



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HETG-AR24-L50-830-A-DIM-UNV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 20210.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 18-MAR-2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 4-28 LED 22"ARRAYS DUAL APERATURE 2x4'RECESSED LUMINAIRE
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED LENSES
 [LUMCAT] HETG-AR24-L50-830-A-DIM-UNV
 [LAMPCAT] HLM 80 CRI 3000K CCT
 [_SEARCH_SOURCE TYPE] LED
 [_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Direct
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 5019 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 122 |
| Total Luminaire Watts | 41.2 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.22 |
| Spacing Criterion (90-270) | 1.26 |
| Spacing Criterion (Diagonal) | 1.34 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 3.92 ft |
| Luminous Width (90-270) | 1.91 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 2353 | 2518 | 2620 |
| 55 | 1976 | 2293 | 2405 |
| 65 | 1538 | 1961 | 1665 |
| 75 | 1094 | 1274 | 818 |
| 85 | 545 | 332 | 249 |

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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 | 1999.422 | 1999.422 | 1999.422 | 1999.422 | 1999.422 |
| 5 | 1988.661 | 1988.661 | 1980.052 | 1977.899 | 1980.769 |
| 10 | 1956.377 | 1955.660 | 1952.073 | 1949.920 | 1952.073 |
| 15 | 1906.158 | 1906.158 | 1912.615 | 1906.158 | 1909.745 |
| 20 | 1834.417 | 1835.852 | 1853.788 | 1844.461 | 1848.766 |
| 25 | 1738.284 | 1744.741 | 1767.698 | 1763.394 | 1773.438 |
| 30 | 1627.086 | 1645.021 | 1656.500 | 1675.152 | 1678.739 |
| 35 | 1498.670 | 1520.909 | 1529.518 | 1563.236 | 1565.389 |
| 40 | 1341.557 | 1368.101 | 1391.058 | 1419.754 | 1434.820 |
| 45 | 1155.030 | 1186.596 | 1236.097 | 1259.055 | 1286.316 |
| 50 | 967.069 | 1000.070 | 1074.680 | 1106.246 | 1133.508 |
| 55 | 786.999 | 820.717 | 913.263 | 957.742 | 957.742 |
| 60 | 615.538 | 647.104 | 756.868 | 791.303 | 735.345 |
| 65 | 451.251 | 487.839 | 575.363 | 570.341 | 488.556 |
| 70 | 312.791 | 345.792 | 395.293 | 353.683 | 283.377 |
| 75 | 196.570 | 218.810 | 228.854 | 181.505 | 147.069 |
| 80 | 101.155 | 109.764 | 99.720 | 76.045 | 61.697 |
| 85 | 33.001 | 27.262 | 20.087 | 17.935 | 15.066 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 726.68 | N.A. | 14.50 |
| 0-30 | 1536.65 | N.A. | 30.60 |
| 0-40 | 2495.51 | N.A. | 49.70 |
| 0-60 | 4237.13 | N.A. | 84.40 |
| 0-80 | 4982.25 | N.A. | 99.30 |
| 0-90 | 5019.36 | N.A. | 100.00 |
| 10-90 | 4830.95 | N.A. | 96.20 |
| 20-40 | 1768.84 | N.A. | 35.20 |
| 20-50 | 2714.87 | N.A. | 54.10 |
| 40-70 | 2265.25 | N.A. | 45.10 |
| 60-80 | 745.11 | N.A. | 14.80 |
| 70-80 | 221.49 | N.A. | 4.40 |
| 80-90 | 37.11 | 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 | 5019.36 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 188.40 |
| 10-20 | 538.27 |
| 20-30 | 809.98 |
| 30-40 | 958.86 |
| 40-50 | 946.03 |
| 50-60 | 795.59 |
| 60-70 | 523.63 |
| 70-80 | 221.49 |
| 80-90 | 37.11 |
| 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 |

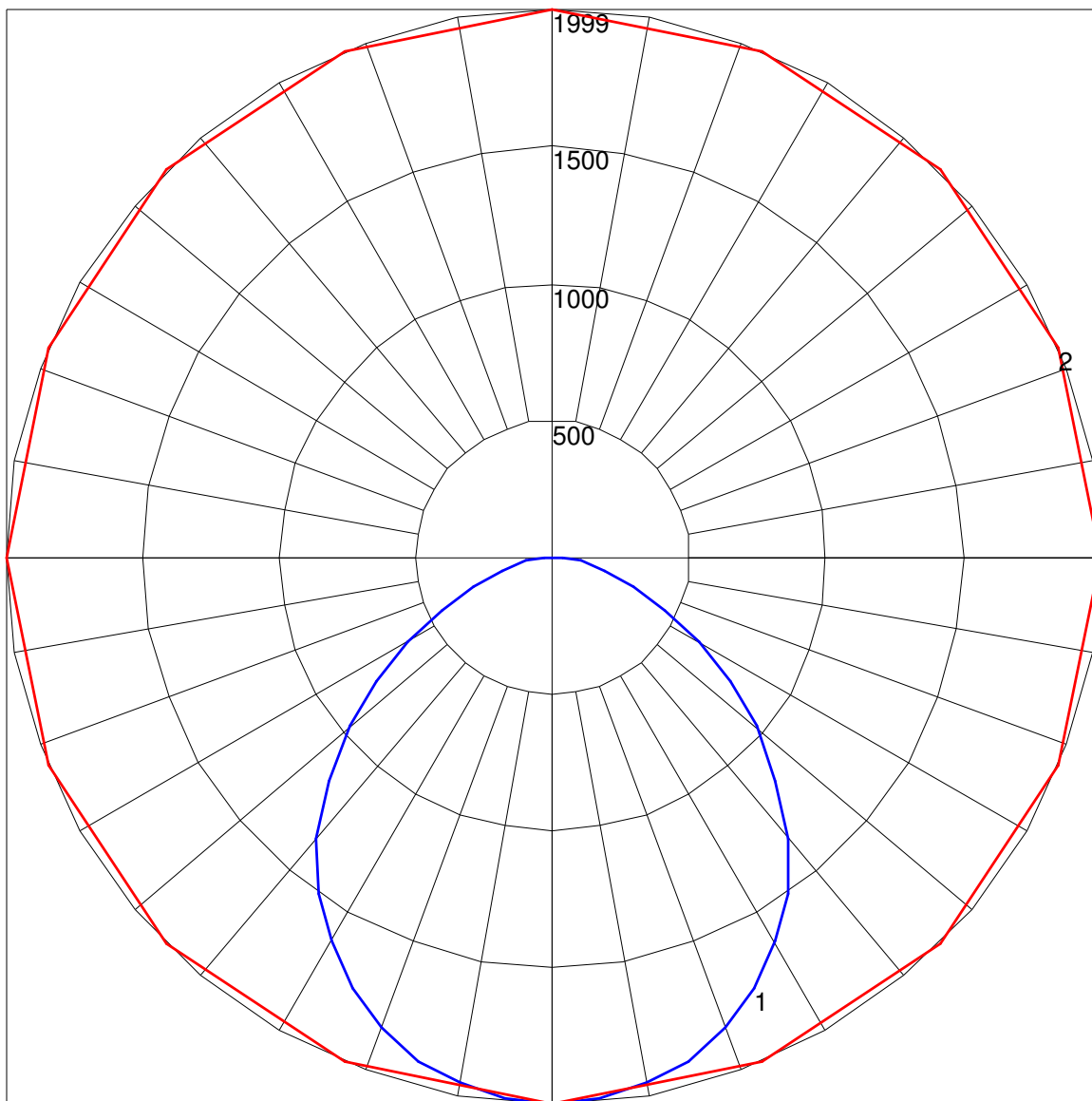
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 | 106 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 94 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 93 | 87 | 81 | 98 | 91 | 85 | 80 | 88 | 83 | 78 | 84 | 80 | 77 | 81 | 78 | 75 | 73 |
| 3 | 92 | 82 | 74 | 68 | 90 | 81 | 73 | 68 | 78 | 72 | 67 | 75 | 70 | 65 | 72 | 68 | 64 | 62 |
| 4 | 85 | 73 | 65 | 58 | 82 | 72 | 64 | 58 | 69 | 63 | 57 | 67 | 61 | 56 | 65 | 60 | 56 | 54 |
| 5 | 78 | 66 | 57 | 51 | 76 | 64 | 56 | 50 | 62 | 55 | 50 | 60 | 54 | 49 | 59 | 53 | 49 | 47 |
| 6 | 72 | 59 | 51 | 44 | 70 | 58 | 50 | 44 | 56 | 49 | 44 | 55 | 48 | 43 | 53 | 48 | 43 | 41 |
| 7 | 67 | 54 | 45 | 39 | 65 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 38 | 36 |
| 8 | 62 | 49 | 41 | 35 | 61 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 34 | 33 |
| 9 | 58 | 45 | 37 | 32 | 57 | 45 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 31 | 41 | 36 | 31 | 29 |
| 10 | 55 | 42 | 34 | 29 | 53 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 38 | 33 | 28 | 27 |

POLAR GRAPH



Maximum Candela = 1999.422 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.)