



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L10-940-DIM-UNV-RM-OF-BL_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 20323.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 02-14-2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] GEN7 V13 LED 4"SHORT HEATSINK 4"SQ CAST HOUSING DOWNLIGHT
 [MORE] ACRYLIC MED DIST TIR OPTIC & 4"CAST REGRESS w/SOLITE
 [MORE] LENS ADVANCE #XI025C070V054DSM1 @ 625MA
 [LUMCAT] 4DS-L10-940-DIM1-UNV-RM-OF-BL
 [LAMPCAT] BXRE-35E2000
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Classroom, Office, Downlight
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 933 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 78 |
| Total Luminaire Watts | 12 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 0.56 |
| Spacing Criterion (90-270) | 0.56 |
| Spacing Criterion (Diagonal) | 0.56 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 0.33 ft |
| Luminous Width (90-270) | 0.33 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 3515 | 4553 | 3631 |
| 55 | 2415 | 2487 | 2273 |
| 65 | 1639 | 1543 | 1639 |
| 75 | 630 | 472 | 472 |
| 85 | 0 | 0 | 0 |

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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 | 2493.402 | 2493.402 | 2493.402 | 2493.402 | 2493.402 |
| 5 | 2404.742 | 2385.414 | 2376.590 | 2367.345 | 2363.144 |
| 10 | 2039.598 | 2047.161 | 2029.934 | 2027.833 | 2006.403 |
| 15 | 1465.199 | 1447.551 | 1457.216 | 1462.678 | 1427.803 |
| 20 | 818.949 | 819.369 | 847.521 | 867.691 | 821.470 |
| 25 | 396.238 | 400.020 | 423.551 | 421.870 | 404.642 |
| 30 | 177.740 | 187.825 | 206.733 | 207.153 | 195.388 |
| 35 | 78.996 | 86.559 | 107.148 | 102.526 | 87.820 |
| 40 | 41.179 | 44.120 | 58.406 | 52.524 | 46.221 |
| 45 | 25.632 | 26.892 | 33.195 | 29.833 | 26.472 |
| 50 | 18.909 | 18.909 | 20.589 | 19.749 | 18.488 |
| 55 | 14.286 | 14.707 | 14.707 | 13.866 | 13.446 |
| 60 | 10.085 | 10.085 | 9.244 | 9.664 | 9.244 |
| 65 | 7.143 | 7.143 | 6.723 | 7.143 | 7.143 |
| 70 | 3.362 | 3.362 | 2.941 | 3.362 | 2.941 |
| 75 | 1.681 | 1.681 | 1.261 | 2.521 | 1.261 |
| 80 | 0.840 | 0.840 | 0.840 | 1.261 | 0.840 |
| 85 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|-------|--------|
| 0-20 | 611.67 | N.A. | 65.60 |
| 0-30 | 819.80 | N.A. | 87.90 |
| 0-40 | 886.93 | N.A. | 95.10 |
| 0-60 | 924.17 | N.A. | 99.00 |
| 0-80 | 932.83 | N.A. | 100.00 |
| 0-90 | 933.09 | N.A. | 100.00 |
| 10-90 | 717.08 | N.A. | 76.90 |
| 20-40 | 275.25 | N.A. | 29.50 |
| 20-50 | 299.62 | N.A. | 32.10 |
| 40-70 | 43.90 | N.A. | 4.70 |
| 60-80 | 8.66 | N.A. | 0.90 |
| 70-80 | 2.01 | N.A. | 0.20 |
| 80-90 | 0.26 | N.A. | 0.00 |
| 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 | 933.09 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 216.01 |
| 10-20 | 395.66 |
| 20-30 | 208.13 |
| 30-40 | 67.12 |
| 40-50 | 24.36 |
| 50-60 | 12.88 |
| 60-70 | 6.65 |
| 70-80 | 2.01 |
| 80-90 | 0.26 |
| 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 | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 95 |
| 2 | 110 | 106 | 102 | 99 | 108 | 104 | 101 | 98 | 101 | 98 | 96 | 98 | 96 | 94 | 95 | 94 | 92 | 91 |
| 3 | 105 | 100 | 96 | 93 | 104 | 99 | 95 | 92 | 96 | 93 | 90 | 94 | 91 | 89 | 92 | 89 | 88 | 86 |
| 4 | 101 | 95 | 90 | 87 | 100 | 94 | 90 | 86 | 92 | 88 | 85 | 90 | 87 | 85 | 88 | 86 | 84 | 82 |
| 5 | 98 | 91 | 86 | 82 | 96 | 90 | 85 | 82 | 88 | 84 | 81 | 87 | 83 | 81 | 85 | 82 | 80 | 79 |
| 6 | 94 | 87 | 82 | 78 | 93 | 86 | 81 | 78 | 85 | 80 | 77 | 83 | 80 | 77 | 82 | 79 | 76 | 75 |
| 7 | 91 | 83 | 78 | 75 | 89 | 82 | 78 | 74 | 81 | 77 | 74 | 80 | 76 | 74 | 79 | 76 | 73 | 72 |
| 8 | 87 | 80 | 75 | 71 | 86 | 79 | 75 | 71 | 78 | 74 | 71 | 77 | 73 | 71 | 76 | 73 | 70 | 69 |
| 9 | 84 | 77 | 72 | 69 | 84 | 76 | 72 | 68 | 75 | 71 | 68 | 75 | 71 | 68 | 74 | 70 | 68 | 67 |
| 10 | 82 | 74 | 69 | 66 | 81 | 73 | 69 | 66 | 73 | 69 | 66 | 72 | 68 | 66 | 71 | 68 | 65 | 64 |

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UGR TABLE - CORRECTED

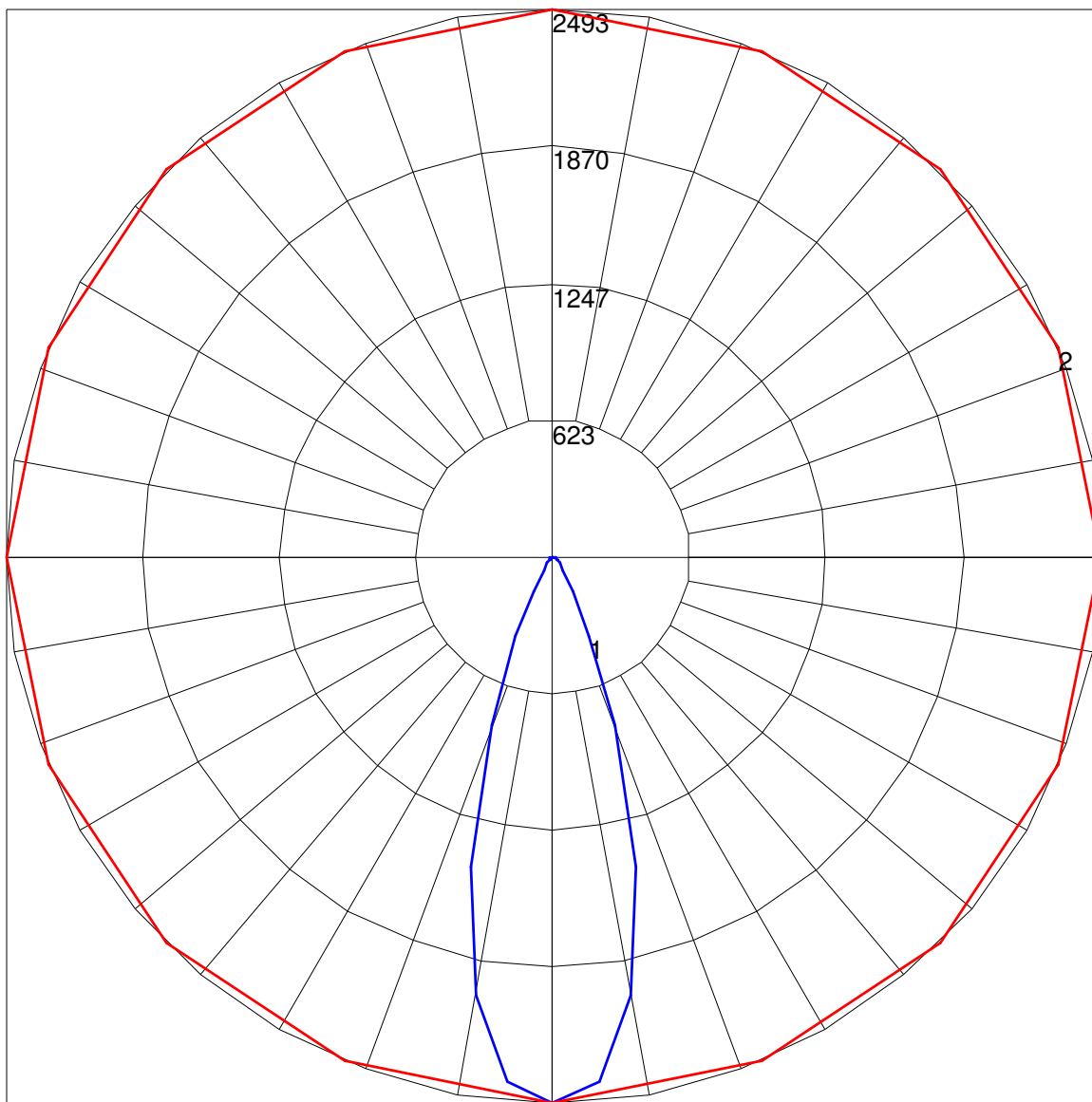
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 7.1 | 8.0 | 7.4 | 8.3 | 8.6 | 6.7 | 7.6 | 7.0 | 7.9 | 8.2 |
| | 3H | 7.6 | 8.5 | 8.0 | 8.8 | 9.2 | 7.3 | 8.1 | 7.7 | 8.4 | 8.8 |
| | 4H | 7.7 | 8.5 | 8.1 | 8.8 | 9.2 | 7.3 | 8.1 | 7.7 | 8.5 | 8.9 |
| | 6H | 7.7 | 8.4 | 8.1 | 8.7 | 9.1 | 7.4 | 8.0 | 7.8 | 8.4 | 8.8 |
| | 8H | 7.6 | 8.3 | 8.1 | 8.7 | 9.1 | 7.3 | 8.0 | 7.7 | 8.4 | 8.8 |
| | 12H | 7.6 | 8.2 | 8.0 | 8.6 | 9.0 | 7.3 | 7.9 | 7.7 | 8.3 | 8.7 |
| 4H | 2H | 7.2 | 8.0 | 7.6 | 8.3 | 8.7 | 6.9 | 7.7 | 7.3 | 8.0 | 8.4 |
| | 3H | 7.9 | 8.5 | 8.3 | 8.9 | 9.3 | 7.6 | 8.2 | 8.0 | 8.6 | 9.0 |
| | 4H | 7.9 | 8.5 | 8.4 | 8.9 | 9.4 | 7.7 | 8.3 | 8.2 | 8.7 | 9.2 |
| | 6H | 8.0 | 8.4 | 8.4 | 8.9 | 9.4 | 7.8 | 8.3 | 8.3 | 8.8 | 9.2 |
| | 8H | 7.9 | 8.3 | 8.4 | 8.8 | 9.3 | 7.8 | 8.2 | 8.3 | 8.7 | 9.2 |
| | 12H | 7.8 | 8.2 | 8.3 | 8.7 | 9.2 | 7.7 | 8.1 | 8.2 | 8.6 | 9.1 |
| 8H | 4H | 7.8 | 8.3 | 8.3 | 8.7 | 9.2 | 7.6 | 8.1 | 8.1 | 8.5 | 9.0 |
| | 6H | 7.9 | 8.2 | 8.4 | 8.7 | 9.2 | 7.8 | 8.1 | 8.3 | 8.6 | 9.1 |
| | 8H | 7.8 | 8.2 | 8.4 | 8.7 | 9.2 | 7.8 | 8.1 | 8.3 | 8.6 | 9.1 |
| | 12H | 7.8 | 8.1 | 8.3 | 8.6 | 9.1 | 7.8 | 8.0 | 8.3 | 8.5 | 9.1 |
| 12H | 4H | 7.8 | 8.2 | 8.3 | 8.7 | 9.1 | 7.6 | 8.0 | 8.1 | 8.5 | 8.9 |
| | 6H | 7.8 | 8.1 | 8.4 | 8.6 | 9.2 | 7.7 | 8.0 | 8.3 | 8.5 | 9.1 |
| | 8H | 7.8 | 8.1 | 8.4 | 8.6 | 9.2 | 7.8 | 8.0 | 8.3 | 8.5 | 9.1 |

Maximum UGR = 9.4

POLAR GRAPH



Maximum Candela = 2493.402 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.)