



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L110-930-AF-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20802.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 2023-07-24
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2x4' RECESSED LED LUMINAIRE
 [LUMINAIRE] WHITE REFLECTOR w/FROSTED CENTER LENS
 [LUMINAIRE] 0-10V DIMMING DRIVER
 [LUMCAT] LT-24-L110-930-AF-DIM-UNV
 [LAMPCAT] 22 INCH LED ARRAYS
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Classroom, Office, Direct
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 9073 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 111 |
| Total Luminaire Watts | 81.8 |
| 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 |
| Luminous Length (0-180) | 3.93 ft |
| Luminous Width (90-270) | 1.91 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 3749 | 4166 | 4482 |
| 55 | 3410 | 4042 | 4519 |
| 65 | 2913 | 4017 | 4731 |
| 75 | 2147 | 4219 | 5293 |
| 85 | 822 | 3387 | 3113 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : LT-24-L110-930-AF-DIM-UNV_.IES

CANDELA TABULATION

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> |
|-----------|------------|-------------|-------------|-------------|-------------|
| 0 | 3151.856 | 3151.856 | 3151.856 | 3151.856 | 3151.856 |
| 5 | 3182.075 | 3144.302 | 3124.659 | 3117.104 | 3117.104 |
| 10 | 3123.148 | 3083.863 | 3073.287 | 3074.798 | 3070.265 |
| 15 | 3029.469 | 3002.272 | 2997.739 | 3008.315 | 3014.359 |
| 20 | 2907.081 | 2882.906 | 2893.483 | 2922.191 | 2928.235 |
| 25 | 2746.920 | 2725.766 | 2763.540 | 2804.336 | 2813.402 |
| 30 | 2562.583 | 2558.050 | 2609.423 | 2663.817 | 2684.971 |
| 35 | 2346.516 | 2364.648 | 2440.196 | 2509.700 | 2535.386 |
| 40 | 2118.362 | 2151.603 | 2267.946 | 2348.027 | 2378.246 |
| 45 | 1844.879 | 1902.295 | 2050.369 | 2183.333 | 2205.997 |
| 50 | 1616.724 | 1687.739 | 1832.791 | 1962.733 | 2000.507 |
| 55 | 1361.372 | 1432.387 | 1613.702 | 1752.710 | 1804.083 |
| 60 | 1110.553 | 1189.123 | 1382.526 | 1550.242 | 1598.593 |
| 65 | 856.713 | 965.502 | 1181.568 | 1344.752 | 1391.591 |
| 70 | 619.492 | 741.880 | 965.502 | 1139.262 | 1177.036 |
| 75 | 386.805 | 536.390 | 760.011 | 915.640 | 953.414 |
| 80 | 185.848 | 347.520 | 551.499 | 624.025 | 602.872 |
| 85 | 49.862 | 172.249 | 205.490 | 182.826 | 188.870 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : LT-24-L110-930-AF-DIM-UNV_.IES

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 1145.95 | N.A. | 12.60 |
| 0-30 | 2422.02 | N.A. | 26.70 |
| 0-40 | 3949.02 | N.A. | 43.50 |
| 0-60 | 6953.29 | N.A. | 76.60 |
| 0-80 | 8850.03 | N.A. | 97.50 |
| 0-90 | 9073.01 | N.A. | 100.00 |
| 10-90 | 8775.5 | N.A. | 96.70 |
| 20-40 | 2803.07 | N.A. | 30.90 |
| 20-50 | 4378.84 | N.A. | 48.30 |
| 40-70 | 4146.9 | N.A. | 45.70 |
| 60-80 | 1896.74 | N.A. | 20.90 |
| 70-80 | 754.11 | N.A. | 8.30 |
| 80-90 | 222.98 | N.A. | 2.50 |
| 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 | 9073.01 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 297.51 |
| 10-20 | 848.44 |
| 20-30 | 1276.07 |
| 30-40 | 1527.00 |
| 40-50 | 1575.77 |
| 50-60 | 1428.5 |
| 60-70 | 1142.63 |
| 70-80 | 754.11 |
| 80-90 | 222.98 |
| 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 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : LT-24-L110-930-AF-DIM-UNV_.IES

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 | 103 | 99 | 95 | 105 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 87 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 82 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 70 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 59 | 57 |
| 4 | 82 | 69 | 60 | 53 | 79 | 68 | 60 | 53 | 65 | 58 | 52 | 63 | 57 | 52 | 61 | 55 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 62 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 37 | 32 | 58 | 45 | 37 | 31 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 30 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

IES INDOOR REPORT
PHOTOMETRIC FILENAME : LT-24-L110-930-AF-DIM-UNV_.IES

UGR TABLE - CORRECTED

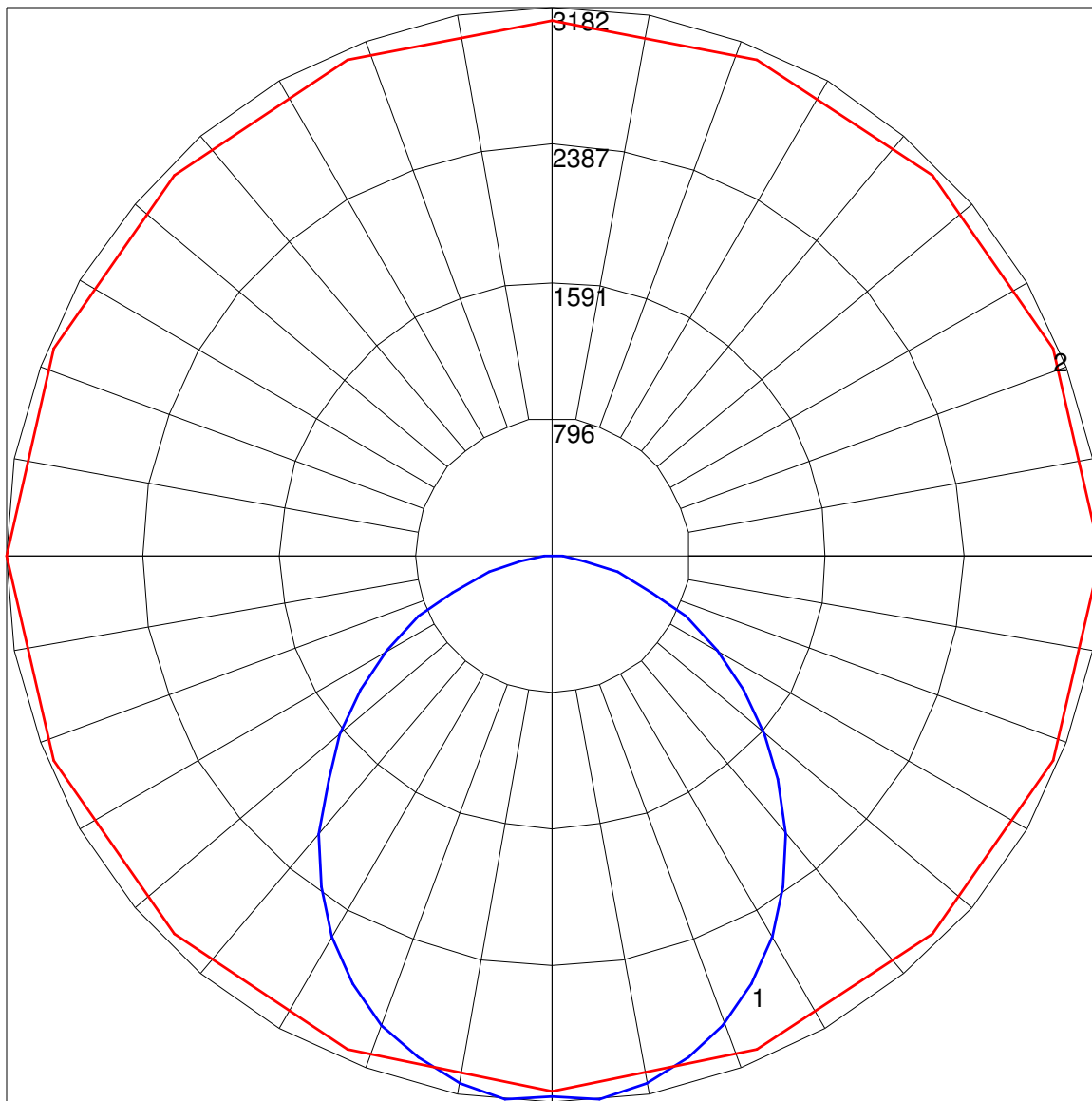
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | 16.0 | 17.7 | 16.4 | 18.0 | 18.3 | 17.7 | 19.4 | 18.1 | 19.7 | 20.0 |
| | 3H | 17.6 | 19.1 | 18.0 | 19.4 | 19.8 | 20.1 | 21.6 | 20.5 | 21.9 | 22.3 |
| | 4H | 18.1 | 19.5 | 18.5 | 19.9 | 20.3 | 21.1 | 22.6 | 21.5 | 22.9 | 23.3 |
| | 6H | 18.4 | 19.8 | 18.8 | 20.1 | 20.5 | 22.0 | 23.3 | 22.4 | 23.7 | 24.1 |
| | 8H | 18.5 | 19.8 | 18.9 | 20.2 | 20.6 | 22.2 | 23.5 | 22.6 | 23.9 | 24.3 |
| | 12H | 18.5 | 19.8 | 19.0 | 20.1 | 20.6 | 22.3 | 23.6 | 22.8 | 23.9 | 24.4 |
| 4H | 2H | 17.0 | 18.4 | 17.4 | 18.7 | 19.1 | 18.3 | 19.7 | 18.7 | 20.1 | 20.4 |
| | 3H | 18.8 | 20.0 | 19.2 | 20.4 | 20.8 | 20.9 | 22.1 | 21.3 | 22.5 | 22.9 |
| | 4H | 19.5 | 20.6 | 19.9 | 21.0 | 21.5 | 22.2 | 23.3 | 22.6 | 23.7 | 24.1 |
| | 6H | 20.0 | 20.9 | 20.4 | 21.4 | 21.8 | 23.2 | 24.2 | 23.7 | 24.6 | 25.0 |
| | 8H | 20.1 | 21.0 | 20.6 | 21.4 | 21.9 | 23.5 | 24.4 | 24.0 | 24.8 | 25.3 |
| | 12H | 20.2 | 21.0 | 20.6 | 21.4 | 21.9 | 23.7 | 24.5 | 24.1 | 24.9 | 25.4 |
| 8H | 4H | 20.3 | 21.2 | 20.7 | 21.6 | 22.1 | 22.5 | 23.4 | 23.0 | 23.8 | 24.3 |
| | 6H | 20.9 | 21.7 | 21.4 | 22.2 | 22.6 | 23.7 | 24.4 | 24.2 | 24.9 | 25.4 |
| | 8H | 21.2 | 21.8 | 21.7 | 22.3 | 22.8 | 24.1 | 24.8 | 24.6 | 25.3 | 25.8 |
| | 12H | 21.3 | 21.9 | 21.8 | 22.4 | 22.9 | 24.3 | 24.9 | 24.8 | 25.4 | 26.0 |
| 12H | 4H | 20.4 | 21.2 | 20.9 | 21.7 | 22.2 | 22.5 | 23.3 | 23.0 | 23.8 | 24.3 |
| | 6H | 21.2 | 21.9 | 21.7 | 22.3 | 22.9 | 23.8 | 24.4 | 24.3 | 24.9 | 25.4 |
| | 8H | 21.5 | 22.1 | 22.0 | 22.6 | 23.1 | 24.2 | 24.8 | 24.7 | 25.3 | 25.9 |

Maximum UGR = 26.0

POLAR GRAPH



Maximum Candela = 3182.075 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.)