H.E. WILLIAMS, INC.

**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : PT-22-L61-827-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-L61-827-SA-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

**CHARACTERISTICS**

| | |
|---|---|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 6068 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 121 |
| Total Luminaire Watts | 50.2 |
| 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 | 5424 | 5344 | 5269 |
| 55 | 4874 | 4918 | 5055 |
| 65 | 4267 | 4653 | 5226 |
| 75 | 3326 | 4685 | 6057 |
| 85 | 1730 | 4361 | 5875 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 2404.848 | 2404.848 | 2404.848 | 2404.848 | 2404.848 |
| **5** | 2404.848 | 2389.333 | 2379.359 | 2380.467 | 2378.251 |
| **10** | 2353.870 | 2341.679 | 2331.705 | 2327.272 | 2323.948 |
| **15** | 2270.753 | 2261.887 | 2250.805 | 2241.939 | 2239.723 |
| **20** | 2176.554 | 2162.147 | 2135.550 | 2130.008 | 2124.467 |
| **25** | 2039.134 | 2033.593 | 2002.563 | 1987.047 | 1977.073 |
| **30** | 1882.874 | 1874.008 | 1852.952 | 1828.571 | 1811.948 |
| **35** | 1706.666 | 1708.883 | 1682.286 | 1657.905 | 1647.931 |
| **40** | 1526.026 | 1531.567 | 1504.970 | 1488.346 | 1481.697 |
| **45** | 1353.143 | 1349.818 | 1333.195 | 1327.654 | 1314.355 |
| **50** | 1169.177 | 1172.502 | 1156.987 | 1170.286 | 1159.203 |
| **55** | 986.320 | 996.294 | 995.186 | 1022.892 | 1022.892 |
| **60** | 806.788 | 813.437 | 842.251 | 879.931 | 896.554 |
| **65** | 636.121 | 652.745 | 693.749 | 748.052 | 779.082 |
| **70** | 463.238 | 492.052 | 560.762 | 630.580 | 668.260 |
| **75** | 303.654 | 354.632 | 427.775 | 508.675 | 553.004 |
| **80** | 160.693 | 218.320 | 300.329 | 380.121 | 421.125 |
| **85** | 53.195 | 88.658 | 134.095 | 164.017 | 180.641 |
| **90** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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## ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 860.61 | N.A. | 14.20 |
| 0-30 | 1784.42 | N.A. | 29.40 |
| 0-40 | 2836.61 | N.A. | 46.70 |
| 0-60 | 4768.62 | N.A. | 78.60 |
| 0-80 | 5918.47 | N.A. | 97.50 |
| 0-90 | 6067.98 | N.A. | 100.00 |
| 10-90 | 5841.87 | N.A. | 96.30 |
| 20-40 | 1976.00 | N.A. | 32.60 |
| 20-50 | 3008.04 | N.A. | 49.60 |
| 40-70 | 2627.94 | N.A. | 43.30 |
| 60-80 | 1149.85 | N.A. | 18.90 |
| 70-80 | 453.93 | N.A. | 7.50 |
| 80-90 | 149.51 | 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 | 6067.98 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

## ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---|---|
| 0-10 | 226.12 |
| 10-20 | 634.50 |
| 20-30 | 923.81 |
| 30-40 | 1052.18 |
| 40-50 | 1032.04 |
| 50-60 | 899.97 |
| 60-70 | 695.92 |
| 70-80 | 453.93 |
| 80-90 | 149.51 |
| 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 | 55 | 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 | 17.3 | 18.9 | 17.7 | 19.2 | 19.5 | 17.7 | 19.3 | 18.0 | 19.6 | 19.9 |
| | 3H | 18.9 | 20.4 | 19.3 | 20.7 | 21.1 | 19.9 | 21.4 | 20.3 | 21.7 | 22.1 |
| | 4H | 19.5 | 20.9 | 19.9 | 21.2 | 21.6 | 21.0 | 22.4 | 21.4 | 22.7 | 23.1 |
| | 6H | 19.9 | 21.1 | 20.3 | 21.5 | 21.9 | 22.0 | 23.3 | 22.4 | 23.7 | 24.1 |
| | 8H | 20.0 | 21.2 | 20.4 | 21.6 | 22.0 | 22.4 | 23.6 | 22.8 | 24.0 | 24.4 |
| | 12H | 20.0 | 21.2 | 20.4 | 21.6 | 22.0 | 22.7 | 23.8 | 23.1 | 24.2 | 24.7 |
| 4H | 2H | 18.0 | 19.3 | 18.4 | 19.7 | 20.1 | 18.3 | 19.7 | 18.7 | 20.0 | 20.4 |
| | 3H | 19.8 | 21.0 | 20.3 | 21.4 | 21.8 | 20.8 | 21.9 | 21.2 | 22.3 | 22.7 |
| | 4H | 20.6 | 21.6 | 21.0 | 22.0 | 22.5 | 22.0 | 23.1 | 22.5 | 23.5 | 23.9 |
| | 6H | 21.1 | 22.0 | 21.5 | 22.5 | 22.9 | 23.2 | 24.2 | 23.7 | 24.6 | 25.1 |
| | 8H | 21.2 | 22.1 | 21.7 | 22.5 | 23.0 | 23.7 | 24.6 | 24.1 | 25.0 | 25.5 |
| | 12H | 21.3 | 22.1 | 21.8 | 22.6 | 23.0 | 24.0 | 24.8 | 24.5 | 25.3 | 25.7 |
| 8H | 4H | 21.1 | 22.0 | 21.5 | 22.4 | 22.9 | 22.3 | 23.2 | 22.8 | 23.7 | 24.1 |
| | 6H | 21.8 | 22.5 | 22.3 | 23.0 | 23.5 | 23.7 | 24.5 | 24.2 | 24.9 | 25.4 |
| | 8H | 22.0 | 22.6 | 22.5 | 23.1 | 23.6 | 24.3 | 24.9 | 24.8 | 25.5 | 25.9 |
| | 12H | 22.1 | 22.7 | 22.6 | 23.2 | 23.8 | 24.7 | 25.3 | 25.2 | 25.8 | 26.3 |
| 12H | 4H | 21.2 | 22.0 | 21.7 | 22.5 | 22.9 | 22.4 | 23.2 | 22.8 | 23.6 | 24.1 |
| | 6H | 21.9 | 22.6 | 22.5 | 23.1 | 23.6 | 23.8 | 24.5 | 24.3 | 24.9 | 25.4 |
| | 8H | 22.2 | 22.8 | 22.7 | 23.3 | 23.9 | 24.4 | 25.0 | 24.9 | 25.5 | 26.0 |

Maximum UGR = 26.3

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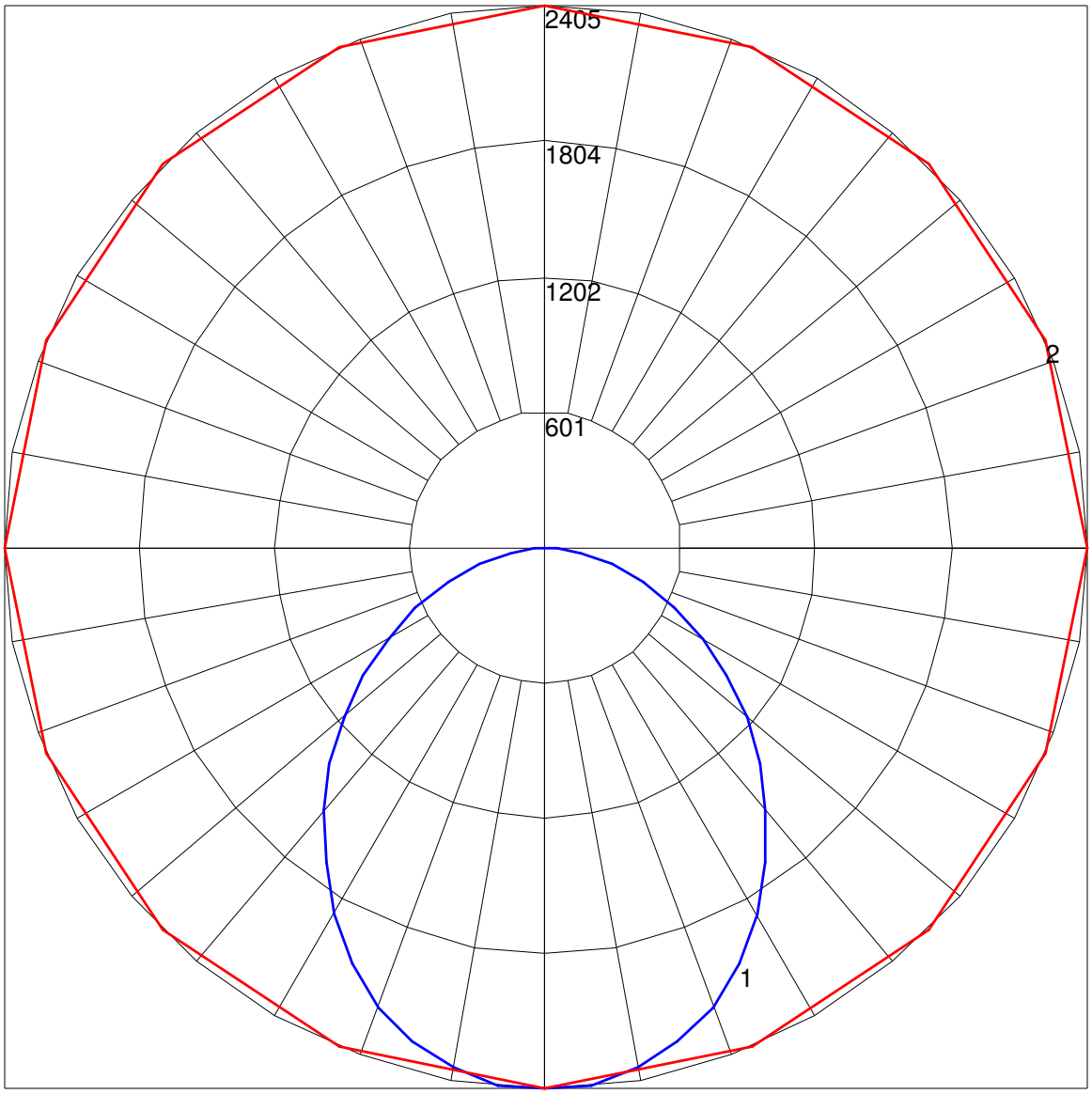
**POLAR GRAPH**




Maximum Candela = 2404.848  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.)

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