



IES INDOOR REPORT

PHOTOMETRIC FILENAME : ASMS-8-P35-835-A-POE_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18639.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 03-MAR-2020

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

[LUMINAIRE] 4-56 LED 22" ARRAYS 8' DIRECT/INDIRECT PENDANT MOUNT LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED CURVED LINEAR RIBBED ACRYLIC LENS

[LUMCAT] ASMS-8-P35/835-A-PoE

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 3561 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 147 |
| Total Luminaire Watts | 24.2 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.22 |
| Spacing Criterion (90-270) | 1.22 |
| Spacing Criterion (Diagonal) | 1.32 |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 7.90 ft |
| Luminous Width (90-270) | 0.54 ft |
| Luminous Height | 0.08 ft |



LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 2795 | 2603 | 2536 |
| 55 | 2299 | 2187 | 2132 |
| 65 | 1818 | 1823 | 1776 |
| 75 | 1349 | 1483 | 1438 |
| 85 | 938 | 1288 | 1323 |

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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 | 1362.713 | 1362.713 | 1362.713 | 1362.713 | 1362.713 |
| 5 | 1385.144 | 1386.546 | 1383.742 | 1383.742 | 1383.742 |
| 10 | 1350.095 | 1345.889 | 1345.889 | 1344.487 | 1344.487 |
| 15 | 1324.860 | 1320.654 | 1320.654 | 1317.850 | 1316.448 |
| 20 | 1261.771 | 1258.967 | 1251.957 | 1246.350 | 1244.948 |
| 25 | 1198.683 | 1197.281 | 1190.271 | 1184.663 | 1184.663 |
| 30 | 1113.163 | 1108.957 | 1103.349 | 1100.545 | 1100.545 |
| 35 | 1041.662 | 1040.260 | 1040.260 | 1040.260 | 1040.260 |
| 40 | 914.083 | 914.083 | 922.495 | 925.299 | 923.897 |
| 45 | 794.916 | 800.524 | 817.347 | 822.955 | 822.955 |
| 50 | 660.327 | 672.945 | 695.376 | 703.788 | 703.788 |
| 55 | 532.748 | 550.973 | 581.817 | 594.434 | 593.032 |
| 60 | 416.384 | 437.414 | 476.669 | 489.287 | 489.287 |
| 65 | 312.639 | 340.678 | 382.737 | 398.159 | 396.757 |
| 70 | 221.511 | 252.354 | 297.217 | 309.835 | 308.433 |
| 75 | 144.403 | 171.040 | 218.707 | 232.727 | 232.727 |
| 80 | 82.716 | 106.550 | 154.216 | 173.844 | 176.648 |
| 85 | 36.451 | 57.481 | 103.746 | 124.775 | 126.177 |
| 90 | 8.412 | 28.039 | 58.883 | 81.314 | 84.118 |
| 95 | 0.000 | 7.010 | 30.843 | 50.471 | 54.677 |
| 100 | 0.000 | 0.000 | 11.216 | 28.039 | 33.647 |
| 105 | 0.000 | 0.000 | 0.000 | 15.422 | 18.226 |
| 110 | 0.000 | 0.000 | 0.000 | 8.412 | 9.814 |
| 115 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 120 | 0.000 | 0.000 | 0.000 | 2.804 | 0.000 |
| 125 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 130 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 135 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 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 | 500.68 | N.A. | 14.10 |
| 0-30 | 1047.52 | N.A. | 29.40 |
| 0-40 | 1690.56 | N.A. | 47.50 |
| 0-60 | 2828.47 | N.A. | 79.40 |
| 0-80 | 3414.1 | N.A. | 95.90 |
| 0-90 | 3517.21 | N.A. | 98.80 |
| 10-90 | 3386.69 | N.A. | 95.10 |
| 20-40 | 1189.88 | N.A. | 33.40 |
| 20-50 | 1813.99 | N.A. | 50.90 |
| 40-70 | 1505.07 | N.A. | 42.30 |
| 60-80 | 585.63 | N.A. | 16.40 |
| 70-80 | 218.47 | N.A. | 6.10 |
| 80-90 | 103.11 | N.A. | 2.90 |
| 90-110 | 42.13 | N.A. | 1.20 |
| 90-120 | 43.15 | N.A. | 1.20 |
| 90-130 | 43.31 | N.A. | 1.20 |
| 90-150 | 43.31 | N.A. | 1.20 |
| 90-180 | 43.31 | N.A. | 1.20 |
| 110-180 | 1.18 | N.A. | 0.00 |
| 0-180 | 3560.52 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 130.52 |
| 10-20 | 370.16 |
| 20-30 | 546.84 |
| 30-40 | 643.04 |
| 40-50 | 624.11 |
| 50-60 | 513.80 |
| 60-70 | 367.16 |
| 70-80 | 218.47 |
| 80-90 | 103.11 |
| 90-100 | 34.27 |
| 100-110 | 7.87 |
| 110-120 | 1.01 |
| 120-130 | 0.16 |
| 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 | 184 | 184 | 184 | 184 | 179 | 179 | 179 | 179 | 171 | 171 | 171 | 163 | 163 | 163 | 156 | 156 | 156 | 153 |
| 1 | 168 | 160 | 154 | 148 | 163 | 157 | 151 | 145 | 150 | 145 | 140 | 143 | 139 | 136 | 138 | 134 | 131 | 128 |
| 2 | 153 | 141 | 130 | 121 | 149 | 137 | 128 | 120 | 132 | 124 | 117 | 126 | 120 | 114 | 121 | 116 | 111 | 108 |
| 3 | 140 | 124 | 112 | 102 | 136 | 122 | 110 | 101 | 117 | 107 | 99 | 112 | 104 | 97 | 108 | 101 | 95 | 91 |
| 4 | 129 | 110 | 97 | 87 | 125 | 108 | 96 | 86 | 104 | 93 | 85 | 100 | 91 | 83 | 97 | 89 | 82 | 79 |
| 5 | 119 | 99 | 85 | 75 | 115 | 97 | 84 | 75 | 94 | 82 | 74 | 90 | 81 | 73 | 87 | 79 | 72 | 69 |
| 6 | 110 | 89 | 76 | 66 | 107 | 88 | 75 | 66 | 85 | 74 | 65 | 82 | 72 | 64 | 80 | 71 | 64 | 60 |
| 7 | 102 | 81 | 68 | 59 | 99 | 80 | 67 | 58 | 77 | 66 | 58 | 75 | 65 | 57 | 73 | 64 | 57 | 54 |
| 8 | 95 | 74 | 61 | 53 | 92 | 73 | 61 | 52 | 71 | 60 | 52 | 69 | 59 | 51 | 67 | 58 | 51 | 48 |
| 9 | 89 | 68 | 56 | 47 | 87 | 67 | 55 | 47 | 66 | 55 | 47 | 64 | 54 | 47 | 62 | 53 | 46 | 43 |
| 10 | 83 | 63 | 51 | 43 | 81 | 62 | 51 | 43 | 61 | 50 | 43 | 59 | 49 | 42 | 58 | 49 | 42 | 39 |

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UGR TABLE - CORRECTED

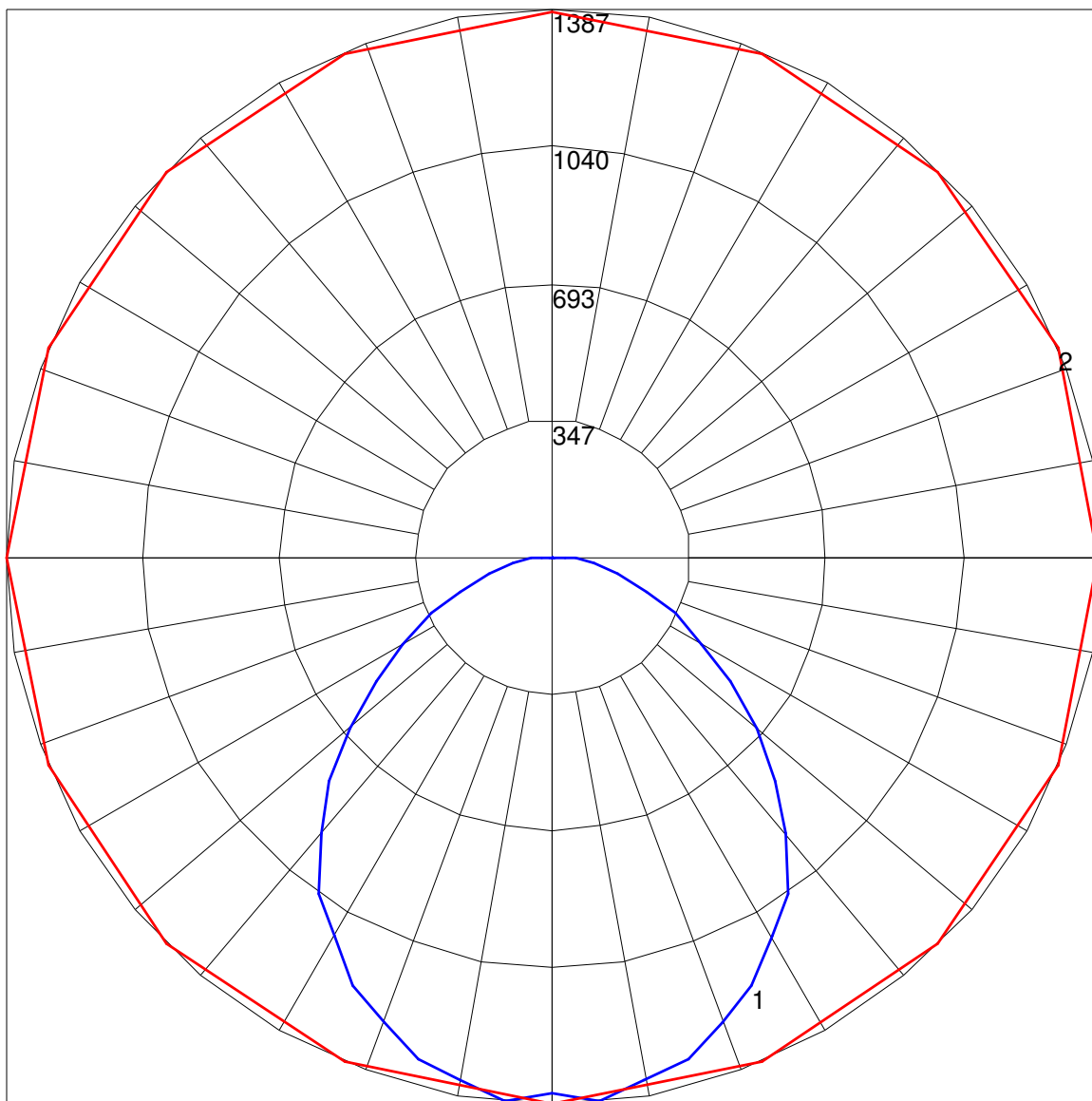
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 14.6 | 16.2 | 15.0 | 16.5 | 16.9 | 15.7 | 17.3 | 16.1 | 17.6 | 18.0 |
| | 3H | 15.9 | 17.3 | 16.3 | 17.7 | 18.0 | 17.5 | 18.9 | 17.9 | 19.2 | 19.6 |
| | 4H | 16.3 | 17.6 | 16.7 | 18.0 | 18.4 | 18.2 | 19.6 | 18.6 | 19.9 | 20.3 |
| | 6H | 16.5 | 17.8 | 16.9 | 18.1 | 18.6 | 18.9 | 20.2 | 19.3 | 20.5 | 21.0 |
| | 8H | 16.6 | 17.8 | 17.0 | 18.2 | 18.6 | 19.3 | 20.4 | 19.7 | 20.9 | 21.3 |
| | 12H | 16.6 | 17.7 | 17.0 | 18.1 | 18.6 | 19.6 | 20.8 | 20.1 | 21.2 | 21.6 |
| 4H | 2H | 15.3 | 16.7 | 15.7 | 17.0 | 17.4 | 16.2 | 17.5 | 16.6 | 17.9 | 18.3 |
| | 3H | 16.8 | 17.9 | 17.2 | 18.4 | 18.8 | 18.2 | 19.3 | 18.6 | 19.7 | 20.1 |
| | 4H | 17.3 | 18.3 | 17.8 | 18.8 | 19.2 | 19.0 | 20.1 | 19.5 | 20.5 | 21.0 |
| | 6H | 17.6 | 18.5 | 18.1 | 19.0 | 19.5 | 19.9 | 20.8 | 20.4 | 21.3 | 21.8 |
| | 8H | 17.7 | 18.6 | 18.2 | 19.0 | 19.5 | 20.4 | 21.2 | 20.8 | 21.7 | 22.1 |
| | 12H | 17.8 | 18.5 | 18.3 | 19.0 | 19.5 | 20.8 | 21.6 | 21.3 | 22.1 | 22.6 |
| 8H | 4H | 17.7 | 18.6 | 18.2 | 19.0 | 19.5 | 19.3 | 20.1 | 19.7 | 20.6 | 21.1 |
| | 6H | 18.2 | 18.9 | 18.7 | 19.4 | 19.9 | 20.3 | 21.0 | 20.8 | 21.5 | 22.0 |
| | 8H | 18.4 | 19.0 | 18.9 | 19.5 | 20.0 | 20.9 | 21.5 | 21.4 | 22.0 | 22.5 |
| | 12H | 18.5 | 19.0 | 19.0 | 19.5 | 20.1 | 21.4 | 22.0 | 22.0 | 22.5 | 23.1 |
| 12H | 4H | 17.8 | 18.6 | 18.3 | 19.1 | 19.6 | 19.3 | 20.0 | 19.8 | 20.5 | 21.0 |
| | 6H | 18.4 | 19.0 | 18.9 | 19.5 | 20.0 | 20.4 | 21.0 | 20.9 | 21.5 | 22.0 |
| | 8H | 18.6 | 19.1 | 19.1 | 19.6 | 20.2 | 20.9 | 21.5 | 21.5 | 22.0 | 22.6 |

Maximum UGR = 23.1

POLAR GRAPH



Maximum Candela = 1386.546 Located At Horizontal Angle = 22.5, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (22.5 - 202.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)