**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : SL-2-L5-940-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-L5-940-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 | 856 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 91 |
| 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 | 10465 | 8478 | 8116 |
| 55 | 9830 | 7570 | 7321 |
| 65 | 8681 | 6489 | 6515 |
| 75 | 7148 | 5320 | 5798 |
| 85 | 3605 | 4378 | 5221 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 269.633 | 269.633 | 269.633 | 269.633 | 269.633 |
| **5** | 270.516 | 269.192 | 267.427 | 266.985 | 267.427 |
| **10** | 266.544 | 265.220 | 263.455 | 263.455 | 264.338 |
| **15** | 260.807 | 259.483 | 257.718 | 258.160 | 258.160 |
| **20** | 251.981 | 250.657 | 248.451 | 250.216 | 250.657 |
| **25** | 240.949 | 239.625 | 239.184 | 240.508 | 241.390 |
| **30** | 227.269 | 227.269 | 227.269 | 229.034 | 228.593 |
| **35** | 212.706 | 212.706 | 212.706 | 214.471 | 215.795 |
| **40** | 195.054 | 195.495 | 195.936 | 199.026 | 200.791 |
| **45** | 176.078 | 177.402 | 178.726 | 182.256 | 183.580 |
| **50** | 155.337 | 156.661 | 159.750 | 165.046 | 167.693 |
| **55** | 135.479 | 135.920 | 141.657 | 146.070 | 150.041 |
| **60** | 112.531 | 114.738 | 122.681 | 131.066 | 133.713 |
| **65** | 89.584 | 93.114 | 102.381 | 111.648 | 115.620 |
| **70** | 68.401 | 71.932 | 83.405 | 94.879 | 98.410 |
| **75** | 46.778 | 52.956 | 65.753 | 78.551 | 83.847 |
| **80** | 27.360 | 33.980 | 51.191 | 63.988 | 69.725 |
| **85** | 9.267 | 21.624 | 37.510 | 50.308 | 56.045 |
| **90** | 0.000 | 11.915 | 27.802 | 39.276 | 43.689 |
| **95** | 0.000 | 6.178 | 18.976 | 30.450 | 34.421 |
| **100** | 0.000 | 3.089 | 13.239 | 22.506 | 26.478 |
| **105** | 0.000 | 1.765 | 9.267 | 16.328 | 19.858 |
| **110** | 0.000 | 1.324 | 6.178 | 11.915 | 14.122 |
| **115** | 0.000 | 0.883 | 3.972 | 8.385 | 10.591 |
| **120** | 0.000 | 0.000 | 2.206 | 5.296 | 6.619 |
| **125** | 0.000 | 0.000 | 1.765 | 3.530 | 4.413 |
| **130** | 0.000 | 0.000 | 0.000 | 2.206 | 2.648 |
| **135** | 0.000 | 0.000 | 0.000 | 0.000 | 1.765 |
| **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 | 98.45 | N.A. | 11.50 |
| 0-30 | 209.09 | N.A. | 24.40 |
| 0-40 | 342.61 | N.A. | 40.00 |
| 0-60 | 607.99 | N.A. | 71.00 |
| 0-80 | 779.57 | N.A. | 91.00 |
| 0-90 | 819.28 | N.A. | 95.70 |
| 10-90 | 793.80 | N.A. | 92.70 |
| 20-40 | 244.16 | N.A. | 28.50 |
| 20-50 | 382.66 | N.A. | 44.70 |
| 40-70 | 367.22 | N.A. | 42.90 |
| 60-80 | 171.58 | N.A. | 20.00 |
| 70-80 | 69.75 | N.A. | 8.10 |
| 80-90 | 39.71 | N.A. | 4.60 |
| 90-110 | 30.52 | N.A. | 3.60 |
| 90-120 | 35.15 | N.A. | 4.10 |
| 90-130 | 36.81 | N.A. | 4.30 |
| 90-150 | 37.07 | N.A. | 4.30 |
| 90-180 | 37.07 | N.A. | 4.30 |
| 110-180 | 6.55 | N.A. | 0.80 |
| 0-180 | 856.35 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

## ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---|---|
| 0-10 | 25.48 |
| 10-20 | 72.97 |
| 20-30 | 110.65 |
| 30-40 | 133.51 |
| 40-50 | 138.50 |
| 50-60 | 126.88 |
| 60-70 | 101.84 |
| 70-80 | 69.75 |
| 80-90 | 39.71 |
| 90-100 | 20.37 |
| 100-110 | 10.14 |
| 110-120 | 4.63 |
| 120-130 | 1.66 |
| 130-140 | 0.26 |
| 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 | 89 | 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 | 77 | 68 | 61 | 85 | 75 | 67 | 60 | 71 | 64 | 59 | 68 | 62 | 57 | 64 | 60 | 55 | 53 |
| 4 | 80 | 68 | 58 | 51 | 77 | 66 | 57 | 51 | 63 | 56 | 50 | 60 | 54 | 49 | 57 | 52 | 47 | 45 |
| 5 | 74 | 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 | 33 | 43 | 37 | 32 | 30 |
| 8 | 59 | 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 | 30 | 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 | 18.0 | 19.6 | 18.4 | 20.0 | 20.4 | 19.7 | 21.2 | 20.1 | 21.6 | 22.1 |
| | 3H | 19.5 | 20.9 | 19.9 | 21.3 | 21.8 | 21.9 | 23.4 | 22.4 | 23.8 | 24.3 |
| | 4H | 19.9 | 21.3 | 20.4 | 21.7 | 22.2 | 23.0 | 24.4 | 23.5 | 24.8 | 25.3 |
| | 6H | 20.2 | 21.5 | 20.7 | 22.0 | 22.4 | 24.2 | 25.4 | 24.6 | 25.9 | 26.4 |
| | 8H | 20.3 | 21.5 | 20.8 | 22.0 | 22.5 | 24.8 | 26.0 | 25.2 | 26.4 | 26.9 |
| | 12H | 20.3 | 21.5 | 20.8 | 21.9 | 22.5 | 25.4 | 26.5 | 25.9 | 27.0 | 27.5 |
| 4H | 2H | 18.8 | 20.1 | 19.2 | 20.6 | 21.0 | 20.1 | 21.4 | 20.5 | 21.9 | 22.3 |
| | 3H | 20.5 | 21.6 | 20.9 | 22.1 | 22.6 | 22.6 | 23.7 | 23.1 | 24.2 | 24.7 |
| | 4H | 21.0 | 22.1 | 21.5 | 22.6 | 23.1 | 23.8 | 24.9 | 24.3 | 25.4 | 25.9 |
| | 6H | 21.4 | 22.4 | 21.9 | 22.9 | 23.4 | 25.1 | 26.1 | 25.7 | 26.6 | 27.1 |
| | 8H | 21.5 | 22.4 | 22.0 | 22.9 | 23.5 | 25.8 | 26.7 | 26.3 | 27.2 | 27.8 |
| | 12H | 21.6 | 22.4 | 22.1 | 22.9 | 23.5 | 26.6 | 27.4 | 27.1 | 27.9 | 28.5 |
| 8H | 4H | 21.6 | 22.5 | 22.1 | 23.0 | 23.5 | 24.0 | 24.9 | 24.5 | 25.4 | 26.0 |
| | 6H | 22.1 | 22.8 | 22.7 | 23.4 | 24.0 | 25.5 | 26.2 | 26.0 | 26.8 | 27.4 |
| | 8H | 22.3 | 22.9 | 22.8 | 23.5 | 24.1 | 26.3 | 27.0 | 26.8 | 27.5 | 28.1 |
| | 12H | 22.4 | 23.0 | 22.9 | 23.5 | 24.2 | 27.2 | 27.8 | 27.8 | 28.3 | 29.0 |
| 12H | 4H | 21.7 | 22.5 | 22.3 | 23.1 | 23.6 | 24.0 | 24.8 | 24.6 | 25.4 | 25.9 |
| | 6H | 22.3 | 23.0 | 22.9 | 23.5 | 24.2 | 25.5 | 26.2 | 26.1 | 26.7 | 27.4 |
| | 8H | 22.6 | 23.2 | 23.1 | 23.7 | 24.4 | 26.4 | 27.0 | 26.9 | 27.5 | 28.2 |

Maximum UGR = 29.0

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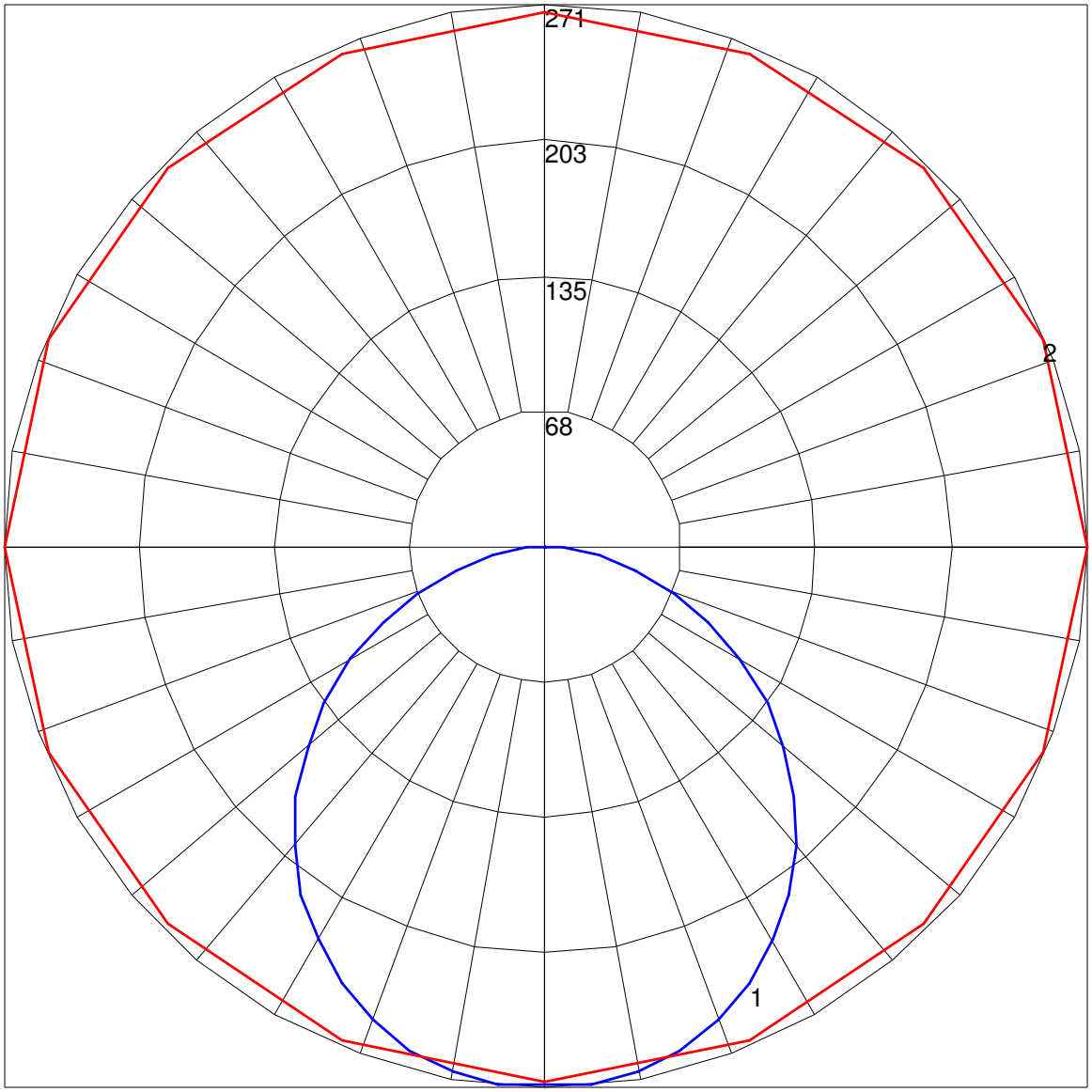
**POLAR GRAPH**




Maximum Candela = 270.516  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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