



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 50G-S24-L59-950-SA12125-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18125.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 02-17-2022

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836

[LUMINAIRE] 2x4' LED TROFFER

[MORE] WITH ACRYLIC LENS

[LUMCAT] 50G-S24-L59-950-SA12125-DIM-UNV

[LAMPCAT] HLM 90 CRI, 5000K CCT

[_SEARCH_SOURCETYPE]LED

[_SEARCH_APPLICATION]INDOOR,CLASSROOM, COMMERCIAL, EDUCATIONAL,OFFICE, DIRECT

[_SEARCH_MOUNTING]RECESSED

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 5490 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 114 |
| Total Luminaire Watts | 48 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.14 |
| Spacing Criterion (90-270) | 1.16 |
| Spacing Criterion (Diagonal) | 1.24 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 3.77 ft |
| Luminous Width (90-270) | 1.77 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 2978 | 2936 | 2895 |
| 55 | 2457 | 2375 | 2303 |
| 65 | 1976 | 1857 | 1833 |
| 75 | 1601 | 1534 | 1618 |
| 85 | 1599 | 1599 | 1887 |

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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 | 2472.196 | 2472.196 | 2472.196 | 2472.196 | 2472.196 |
| 5 | 2447.861 | 2446.265 | 2444.270 | 2443.074 | 2443.074 |
| 10 | 2403.579 | 2400.787 | 2402.781 | 2403.579 | 2403.579 |
| 15 | 2305.441 | 2305.441 | 2305.441 | 2308.234 | 2309.431 |
| 20 | 2219.670 | 2219.670 | 2222.463 | 2226.452 | 2222.463 |
| 25 | 2032.570 | 2030.576 | 2036.560 | 2040.150 | 2039.352 |
| 30 | 1872.598 | 1870.603 | 1874.592 | 1874.592 | 1878.582 |
| 35 | 1684.700 | 1683.902 | 1680.710 | 1679.912 | 1687.492 |
| 40 | 1490.817 | 1487.227 | 1479.248 | 1472.865 | 1478.451 |
| 45 | 1307.707 | 1302.919 | 1289.356 | 1277.787 | 1271.404 |
| 50 | 1075.527 | 1065.952 | 1055.181 | 1037.229 | 1026.458 |
| 55 | 875.262 | 860.501 | 846.140 | 824.198 | 820.209 |
| 60 | 677.390 | 665.821 | 647.470 | 630.316 | 628.322 |
| 65 | 518.615 | 509.040 | 487.498 | 481.115 | 481.115 |
| 70 | 377.791 | 372.206 | 353.855 | 360.637 | 361.434 |
| 75 | 257.313 | 253.323 | 246.541 | 255.318 | 260.105 |
| 80 | 173.536 | 170.744 | 170.744 | 178.324 | 183.909 |
| 85 | 86.569 | 83.776 | 86.569 | 98.138 | 102.127 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 884.80 | N.A. | 16.10 |
| 0-30 | 1826.18 | N.A. | 33.30 |
| 0-40 | 2877.73 | N.A. | 52.40 |
| 0-60 | 4621.81 | N.A. | 84.20 |
| 0-80 | 5393.13 | N.A. | 98.20 |
| 0-90 | 5490.07 | N.A. | 100.00 |
| 10-90 | 5257.88 | N.A. | 95.80 |
| 20-40 | 1992.93 | N.A. | 36.30 |
| 20-50 | 2979.27 | N.A. | 54.30 |
| 40-70 | 2239.44 | N.A. | 40.80 |
| 60-80 | 771.32 | N.A. | 14.00 |
| 70-80 | 275.97 | N.A. | 5.00 |
| 80-90 | 96.94 | N.A. | 1.80 |
| 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 | 5490.07 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 232.19 |
| 10-20 | 652.61 |
| 20-30 | 941.38 |
| 30-40 | 1051.55 |
| 40-50 | 986.34 |
| 50-60 | 757.75 |
| 60-70 | 495.35 |
| 70-80 | 275.97 |
| 80-90 | 96.94 |
| 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 | 86 |
| 2 | 101 | 93 | 87 | 81 | 98 | 91 | 85 | 80 | 88 | 83 | 78 | 84 | 80 | 77 | 81 | 78 | 75 | 73 |
| 3 | 92 | 83 | 75 | 69 | 90 | 81 | 74 | 68 | 78 | 72 | 67 | 75 | 70 | 66 | 73 | 68 | 65 | 63 |
| 4 | 85 | 74 | 66 | 59 | 83 | 73 | 65 | 59 | 70 | 63 | 58 | 68 | 62 | 57 | 66 | 61 | 57 | 54 |
| 5 | 79 | 66 | 58 | 52 | 77 | 65 | 57 | 51 | 63 | 56 | 51 | 61 | 55 | 50 | 60 | 54 | 50 | 48 |
| 6 | 73 | 60 | 52 | 46 | 71 | 59 | 51 | 46 | 58 | 50 | 45 | 56 | 50 | 45 | 54 | 49 | 44 | 42 |
| 7 | 68 | 55 | 47 | 41 | 66 | 54 | 46 | 41 | 53 | 46 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 |
| 8 | 63 | 50 | 42 | 37 | 62 | 50 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 34 |
| 9 | 59 | 46 | 39 | 33 | 58 | 46 | 38 | 33 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 33 | 31 |
| 10 | 56 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 28 |

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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 | 16.1 | 14.9 | 16.4 | 16.7 | 14.2 | 15.7 | 14.6 | 16.0 | 16.4 |
| | 3H | 16.0 | 17.4 | 16.4 | 17.7 | 18.1 | 15.6 | 17.0 | 16.0 | 17.4 | 17.7 |
| | 4H | 16.5 | 17.8 | 16.9 | 18.2 | 18.6 | 16.2 | 17.5 | 16.6 | 17.9 | 18.3 |
| | 6H | 17.0 | 18.2 | 17.4 | 18.6 | 19.0 | 16.8 | 18.0 | 17.2 | 18.3 | 18.7 |
| | 8H | 17.2 | 18.3 | 17.6 | 18.7 | 19.1 | 17.0 | 18.2 | 17.4 | 18.5 | 18.9 |
| | 12H | 17.3 | 18.4 | 17.7 | 18.8 | 19.2 | 17.2 | 18.3 | 17.6 | 18.7 | 19.1 |

UGR Viewed Endwise

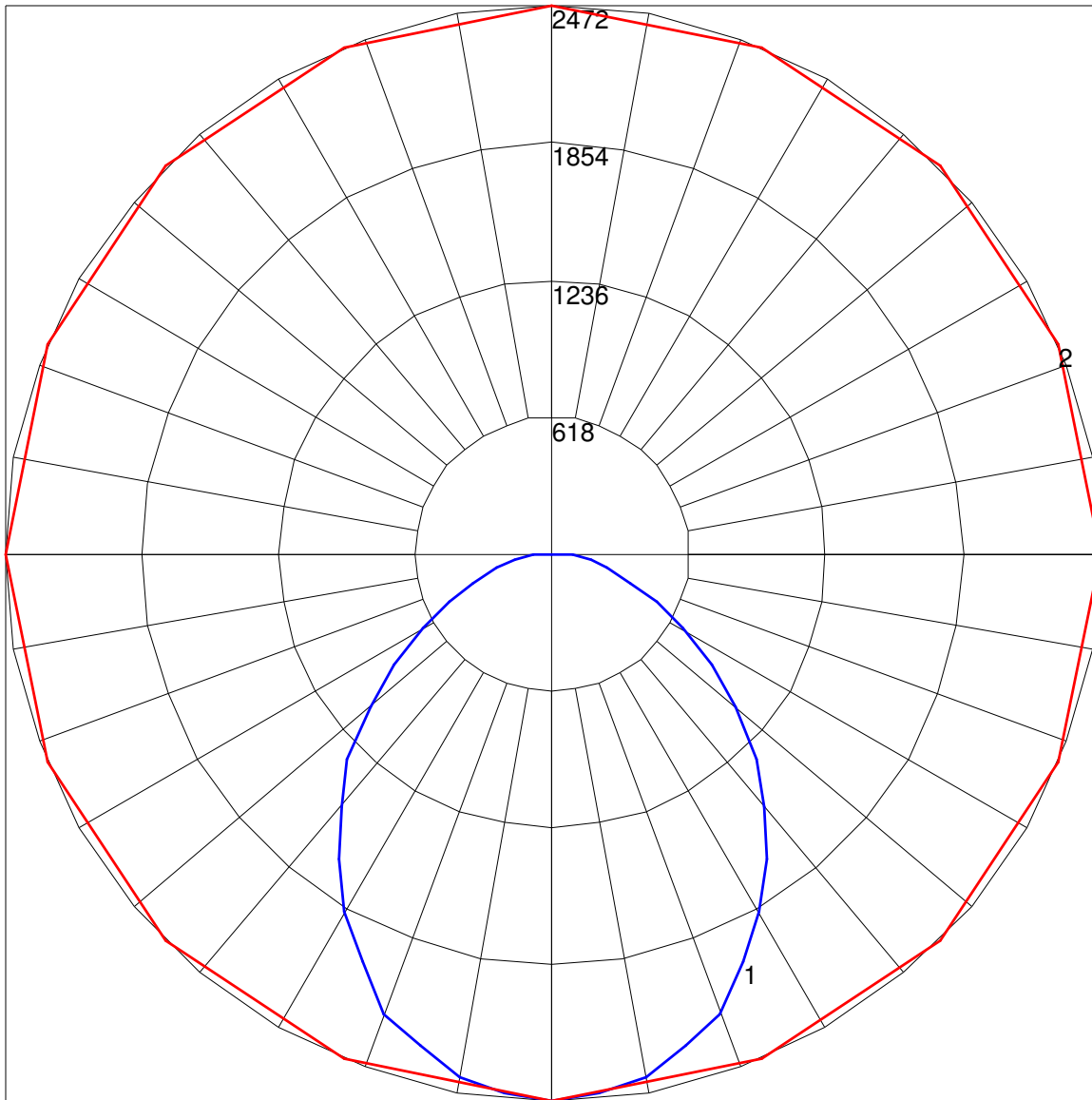
| | | | | | | | | | | | |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H | 2H | 15.0 | 16.3 | 15.4 | 16.6 | 17.0 | 14.7 | 16.0 | 15.1 | 16.3 | 16.7 |
| | 3H | 16.6 | 17.7 | 17.1 | 18.1 | 18.5 | 16.4 | 17.5 | 16.8 | 17.9 | 18.3 |
| | 4H | 17.3 | 18.3 | 17.8 | 18.7 | 19.1 | 17.1 | 18.1 | 17.5 | 18.5 | 18.9 |
| | 6H | 17.9 | 18.8 | 18.4 | 19.2 | 19.7 | 17.8 | 18.6 | 18.3 | 19.1 | 19.5 |
| | 8H | 18.2 | 19.0 | 18.6 | 19.4 | 19.9 | 18.1 | 18.9 | 18.6 | 19.3 | 19.8 |
| | 12H | 18.4 | 19.1 | 18.9 | 19.6 | 20.0 | 18.4 | 19.1 | 18.9 | 19.6 | 20.0 |

| | | | | | | | | | | | |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 8H | 4H | 17.6 | 18.4 | 18.0 | 18.8 | 19.3 | 17.4 | 18.2 | 17.8 | 18.6 | 19.1 |
| | 6H | 18.3 | 19.0 | 18.8 | 19.5 | 19.9 | 18.2 | 18.9 | 18.7 | 19.4 | 19.8 |
| | 8H | 18.6 | 19.2 | 19.2 | 19.8 | 20.2 | 18.6 | 19.2 | 19.1 | 19.7 | 20.2 |
| | 12H | 18.9 | 19.5 | 19.4 | 20.0 | 20.5 | 19.0 | 19.5 | 19.5 | 20.0 | 20.6 |

| | | | | | | | | | | | |
|-----|----|------|------|------|------|------|------|------|------|------|------|
| 12H | 4H | 17.6 | 18.3 | 18.1 | 18.8 | 19.3 | 17.4 | 18.1 | 17.9 | 18.6 | 19.1 |
| | 6H | 18.4 | 19.0 | 18.9 | 19.5 | 20.0 | 18.3 | 18.9 | 18.8 | 19.4 | 19.9 |
| | 8H | 18.8 | 19.3 | 19.3 | 19.8 | 20.4 | 18.7 | 19.3 | 19.3 | 19.8 | 20.3 |

Maximum UGR = 20.6

POLAR GRAPH



Maximum Candela = 2472.196 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.)