



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 75R-4-L50-935-(L45)-EM10WLP-DIM-UNV(EM MODE)_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19750.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 09-JAN-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2-56 LED 22"ARRAYS 4'SURFACE MOUNT STRIP LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC ROUND LENS

[LUMCAT] 75R-4-L50-935-(L45)-EM10WLP-DIM-UNV (EM MODE)

[LAMPCAT] HLM 90 CRI 3500K CCT

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Commercial, Industrial, Manufacturing, Utility, Warehouse, Linear

[_SEARCH_MOUNTING] Surface, Suspended

CHARACTERISTICS

| | |
|---------------------------------|---------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 1190 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 119 |
| Total Luminaire Watts | 10 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.22 |
| Spacing Criterion (90-270) | 1.28 |
| Spacing Criterion (Diagonal) | 1.36 |
| Basic Luminous Shape | Rectangular w/Sides |
| Luminous Length (0-180) | 3.72 ft |
| Luminous Width (90-270) | 0.21 ft |
| Luminous Height | 0.10 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 4161 | 3519 | 3512 |
| 55 | 3435 | 3011 | 3092 |
| 65 | 2829 | 2529 | 2605 |
| 75 | 1911 | 2078 | 2134 |
| 85 | 1121 | 1785 | 1750 |

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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 | 381.142 | 381.142 | 381.142 | 381.142 | 381.142 |
| 5 | 385.326 | 379.687 | 379.869 | 378.959 | 375.138 |
| 10 | 378.959 | 374.229 | 375.138 | 374.593 | 371.136 |
| 15 | 367.861 | 364.405 | 366.952 | 368.043 | 364.405 |
| 20 | 351.124 | 350.214 | 354.580 | 356.400 | 354.217 |
| 25 | 331.475 | 332.749 | 338.934 | 343.119 | 341.481 |
| 30 | 308.916 | 310.735 | 321.287 | 327.655 | 327.291 |
| 35 | 281.445 | 284.720 | 300.002 | 308.916 | 310.190 |
| 40 | 252.154 | 254.519 | 273.804 | 287.267 | 290.359 |
| 45 | 217.588 | 223.591 | 245.787 | 263.616 | 267.982 |
| 50 | 181.747 | 191.390 | 218.497 | 237.964 | 243.422 |
| 55 | 147.363 | 159.916 | 190.480 | 210.856 | 218.679 |
| 60 | 118.618 | 130.261 | 163.555 | 183.931 | 192.117 |
| 65 | 91.147 | 103.882 | 138.448 | 157.005 | 164.100 |
| 70 | 63.857 | 80.959 | 114.616 | 130.807 | 137.721 |
| 75 | 39.297 | 61.128 | 92.602 | 107.884 | 113.888 |
| 80 | 21.832 | 42.208 | 73.863 | 88.054 | 91.874 |
| 85 | 9.278 | 29.109 | 58.945 | 71.134 | 73.681 |
| 90 | 1.274 | 20.012 | 45.664 | 56.398 | 59.855 |
| 95 | 0.182 | 13.645 | 36.568 | 44.755 | 48.393 |
| 100 | 0.000 | 8.915 | 28.381 | 36.568 | 39.479 |
| 105 | 0.000 | 6.368 | 22.013 | 29.836 | 32.202 |
| 110 | 0.000 | 4.366 | 16.919 | 24.379 | 26.380 |
| 115 | 0.000 | 3.639 | 13.827 | 20.376 | 21.832 |
| 120 | 0.000 | 2.729 | 10.552 | 16.738 | 18.193 |
| 125 | 0.000 | 1.637 | 7.823 | 13.281 | 14.918 |
| 130 | 0.000 | 1.092 | 5.640 | 10.370 | 11.825 |
| 135 | 0.000 | 0.546 | 4.184 | 8.187 | 9.278 |
| 140 | 0.000 | 0.546 | 2.911 | 6.368 | 7.277 |
| 145 | 0.000 | 0.000 | 1.819 | 4.002 | 5.094 |
| 150 | 0.000 | 0.000 | 1.274 | 2.911 | 3.639 |
| 155 | 0.000 | 0.000 | 0.910 | 1.455 | 2.365 |
| 160 | 0.000 | 0.000 | 0.364 | 1.092 | 1.274 |
| 165 | 0.000 | 0.000 | 0.000 | 0.364 | 0.546 |
| 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 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 75R-4-L50-935-(L45)-EM10WLP-DIM-UNV(EM MODE)_.IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 139.37 | N.A. | 11.70 |
| 0-30 | 295.05 | N.A. | 24.80 |
| 0-40 | 480.83 | N.A. | 40.40 |
| 0-60 | 835.89 | N.A. | 70.20 |
| 0-80 | 1056.89 | N.A. | 88.80 |
| 0-90 | 1112.43 | N.A. | 93.50 |
| 10-90 | 1076.35 | N.A. | 90.50 |
| 20-40 | 341.46 | N.A. | 28.70 |
| 20-50 | 529.69 | N.A. | 44.50 |
| 40-70 | 485.96 | N.A. | 40.80 |
| 60-80 | 221.00 | N.A. | 18.60 |
| 70-80 | 90.10 | N.A. | 7.60 |
| 80-90 | 55.54 | N.A. | 4.70 |
| 90-110 | 53.01 | N.A. | 4.50 |
| 90-120 | 65.16 | N.A. | 5.50 |
| 90-130 | 72.06 | N.A. | 6.10 |
| 90-150 | 76.98 | N.A. | 6.50 |
| 90-180 | 77.50 | N.A. | 6.50 |
| 110-180 | 24.49 | N.A. | 2.10 |
| 0-180 | 1189.93 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 36.08 |
| 10-20 | 103.29 |
| 20-30 | 155.68 |
| 30-40 | 185.78 |
| 40-50 | 188.24 |
| 50-60 | 166.82 |
| 60-70 | 130.90 |
| 70-80 | 90.10 |
| 80-90 | 55.54 |
| 90-100 | 33.07 |
| 100-110 | 19.94 |
| 110-120 | 12.15 |
| 120-130 | 6.90 |
| 130-140 | 3.49 |
| 140-150 | 1.44 |
| 150-160 | 0.45 |
| 160-170 | 0.07 |
| 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 | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 102 | 102 | 102 | 96 | 96 | 96 | 93 |
| 1 | 106 | 101 | 96 | 92 | 103 | 98 | 94 | 90 | 92 | 89 | 86 | 87 | 84 | 82 | 83 | 80 | 78 | 76 |
| 2 | 96 | 87 | 80 | 74 | 93 | 85 | 78 | 73 | 80 | 75 | 70 | 76 | 72 | 68 | 72 | 68 | 65 | 62 |
| 3 | 88 | 77 | 68 | 61 | 84 | 75 | 67 | 60 | 71 | 64 | 59 | 67 | 61 | 57 | 64 | 59 | 55 | 52 |
| 4 | 80 | 68 | 59 | 52 | 77 | 66 | 58 | 51 | 63 | 56 | 50 | 60 | 53 | 48 | 57 | 51 | 47 | 45 |
| 5 | 74 | 61 | 51 | 45 | 71 | 59 | 51 | 44 | 56 | 49 | 43 | 54 | 47 | 42 | 51 | 45 | 41 | 39 |
| 6 | 68 | 55 | 46 | 39 | 66 | 53 | 45 | 39 | 51 | 43 | 38 | 48 | 42 | 37 | 46 | 41 | 36 | 34 |
| 7 | 63 | 49 | 41 | 34 | 61 | 48 | 40 | 34 | 46 | 39 | 33 | 44 | 38 | 33 | 42 | 36 | 32 | 30 |
| 8 | 59 | 45 | 37 | 31 | 57 | 44 | 36 | 30 | 42 | 35 | 30 | 41 | 34 | 29 | 39 | 33 | 29 | 27 |
| 9 | 55 | 41 | 33 | 28 | 53 | 41 | 33 | 27 | 39 | 32 | 27 | 37 | 31 | 26 | 36 | 30 | 26 | 24 |
| 10 | 51 | 38 | 30 | 25 | 50 | 37 | 30 | 25 | 36 | 29 | 24 | 35 | 28 | 24 | 33 | 28 | 24 | 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

| X=2H | Y=2H | 14.4 | 15.9 | 14.9 | 16.4 | 16.9 | 16.8 | 18.3 | 17.2 | 18.7 | 19.2 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| | 3H | 15.9 | 17.3 | 16.4 | 17.7 | 18.3 | 19.0 | 20.3 | 19.4 | 20.8 | 21.3 |
| | 4H | 16.4 | 17.7 | 16.9 | 18.2 | 18.7 | 20.0 | 21.3 | 20.5 | 21.8 | 22.3 |
| | 6H | 16.7 | 17.9 | 17.2 | 18.4 | 19.0 | 21.0 | 22.2 | 21.6 | 22.7 | 23.3 |
| | 8H | 16.8 | 18.0 | 17.3 | 18.5 | 19.0 | 21.6 | 22.7 | 22.1 | 23.2 | 23.8 |
| | 12H | 16.9 | 18.0 | 17.4 | 18.5 | 19.1 | 22.1 | 23.2 | 22.7 | 23.7 | 24.3 |

UGR Viewed Endwise

| | | | | | | | | | | | |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H | 2H | 15.2 | 16.5 | 15.7 | 17.0 | 17.5 | 17.1 | 18.4 | 17.6 | 18.9 | 19.4 |
| | 3H | 16.9 | 18.0 | 17.4 | 18.5 | 19.1 | 19.5 | 20.6 | 20.0 | 21.1 | 21.7 |
| | 4H | 17.5 | 18.5 | 18.1 | 19.1 | 19.6 | 20.7 | 21.7 | 21.2 | 22.2 | 22.8 |
| | 6H | 18.0 | 18.8 | 18.5 | 19.4 | 20.0 | 21.9 | 22.8 | 22.5 | 23.4 | 24.0 |
| | 8H | 18.1 | 18.9 | 18.7 | 19.5 | 20.1 | 22.5 | 23.4 | 23.1 | 23.9 | 24.6 |
| | 12H | 18.2 | 18.9 | 18.8 | 19.5 | 20.2 | 23.2 | 24.0 | 23.8 | 24.6 | 25.2 |

| | | | | | | | | | | | |
|----|-----|------|------|------|------|------|------|------|------|------|------|
| 8H | 4H | 18.0 | 18.9 | 18.6 | 19.4 | 20.0 | 20.9 | 21.7 | 21.4 | 22.2 | 22.9 |
| | 6H | 18.6 | 19.3 | 19.2 | 20.0 | 20.6 | 22.2 | 22.9 | 22.8 | 23.5 | 24.1 |
| | 8H | 18.9 | 19.5 | 19.5 | 20.1 | 20.8 | 23.0 | 23.6 | 23.6 | 24.2 | 24.9 |
| | 12H | 19.1 | 19.6 | 19.7 | 20.2 | 21.0 | 23.8 | 24.4 | 24.4 | 25.0 | 25.7 |

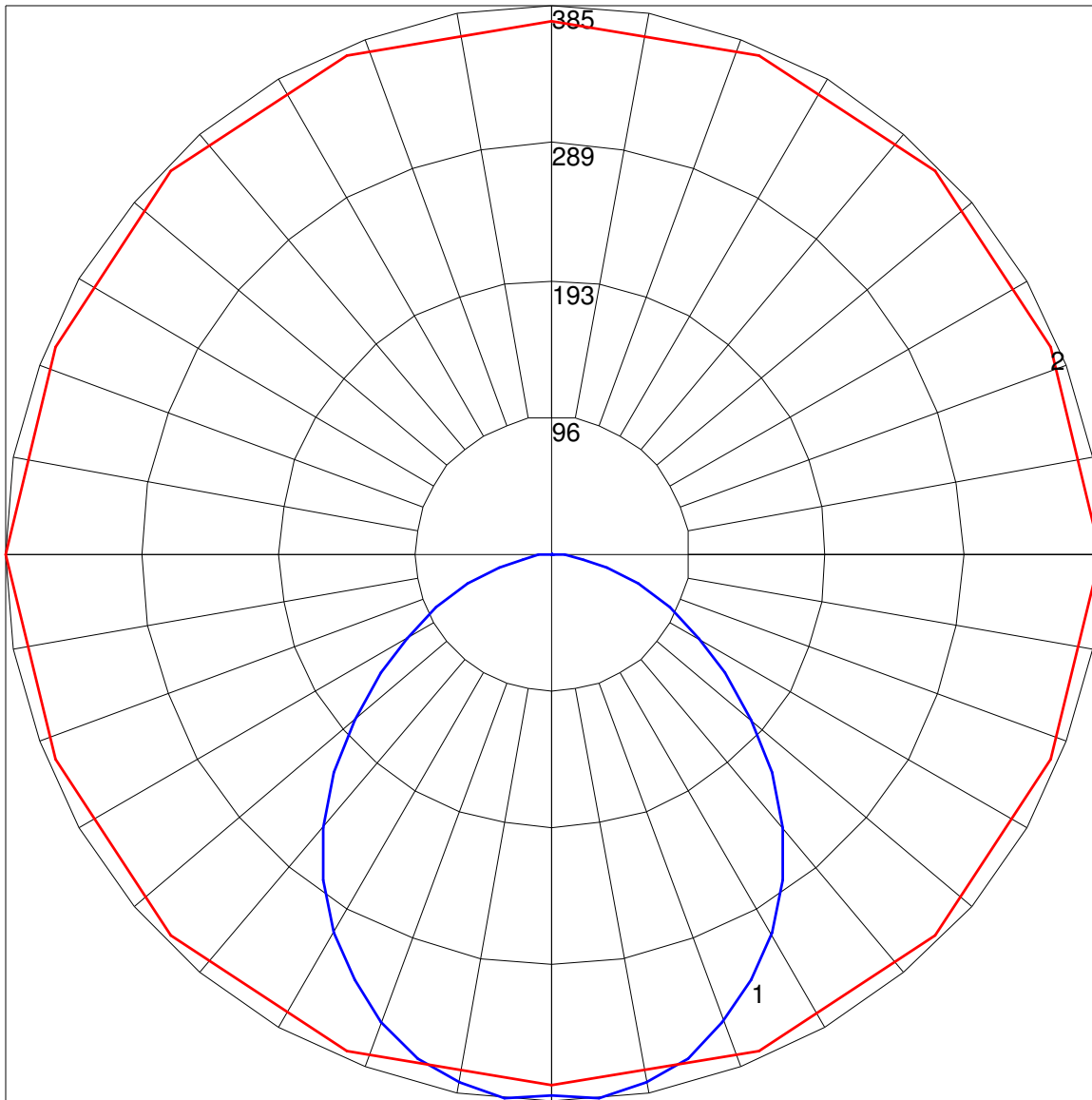
| | | | | | | | | | | | |
|-----|----|------|------|------|------|------|------|------|------|------|------|
| 12H | 4H | 18.1 | 18.9 | 18.7 | 19.5 | 20.1 | 20.8 | 21.6 | 21.4 | 22.2 | 22.8 |
| | 6H | 18.9 | 19.5 | 19.5 | 20.1 | 20.7 | 22.3 | 22.9 | 22.9 | 23.5 | 24.2 |
| | 8H | 19.2 | 19.7 | 19.8 | 20.3 | 21.0 | 23.1 | 23.6 | 23.7 | 24.2 | 24.9 |

Maximum UGR = 25.7

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POLAR GRAPH



Maximum Candela = 385.326 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.)