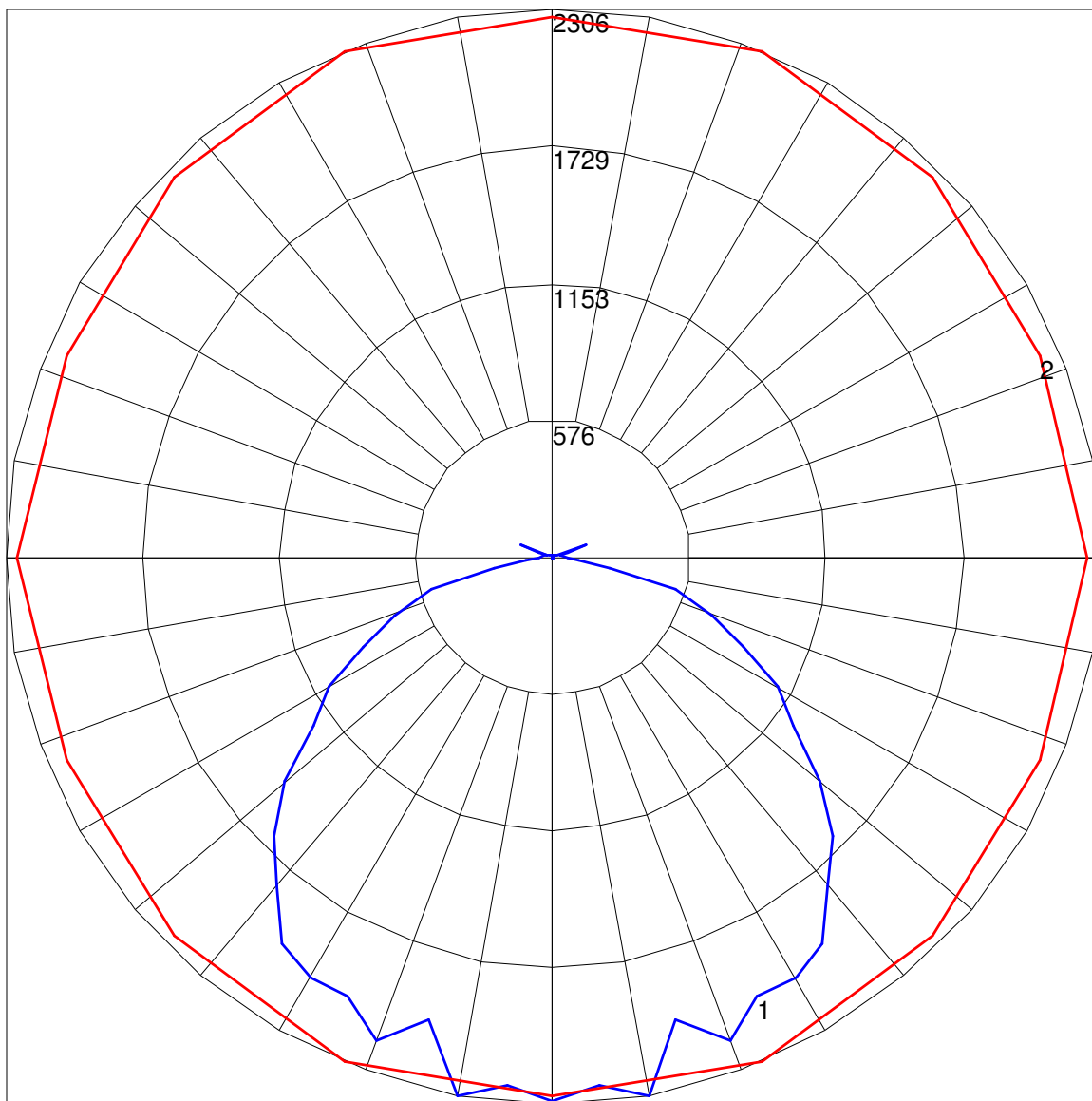
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 18.1 | 19.7 | 18.5 | 20.0 | 20.4 | 19.5 | 21.1 | 19.9 | 21.4 | 21.8 |
| | 3H | 19.3 | 20.7 | 19.7 | 21.1 | 21.5 | 21.3 | 22.8 | 21.7 | 23.1 | 23.5 |
| | 4H | 19.5 | 20.9 | 19.9 | 21.3 | 21.7 | 22.1 | 23.4 | 22.5 | 23.8 | 24.3 |
| | 6H | 19.6 | 20.9 | 20.1 | 21.3 | 21.7 | 22.5 | 23.7 | 22.9 | 24.1 | 24.6 |
| | 8H | 19.6 | 20.8 | 20.1 | 21.2 | 21.7 | 22.5 | 23.8 | 23.0 | 24.2 | 24.6 |
| | 12H | 19.6 | 20.7 | 20.1 | 21.2 | 21.6 | 22.6 | 23.7 | 23.1 | 24.2 | 24.6 |
| 4H | 2H | 18.8 | 20.1 | 19.2 | 20.5 | 20.9 | 19.9 | 21.2 | 20.3 | 21.6 | 22.1 |
| | 3H | 20.1 | 21.2 | 20.5 | 21.7 | 22.1 | 21.9 | 23.1 | 22.4 | 23.5 | 23.9 |
| | 4H | 20.4 | 21.5 | 20.9 | 21.9 | 22.4 | 22.8 | 23.8 | 23.3 | 24.3 | 24.8 |
| | 6H | 20.6 | 21.5 | 21.1 | 22.0 | 22.5 | 23.3 | 24.2 | 23.8 | 24.7 | 25.2 |
| | 8H | 20.6 | 21.5 | 21.1 | 22.0 | 22.5 | 23.4 | 24.2 | 23.9 | 24.7 | 25.2 |
| | 12H | 20.6 | 21.4 | 21.1 | 21.9 | 22.4 | 23.4 | 24.2 | 24.0 | 24.7 | 25.2 |
| 8H | 4H | 20.8 | 21.6 | 21.3 | 22.1 | 22.6 | 22.9 | 23.8 | 23.4 | 24.3 | 24.8 |
| | 6H | 21.1 | 21.7 | 21.6 | 22.3 | 22.8 | 23.5 | 24.2 | 24.0 | 24.7 | 25.2 |
| | 8H | 21.1 | 21.7 | 21.6 | 22.3 | 22.8 | 23.6 | 24.2 | 24.1 | 24.8 | 25.3 |
| | 12H | 21.1 | 21.7 | 21.7 | 22.2 | 22.8 | 23.7 | 24.2 | 24.2 | 24.8 | 25.4 |
| 12H | 4H | 20.8 | 21.6 | 21.3 | 22.1 | 22.6 | 22.9 | 23.7 | 23.4 | 24.2 | 24.7 |
| | 6H | 21.1 | 21.7 | 21.7 | 22.2 | 22.8 | 23.5 | 24.1 | 24.0 | 24.6 | 25.2 |
| | 8H | 21.2 | 21.7 | 21.7 | 22.3 | 22.9 | 23.6 | 24.2 | 24.2 | 24.7 | 25.3 |

Maximum UGR = 25.4

POLAR GRAPH



Maximum Candela = 2305.761 Located At Horizontal Angle = 67.5, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)