H.E. WILLIAMS, INC.

**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : PT-22-L26-950-SA-DIM-UNV_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002
[TEST] BALLABS TEST NO. 20789.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-23
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 1-84 LED 22"ARRAY 2x2 LUMINAIRE
[MORE] WHITE REFLECTOR w/FROST SQUARED RIBBED LENS
[MORE] ADVANCE #C1042C092V045CNN1
[LUMCAT] PT-22-L26-950-SA-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

**CHARACTERISTICS**

| | |
|---|---|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 2711 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 126 |
| Total Luminaire Watts | 21.5 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.18 |
| Spacing Criterion (90-270) | 1.14 |
| Spacing Criterion (Diagonal) | 1.28 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 1.92 ft |
| Luminous Width (90-270) | 1.98 ft |
| Luminous Height | 0.00 ft |

**LUMINANCE DATA (cd/sq.m)**

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 2423 | 2388 | 2354 |
| 55 | 2178 | 2197 | 2258 |
| 65 | 1906 | 2079 | 2334 |
| 75 | 1486 | 2093 | 2706 |
| 85 | 773 | 1948 | 2625 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 1074.318 | 1074.318 | 1074.318 | 1074.318 | 1074.318 |
| **5** | 1074.318 | 1067.387 | 1062.931 | 1063.426 | 1062.436 |
| **10** | 1051.544 | 1046.098 | 1041.643 | 1039.662 | 1038.177 |
| **15** | 1014.413 | 1010.453 | 1005.502 | 1001.541 | 1000.551 |
| **20** | 972.332 | 965.896 | 954.014 | 951.539 | 949.063 |
| **25** | 910.942 | 908.467 | 894.605 | 887.674 | 883.218 |
| **30** | 841.136 | 837.176 | 827.769 | 816.878 | 809.451 |
| **35** | 762.419 | 763.409 | 751.527 | 740.636 | 736.180 |
| **40** | 681.721 | 684.197 | 672.315 | 664.889 | 661.918 |
| **45** | 604.489 | 603.004 | 595.578 | 593.103 | 587.162 |
| **50** | 522.307 | 523.792 | 516.861 | 522.802 | 517.851 |
| **55** | 440.619 | 445.075 | 444.579 | 456.956 | 456.956 |
| **60** | 360.416 | 363.387 | 376.259 | 393.091 | 400.518 |
| **65** | 284.174 | 291.601 | 309.918 | 334.177 | 348.039 |
| **70** | 206.942 | 219.814 | 250.509 | 281.699 | 298.532 |
| **75** | 135.651 | 158.425 | 191.100 | 227.240 | 247.044 |
| **80** | 71.786 | 97.530 | 134.166 | 169.812 | 188.129 |
| **85** | 23.764 | 39.606 | 59.904 | 73.271 | 80.698 |
| **90** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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## ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 384.46 | N.A. | 14.20 |
| 0-30 | 797.16 | N.A. | 29.40 |
| 0-40 | 1267.2 | N.A. | 46.70 |
| 0-60 | 2130.29 | N.A. | 78.60 |
| 0-80 | 2643.96 | N.A. | 97.50 |
| 0-90 | 2710.75 | N.A. | 100.00 |
| 10-90 | 2609.74 | N.A. | 96.30 |
| 20-40 | 882.74 | N.A. | 32.60 |
| 20-50 | 1343.78 | N.A. | 49.60 |
| 40-70 | 1173.98 | N.A. | 43.30 |
| 60-80 | 513.67 | N.A. | 18.90 |
| 70-80 | 202.78 | N.A. | 7.50 |
| 80-90 | 66.79 | 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 | 2710.75 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

## ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---|---|
| 0-10 | 101.01 |
| 10-20 | 283.45 |
| 20-30 | 412.69 |
| 30-40 | 470.04 |
| 40-50 | 461.04 |
| 50-60 | 402.05 |
| 60-70 | 310.89 |
| 70-80 | 202.78 |
| 80-90 | 66.79 |
| 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 | 109 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 91 | 88 | 90 | 87 | 85 | 83 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 82 | 77 | 85 | 80 | 75 | 82 | 77 | 73 | 79 | 75 | 72 | 70 |
| 3 | 90 | 80 | 72 | 65 | 88 | 78 | 71 | 64 | 75 | 69 | 63 | 72 | 67 | 62 | 70 | 65 | 61 | 59 |
| 4 | 83 | 71 | 62 | 55 | 80 | 69 | 61 | 55 | 67 | 60 | 54 | 65 | 58 | 53 | 62 | 57 | 53 | 51 |
| 5 | 76 | 63 | 54 | 48 | 74 | 62 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 56 | 51 | 46 | 44 |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 55 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 41 | 39 |
| 7 | 66 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 36 | 34 |
| 8 | 61 | 48 | 39 | 33 | 60 | 47 | 39 | 33 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 36 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 37 | 31 | 27 | 25 |

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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 | 14.5 | 16.1 | 14.9 | 16.4 | 16.7 | 14.9 | 16.5 | 15.2 | 16.8 | 17.1 |
| | 3H | 16.1 | 17.6 | 16.5 | 17.9 | 18.3 | 17.1 | 18.6 | 17.5 | 18.9 | 19.3 |
| | 4H | 16.7 | 18.1 | 17.1 | 18.4 | 18.8 | 18.2 | 19.6 | 18.6 | 19.9 | 20.3 |
| | 6H | 17.1 | 18.3 | 17.5 | 18.7 | 19.1 | 19.2 | 20.5 | 19.6 | 20.9 | 21.3 |
| | 8H | 17.2 | 18.4 | 17.6 | 18.8 | 19.2 | 19.6 | 20.8 | 20.0 | 21.2 | 21.6 |
| | 12H | 17.2 | 18.4 | 17.6 | 18.8 | 19.2 | 19.9 | 21.0 | 20.3 | 21.4 | 21.9 |
| 4H | 2H | 15.2 | 16.5 | 15.6 | 16.9 | 17.3 | 15.5 | 16.9 | 15.9 | 17.2 | 17.6 |
| | 3H | 17.0 | 18.2 | 17.5 | 18.6 | 19.0 | 18.0 | 19.2 | 18.4 | 19.5 | 19.9 |
| | 4H | 17.8 | 18.8 | 18.2 | 19.2 | 19.7 | 19.2 | 20.3 | 19.7 | 20.7 | 21.1 |
| | 6H | 18.3 | 19.2 | 18.7 | 19.7 | 20.1 | 20.4 | 21.4 | 20.9 | 21.8 | 22.3 |
| | 8H | 18.4 | 19.3 | 18.9 | 19.7 | 20.2 | 20.9 | 21.8 | 21.4 | 22.2 | 22.7 |
| | 12H | 18.5 | 19.3 | 19.0 | 19.8 | 20.2 | 21.2 | 22.0 | 21.7 | 22.5 | 22.9 |
| 8H | 4H | 18.3 | 19.2 | 18.7 | 19.6 | 20.1 | 19.5 | 20.4 | 20.0 | 20.9 | 21.3 |
| | 6H | 19.0 | 19.7 | 19.5 | 20.2 | 20.7 | 20.9 | 21.7 | 21.4 | 22.1 | 22.6 |
| | 8H | 19.2 | 19.8 | 19.7 | 20.3 | 20.8 | 21.5 | 22.1 | 22.0 | 22.7 | 23.1 |
| | 12H | 19.3 | 19.9 | 19.8 | 20.4 | 21.0 | 21.9 | 22.5 | 22.4 | 23.0 | 23.5 |
| 12H | 4H | 18.4 | 19.2 | 18.9 | 19.7 | 20.1 | 19.6 | 20.4 | 20.0 | 20.8 | 21.3 |
| | 6H | 19.1 | 19.8 | 19.7 | 20.3 | 20.8 | 21.0 | 21.7 | 21.5 | 22.1 | 22.6 |
| | 8H | 19.4 | 20.0 | 19.9 | 20.5 | 21.1 | 21.6 | 22.2 | 22.1 | 22.7 | 23.2 |

Maximum UGR = 23.5

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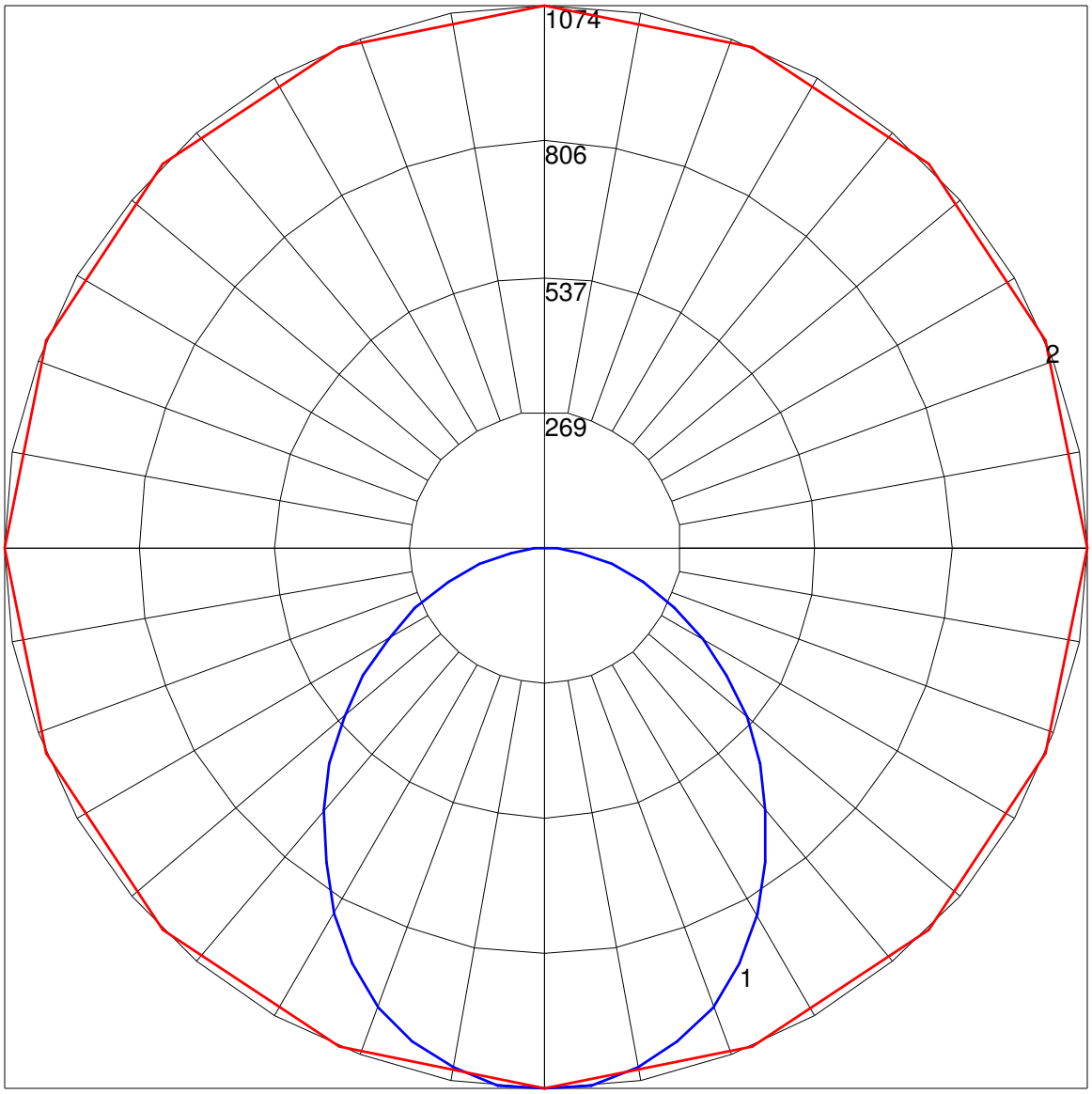
**POLAR GRAPH**




Maximum Candela = 1074.318  Located At Horizontal Angle = 0, Vertical Angle = 0
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)