

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 50G-S22-L28-AMB-L28-835-SAF12125-DIM-UNV_(WHITE ONLY).IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18124.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 25-APR-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x2' LED TROFFER

[MORE] WITH FROSTED ACRYLIC LENS

[LUMCAT] 50G-S22-L28-AMB-L28-835-SAF12125-DIM-UNV white only

[LAMPCAT] HLM 80 CRI, 3500K CCT

[_SEARCH_SOURCE TYPE]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 | 2871 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 126 |
| Total Luminaire Watts | 22.85 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.18 |
| Spacing Criterion (90-270) | 1.22 |
| Spacing Criterion (Diagonal) | 1.26 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 1.77 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 | 3185 | 3251 | 3385 |
| 55 | 2624 | 2645 | 2724 |
| 65 | 2088 | 2044 | 2132 |
| 75 | 1828 | 1762 | 1756 |
| 85 | 1803 | 1661 | 1696 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 50G-S22-L28-AMB-L28-835-SAF12125-DIM-UNV_(WHITE ONLY).IES****CANDELA TABULATION**

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> |
|-----------|------------|-------------|-------------|-------------|-------------|
| 0 | 1252.764 | 1252.764 | 1252.764 | 1252.764 | 1252.764 |
| 5 | 1250.948 | 1250.041 | 1247.317 | 1244.594 | 1243.686 |
| 10 | 1225.530 | 1226.438 | 1226.438 | 1224.168 | 1228.253 |
| 15 | 1203.289 | 1205.105 | 1211.459 | 1210.551 | 1216.906 |
| 20 | 1110.239 | 1121.133 | 1125.218 | 1130.211 | 1140.651 |
| 25 | 1057.587 | 1071.204 | 1077.559 | 1085.275 | 1099.800 |
| 30 | 974.977 | 984.055 | 998.126 | 1005.389 | 1025.814 |
| 35 | 872.850 | 878.750 | 896.453 | 912.793 | 931.857 |
| 40 | 766.183 | 769.361 | 785.247 | 801.587 | 822.013 |
| 45 | 656.793 | 656.339 | 670.410 | 678.127 | 698.098 |
| 50 | 546.042 | 546.496 | 556.935 | 554.666 | 575.545 |
| 55 | 438.921 | 439.829 | 442.553 | 440.737 | 455.716 |
| 60 | 339.063 | 338.156 | 338.156 | 333.617 | 347.687 |
| 65 | 257.361 | 253.276 | 251.915 | 250.553 | 262.808 |
| 70 | 192.000 | 187.915 | 185.191 | 185.645 | 189.276 |
| 75 | 137.986 | 135.262 | 132.993 | 131.631 | 132.539 |
| 80 | 90.326 | 89.872 | 88.511 | 85.333 | 85.787 |
| 85 | 45.844 | 47.660 | 42.213 | 42.213 | 43.121 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 50G-S22-L28-AMB-L28-835-SAF12125-DIM-UNV_(WHITE ONLY).IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 455.25 | N.A. | 15.90 |
| 0-30 | 948.99 | N.A. | 33.10 |
| 0-40 | 1509.13 | N.A. | 52.60 |
| 0-60 | 2424.08 | N.A. | 84.40 |
| 0-80 | 2823.07 | N.A. | 98.30 |
| 0-90 | 2871.05 | N.A. | 100.00 |
| 10-90 | 2752.68 | N.A. | 95.90 |
| 20-40 | 1053.89 | N.A. | 36.70 |
| 20-50 | 1571.47 | N.A. | 54.70 |
| 40-70 | 1170.67 | N.A. | 40.80 |
| 60-80 | 398.99 | N.A. | 13.90 |
| 70-80 | 143.27 | N.A. | 5.00 |
| 80-90 | 47.98 | 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 | 2871.05 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 118.37 |
| 10-20 | 336.88 |
| 20-30 | 493.74 |
| 30-40 | 560.15 |
| 40-50 | 517.58 |
| 50-60 | 397.36 |
| 60-70 | 255.73 |
| 70-80 | 143.27 |
| 80-90 | 47.98 |
| 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 | 188 | 188 | 188 | 188 | 184 | 184 | 184 | 184 | 176 | 176 | 176 | 168 | 168 | 168 | 161 | 161 | 161 | 158 |
| 1 | 173 | 166 | 160 | 155 | 169 | 163 | 157 | 152 | 156 | 152 | 147 | 150 | 146 | 143 | 144 | 141 | 139 | 135 |
| 2 | 159 | 147 | 137 | 129 | 155 | 144 | 135 | 127 | 138 | 131 | 124 | 133 | 127 | 121 | 129 | 123 | 119 | 115 |
| 3 | 146 | 131 | 119 | 109 | 142 | 128 | 117 | 108 | 123 | 114 | 106 | 119 | 111 | 104 | 115 | 108 | 103 | 99 |
| 4 | 135 | 117 | 104 | 94 | 131 | 115 | 103 | 93 | 111 | 100 | 92 | 107 | 98 | 91 | 104 | 96 | 89 | 86 |
| 5 | 124 | 105 | 92 | 82 | 121 | 103 | 91 | 81 | 100 | 89 | 81 | 97 | 87 | 80 | 94 | 86 | 79 | 76 |
| 6 | 115 | 95 | 82 | 72 | 112 | 94 | 81 | 72 | 91 | 80 | 71 | 88 | 78 | 71 | 86 | 77 | 70 | 67 |
| 7 | 107 | 87 | 74 | 64 | 105 | 86 | 73 | 64 | 83 | 72 | 64 | 81 | 71 | 63 | 79 | 70 | 63 | 60 |
| 8 | 100 | 80 | 67 | 58 | 98 | 79 | 66 | 58 | 77 | 65 | 57 | 75 | 64 | 57 | 73 | 64 | 57 | 54 |
| 9 | 94 | 73 | 61 | 52 | 92 | 72 | 61 | 52 | 71 | 60 | 52 | 69 | 59 | 52 | 67 | 58 | 52 | 49 |
| 10 | 88 | 68 | 56 | 48 | 86 | 67 | 56 | 48 | 66 | 55 | 48 | 64 | 54 | 47 | 63 | 54 | 47 | 44 |

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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 | 13.2 | 14.7 | 13.6 | 15.0 | 15.3 | 13.2 | 14.7 | 13.6 | 15.0 | 15.4 |
| | 3H | 14.6 | 16.0 | 15.0 | 16.3 | 16.7 | 14.6 | 16.0 | 15.0 | 16.3 | 16.7 |
| | 4H | 15.2 | 16.5 | 15.6 | 16.8 | 17.2 | 15.1 | 16.4 | 15.5 | 16.8 | 17.2 |
| | 6H | 15.7 | 16.9 | 16.1 | 17.2 | 17.6 | 15.6 | 16.8 | 16.0 | 17.2 | 17.5 |
| | 8H | 15.9 | 17.0 | 16.3 | 17.4 | 17.8 | 15.8 | 16.9 | 16.2 | 17.3 | 17.7 |
| | 12H | 16.0 | 17.1 | 16.4 | 17.5 | 17.9 | 15.9 | 17.0 | 16.3 | 17.4 | 17.8 |

UGR Viewed Endwise

| | | | | | | | | | | | |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H | 2H | 13.6 | 14.9 | 14.0 | 15.3 | 15.7 | 13.6 | 14.9 | 14.0 | 15.3 | 15.7 |
| | 3H | 15.3 | 16.4 | 15.7 | 16.8 | 17.2 | 15.3 | 16.4 | 15.7 | 16.8 | 17.2 |
| | 4H | 16.0 | 17.0 | 16.4 | 17.4 | 17.8 | 16.0 | 16.9 | 16.4 | 17.3 | 17.8 |
| | 6H | 16.7 | 17.5 | 17.1 | 17.9 | 18.4 | 16.6 | 17.4 | 17.0 | 17.8 | 18.3 |
| | 8H | 16.9 | 17.7 | 17.4 | 18.1 | 18.6 | 16.8 | 17.6 | 17.3 | 18.0 | 18.5 |
| | 12H | 17.1 | 17.8 | 17.6 | 18.3 | 18.8 | 17.0 | 17.7 | 17.5 | 18.2 | 18.6 |

| | | | | | | | | | | | |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 8H | 4H | 16.3 | 17.1 | 16.7 | 17.5 | 18.0 | 16.2 | 17.0 | 16.7 | 17.5 | 17.9 |
| | 6H | 17.1 | 17.7 | 17.6 | 18.2 | 18.7 | 17.0 | 17.6 | 17.5 | 18.1 | 18.6 |
| | 8H | 17.4 | 18.0 | 17.9 | 18.5 | 19.0 | 17.3 | 17.9 | 17.8 | 18.4 | 18.9 |
| | 12H | 17.7 | 18.3 | 18.2 | 18.7 | 19.3 | 17.5 | 18.1 | 18.1 | 18.6 | 19.1 |

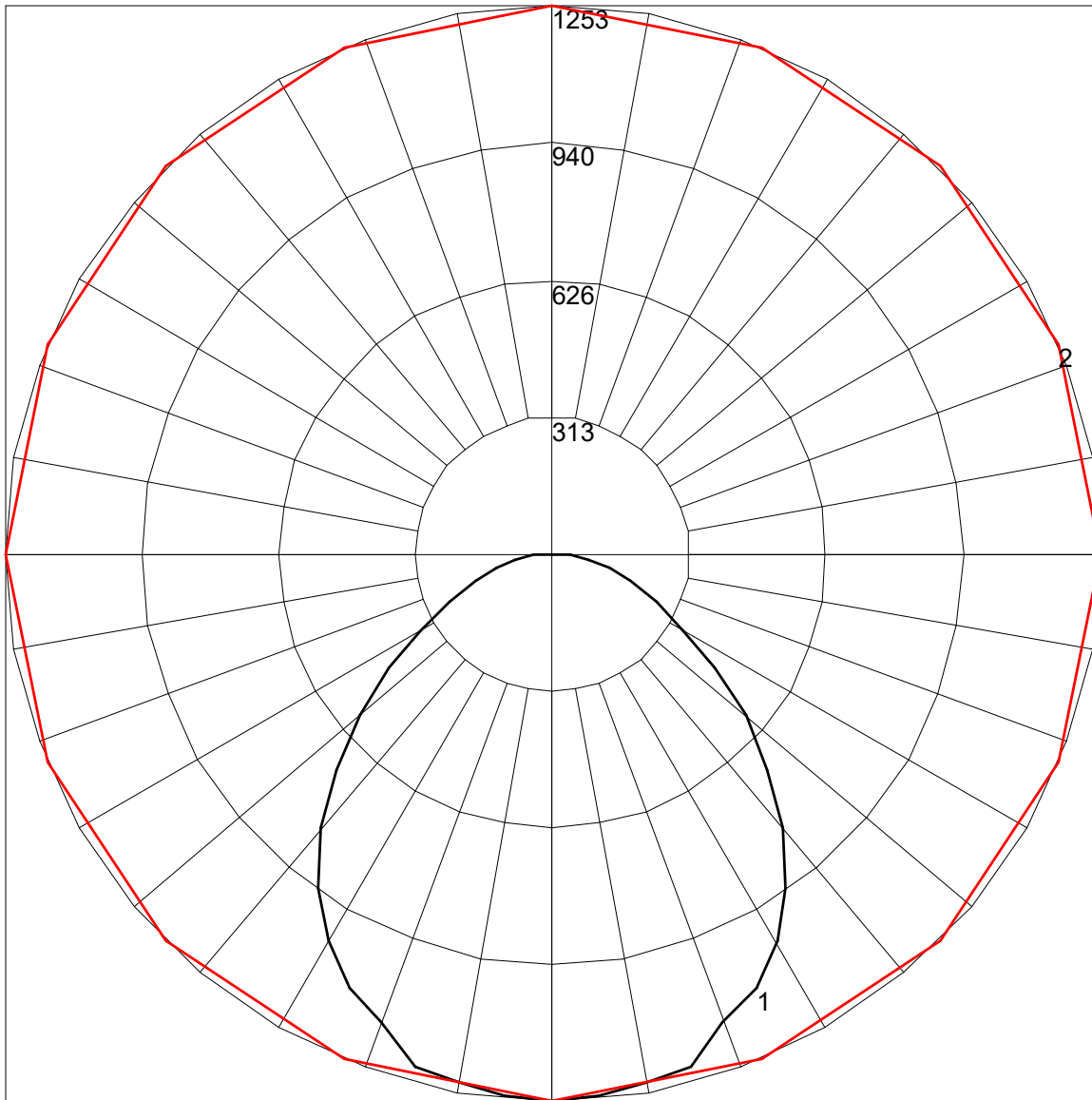
| | | | | | | | | | | | |
|-----|----|------|------|------|------|------|------|------|------|------|------|
| 12H | 4H | 16.3 | 17.0 | 16.8 | 17.5 | 18.0 | 16.3 | 17.0 | 16.7 | 17.4 | 17.9 |
| | 6H | 17.1 | 17.7 | 17.7 | 18.2 | 18.7 | 17.0 | 17.6 | 17.6 | 18.1 | 18.6 |
| | 8H | 17.5 | 18.1 | 18.0 | 18.6 | 19.1 | 17.4 | 17.9 | 17.9 | 18.4 | 19.0 |

Maximum UGR = 19.3

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POLAR GRAPH



Maximum Candela = 1252.764 Located At Horizontal Angle = 0, Vertical Angle = 0

1 - Vertical Plane Through Horizontal Angles (90 - 270)

2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)