**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : SL-8-L10-940-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-8-L10-940-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 | 6675 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 95 |
| Total Luminaire Watts | 70.3 |
| 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) | 8.00 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 | 20752 | 16683 | 15817 |
| 55 | 19635 | 14941 | 14267 |
| 65 | 17548 | 12861 | 12696 |
| 75 | 14826 | 10607 | 11300 |
| 85 | 8353 | 8829 | 10175 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 2101.84 | 2101.84 | 2101.84 | 2101.84 | 2101.84 |
| **5** | 2108.72 | 2098.40 | 2084.64 | 2081.20 | 2084.64 |
| **10** | 2077.76 | 2067.44 | 2053.68 | 2053.68 | 2060.56 |
| **15** | 2033.04 | 2022.72 | 2008.96 | 2012.40 | 2012.40 |
| **20** | 1964.24 | 1953.92 | 1936.72 | 1950.48 | 1953.92 |
| **25** | 1878.24 | 1867.92 | 1864.48 | 1874.80 | 1881.68 |
| **30** | 1771.60 | 1771.60 | 1771.60 | 1785.36 | 1781.92 |
| **35** | 1658.08 | 1658.08 | 1658.08 | 1671.84 | 1682.16 |
| **40** | 1520.48 | 1523.92 | 1527.36 | 1551.44 | 1565.20 |
| **45** | 1372.56 | 1382.88 | 1393.20 | 1420.72 | 1431.04 |
| **50** | 1210.88 | 1221.20 | 1245.28 | 1286.56 | 1307.20 |
| **55** | 1056.08 | 1059.52 | 1104.24 | 1138.64 | 1169.60 |
| **60** | 877.20 | 894.40 | 956.32 | 1021.68 | 1042.32 |
| **65** | 698.32 | 725.84 | 798.08 | 870.32 | 901.28 |
| **70** | 533.20 | 560.72 | 650.16 | 739.60 | 767.12 |
| **75** | 364.64 | 412.80 | 512.56 | 612.32 | 653.60 |
| **80** | 213.28 | 264.88 | 399.04 | 498.80 | 543.52 |
| **85** | 72.24 | 168.56 | 292.40 | 392.16 | 436.88 |
| **90** | 0.00 | 92.88 | 216.72 | 306.16 | 340.56 |
| **95** | 0.00 | 48.16 | 147.92 | 237.36 | 268.32 |
| **100** | 0.00 | 24.08 | 103.20 | 175.44 | 206.40 |
| **105** | 0.00 | 13.76 | 72.24 | 127.28 | 154.80 |
| **110** | 0.00 | 10.32 | 48.16 | 92.88 | 110.08 |
| **115** | 0.00 | 6.88 | 30.96 | 65.36 | 82.56 |
| **120** | 0.00 | 0.00 | 17.20 | 41.28 | 51.60 |
| **125** | 0.00 | 0.00 | 13.76 | 27.52 | 34.40 |
| **130** | 0.00 | 0.00 | 0.00 | 17.20 | 20.64 |
| **135** | 0.00 | 0.00 | 0.00 | 0.00 | 13.76 |
| **140** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **145** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **150** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **155** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **160** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **165** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **170** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **175** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **180** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

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## ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 767.42 | N.A. | 11.50 |
| 0-30 | 1629.93 | N.A. | 24.40 |
| 0-40 | 2670.67 | N.A. | 40.00 |
| 0-60 | 4739.36 | N.A. | 71.00 |
| 0-80 | 6076.89 | N.A. | 91.00 |
| 0-90 | 6386.45 | N.A. | 95.70 |
| 10-90 | 6187.84 | N.A. | 92.70 |
| 20-40 | 1903.25 | N.A. | 28.50 |
| 20-50 | 2982.9 | N.A. | 44.70 |
| 40-70 | 2862.52 | N.A. | 42.90 |
| 60-80 | 1337.53 | N.A. | 20.00 |
| 70-80 | 543.70 | N.A. | 8.10 |
| 80-90 | 309.56 | N.A. | 4.60 |
| 90-110 | 237.87 | N.A. | 3.60 |
| 90-120 | 273.99 | N.A. | 4.10 |
| 90-130 | 286.91 | N.A. | 4.30 |
| 90-150 | 288.97 | N.A. | 4.30 |
| 90-180 | 288.97 | N.A. | 4.30 |
| 110-180 | 51.09 | N.A. | 0.80 |
| 0-180 | 6675.42 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

## ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---|---|
| 0-10 | 198.62 |
| 10-20 | 568.80 |
| 20-30 | 862.51 |
| 30-40 | 1040.74 |
| 40-50 | 1079.64 |
| 50-60 | 989.04 |
| 60-70 | 793.83 |
| 70-80 | 543.70 |
| 80-90 | 309.56 |
| 90-100 | 158.79 |
| 100-110 | 79.08 |
| 110-120 | 36.11 |
| 120-130 | 12.92 |
| 130-140 | 2.06 |
| 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 | 76 | 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 | 55 | 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 | 32 | 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 | 20.3 | 21.9 | 20.7 | 22.3 | 22.7 | 22.0 | 23.6 | 22.4 | 24.0 | 24.4 |
| | 3H | 21.8 | 23.2 | 22.2 | 23.6 | 24.1 | 24.3 | 25.8 | 24.8 | 26.2 | 26.6 |
| | 4H | 22.2 | 23.6 | 22.7 | 24.0 | 24.5 | 25.4 | 26.8 | 25.9 | 27.2 | 27.7 |
| | 6H | 22.5 | 23.8 | 23.0 | 24.2 | 24.7 | 26.6 | 27.9 | 27.1 | 28.3 | 28.8 |
| | 8H | 22.6 | 23.8 | 23.1 | 24.3 | 24.8 | 27.2 | 28.4 | 27.7 | 28.9 | 29.4 |
| | 12H | 22.6 | 23.8 | 23.1 | 24.2 | 24.8 | 27.9 | 29.1 | 28.4 | 29.5 | 30.0 |
| 4H | 2H | 21.1 | 22.5 | 21.5 | 22.9 | 23.4 | 22.4 | 23.8 | 22.9 | 24.2 | 24.7 |
| | 3H | 22.8 | 23.9 | 23.2 | 24.4 | 24.9 | 25.0 | 26.1 | 25.4 | 26.6 | 27.1 |
| | 4H | 23.3 | 24.4 | 23.8 | 24.9 | 25.4 | 26.2 | 27.3 | 26.7 | 27.8 | 28.3 |
| | 6H | 23.7 | 24.7 | 24.3 | 25.2 | 25.7 | 27.6 | 28.5 | 28.1 | 29.0 | 29.6 |
| | 8H | 23.8 | 24.7 | 24.4 | 25.2 | 25.8 | 28.3 | 29.2 | 28.8 | 29.7 | 30.2 |
| | 12H | 23.9 | 24.7 | 24.4 | 25.2 | 25.8 | 29.1 | 29.9 | 29.6 | 30.4 | 31.0 |
| 8H | 4H | 23.9 | 24.8 | 24.4 | 25.3 | 25.8 | 26.4 | 27.3 | 26.9 | 27.8 | 28.4 |
| | 6H | 24.4 | 25.2 | 25.0 | 25.7 | 26.3 | 27.9 | 28.7 | 28.4 | 29.2 | 29.8 |
| | 8H | 24.6 | 25.3 | 25.1 | 25.8 | 26.4 | 28.7 | 29.4 | 29.3 | 30.0 | 30.6 |
| | 12H | 24.7 | 25.3 | 25.3 | 25.9 | 26.5 | 29.7 | 30.3 | 30.3 | 30.8 | 31.5 |
| 12H | 4H | 24.0 | 24.8 | 24.6 | 25.4 | 25.9 | 26.4 | 27.2 | 27.0 | 27.8 | 28.3 |
| | 6H | 24.7 | 25.3 | 25.2 | 25.9 | 26.5 | 27.9 | 28.6 | 28.5 | 29.2 | 29.8 |
| | 8H | 24.9 | 25.5 | 25.5 | 26.0 | 26.7 | 28.8 | 29.4 | 29.4 | 30.0 | 30.6 |

Maximum UGR = 31.5

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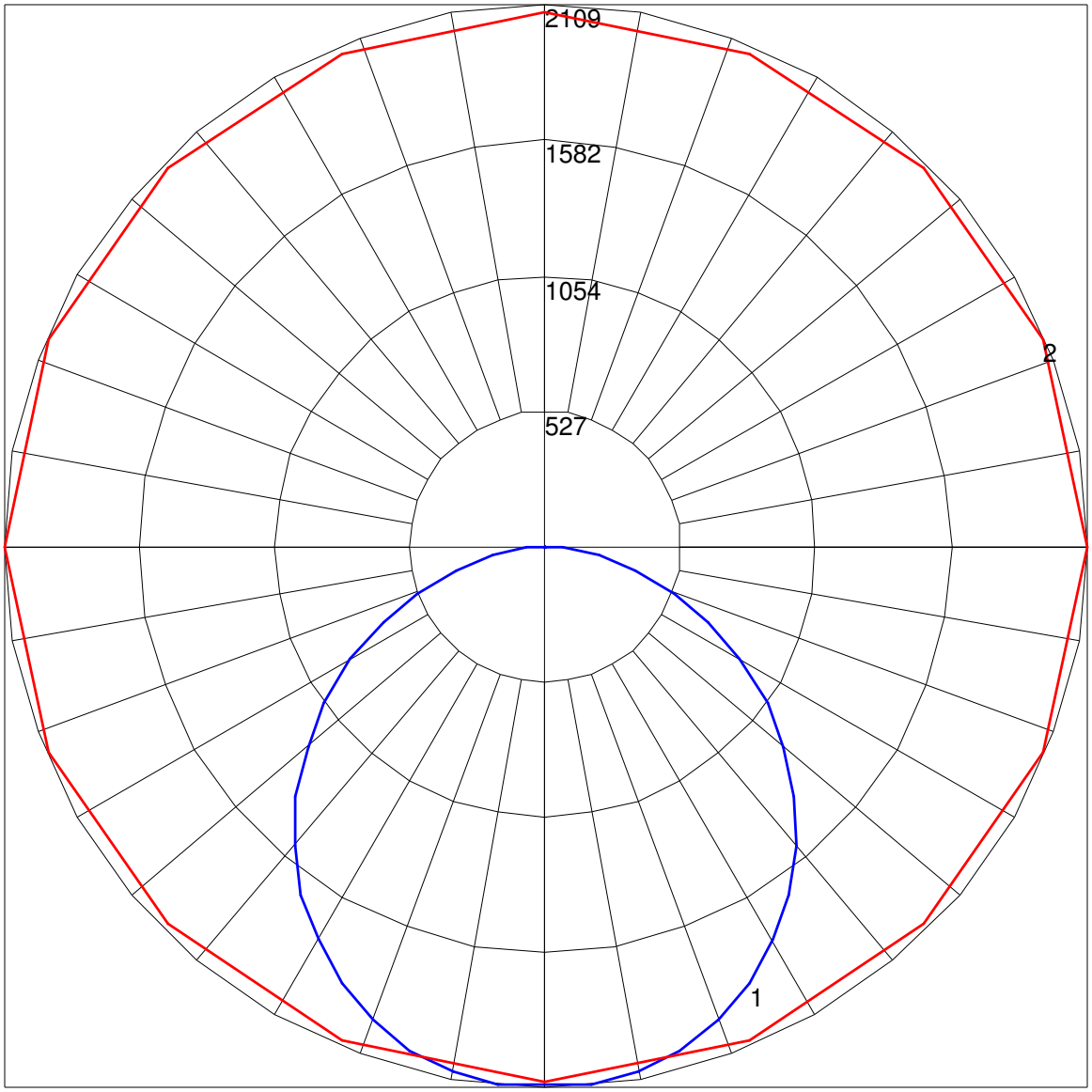
**POLAR GRAPH**




Maximum Candela = 2108.72  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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