H.E. WILLIAMS, INC.

**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : GL-8-L600-830-DIM-UNV_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 19438.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-07-18
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 96 INCH LONG, LOW PROFILE LED HIGHBAY LUMINAIRE
[MORE] WHITE REFLECTOR w/OPEN BOTTOM
[MORE] 0-10V DIMMING DRIVERS
[LUMCAT] GL-8-L600-830-DIM-UNV
[LAMPCAT] 22 INCH HLM LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Indoor, Commercial, Industrial, Manufacturing, Warehouse, High Bay
[_SEARCH_MOUNTING] Pendant, Suspended

**CHARACTERISTICS**

| | |
|---|---|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 57866 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 145 |
| Total Luminaire Watts | 400 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.24 |
| Spacing Criterion (90-270) | 1.24 |
| Spacing Criterion (Diagonal) | 1.42 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 8.00 ft |
| Luminous Width (90-270) | 1.05 ft |
| Luminous Height | 0.00 ft |

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

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 26881 | 26942 | 27237 |
| 55 | 24817 | 25899 | 19523 |
| 65 | 23343 | 18699 | 19036 |
| 75 | 17892 | 11925 | 11017 |
| 85 | 9815 | 6352 | 7223 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 21047.116 | 21047.116 | 21047.116 | 21047.116 | 21047.116 |
| **5** | 20744.270 | 20738.474 | 20744.270 | 20751.515 | 20757.311 |
| **10** | 20725.432 | 20710.942 | 20725.432 | 20751.515 | 20751.515 |
| **15** | 20292.173 | 20318.256 | 20376.217 | 20383.462 | 20376.217 |
| **20** | 19503.903 | 19522.740 | 19556.068 | 19582.150 | 19582.150 |
| **25** | 18388.152 | 18440.317 | 18479.441 | 18406.989 | 18406.989 |
| **30** | 17324.566 | 17383.976 | 17337.607 | 17324.566 | 17317.321 |
| **35** | 16188.529 | 16266.776 | 16214.611 | 16247.939 | 16253.735 |
| **40** | 15466.914 | 15565.447 | 15485.751 | 15532.120 | 15578.489 |
| **45** | 14875.711 | 14953.958 | 14909.038 | 15020.613 | 15072.778 |
| **50** | 13148.470 | 13273.087 | 13391.907 | 13483.196 | 13399.152 |
| **55** | 11140.119 | 11329.942 | 11625.543 | 9144.809 | 8763.715 |
| **60** | 9334.632 | 9518.658 | 9525.903 | 7542.185 | 7575.513 |
| **65** | 7720.416 | 7818.949 | 6184.447 | 6368.473 | 6296.022 |
| **70** | 5658.450 | 5920.724 | 4838.301 | 4234.057 | 3393.621 |
| **75** | 3624.016 | 2993.690 | 2415.528 | 2461.897 | 2231.501 |
| **80** | 2015.596 | 1805.488 | 1037.503 | 721.615 | 636.123 |
| **85** | 669.450 | 433.259 | 433.259 | 485.424 | 492.669 |
| **90** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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**ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 7709.19 | N.A. | 13.30 |
| 0-30 | 16219.89 | N.A. | 28.00 |
| 0-40 | 26464.29 | N.A. | 45.70 |
| 0-60 | 47477.24 | N.A. | 82.00 |
| 0-80 | 57270.43 | N.A. | 99.00 |
| 0-90 | 57866.27 | N.A. | 100.00 |
| 10-90 | 55882.85 | N.A. | 96.60 |
| 20-40 | 18755.11 | N.A. | 32.40 |
| 20-50 | 30123.22 | N.A. | 52.10 |
| 40-70 | 27775.46 | N.A. | 48.00 |
| 60-80 | 9793.18 | N.A. | 16.90 |
| 70-80 | 3030.67 | N.A. | 5.20 |
| 80-90 | 595.84 | N.A. | 1.00 |
| 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 | 57866.27 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

| Zone | Lumens |
|---|---|
| 0-10 | 1983.42 |
| 10-20 | 5725.76 |
| 20-30 | 8510.7 |
| 30-40 | 10244.4 |
| 40-50 | 11368.11 |
| 50-60 | 9644.84 |
| 60-70 | 6762.52 |
| 70-80 | 3030.67 |
| 80-90 | 595.84 |
| 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 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 94 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 85 | 80 | 97 | 90 | 84 | 79 | 86 | 81 | 77 | 83 | 79 | 75 | 80 | 77 | 73 | 71 |
| 3 | 91 | 81 | 73 | 66 | 89 | 79 | 72 | 66 | 76 | 70 | 65 | 73 | 68 | 64 | 71 | 66 | 62 | 60 |
| 4 | 83 | 72 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 54 | 48 | 61 | 53 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 45 |
| 6 | 71 | 58 | 49 | 42 | 69 | 57 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 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 | 59 | 47 | 39 | 33 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 35 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 29 | 28 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 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 | 23.6 | 25.2 | 24.0 | 25.6 | 25.9 | 22.1 | 23.7 | 22.4 | 24.0 | 24.3 |
| | 3H | 25.4 | 26.9 | 25.8 | 27.2 | 27.6 | 23.5 | 25.0 | 23.9 | 25.3 | 25.7 |
| | 4H | 25.9 | 27.3 | 26.3 | 27.6 | 28.0 | 23.9 | 25.3 | 24.3 | 25.6 | 26.0 |
| | 6H | 26.2 | 27.5 | 26.6 | 27.9 | 28.3 | 24.0 | 25.3 | 24.4 | 25.7 | 26.0 |
| | 8H | 26.3 | 27.5 | 26.8 | 27.9 | 28.3 | 24.0 | 25.2 | 24.5 | 25.6 | 26.0 |
| | 12H | 26.4 | 27.5 | 26.8 | 27.9 | 28.3 | 24.1 | 25.2 | 24.5 | 25.6 | 26.0 |
| 4H | 2H | 24.0 | 25.4 | 24.4 | 25.7 | 26.1 | 22.7 | 24.1 | 23.1 | 24.5 | 24.8 |
| | 3H | 26.0 | 27.2 | 26.4 | 27.6 | 28.0 | 24.4 | 25.6 | 24.8 | 26.0 | 26.4 |
| | 4H | 26.6 | 27.6 | 27.0 | 28.0 | 28.5 | 24.9 | 25.9 | 25.3 | 26.3 | 26.8 |
| | 6H | 27.0 | 27.9 | 27.5 | 28.4 | 28.8 | 25.0 | 25.9 | 25.5 | 26.4 | 26.8 |
| | 8H | 27.2 | 28.0 | 27.6 | 28.4 | 28.9 | 25.1 | 25.9 | 25.5 | 26.3 | 26.8 |
| | 12H | 27.2 | 28.0 | 27.7 | 28.5 | 28.9 | 25.1 | 25.8 | 25.6 | 26.3 | 26.8 |
| 8H | 4H | 26.7 | 27.5 | 27.2 | 28.0 | 28.4 | 25.1 | 25.9 | 25.6 | 26.4 | 26.9 |
| | 6H | 27.2 | 27.9 | 27.7 | 28.4 | 28.9 | 25.3 | 26.0 | 25.8 | 26.5 | 26.9 |
| | 8H | 27.4 | 28.0 | 27.9 | 28.5 | 29.0 | 25.3 | 25.9 | 25.8 | 26.5 | 26.9 |
| | 12H | 27.5 | 28.0 | 28.0 | 28.5 | 29.1 | 25.4 | 26.0 | 25.9 | 26.4 | 27.0 |
| 12H | 4H | 26.7 | 27.4 | 27.2 | 27.9 | 28.4 | 25.1 | 25.9 | 25.6 | 26.4 | 26.8 |
| | 6H | 27.2 | 27.8 | 27.7 | 28.3 | 28.8 | 25.3 | 25.9 | 25.8 | 26.4 | 26.9 |
| | 8H | 27.4 | 27.9 | 27.9 | 28.4 | 29.0 | 25.4 | 25.9 | 25.9 | 26.4 | 27.0 |

Maximum UGR = 29.1

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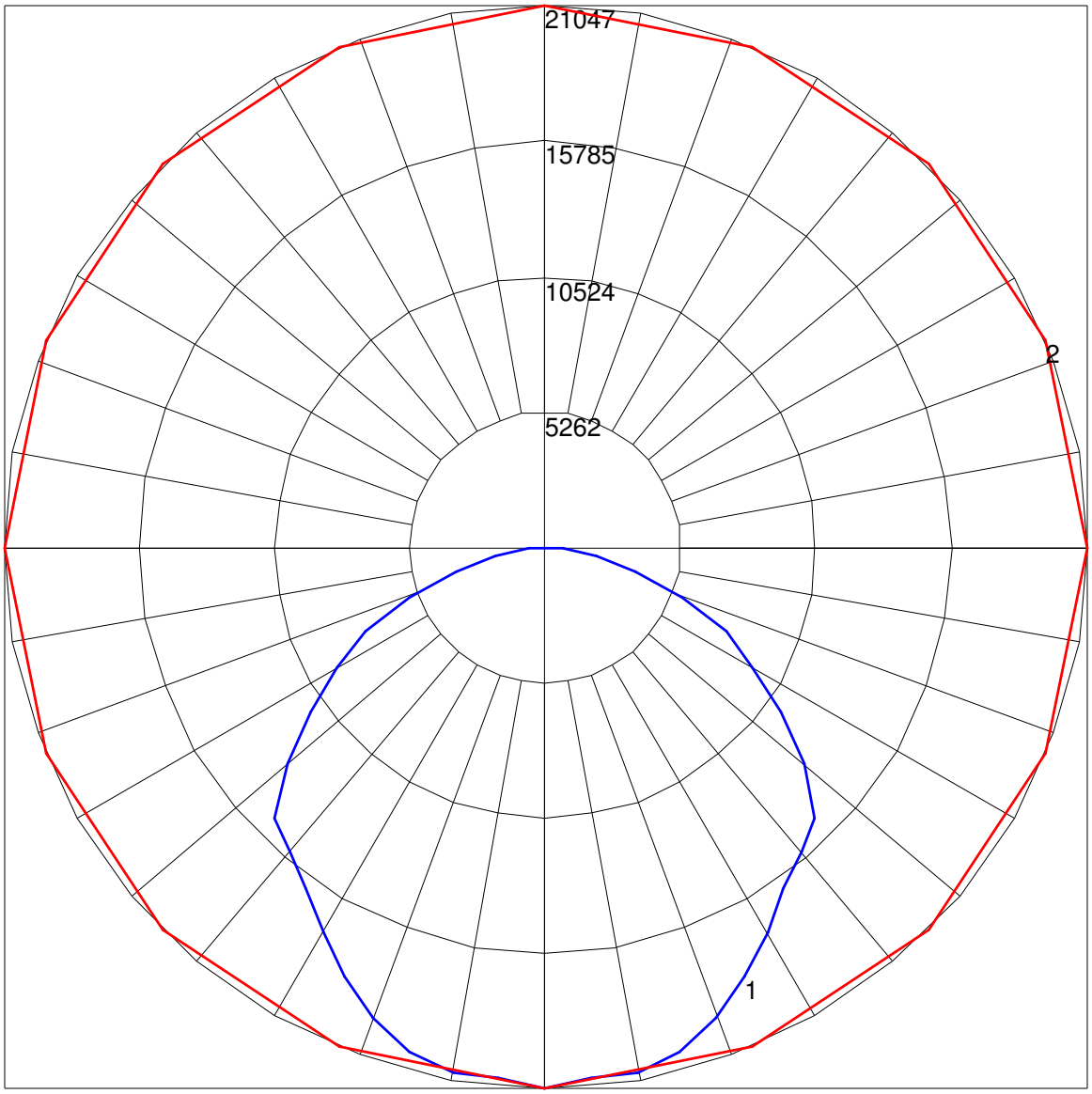
**POLAR GRAPH**




Maximum Candela = 21047.116  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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