



IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S24-L50-835-WPR-(L40)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]GEN FROM BALLABS TEST NO. 19231.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 10-30-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4' RECESSED LED TROFFER

[MORE] WITH WHITE PERFORATED DIFFUSER

[LUMCAT] DIG-S24-L50-835-WPR-(L40)-DIM-UNV

[LAMPCAT] HLM 80 CRI, 3500K CCT

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Educational, Office, Direct, Indirect

[_SEARCH_MOUNTING] Ceiling, Recessed

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 3212 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 102 |
| Total Luminaire Watts | 31.5 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.10 |
| Spacing Criterion (90-270) | 1.18 |
| Spacing Criterion (Diagonal) | 1.38 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 3.91 ft |
| Luminous Width (90-270) | 1.88 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 1457 | 1613 | 1710 |
| 55 | 1266 | 1482 | 1616 |
| 65 | 1140 | 1480 | 1772 |
| 75 | 934 | 1268 | 1141 |
| 85 | 782 | 865 | 949 |

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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 | 1167.476 | 1167.476 | 1167.476 | 1167.476 | 1167.476 |
| 5 | 1153.648 | 1153.319 | 1153.319 | 1153.977 | 1153.977 |
| 10 | 1142.783 | 1143.441 | 1145.088 | 1148.051 | 1149.368 |
| 15 | 1097.677 | 1099.324 | 1105.579 | 1110.518 | 1112.164 |
| 20 | 1076.606 | 1077.594 | 1088.459 | 1097.677 | 1100.641 |
| 25 | 968.287 | 975.201 | 990.346 | 1002.528 | 1008.125 |
| 30 | 822.435 | 881.698 | 950.508 | 929.108 | 906.061 |
| 35 | 823.752 | 839.885 | 868.858 | 893.221 | 901.781 |
| 40 | 751.649 | 771.732 | 810.582 | 839.885 | 849.762 |
| 45 | 701.605 | 728.273 | 776.671 | 812.229 | 823.423 |
| 50 | 596.907 | 624.893 | 676.583 | 712.140 | 723.005 |
| 55 | 494.515 | 525.134 | 578.799 | 617.979 | 631.148 |
| 60 | 398.377 | 429.984 | 483.321 | 531.060 | 547.522 |
| 65 | 328.250 | 363.149 | 426.033 | 486.613 | 509.989 |
| 70 | 245.611 | 281.827 | 350.309 | 373.355 | 345.041 |
| 75 | 164.619 | 198.530 | 223.552 | 202.810 | 201.164 |
| 80 | 102.064 | 129.061 | 127.744 | 119.842 | 118.525 |
| 85 | 46.422 | 53.336 | 51.361 | 53.336 | 56.300 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 424.26 | N.A. | 13.20 |
| 0-30 | 881.99 | N.A. | 27.50 |
| 0-40 | 1421.96 | N.A. | 44.30 |
| 0-60 | 2516.68 | N.A. | 78.40 |
| 0-80 | 3150.25 | N.A. | 98.10 |
| 0-90 | 3211.89 | N.A. | 100.00 |
| 10-90 | 3101.89 | N.A. | 96.60 |
| 20-40 | 997.70 | N.A. | 31.10 |
| 20-50 | 1580.07 | N.A. | 49.20 |
| 40-70 | 1503.9 | N.A. | 46.80 |
| 60-80 | 633.57 | N.A. | 19.70 |
| 70-80 | 224.40 | N.A. | 7.00 |
| 80-90 | 61.64 | N.A. | 1.90 |
| 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 | 3211.89 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 110.00 |
| 10-20 | 314.26 |
| 20-30 | 457.73 |
| 30-40 | 539.97 |
| 40-50 | 582.38 |
| 50-60 | 512.35 |
| 60-70 | 409.17 |
| 70-80 | 224.40 |
| 80-90 | 61.64 |
| 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 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 88 | 86 | 84 |
| 2 | 99 | 90 | 83 | 78 | 96 | 88 | 82 | 77 | 85 | 80 | 75 | 82 | 77 | 73 | 79 | 75 | 72 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 66 | 62 | 69 | 65 | 61 | 58 |
| 4 | 82 | 70 | 61 | 55 | 80 | 69 | 61 | 54 | 66 | 59 | 53 | 64 | 58 | 53 | 62 | 56 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 59 | 52 | 46 | 57 | 51 | 46 | 56 | 50 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 54 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 38 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 35 | 46 | 40 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 26 | 52 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |

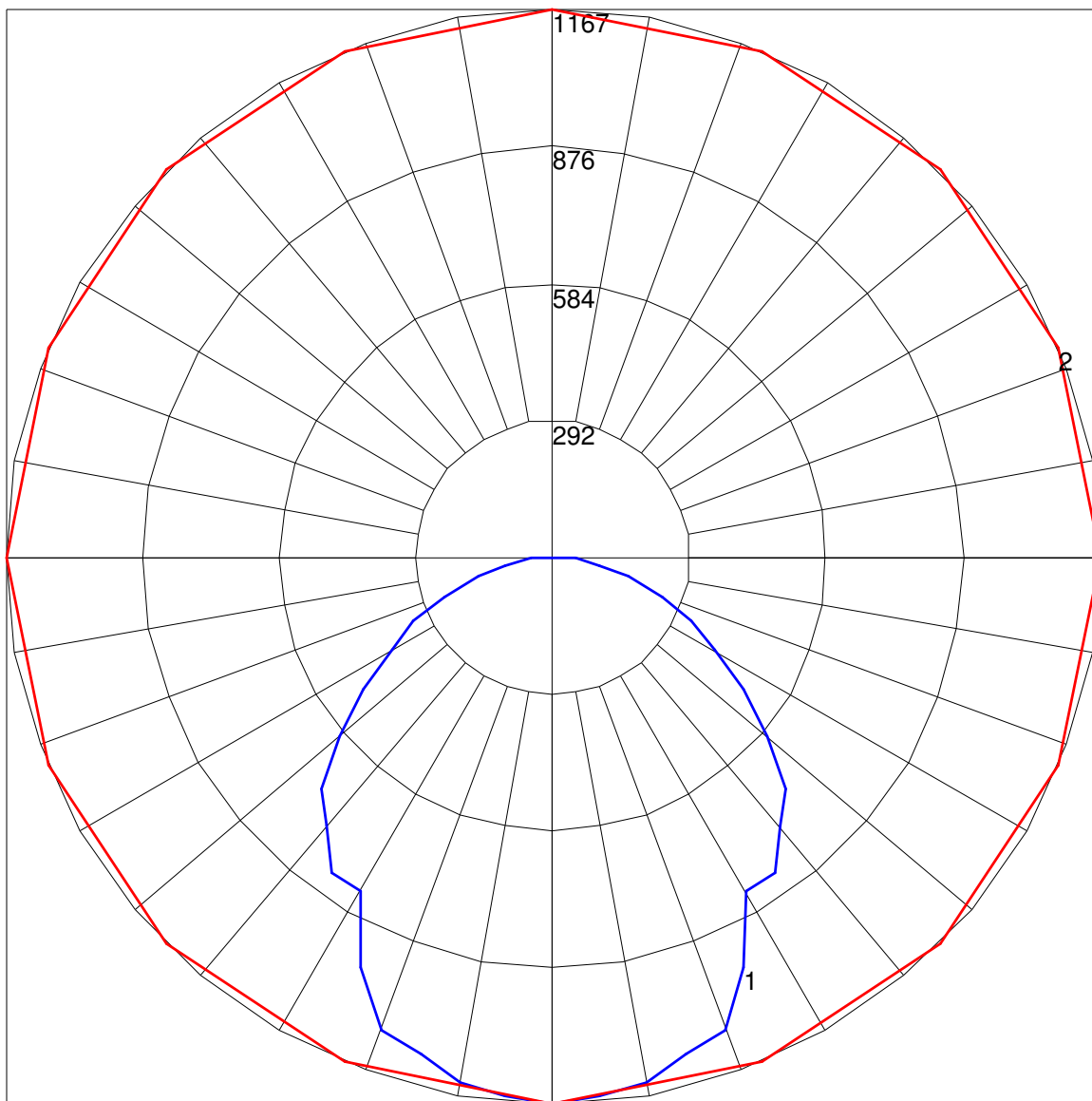
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UGR TABLE - CORRECTED

| | | | | | | | | | | | |
|----------------|------|----------------------|------|------|------|------|--------------------|------|------|------|------|
| 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 | 12.7 | 14.3 | 13.0 | 14.6 | 15.0 | 14.1 | 15.7 | 14.4 | 16.0 | 16.4 |
| | 3H | 14.4 | 15.9 | 14.8 | 16.3 | 16.6 | 16.2 | 17.7 | 16.6 | 18.1 | 18.4 |
| | 4H | 15.0 | 16.5 | 15.4 | 16.8 | 17.2 | 16.8 | 18.2 | 17.2 | 18.5 | 18.9 |
| | 6H | 15.5 | 16.8 | 15.9 | 17.2 | 17.6 | 17.1 | 18.4 | 17.5 | 18.8 | 19.2 |
| | 8H | 15.7 | 16.9 | 16.1 | 17.3 | 17.7 | 17.2 | 18.5 | 17.6 | 18.9 | 19.3 |
| | 12H | 15.8 | 17.0 | 16.2 | 17.3 | 17.8 | 17.3 | 18.5 | 17.7 | 18.9 | 19.3 |
| 4H | 2H | 13.6 | 15.0 | 14.0 | 15.4 | 15.8 | 14.7 | 16.1 | 15.1 | 16.5 | 16.8 |
| | 3H | 15.6 | 16.8 | 16.0 | 17.2 | 17.6 | 17.1 | 18.3 | 17.5 | 18.7 | 19.1 |
| | 4H | 16.4 | 17.4 | 16.8 | 17.8 | 18.3 | 17.7 | 18.7 | 18.1 | 19.2 | 19.6 |
| | 6H | 17.0 | 17.9 | 17.4 | 18.3 | 18.8 | 18.1 | 19.1 | 18.6 | 19.5 | 20.0 |
| | 8H | 17.1 | 18.0 | 17.6 | 18.5 | 18.9 | 18.3 | 19.2 | 18.8 | 19.6 | 20.1 |
| | 12H | 17.3 | 18.1 | 17.8 | 18.5 | 19.0 | 18.4 | 19.2 | 18.9 | 19.7 | 20.2 |
| 8H | 4H | 16.8 | 17.7 | 17.3 | 18.1 | 18.6 | 17.9 | 18.8 | 18.4 | 19.3 | 19.7 |
| | 6H | 17.5 | 18.3 | 18.0 | 18.7 | 19.2 | 18.5 | 19.2 | 19.0 | 19.7 | 20.2 |
| | 8H | 17.8 | 18.5 | 18.3 | 19.0 | 19.5 | 18.7 | 19.4 | 19.3 | 19.9 | 20.4 |
| | 12H | 18.0 | 18.6 | 18.5 | 19.1 | 19.7 | 18.9 | 19.5 | 19.4 | 20.0 | 20.5 |
| 12H | 4H | 16.8 | 17.6 | 17.3 | 18.1 | 18.6 | 18.0 | 18.8 | 18.4 | 19.2 | 19.7 |
| | 6H | 17.6 | 18.3 | 18.1 | 18.7 | 19.3 | 18.6 | 19.2 | 19.1 | 19.7 | 20.2 |
| | 8H | 17.9 | 18.5 | 18.5 | 19.0 | 19.6 | 18.8 | 19.4 | 19.3 | 19.9 | 20.5 |

Maximum UGR = 20.5

POLAR GRAPH



Maximum Candela = 1167.476 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.)