



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4AR-L15-835-DIM-UNV-O-M-OF-CS_0 DEGREE TILT_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20448.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 11-MAR-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] GEN7 V13 LED 4" SHORT HEATSINK 4" RND ADJ DOWNLIGHT @ 0 TILT

[MORE] ACRYLIC MED TIR OPTIC & 4" OPEN ASYM SEMI-SPEC TRIM

[LUMCAT] 4AR-L15-835-DIM-UNV-OM-OF-CS_0 DEGREE TILT

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Classroom, Commercial, Industrial, Direct, Downlight

[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

| | |
|---------------------------------|--------------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 1427 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 83 |
| Total Luminaire Watts | 17.2 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 0.54 |
| Spacing Criterion (90-270) | 0.54 |
| Spacing Criterion (Diagonal) | 0.48 |
| Basic Luminous Shape | Circular |
| Luminous Length (0-180) | 0.33 ft (Diameter) |
| Luminous Width (90-270) | 0.33 ft (Diameter) |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|------------------|---------------|----------------|----------------|
| 45 | 395 | 395 | 395 |
| 55 | 162 | 162 | 162 |
| 65 | 0 | 0 | 0 |
| 75 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 |

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CANDELA TABULATION

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> | <u>112.5</u> | <u>135.0</u> | <u>157.5</u> | <u>180.0</u> |
|-----------|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| 0 | 5268.285 | 5268.285 | 5268.285 | 5268.285 | 5268.285 | 5268.285 | 5268.285 | 5268.285 | 5268.285 |
| 5 | 5243.395 | 5191.353 | 5184.565 | 5180.794 | 5181.548 | 5198.896 | 5194.370 | 5191.353 | 5177.777 |
| 10 | 4641.521 | 4618.894 | 4643.029 | 4622.665 | 4600.793 | 4483.887 | 4491.429 | 4505.006 | 4389.609 |
| 15 | 2767.264 | 2789.136 | 2989.007 | 2891.711 | 2831.373 | 2568.147 | 2290.591 | 2300.396 | 2149.551 |
| 20 | 967.675 | 988.039 | 1028.767 | 1035.555 | 979.743 | 867.363 | 816.829 | 773.084 | 731.601 |
| 25 | 407.283 | 421.614 | 439.715 | 443.486 | 432.927 | 363.538 | 324.318 | 313.005 | 279.819 |
| 30 | 147.075 | 147.075 | 153.108 | 153.863 | 139.532 | 126.710 | 107.855 | 99.558 | 85.982 |
| 35 | 26.398 | 24.135 | 25.644 | 24.890 | 24.135 | 22.627 | 19.610 | 19.610 | 19.610 |
| 40 | 9.805 | 9.051 | 8.297 | 8.297 | 8.297 | 8.297 | 7.542 | 7.542 | 6.788 |
| 45 | 2.263 | 2.263 | 2.263 | 2.263 | 2.263 | 2.263 | 1.508 | 2.263 | 2.263 |
| 50 | 0.754 | 0.754 | 0.754 | 0.754 | 0.754 | 0.754 | 0.000 | 0.000 | 0.754 |
| 55 | 0.754 | 0.754 | 0.754 | 0.000 | 0.754 | 1.508 | 0.000 | 1.508 | 0.000 |
| 60 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 65 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 70 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 75 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 80 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 85 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : 4AR-L15-835-DIM-UNV-O-M-OF-CS_0 DEGREE TILT_.IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 1194.16 | N.A. | 83.70 |
| 0-30 | 1396.06 | N.A. | 97.80 |
| 0-40 | 1423.86 | N.A. | 99.80 |
| 0-60 | 1426.78 | N.A. | 100.00 |
| 0-80 | 1426.78 | N.A. | 100.00 |
| 0-90 | 1426.78 | N.A. | 100.00 |
| 10-90 | 952.88 | N.A. | 66.80 |
| 20-40 | 229.70 | N.A. | 16.10 |
| 20-50 | 232.17 | N.A. | 16.30 |
| 40-70 | 2.91 | N.A. | 0.20 |
| 60-80 | 0.00 | N.A. | 0.00 |
| 70-80 | 0.00 | N.A. | 0.00 |
| 80-90 | 0.00 | N.A. | 0.00 |
| 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 | 1426.78 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 473.90 |
| 10-20 | 720.26 |
| 20-30 | 201.90 |
| 30-40 | 27.80 |
| 40-50 | 2.47 |
| 50-60 | 0.44 |
| 60-70 | 0.00 |
| 70-80 | 0.00 |
| 80-90 | 0.00 |
| 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 | 90 | 90 | 90 | 90 | 88 | 88 | 88 | 88 | 84 | 84 | 84 | 80 | 80 | 80 | 77 | 77 | 77 | 75 |
| 1 | 87 | 85 | 84 | 83 | 85 | 84 | 82 | 81 | 81 | 80 | 79 | 78 | 77 | 76 | 75 | 75 | 74 | 73 |
| 2 | 84 | 81 | 79 | 77 | 83 | 80 | 78 | 76 | 78 | 76 | 75 | 76 | 74 | 73 | 74 | 73 | 72 | 71 |
| 3 | 81 | 78 | 75 | 73 | 80 | 77 | 75 | 73 | 75 | 73 | 72 | 73 | 72 | 70 | 72 | 71 | 69 | 68 |
| 4 | 79 | 75 | 72 | 70 | 78 | 74 | 72 | 70 | 73 | 71 | 69 | 71 | 70 | 68 | 70 | 69 | 67 | 66 |
| 5 | 77 | 72 | 69 | 67 | 76 | 72 | 69 | 67 | 71 | 68 | 66 | 69 | 67 | 66 | 68 | 67 | 65 | 64 |
| 6 | 75 | 70 | 67 | 65 | 74 | 69 | 67 | 65 | 68 | 66 | 64 | 68 | 65 | 64 | 67 | 65 | 63 | 63 |
| 7 | 73 | 68 | 65 | 63 | 72 | 67 | 64 | 62 | 67 | 64 | 62 | 66 | 64 | 62 | 65 | 63 | 62 | 61 |
| 8 | 71 | 66 | 63 | 61 | 70 | 65 | 63 | 61 | 65 | 62 | 60 | 64 | 62 | 60 | 63 | 61 | 60 | 59 |
| 9 | 69 | 64 | 61 | 59 | 68 | 64 | 61 | 59 | 63 | 60 | 59 | 62 | 60 | 58 | 62 | 60 | 58 | 58 |
| 10 | 67 | 62 | 59 | 57 | 66 | 62 | 59 | 57 | 61 | 59 | 57 | 61 | 59 | 57 | 60 | 58 | 57 | 56 |

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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

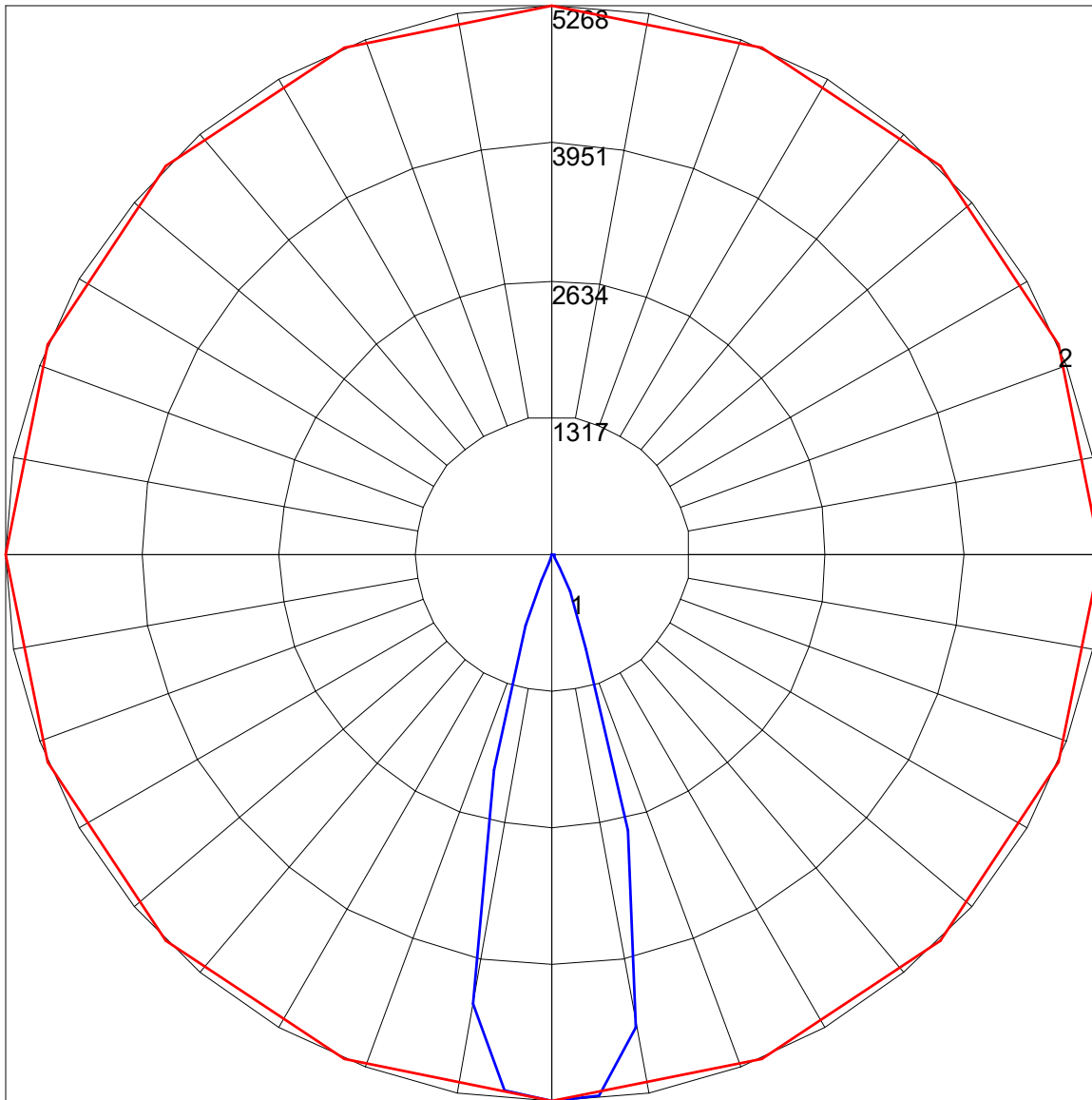
| X=2H | Y=2H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 3H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 4H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 6H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 8H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 12H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |

UGR Viewed Endwise

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 4H | 2H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 3H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 4H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 6H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 8H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 12H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| 8H | 4H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 6H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 8H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 12H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| 12H | 4H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 6H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| | 8H | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |

Maximum UGR = 2.2

POLAR GRAPH



Maximum Candela = 5268.285 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.)