



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AP-24-L70-830-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM LLI-20113-2
 [TESTLAB] LightLab International (www.LightLabInt.com)
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] AP-24-L70-830-DIM-UNV_
 [LUMINAIRE] RECESSED 2 X 4 ARCHED CENTER LED LUMINAIRE
 [MORE] White steel fabricated housing with frosted white concave lens.
 [MORE] 360 LEDs with 180 mounted along each long side of clear plastic sheet.
 [ISSUE DATE] 2023-10-24
 [SEARCH_SOURCETYPE] LED
 [SEARCH_APPLICATION] Indoor, Architectural, Direct-Indirect
 [SEARCH_MOUNTING] Recessed
 [CONVERT] Photometric web converted from original test data

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 6965 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 109 |
| Total Luminaire Watts | 63.8 |
| 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 |
| Luminous Length (0-180) | 1.16 m |
| Luminous Width (90-270) | 0.57 m |
| Luminous Height | 0.00 m |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 3409 | 3420 | 3453 |
| 55 | 3291 | 3311 | 3364 |
| 65 | 3106 | 3141 | 3196 |
| 75 | 2800 | 2820 | 2922 |
| 85 | 2147 | 2046 | 2117 |

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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 | 2394.991 | 2394.991 | 2394.991 | 2394.991 | 2394.991 |
| 5 | 2388.696 | 2387.472 | 2385.328 | 2382.277 | 2378.236 |
| 10 | 2354.676 | 2354.237 | 2353.481 | 2351.584 | 2347.474 |
| 15 | 2300.369 | 2300.040 | 2300.150 | 2300.576 | 2297.359 |
| 20 | 2226.654 | 2226.929 | 2227.520 | 2230.324 | 2228.428 |
| 25 | 2134.576 | 2134.933 | 2136.693 | 2140.802 | 2140.857 |
| 30 | 2025.879 | 2026.223 | 2028.642 | 2034.236 | 2035.391 |
| 35 | 1899.493 | 1900.414 | 1903.630 | 1909.981 | 1913.389 |
| 40 | 1758.441 | 1759.540 | 1763.293 | 1770.660 | 1775.595 |
| 45 | 1603.093 | 1604.097 | 1608.179 | 1616.921 | 1623.422 |
| 50 | 1435.045 | 1436.351 | 1441.245 | 1450.742 | 1459.099 |
| 55 | 1255.218 | 1256.991 | 1262.723 | 1273.293 | 1282.983 |
| 60 | 1067.144 | 1068.834 | 1075.528 | 1087.156 | 1096.297 |
| 65 | 872.760 | 874.918 | 882.684 | 889.667 | 898.092 |
| 70 | 675.930 | 678.129 | 683.201 | 689.414 | 698.871 |
| 75 | 481.863 | 484.351 | 485.381 | 493.409 | 502.934 |
| 80 | 295.713 | 295.630 | 297.018 | 302.076 | 309.004 |
| 85 | 124.435 | 121.067 | 118.593 | 119.555 | 122.716 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 875.76 | N.A. | 12.60 |
| 0-30 | 1861.03 | N.A. | 26.70 |
| 0-40 | 3052.84 | N.A. | 43.80 |
| 0-60 | 5425.97 | N.A. | 77.90 |
| 0-80 | 6817.37 | N.A. | 97.90 |
| 0-90 | 6964.53 | N.A. | 100.00 |
| 10-90 | 6737.92 | N.A. | 96.70 |
| 20-40 | 2177.09 | N.A. | 31.30 |
| 20-50 | 3419.33 | N.A. | 49.10 |
| 40-70 | 3246.92 | N.A. | 46.60 |
| 60-80 | 1391.4 | N.A. | 20.00 |
| 70-80 | 517.60 | N.A. | 7.40 |
| 80-90 | 147.16 | N.A. | 2.10 |
| 90-110 | 0.00 | N.A. | 0.00 |
| 90-120 | 0.00 | N.A. | 0.00 |
| 90-130 | 0.00 | N.A. | 0.00 |
| 90-150 | 0.00 | N.A. | 0.00 |
| 90-180 | 0.00 | N.A. | 0.00 |
| 110-180 | 0.00 | N.A. | 0.00 |
| 0-180 | 6964.53 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 226.60 |
| 10-20 | 649.15 |
| 20-30 | 985.27 |
| 30-40 | 1191.82 |
| 40-50 | 1242.25 |
| 50-60 | 1130.88 |
| 60-70 | 873.79 |
| 70-80 | 517.60 |
| 80-90 | 147.16 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 74 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 63 | 74 | 68 | 62 | 72 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | 64 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 42 |
| 6 | 70 | 56 | 47 | 40 | 68 | 55 | 46 | 40 | 53 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 29 | 55 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 25 | 24 |

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UGR TABLE - CORRECTED

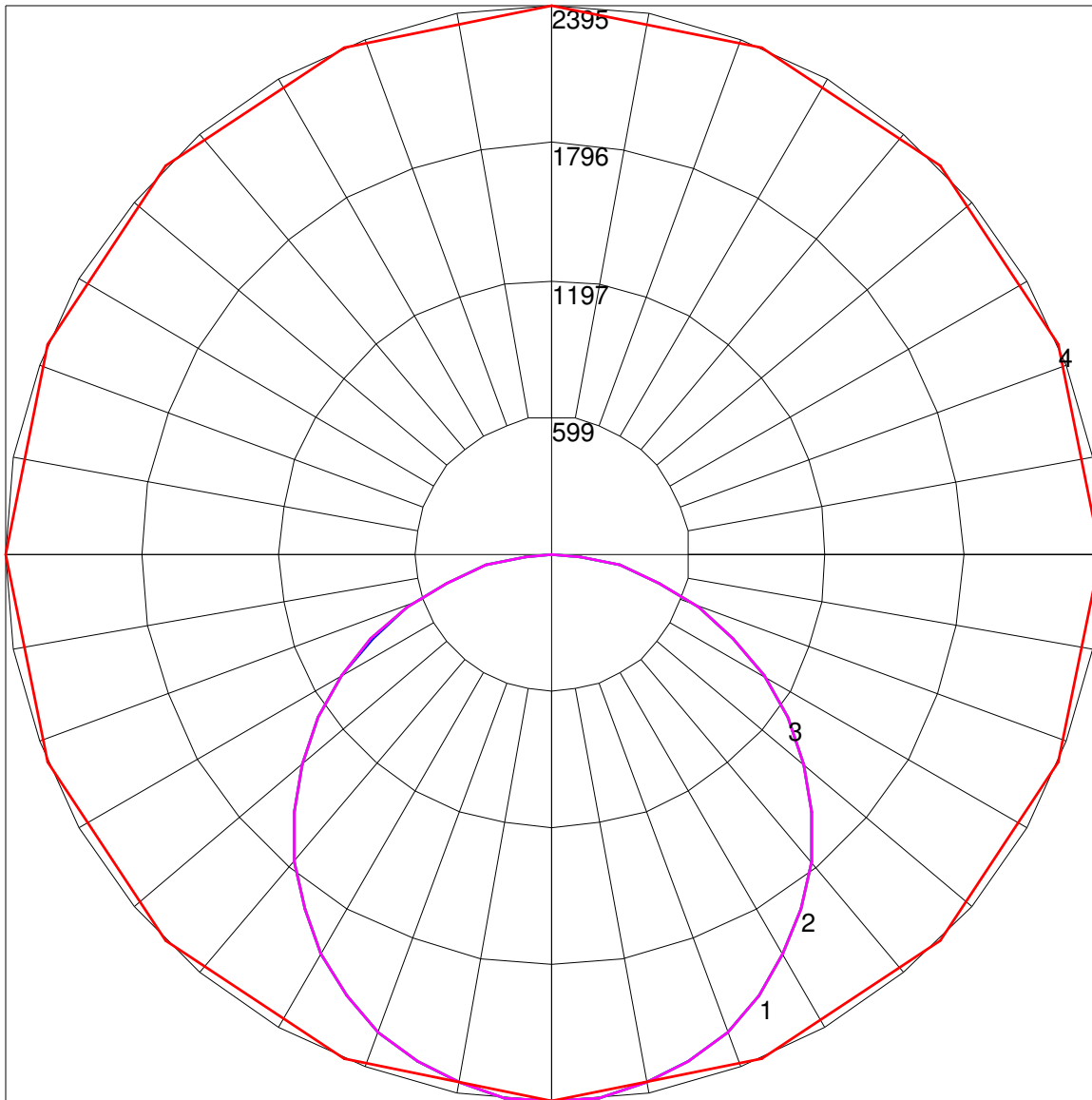
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 16.2 | 17.9 | 16.6 | 18.2 | 18.5 | 16.4 | 18.0 | 16.7 | 18.3 | 18.6 |
| | 3H | 18.1 | 19.6 | 18.5 | 19.9 | 20.3 | 18.2 | 19.7 | 18.6 | 20.1 | 20.4 |
| | 4H | 18.8 | 20.2 | 19.2 | 20.6 | 21.0 | 19.0 | 20.4 | 19.4 | 20.7 | 21.1 |
| | 6H | 19.4 | 20.7 | 19.8 | 21.0 | 21.4 | 19.5 | 20.8 | 19.9 | 21.2 | 21.6 |
| | 8H | 19.5 | 20.8 | 20.0 | 21.2 | 21.6 | 19.7 | 21.0 | 20.1 | 21.4 | 21.8 |
| | 12H | 19.6 | 20.9 | 20.1 | 21.2 | 21.7 | 19.8 | 21.0 | 20.2 | 21.4 | 21.8 |
| 4H | 2H | 16.9 | 18.3 | 17.3 | 18.7 | 19.0 | 17.0 | 18.4 | 17.4 | 18.8 | 19.1 |
| | 3H | 19.0 | 20.2 | 19.4 | 20.6 | 21.0 | 19.1 | 20.3 | 19.5 | 20.7 | 21.1 |
| | 4H | 19.8 | 20.9 | 20.3 | 21.3 | 21.8 | 20.0 | 21.0 | 20.4 | 21.5 | 21.9 |
| | 6H | 20.5 | 21.5 | 21.0 | 21.9 | 22.3 | 20.7 | 21.6 | 21.1 | 22.0 | 22.5 |
| | 8H | 20.7 | 21.6 | 21.2 | 22.1 | 22.5 | 20.9 | 21.8 | 21.4 | 22.2 | 22.7 |
| | 12H | 20.9 | 21.7 | 21.4 | 22.2 | 22.6 | 21.1 | 21.8 | 21.5 | 22.3 | 22.8 |
| 8H | 4H | 20.2 | 21.1 | 20.7 | 21.5 | 22.0 | 20.3 | 21.2 | 20.8 | 21.6 | 22.1 |
| | 6H | 21.0 | 21.7 | 21.5 | 22.2 | 22.7 | 21.1 | 21.8 | 21.6 | 22.3 | 22.8 |
| | 8H | 21.3 | 21.9 | 21.8 | 22.4 | 22.9 | 21.4 | 22.1 | 21.9 | 22.6 | 23.1 |
| | 12H | 21.5 | 22.1 | 22.0 | 22.6 | 23.1 | 21.6 | 22.2 | 22.1 | 22.7 | 23.3 |
| 12H | 4H | 20.2 | 21.0 | 20.7 | 21.5 | 22.0 | 20.3 | 21.1 | 20.8 | 21.6 | 22.1 |
| | 6H | 21.1 | 21.7 | 21.6 | 22.2 | 22.7 | 21.2 | 21.8 | 21.7 | 22.3 | 22.8 |
| | 8H | 21.4 | 22.0 | 21.9 | 22.5 | 23.0 | 21.5 | 22.1 | 22.0 | 22.6 | 23.2 |

Maximum UGR = 23.3

POLAR GRAPH



Maximum Candela = 2394.991 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (5 - 185)
3 - Vertical Plane Through Horizontal Angles (10 - 190)
4 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)