**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : SL-2-L5-840-RD-DIM-UNV_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002
[TEST] BALLABS TEST NO. 21002.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-04-25
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] SL LED SLIMLINE ARCHITECTURAL LUMINAIRE
[MORE] 1.375 WIDE ALUM CHANNEL w/1"WIDE WHITE RADIAL ACRYLIC LENS
[LUMCAT] SL-2-L5-840-RD-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] INDOOR, COVE, CLASSROOM
[_SEARCH_MOUNTING] SURFACE, WALL

**CHARACTERISTICS**

| | |
|---|---|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 1026 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 109 |
| Total Luminaire Watts | 9.4 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.26 |
| Spacing Criterion (90-270) | 1.28 |
| Spacing Criterion (Diagonal) | 1.38 |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 2.00 ft |
| Luminous Width (90-270) | 0.13 ft |
| Luminous Height | 0.05 ft |

**LUMINANCE DATA (cd/sq.m)**

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 12534 | 10153 | 9720 |
| 55 | 11773 | 9066 | 8768 |
| 65 | 10397 | 7772 | 7803 |
| 75 | 8560 | 6371 | 6945 |
| 85 | 4318 | 5243 | 6253 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 322.933 | 322.933 | 322.933 | 322.933 | 322.933 |
| **5** | 323.990 | 322.404 | 320.290 | 319.762 | 320.290 |
| **10** | 319.233 | 317.648 | 315.533 | 315.533 | 316.590 |
| **15** | 312.362 | 310.777 | 308.662 | 309.191 | 309.191 |
| **20** | 301.792 | 300.206 | 297.563 | 299.677 | 300.206 |
| **25** | 288.578 | 286.993 | 286.464 | 288.050 | 289.107 |
| **30** | 272.194 | 272.194 | 272.194 | 274.308 | 273.779 |
| **35** | 254.752 | 254.752 | 254.752 | 256.866 | 258.452 |
| **40** | 233.611 | 234.140 | 234.668 | 238.368 | 240.482 |
| **45** | 210.884 | 212.470 | 214.055 | 218.284 | 219.869 |
| **50** | 186.043 | 187.629 | 191.328 | 197.671 | 200.842 |
| **55** | 162.259 | 162.788 | 169.659 | 174.944 | 179.701 |
| **60** | 134.776 | 137.418 | 146.932 | 156.974 | 160.145 |
| **65** | 107.292 | 111.520 | 122.619 | 133.719 | 138.475 |
| **70** | 81.922 | 86.151 | 99.892 | 113.634 | 117.863 |
| **75** | 56.024 | 63.424 | 78.751 | 94.079 | 100.421 |
| **80** | 32.769 | 40.697 | 61.310 | 76.637 | 83.508 |
| **85** | 11.099 | 25.898 | 44.925 | 60.253 | 67.124 |
| **90** | 0.000 | 14.270 | 33.297 | 47.039 | 52.325 |
| **95** | 0.000 | 7.399 | 22.727 | 36.469 | 41.225 |
| **100** | 0.000 | 3.700 | 15.856 | 26.955 | 31.712 |
| **105** | 0.000 | 2.114 | 11.099 | 19.556 | 23.784 |
| **110** | 0.000 | 1.586 | 7.399 | 14.270 | 16.913 |
| **115** | 0.000 | 1.057 | 4.757 | 10.042 | 12.685 |
| **120** | 0.000 | 0.000 | 2.643 | 6.342 | 7.928 |
| **125** | 0.000 | 0.000 | 2.114 | 4.228 | 5.285 |
| **130** | 0.000 | 0.000 | 0.000 | 2.643 | 3.171 |
| **135** | 0.000 | 0.000 | 0.000 | 0.000 | 2.114 |
| **140** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **145** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **150** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **155** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **160** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **165** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **170** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **175** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **180** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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## ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 117.91 | N.A. | 11.50 |
| 0-30 | 250.43 | N.A. | 24.40 |
| 0-40 | 410.33 | N.A. | 40.00 |
| 0-60 | 728.17 | N.A. | 71.00 |
| 0-80 | 933.67 | N.A. | 91.00 |
| 0-90 | 981.23 | N.A. | 95.70 |
| 10-90 | 950.72 | N.A. | 92.70 |
| 20-40 | 292.42 | N.A. | 28.50 |
| 20-50 | 458.30 | N.A. | 44.70 |
| 40-70 | 439.81 | N.A. | 42.90 |
| 60-80 | 205.50 | N.A. | 20.00 |
| 70-80 | 83.54 | N.A. | 8.10 |
| 80-90 | 47.56 | N.A. | 4.60 |
| 90-110 | 36.55 | N.A. | 3.60 |
| 90-120 | 42.10 | N.A. | 4.10 |
| 90-130 | 44.08 | N.A. | 4.30 |
| 90-150 | 44.40 | N.A. | 4.30 |
| 90-180 | 44.40 | N.A. | 4.30 |
| 110-180 | 7.85 | N.A. | 0.80 |
| 0-180 | 1025.63 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

## ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---|---|
| 0-10 | 30.52 |
| 10-20 | 87.39 |
| 20-30 | 132.52 |
| 30-40 | 159.90 |
| 40-50 | 165.88 |
| 50-60 | 151.96 |
| 60-70 | 121.97 |
| 70-80 | 83.54 |
| 80-90 | 47.56 |
| 90-100 | 24.40 |
| 100-110 | 12.15 |
| 110-120 | 5.55 |
| 120-130 | 1.99 |
| 130-140 | 0.32 |
| 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 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 109 | 109 | 109 | 103 | 103 | 103 | 98 | 98 | 98 | 96 |
| 1 | 106 | 101 | 96 | 92 | 103 | 98 | 94 | 90 | 93 | 90 | 86 | 88 | 86 | 83 | 84 | 82 | 80 | 77 |
| 2 | 96 | 87 | 80 | 74 | 93 | 85 | 78 | 73 | 81 | 75 | 70 | 77 | 72 | 68 | 73 | 69 | 66 | 63 |
| 3 | 88 | 76 | 68 | 61 | 85 | 75 | 67 | 60 | 71 | 64 | 59 | 67 | 62 | 57 | 64 | 60 | 55 | 53 |
| 4 | 80 | 68 | 58 | 51 | 77 | 66 | 57 | 51 | 63 | 55 | 50 | 60 | 54 | 49 | 57 | 52 | 47 | 45 |
| 5 | 73 | 60 | 51 | 44 | 71 | 59 | 50 | 44 | 56 | 49 | 43 | 54 | 47 | 42 | 51 | 46 | 41 | 39 |
| 6 | 68 | 54 | 45 | 38 | 66 | 53 | 44 | 38 | 51 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 36 | 34 |
| 7 | 63 | 49 | 40 | 34 | 61 | 48 | 40 | 34 | 46 | 39 | 33 | 44 | 38 | 32 | 43 | 37 | 32 | 30 |
| 8 | 58 | 45 | 36 | 30 | 57 | 44 | 36 | 30 | 42 | 35 | 29 | 41 | 34 | 29 | 39 | 33 | 29 | 27 |
| 9 | 55 | 41 | 33 | 27 | 53 | 40 | 32 | 27 | 39 | 32 | 27 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |
| 10 | 51 | 38 | 30 | 25 | 50 | 37 | 29 | 24 | 36 | 29 | 24 | 35 | 28 | 24 | 33 | 28 | 23 | 22 |

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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 | 18.6 | 20.2 | 19.0 | 20.6 | 21.0 | 20.2 | 21.8 | 20.7 | 22.2 | 22.6 |
| | 3H | 20.1 | 21.5 | 20.5 | 21.9 | 22.4 | 22.5 | 24.0 | 23.0 | 24.4 | 24.8 |
| | 4H | 20.5 | 21.9 | 21.0 | 22.3 | 22.8 | 23.6 | 25.0 | 24.1 | 25.4 | 25.9 |
| | 6H | 20.8 | 22.1 | 21.3 | 22.5 | 23.0 | 24.8 | 26.0 | 25.2 | 26.5 | 27.0 |
| | 8H | 20.9 | 22.1 | 21.4 | 22.6 | 23.1 | 25.3 | 26.6 | 25.8 | 27.0 | 27.5 |
| | 12H | 20.9 | 22.1 | 21.4 | 22.5 | 23.1 | 26.0 | 27.1 | 26.5 | 27.6 | 28.1 |
| 4H | 2H | 19.4 | 20.7 | 19.8 | 21.2 | 21.6 | 20.7 | 22.0 | 21.1 | 22.5 | 22.9 |
| | 3H | 21.0 | 22.2 | 21.5 | 22.7 | 23.2 | 23.2 | 24.3 | 23.6 | 24.8 | 25.3 |
| | 4H | 21.6 | 22.7 | 22.1 | 23.2 | 23.7 | 24.4 | 25.5 | 24.9 | 26.0 | 26.5 |
| | 6H | 22.0 | 23.0 | 22.5 | 23.5 | 24.0 | 25.7 | 26.7 | 26.2 | 27.2 | 27.7 |
| | 8H | 22.1 | 23.0 | 22.6 | 23.5 | 24.1 | 26.4 | 27.3 | 26.9 | 27.8 | 28.4 |
| | 12H | 22.2 | 23.0 | 22.7 | 23.5 | 24.1 | 27.1 | 27.9 | 27.7 | 28.5 | 29.1 |
| 8H | 4H | 22.2 | 23.1 | 22.7 | 23.6 | 24.1 | 24.6 | 25.5 | 25.1 | 26.0 | 26.6 |
| | 6H | 22.7 | 23.4 | 23.2 | 24.0 | 24.6 | 26.1 | 26.8 | 26.6 | 27.4 | 27.9 |
| | 8H | 22.9 | 23.5 | 23.4 | 24.1 | 24.7 | 26.9 | 27.5 | 27.4 | 28.1 | 28.7 |
| | 12H | 23.0 | 23.6 | 23.5 | 24.1 | 24.8 | 27.8 | 28.4 | 28.3 | 28.9 | 29.6 |
| 12H | 4H | 22.3 | 23.1 | 22.9 | 23.7 | 24.2 | 24.6 | 25.4 | 25.2 | 26.0 | 26.5 |
| | 6H | 22.9 | 23.6 | 23.5 | 24.1 | 24.8 | 26.1 | 26.8 | 26.7 | 27.3 | 27.9 |
| | 8H | 23.2 | 23.8 | 23.7 | 24.3 | 25.0 | 27.0 | 27.6 | 27.5 | 28.1 | 28.8 |

Maximum UGR = 29.6

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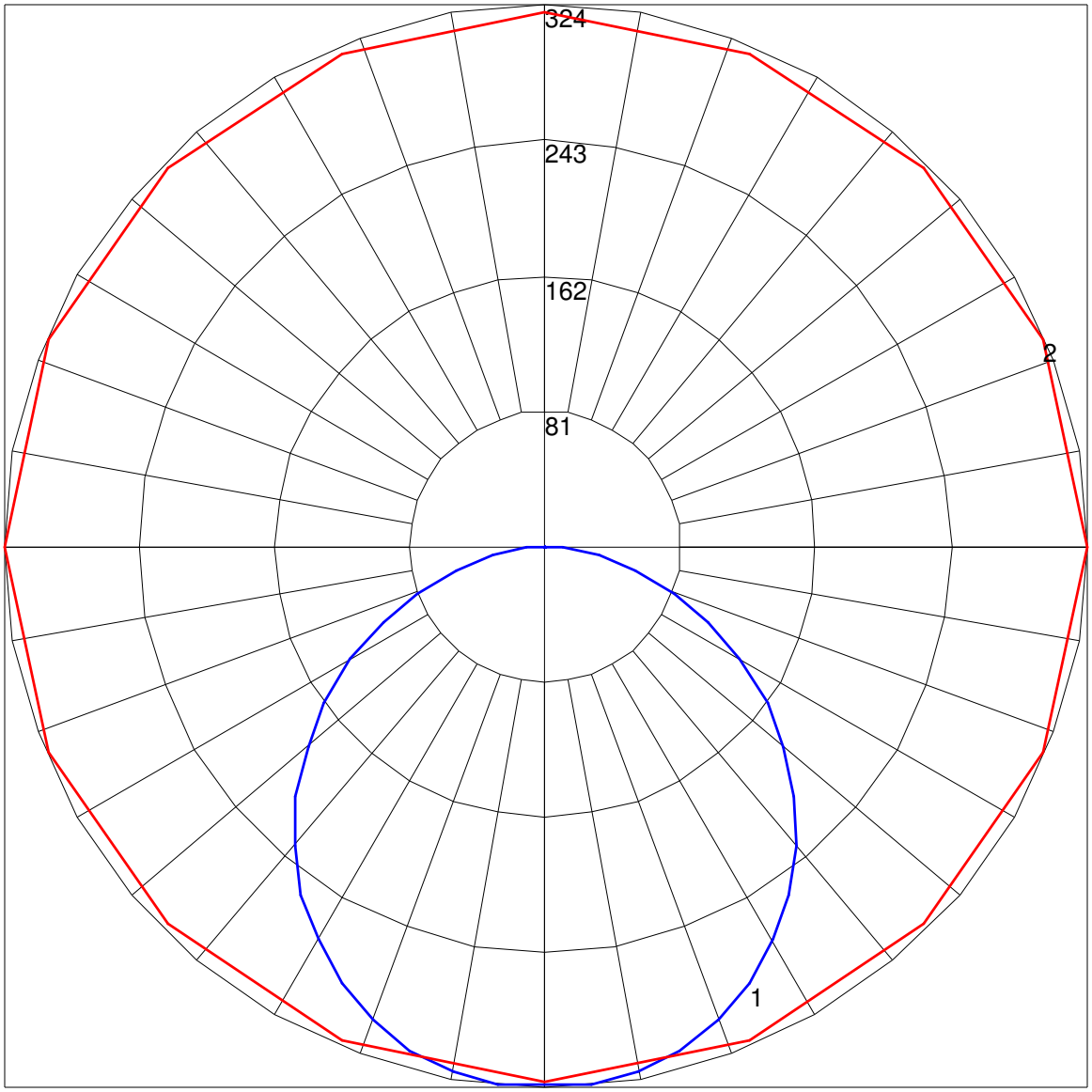
**POLAR GRAPH**




Maximum Candela = 323.99  Located At Horizontal Angle = 0, Vertical Angle = 5
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

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