H.E. WILLIAMS, INC.

**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : GL-4-L150-835-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-L150-835-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 | 13503 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 141 |
| Total Luminaire Watts | 96 |
| 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 | 14483 | 14186 | 10829 |
| 55 | 13741 | 10073 | 10206 |
| 65 | 11521 | 8934 | 8736 |
| 75 | 7480 | 5034 | 3716 |
| 85 | 1490 | 1521 | 1273 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 5060.083 | 5060.083 | 5060.083 | 5060.083 | 5060.083 |
| **5** | 5116.499 | 5058.154 | 5021.508 | 5002.703 | 5007.524 |
| **10** | 5071.655 | 5013.311 | 4982.451 | 4961.717 | 4968.467 |
| **15** | 4984.379 | 4942.429 | 4911.087 | 4876.851 | 4889.388 |
| **20** | 4874.440 | 4814.167 | 4789.093 | 4758.715 | 4777.521 |
| **25** | 4727.373 | 4650.223 | 4643.955 | 4629.971 | 4632.864 |
| **30** | 4527.747 | 4456.865 | 4460.723 | 4439.507 | 4452.044 |
| **35** | 4272.187 | 4188.287 | 4230.237 | 4220.111 | 4223.004 |
| **40** | 3986.250 | 3892.223 | 3911.993 | 3963.105 | 3955.390 |
| **45** | 3650.165 | 3562.406 | 3575.425 | 3304.436 | 2729.185 |
| **50** | 3248.020 | 3196.908 | 3203.658 | 2360.311 | 2382.974 |
| **55** | 2809.228 | 2781.744 | 2059.426 | 2087.875 | 2086.428 |
| **60** | 2321.254 | 2297.627 | 1721.412 | 1754.683 | 1754.683 |
| **65** | 1735.395 | 1763.362 | 1345.787 | 1392.077 | 1315.892 |
| **70** | 1183.290 | 937.374 | 960.037 | 883.369 | 698.209 |
| **75** | 690.011 | 541.980 | 464.347 | 425.772 | 342.836 |
| **80** | 274.365 | 238.683 | 174.552 | 142.728 | 132.602 |
| **85** | 46.290 | 41.468 | 47.254 | 47.737 | 39.539 |
| **90** | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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**ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 1868.00 | N.A. | 13.80 |
| 0-30 | 4012.16 | N.A. | 29.70 |
| 0-40 | 6651.62 | N.A. | 49.30 |
| 0-60 | 11416.83 | N.A. | 84.60 |
| 0-80 | 13426.62 | N.A. | 99.40 |
| 0-90 | 13502.68 | N.A. | 100.00 |
| 10-90 | 13023.16 | N.A. | 96.40 |
| 20-40 | 4783.62 | N.A. | 35.40 |
| 20-50 | 7416.58 | N.A. | 54.90 |
| 40-70 | 6223.34 | N.A. | 46.10 |
| 60-80 | 2009.79 | N.A. | 14.90 |
| 70-80 | 551.66 | N.A. | 4.10 |
| 80-90 | 76.05 | 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 | 13502.68 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

| Zone | Lumens |
|---|---|
| 0-10 | 479.52 |
| 10-20 | 1388.48 |
| 20-30 | 2144.16 |
| 30-40 | 2639.46 |
| 40-50 | 2632.95 |
| 50-60 | 2132.26 |
| 60-70 | 1458.13 |
| 70-80 | 551.66 |
| 80-90 | 76.05 |
| 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 | 21.7 | 23.2 | 22.0 | 23.5 | 23.9 | 19.7 | 21.3 | 20.1 | 21.6 | 21.9 |
| | 3H | 22.9 | 24.3 | 23.2 | 24.6 | 25.0 | 20.9 | 22.3 | 21.3 | 22.7 | 23.0 |
| | 4H | 23.2 | 24.5 | 23.6 | 24.9 | 25.3 | 21.1 | 22.5 | 21.5 | 22.8 | 23.2 |
| | 6H | 23.4 | 24.6 | 23.8 | 24.9 | 25.3 | 21.2 | 22.4 | 21.6 | 22.8 | 23.2 |
| | 8H | 23.4 | 24.5 | 23.8 | 24.9 | 25.3 | 21.2 | 22.3 | 21.6 | 22.7 | 23.1 |
| | 12H | 23.4 | 24.5 | 23.8 | 24.8 | 25.3 | 21.2 | 22.3 | 21.6 | 22.7 | 23.1 |
| 4H | 2H | 21.9 | 23.2 | 22.3 | 23.6 | 24.0 | 20.3 | 21.6 | 20.7 | 21.9 | 22.3 |
| | 3H | 23.3 | 24.4 | 23.7 | 24.8 | 25.2 | 21.7 | 22.8 | 22.1 | 23.2 | 23.6 |
| | 4H | 23.7 | 24.7 | 24.1 | 25.1 | 25.5 | 22.0 | 22.9 | 22.4 | 23.4 | 23.8 |
| | 6H | 23.9 | 24.7 | 24.4 | 25.2 | 25.7 | 22.1 | 22.9 | 22.5 | 23.3 | 23.8 |
| | 8H | 23.9 | 24.7 | 24.4 | 25.2 | 25.6 | 22.0 | 22.8 | 22.5 | 23.3 | 23.7 |
| | 12H | 23.9 | 24.6 | 24.4 | 25.1 | 25.6 | 22.0 | 22.7 | 22.5 | 23.2 | 23.7 |
| 8H | 4H | 23.7 | 24.5 | 24.2 | 25.0 | 25.4 | 22.1 | 22.9 | 22.6 | 23.3 | 23.8 |
| | 6H | 24.0 | 24.6 | 24.5 | 25.1 | 25.6 | 22.2 | 22.9 | 22.7 | 23.3 | 23.8 |
| | 8H | 24.0 | 24.6 | 24.5 | 25.1 | 25.6 | 22.2 | 22.8 | 22.7 | 23.3 | 23.8 |
| | 12H | 24.0 | 24.5 | 24.5 | 25.0 | 25.6 | 22.2 | 22.7 | 22.7 | 23.2 | 23.8 |
| 12H | 4H | 23.7 | 24.4 | 24.2 | 24.9 | 25.4 | 22.1 | 22.8 | 22.6 | 23.3 | 23.7 |
| | 6H | 23.9 | 24.5 | 24.5 | 25.0 | 25.5 | 22.2 | 22.8 | 22.7 | 23.2 | 23.8 |
| | 8H | 24.0 | 24.5 | 24.5 | 25.0 | 25.6 | 22.2 | 22.7 | 22.7 | 23.2 | 23.8 |

Maximum UGR = 25.7

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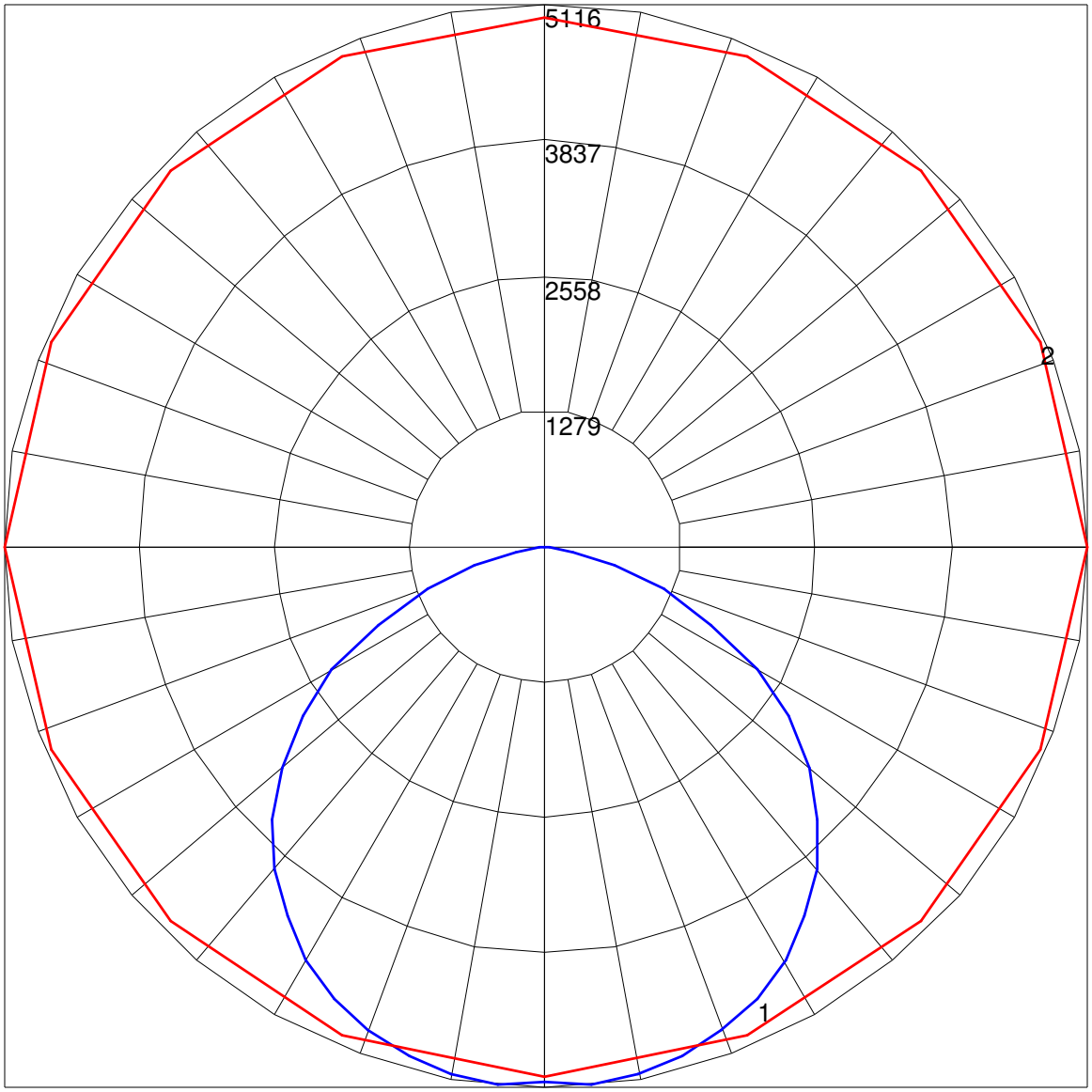
**POLAR GRAPH**




Maximum Candela = 5116.499  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.)