



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 80R-8-L60-840-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 21046.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 18-SEP-2020

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

[LUMINAIRE] 22" LED ARRAY 8' WHITE INDUSTRIAL LUMINAIRE

[MORE] WHITE SIDE REFL w/CENTER 4.5" RADIUS FROST/RIB ACRYLIC LEN

[LUMCAT] 80R-8-L60/840-DIM-UNV

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 6062 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 147 |
| Total Luminaire Watts | 41.3 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.20 |
| Spacing Criterion (90-270) | 1.30 |
| Spacing Criterion (Diagonal) | 1.36 |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 7.98 ft |
| Luminous Width (90-270) | 1.05 ft |
| Luminous Height | 0.21 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 2060 | 2069 | 2193 |
| 55 | 1793 | 1871 | 2061 |
| 65 | 1493 | 1664 | 1872 |
| 75 | 1197 | 1518 | 1750 |
| 85 | 606 | 1393 | 1550 |

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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 | 2074.162 | 2074.162 | 2074.162 | 2074.162 | 2074.162 |
| 5 | 2090.623 | 2058.386 | 2057.700 | 2054.270 | 2055.642 |
| 10 | 2052.213 | 2025.463 | 2028.892 | 2030.950 | 2033.008 |
| 15 | 1989.796 | 1964.418 | 1981.565 | 1993.225 | 1997.341 |
| 20 | 1900.629 | 1884.167 | 1915.719 | 1935.610 | 1947.956 |
| 25 | 1788.141 | 1784.712 | 1828.609 | 1863.590 | 1873.193 |
| 30 | 1658.506 | 1668.795 | 1729.154 | 1771.680 | 1784.712 |
| 35 | 1501.435 | 1529.557 | 1612.551 | 1671.538 | 1695.545 |
| 40 | 1345.736 | 1378.659 | 1474.685 | 1556.307 | 1583.743 |
| 45 | 1166.716 | 1225.017 | 1322.415 | 1419.127 | 1449.993 |
| 50 | 1002.786 | 1057.658 | 1183.863 | 1293.607 | 1319.672 |
| 55 | 832.683 | 897.157 | 1026.792 | 1143.395 | 1183.177 |
| 60 | 678.355 | 735.971 | 884.811 | 1004.158 | 1027.478 |
| 65 | 519.912 | 592.618 | 735.285 | 842.285 | 879.324 |
| 70 | 388.905 | 457.495 | 592.618 | 711.278 | 740.772 |
| 75 | 265.443 | 338.149 | 487.675 | 580.957 | 614.566 |
| 80 | 152.956 | 236.635 | 382.046 | 463.668 | 490.418 |
| 85 | 53.500 | 151.584 | 266.129 | 326.488 | 343.636 |
| 90 | 1.372 | 60.359 | 148.840 | 198.911 | 209.199 |
| 95 | 0.000 | 6.859 | 40.468 | 86.423 | 110.430 |
| 100 | 0.000 | 3.429 | 5.487 | 3.429 | 8.917 |
| 105 | 0.000 | 0.000 | 4.115 | 2.744 | 1.372 |
| 110 | 0.000 | 0.000 | 2.744 | 2.744 | 2.744 |
| 115 | 0.000 | 0.000 | 1.372 | 0.686 | 0.686 |
| 120 | 0.000 | 0.000 | 1.372 | 0.000 | 0.000 |
| 125 | 0.000 | 0.000 | 0.686 | 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 | 755.29 | N.A. | 12.50 |
| 0-30 | 1596.95 | N.A. | 26.30 |
| 0-40 | 2599.19 | N.A. | 42.90 |
| 0-60 | 4532.28 | N.A. | 74.80 |
| 0-80 | 5737.12 | N.A. | 94.60 |
| 0-90 | 5996.22 | N.A. | 98.90 |
| 10-90 | 5800.37 | N.A. | 95.70 |
| 20-40 | 1843.9 | N.A. | 30.40 |
| 20-50 | 2863.71 | N.A. | 47.20 |
| 40-70 | 2647.79 | N.A. | 43.70 |
| 60-80 | 1204.85 | N.A. | 19.90 |
| 70-80 | 490.15 | N.A. | 8.10 |
| 80-90 | 259.10 | N.A. | 4.30 |
| 90-110 | 64.63 | N.A. | 1.10 |
| 90-120 | 65.44 | N.A. | 1.10 |
| 90-130 | 65.60 | N.A. | 1.10 |
| 90-150 | 65.60 | N.A. | 1.10 |
| 90-180 | 65.60 | N.A. | 1.10 |
| 110-180 | 0.97 | N.A. | 0.00 |
| 0-180 | 6061.82 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 195.85 |
| 10-20 | 559.44 |
| 20-30 | 841.67 |
| 30-40 | 1002.23 |
| 40-50 | 1019.81 |
| 50-60 | 913.28 |
| 60-70 | 714.70 |
| 70-80 | 490.15 |
| 80-90 | 259.10 |
| 90-100 | 62.06 |
| 100-110 | 2.57 |
| 110-120 | 0.82 |
| 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 | 238 | 238 | 238 | 238 | 232 | 232 | 232 | 232 | 221 | 221 | 221 | 211 | 211 | 211 | 202 | 202 | 202 | 198 |
| 1 | 215 | 204 | 195 | 186 | 209 | 199 | 191 | 183 | 190 | 183 | 177 | 182 | 176 | 171 | 175 | 170 | 166 | 161 |
| 2 | 195 | 177 | 163 | 151 | 189 | 173 | 160 | 149 | 166 | 154 | 145 | 159 | 149 | 141 | 152 | 145 | 138 | 133 |
| 3 | 177 | 155 | 138 | 125 | 172 | 152 | 136 | 123 | 146 | 132 | 121 | 140 | 128 | 119 | 134 | 125 | 116 | 112 |
| 4 | 162 | 138 | 119 | 106 | 157 | 135 | 118 | 105 | 129 | 115 | 103 | 124 | 112 | 101 | 120 | 109 | 100 | 95 |
| 5 | 149 | 123 | 104 | 91 | 145 | 120 | 103 | 90 | 116 | 101 | 89 | 112 | 98 | 88 | 108 | 96 | 87 | 82 |
| 6 | 138 | 111 | 92 | 79 | 134 | 109 | 91 | 79 | 105 | 89 | 78 | 101 | 87 | 77 | 98 | 86 | 76 | 72 |
| 7 | 128 | 100 | 83 | 70 | 124 | 99 | 82 | 70 | 95 | 80 | 69 | 92 | 79 | 68 | 89 | 77 | 68 | 64 |
| 8 | 119 | 92 | 74 | 63 | 116 | 90 | 74 | 62 | 87 | 72 | 62 | 85 | 71 | 61 | 82 | 70 | 61 | 57 |
| 9 | 111 | 84 | 67 | 56 | 108 | 83 | 67 | 56 | 80 | 66 | 56 | 78 | 65 | 55 | 76 | 64 | 55 | 51 |
| 10 | 104 | 78 | 62 | 51 | 102 | 76 | 61 | 51 | 74 | 60 | 51 | 72 | 59 | 50 | 70 | 58 | 50 | 46 |

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UGR TABLE - CORRECTED

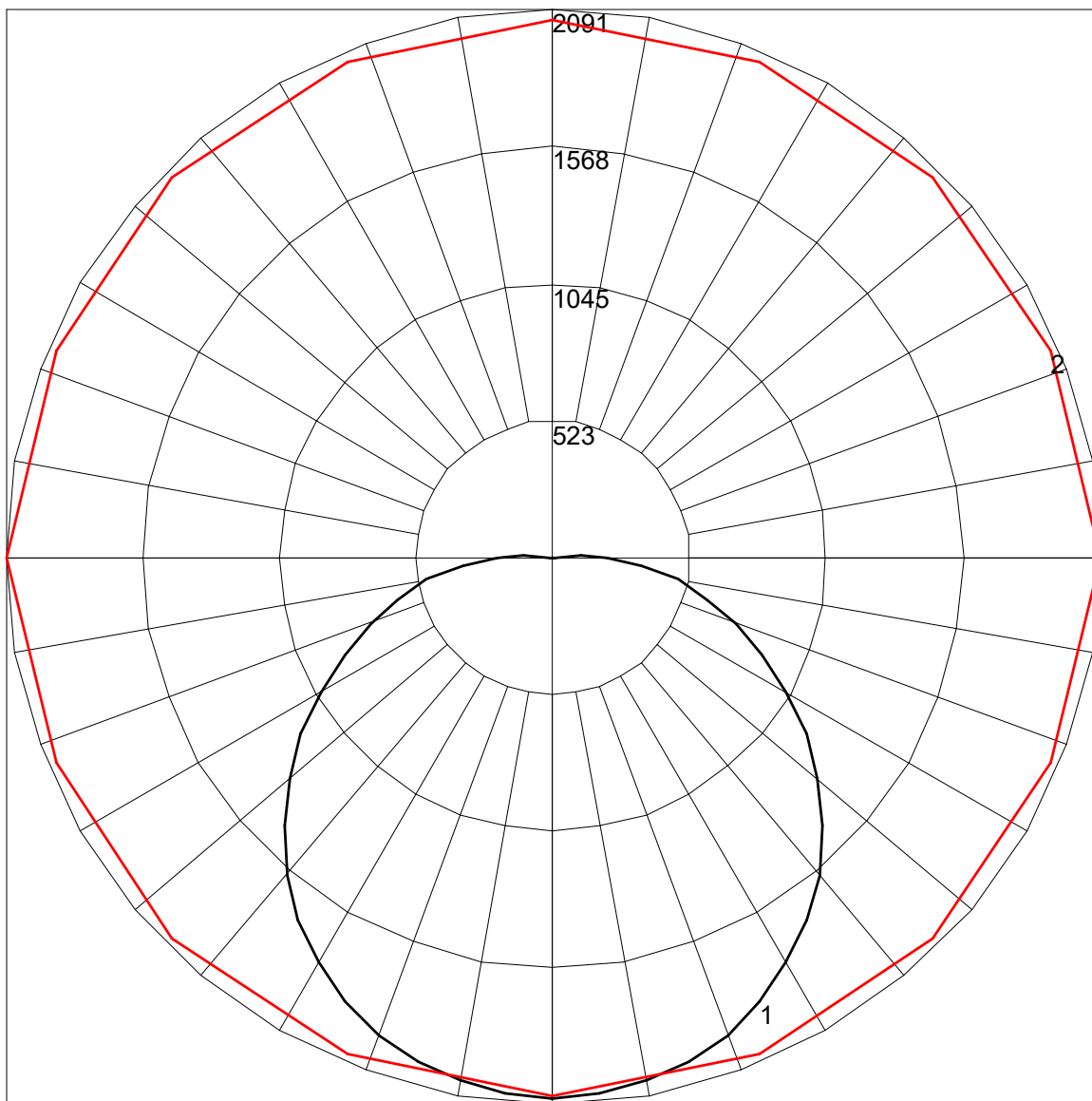
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 12.7 | 14.3 | 13.1 | 14.7 | 15.0 | 15.1 | 16.8 | 15.5 | 17.1 | 17.5 |
| | 3H | 14.1 | 15.6 | 14.5 | 15.9 | 16.3 | 17.3 | 18.8 | 17.7 | 19.1 | 19.5 |
| | 4H | 14.6 | 16.0 | 15.0 | 16.3 | 16.7 | 18.3 | 19.7 | 18.7 | 20.1 | 20.5 |
| | 6H | 14.9 | 16.2 | 15.3 | 16.6 | 17.0 | 19.3 | 20.6 | 19.7 | 21.0 | 21.4 |
| | 8H | 14.9 | 16.2 | 15.4 | 16.6 | 17.0 | 19.7 | 21.0 | 20.2 | 21.4 | 21.8 |
| | 12H | 15.0 | 16.2 | 15.4 | 16.6 | 17.0 | 20.1 | 21.3 | 20.6 | 21.8 | 22.2 |
| 4H | 2H | 13.6 | 15.0 | 14.0 | 15.4 | 15.8 | 15.6 | 17.0 | 16.0 | 17.3 | 17.7 |
| | 3H | 15.3 | 16.5 | 15.7 | 16.9 | 17.3 | 18.0 | 19.2 | 18.4 | 19.6 | 20.0 |
| | 4H | 15.9 | 16.9 | 16.3 | 17.4 | 17.8 | 19.1 | 20.2 | 19.6 | 20.7 | 21.1 |
| | 6H | 16.3 | 17.2 | 16.7 | 17.7 | 18.2 | 20.3 | 21.3 | 20.8 | 21.7 | 22.2 |
| | 8H | 16.4 | 17.3 | 16.9 | 17.8 | 18.2 | 20.9 | 21.8 | 21.3 | 22.2 | 22.7 |
| | 12H | 16.4 | 17.3 | 16.9 | 17.8 | 18.3 | 21.4 | 22.2 | 21.9 | 22.7 | 23.2 |
| 8H | 4H | 16.6 | 17.5 | 17.0 | 17.9 | 18.4 | 19.4 | 20.3 | 19.8 | 20.7 | 21.2 |
| | 6H | 17.2 | 17.9 | 17.7 | 18.4 | 18.9 | 20.7 | 21.5 | 21.2 | 22.0 | 22.5 |
| | 8H | 17.4 | 18.0 | 17.9 | 18.6 | 19.1 | 21.4 | 22.1 | 21.9 | 22.6 | 23.1 |
| | 12H | 17.5 | 18.1 | 18.0 | 18.6 | 19.2 | 22.1 | 22.7 | 22.6 | 23.2 | 23.8 |
| 12H | 4H | 16.7 | 17.5 | 17.2 | 18.0 | 18.5 | 19.4 | 20.2 | 19.9 | 20.7 | 21.2 |
| | 6H | 17.4 | 18.1 | 18.0 | 18.6 | 19.2 | 20.8 | 21.5 | 21.3 | 21.9 | 22.5 |
| | 8H | 17.7 | 18.3 | 18.2 | 18.9 | 19.4 | 21.5 | 22.1 | 22.0 | 22.6 | 23.2 |

Maximum UGR = 23.8

POLAR GRAPH



Maximum Candela = 2090.623 Located At Horizontal Angle = 0, Vertical Angle = 5

1 - Vertical Plane Through Horizontal Angles (90 - 270)

2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)