



IES INDOOR REPORT

PHOTOMETRIC FILENAME : SIA1-SQ-4-L20-835-AC-DXX-DIM-UNV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]GEN FROM BALLABS TEST NO. 17976.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE]DATE] 13-FEB-2019

[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 88 LEDS (2-22"BOARD)4'SUSPEND BIDIRECT w/FROST ACRYLIC LED

[MORE] LENS, WHITE (46) .625x.75"SLOTS ASIDE SMOOTH FROST ACRYLIC

[MORE] SIDE LENSES, ADVANCE DRIVER

[LUMCAT] SIA1-SQ-4-L20-835-AC-Dxx-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 7845 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 116 |
| Total Luminaire Watts | 67.6 |
| Ballast Factor | 1.00 |
| CIE Type | Indirect |
| Spacing Criterion (0-180) | N.A. |
| Spacing Criterion (90-270) | N.A. |
| Spacing Criterion (Diagonal) | N.A. |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 3.91 ft |
| Luminous Width (90-270) | 0.54 ft |
| Luminous Height | 0.22 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 0 | 229 | 498 |
| 55 | 10 | 404 | 862 |
| 65 | 13 | 631 | 1313 |
| 75 | 57 | 873 | 1752 |
| 85 | 42 | 1143 | 2091 |

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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 | 5.860 | 5.860 | 5.860 | 5.860 | 5.860 |
| 5 | 0.000 | 1.172 | 2.344 | 7.032 | 8.204 |
| 10 | 0.000 | 1.172 | 2.344 | 8.204 | 10.548 |
| 15 | 0.000 | 0.000 | 3.516 | 9.376 | 11.719 |
| 20 | 0.000 | 1.172 | 8.204 | 16.407 | 19.923 |
| 25 | 0.000 | 0.000 | 10.548 | 24.611 | 32.814 |
| 30 | 0.000 | 1.172 | 17.579 | 36.330 | 43.362 |
| 35 | 0.000 | 4.688 | 29.299 | 46.878 | 58.597 |
| 40 | 0.000 | 9.376 | 36.330 | 62.113 | 76.176 |
| 45 | 0.000 | 12.891 | 42.190 | 78.520 | 97.271 |
| 50 | 0.000 | 15.235 | 55.081 | 101.959 | 123.054 |
| 55 | 1.172 | 18.751 | 66.801 | 125.398 | 153.525 |
| 60 | 0.000 | 19.923 | 79.692 | 146.493 | 180.480 |
| 65 | 1.172 | 24.611 | 89.068 | 167.588 | 203.918 |
| 70 | 0.000 | 28.127 | 96.099 | 178.136 | 217.982 |
| 75 | 3.516 | 31.643 | 98.443 | 183.995 | 223.841 |
| 80 | 2.344 | 30.471 | 100.787 | 183.995 | 220.326 |
| 85 | 1.172 | 29.299 | 92.584 | 169.932 | 201.575 |
| 90 | 3.516 | 50.394 | 212.122 | 257.828 | 276.579 |
| 95 | 55.081 | 153.525 | 472.294 | 526.203 | 523.859 |
| 100 | 148.837 | 247.280 | 657.461 | 802.782 | 781.687 |
| 105 | 267.203 | 385.570 | 810.986 | 1120.379 | 1068.814 |
| 110 | 392.602 | 528.547 | 941.072 | 1475.479 | 1455.556 |
| 115 | 540.267 | 669.181 | 1059.438 | 1754.402 | 1873.940 |
| 120 | 698.479 | 816.846 | 1195.384 | 1872.768 | 2158.723 |
| 125 | 846.144 | 952.791 | 1319.610 | 1858.705 | 2166.926 |
| 130 | 991.465 | 1084.049 | 1449.696 | 1859.877 | 2071.999 |
| 135 | 1144.990 | 1221.167 | 1545.795 | 1920.818 | 2042.700 |
| 140 | 1284.452 | 1358.284 | 1611.424 | 1978.243 | 2090.750 |
| 145 | 1406.334 | 1462.587 | 1648.927 | 1986.447 | 2115.361 |
| 150 | 1530.560 | 1561.031 | 1681.741 | 1924.334 | 2050.904 |
| 155 | 1639.551 | 1653.614 | 1714.555 | 1839.954 | 1913.786 |
| 160 | 1735.651 | 1752.058 | 1762.605 | 1812.999 | 1842.298 |
| 165 | 1805.967 | 1823.546 | 1807.139 | 1821.202 | 1836.438 |
| 170 | 1857.533 | 1871.596 | 1856.361 | 1850.501 | 1854.017 |
| 175 | 1891.519 | 1905.583 | 1895.035 | 1889.175 | 1873.940 |
| 180 | 1907.926 | 1907.926 | 1907.926 | 1907.926 | 1907.926 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 2.05 | N.A. | 0.00 |
| 0-30 | 8.40 | N.A. | 0.10 |
| 0-40 | 25.96 | N.A. | 0.30 |
| 0-60 | 126.64 | N.A. | 1.60 |
| 0-80 | 332.73 | N.A. | 4.20 |
| 0-90 | 460.54 | N.A. | 5.90 |
| 10-90 | 460.14 | N.A. | 5.90 |
| 20-40 | 23.91 | N.A. | 0.30 |
| 20-50 | 60.12 | N.A. | 0.80 |
| 40-70 | 194.79 | N.A. | 2.50 |
| 60-80 | 206.09 | N.A. | 2.60 |
| 70-80 | 111.98 | N.A. | 1.40 |
| 80-90 | 127.81 | N.A. | 1.60 |
| 90-110 | 1182.3 | N.A. | 15.10 |
| 90-120 | 2332.1 | N.A. | 29.70 |
| 90-130 | 3593.49 | N.A. | 45.80 |
| 90-150 | 5879.57 | N.A. | 74.90 |
| 90-180 | 7384.67 | N.A. | 94.10 |
| 110-180 | 6202.36 | N.A. | 79.10 |
| 0-180 | 7845.21 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 0.40 |
| 10-20 | 1.65 |
| 20-30 | 6.35 |
| 30-40 | 17.56 |
| 40-50 | 36.21 |
| 50-60 | 64.48 |
| 60-70 | 94.10 |
| 70-80 | 111.98 |
| 80-90 | 127.81 |
| 90-100 | 389.40 |
| 100-110 | 792.91 |
| 110-120 | 1149.8 |
| 120-130 | 1261.38 |
| 130-140 | 1214.58 |
| 140-150 | 1071.51 |
| 150-160 | 810.86 |
| 160-170 | 514.59 |
| 170-180 | 179.65 |

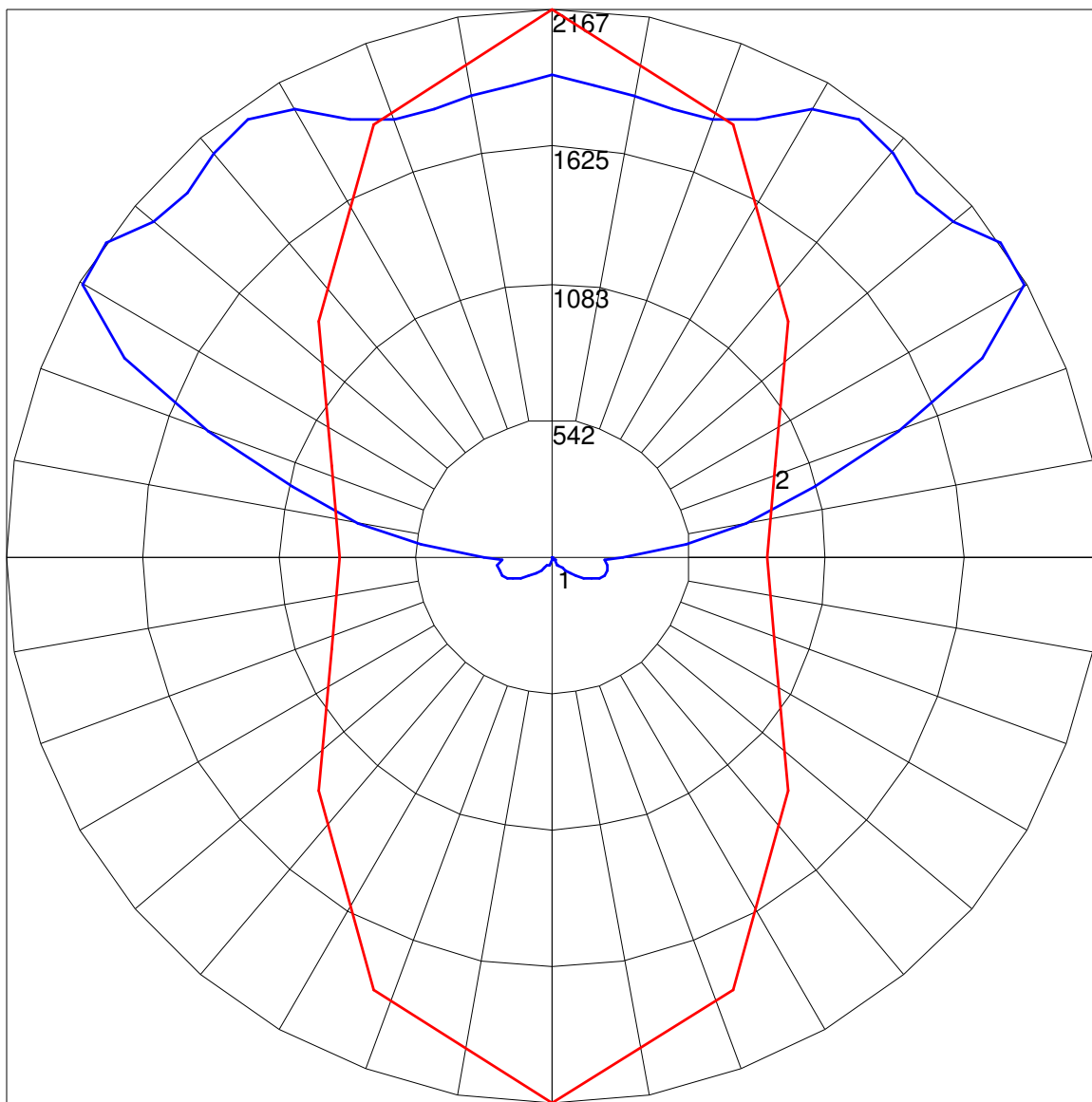
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 | 97 | 97 | 97 | 97 | 83 | 83 | 83 | 83 | 59 | 59 | 59 | 36 | 36 | 36 | 16 | 16 | 16 | 6 |
| 1 | 87 | 83 | 79 | 75 | 75 | 71 | 68 | 65 | 50 | 48 | 46 | 30 | 29 | 28 | 12 | 12 | 11 | 3 |
| 2 | 79 | 72 | 66 | 61 | 68 | 62 | 57 | 53 | 43 | 40 | 37 | 26 | 24 | 23 | 10 | 10 | 9 | 2 |
| 3 | 72 | 63 | 56 | 50 | 61 | 54 | 48 | 43 | 38 | 34 | 31 | 23 | 21 | 19 | 9 | 8 | 7 | 1 |
| 4 | 65 | 55 | 47 | 42 | 56 | 47 | 41 | 36 | 33 | 29 | 26 | 20 | 18 | 16 | 8 | 7 | 6 | 1 |
| 5 | 60 | 49 | 41 | 35 | 51 | 42 | 36 | 31 | 29 | 25 | 22 | 18 | 15 | 13 | 7 | 6 | 5 | 1 |
| 6 | 55 | 43 | 36 | 30 | 47 | 37 | 31 | 26 | 26 | 22 | 19 | 16 | 13 | 11 | 6 | 5 | 4 | 1 |
| 7 | 50 | 39 | 31 | 26 | 43 | 33 | 27 | 23 | 24 | 19 | 16 | 14 | 12 | 10 | 6 | 4 | 4 | 0 |
| 8 | 46 | 35 | 28 | 23 | 40 | 30 | 24 | 20 | 21 | 17 | 14 | 13 | 10 | 9 | 5 | 4 | 3 | 0 |
| 9 | 43 | 31 | 24 | 20 | 37 | 27 | 21 | 17 | 19 | 15 | 12 | 12 | 9 | 8 | 5 | 4 | 3 | 0 |
| 10 | 40 | 29 | 22 | 17 | 34 | 25 | 19 | 15 | 18 | 14 | 11 | 11 | 8 | 7 | 4 | 3 | 2 | 0 |

POLAR GRAPH



Maximum Candela = 2166.926 Located At Horizontal Angle = 90, Vertical Angle = 125
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (125) (Through Max. Cd.)