H.E. WILLIAMS, INC.

**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : GL-4-L200-940-SCHA118-DIM-UNV_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 19725.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-07-17
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 48 INCH LOW PROFILE LED HIGHBAY LUMINAIRE
[MORE] WHITE REFLECTOR w/.118"THK CLEAR ACRYLIC LENS
[MORE] 0-10V UNIVERSAL VOLTAGE 122-277V DRIVERS
[LUMCAT] GL-4-L200-940-SCHA118-DIM-UNV_
[LAMPCAT] 22 INCH HLM LINEAR LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Indoor, Commercial, Industrial, Manufacturing, High Bay
[_SEARCH_MOUNTING] Cable, Pendant, Suspended

**CHARACTERISTICS**

| | |
|---|---|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 15428 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 116 |
| Total Luminaire Watts | 133 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.34 |
| Spacing Criterion (90-270) | 1.32 |
| Spacing Criterion (Diagonal) | 1.42 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 3.83 ft |
| Luminous Width (90-270) | 1.00 ft |
| Luminous Height | 0.00 ft |

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

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 16548 | 16209 | 12373 |
| 55 | 15700 | 11510 | 11661 |
| 65 | 13163 | 10208 | 9981 |
| 75 | 8546 | 5751 | 4246 |
| 85 | 1703 | 1738 | 1454 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 5781.552 | 5781.552 | 5781.552 | 5781.552 | 5781.552 |
| **5** | 5846.011 | 5779.348 | 5737.477 | 5715.990 | 5721.499 |
| **10** | 5794.774 | 5728.111 | 5692.850 | 5669.160 | 5676.873 |
| **15** | 5695.054 | 5647.123 | 5611.312 | 5572.195 | 5586.519 |
| **20** | 5569.440 | 5500.573 | 5471.924 | 5437.215 | 5458.701 |
| **25** | 5401.404 | 5313.254 | 5306.091 | 5290.114 | 5293.420 |
| **30** | 5173.315 | 5092.327 | 5096.735 | 5072.493 | 5086.818 |
| **35** | 4881.318 | 4785.454 | 4833.386 | 4821.816 | 4825.122 |
| **40** | 4554.611 | 4447.178 | 4469.766 | 4528.166 | 4519.351 |
| **45** | 4170.607 | 4070.336 | 4085.211 | 3775.583 | 3118.314 |
| **50** | 3711.124 | 3652.724 | 3660.437 | 2696.845 | 2722.739 |
| **55** | 3209.769 | 3178.366 | 2353.060 | 2385.565 | 2383.912 |
| **60** | 2652.219 | 2625.223 | 1966.851 | 2004.866 | 2004.866 |
| **65** | 1982.829 | 2014.783 | 1537.670 | 1590.560 | 1503.512 |
| **70** | 1352.004 | 1071.025 | 1096.919 | 1009.320 | 797.759 |
| **75** | 788.393 | 619.255 | 530.554 | 486.479 | 391.717 |
| **80** | 313.484 | 272.715 | 199.440 | 163.078 | 151.508 |
| **85** | 52.890 | 47.381 | 53.992 | 54.543 | 45.177 |
| **90** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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**ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 2134.34 | N.A. | 13.80 |
| 0-30 | 4584.21 | N.A. | 29.70 |
| 0-40 | 7600.01 | N.A. | 49.30 |
| 0-60 | 13044.65 | N.A. | 84.60 |
| 0-80 | 15341.00 | N.A. | 99.40 |
| 0-90 | 15427.89 | N.A. | 100.00 |
| 10-90 | 14880.00 | N.A. | 96.40 |
| 20-40 | 5465.67 | N.A. | 35.40 |
| 20-50 | 8474.03 | N.A. | 54.90 |
| 40-70 | 7110.67 | N.A. | 46.10 |
| 60-80 | 2296.35 | N.A. | 14.90 |
| 70-80 | 630.32 | N.A. | 4.10 |
| 80-90 | 86.90 | N.A. | 0.60 |
| 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 | 15427.89 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

| Zone | Lumens |
|---|---|
| 0-10 | 547.89 |
| 10-20 | 1586.45 |
| 20-30 | 2449.88 |
| 30-40 | 3015.8 |
| 40-50 | 3008.36 |
| 50-60 | 2436.27 |
| 60-70 | 1666.04 |
| 70-80 | 630.32 |
| 80-90 | 86.90 |
| 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 | 110 | 106 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 94 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 93 | 87 | 81 | 98 | 91 | 85 | 80 | 88 | 83 | 78 | 84 | 80 | 77 | 81 | 78 | 75 | 73 |
| 3 | 92 | 82 | 74 | 68 | 90 | 81 | 73 | 68 | 78 | 72 | 67 | 75 | 70 | 65 | 72 | 68 | 64 | 62 |
| 4 | 84 | 73 | 65 | 58 | 82 | 72 | 64 | 58 | 69 | 62 | 57 | 67 | 61 | 56 | 65 | 60 | 56 | 53 |
| 5 | 78 | 65 | 57 | 50 | 76 | 64 | 56 | 50 | 62 | 55 | 50 | 60 | 54 | 49 | 58 | 53 | 49 | 46 |
| 6 | 72 | 59 | 50 | 44 | 70 | 58 | 50 | 44 | 56 | 49 | 44 | 55 | 48 | 43 | 53 | 47 | 43 | 41 |
| 7 | 67 | 54 | 45 | 39 | 65 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 43 | 38 | 48 | 43 | 38 | 36 |
| 8 | 62 | 49 | 41 | 35 | 61 | 48 | 40 | 35 | 47 | 40 | 35 | 46 | 39 | 34 | 44 | 39 | 34 | 32 |
| 9 | 58 | 45 | 37 | 31 | 57 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 29 |
| 10 | 54 | 41 | 34 | 28 | 53 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |

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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 | 22.2 | 23.7 | 22.5 | 24.0 | 24.4 | 20.2 | 21.8 | 20.6 | 22.1 | 22.4 |
| | 3H | 23.4 | 24.8 | 23.7 | 25.1 | 25.5 | 21.4 | 22.8 | 21.8 | 23.2 | 23.5 |
| | 4H | 23.7 | 25.0 | 24.1 | 25.4 | 25.8 | 21.6 | 23.0 | 22.0 | 23.3 | 23.7 |
| | 6H | 23.9 | 25.1 | 24.3 | 25.4 | 25.8 | 21.7 | 22.9 | 22.1 | 23.3 | 23.7 |
| | 8H | 23.9 | 25.0 | 24.3 | 25.4 | 25.8 | 21.7 | 22.8 | 22.1 | 23.2 | 23.6 |
| | 12H | 23.9 | 25.0 | 24.3 | 25.3 | 25.8 | 21.7 | 22.8 | 22.1 | 23.2 | 23.6 |
| 4H | 2H | 22.4 | 23.7 | 22.8 | 24.1 | 24.5 | 20.8 | 22.1 | 21.2 | 22.4 | 22.8 |
| | 3H | 23.8 | 24.9 | 24.2 | 25.3 | 25.7 | 22.2 | 23.3 | 22.6 | 23.7 | 24.1 |
| | 4H | 24.2 | 25.2 | 24.6 | 25.6 | 26.0 | 22.5 | 23.4 | 22.9 | 23.9 | 24.3 |
| | 6H | 24.4 | 25.2 | 24.9 | 25.7 | 26.2 | 22.6 | 23.4 | 23.0 | 23.8 | 24.3 |
| | 8H | 24.4 | 25.2 | 24.9 | 25.7 | 26.1 | 22.5 | 23.3 | 23.0 | 23.8 | 24.2 |
| | 12H | 24.4 | 25.1 | 24.9 | 25.6 | 26.1 | 22.5 | 23.2 | 23.0 | 23.7 | 24.2 |
| 8H | 4H | 24.2 | 25.0 | 24.7 | 25.5 | 25.9 | 22.6 | 23.4 | 23.1 | 23.8 | 24.3 |
| | 6H | 24.5 | 25.1 | 25.0 | 25.6 | 26.1 | 22.7 | 23.4 | 23.2 | 23.8 | 24.3 |
| | 8H | 24.5 | 25.1 | 25.0 | 25.6 | 26.1 | 22.7 | 23.3 | 23.2 | 23.8 | 24.3 |
| | 12H | 24.5 | 25.0 | 25.0 | 25.5 | 26.1 | 22.7 | 23.2 | 23.2 | 23.7 | 24.3 |
| 12H | 4H | 24.2 | 24.9 | 24.7 | 25.4 | 25.9 | 22.6 | 23.3 | 23.1 | 23.8 | 24.2 |
| | 6H | 24.4 | 25.0 | 25.0 | 25.5 | 26.0 | 22.7 | 23.3 | 23.2 | 23.7 | 24.3 |
| | 8H | 24.5 | 25.0 | 25.0 | 25.5 | 26.1 | 22.7 | 23.2 | 23.2 | 23.7 | 24.3 |

Maximum UGR = 26.2

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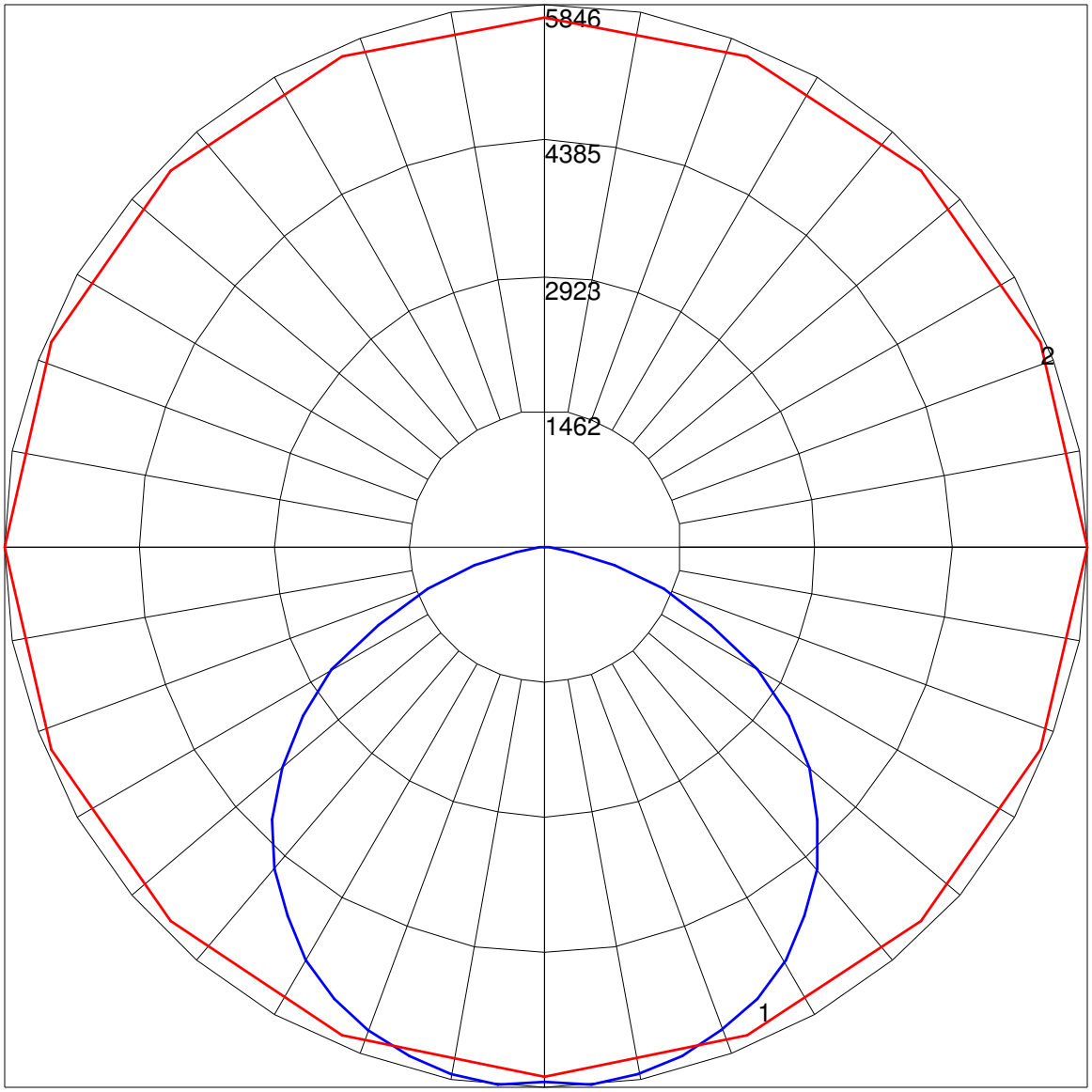
**POLAR GRAPH**




Maximum Candela = 5846.011  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.)