



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD4AERNG-L44-835-A-SS-READING ONLY_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18935.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 25-FEB-2020

[MANUFAC] WILLIAMS LINEAR

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

[LUMINAIRE] 2-28LED 2x4' FOUR APERTURE MEDICAL BED LUMINAIRE

[MORE] READING SECTION w/WHITE REFLECTOR & FROSTED ACRYLIC RIBBED

[MORE] LENS w/SANI-SHIELD

[LUMCAT] AMD4AERNG-L44-840-A-SS-READING ONLY

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 1554 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 97 |
| Total Luminaire Watts | 16.1 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.76 |
| Spacing Criterion (90-270) | 1.18 |
| Spacing Criterion (Diagonal) | 1.36 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 0.52 ft |
| Luminous Width (90-270) | 0.92 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 21074 | 18983 | 11151 |
| 55 | 13297 | 15547 | 9778 |
| 65 | 3387 | 9606 | 7940 |
| 75 | 272 | 1723 | 4896 |
| 85 | 269 | 269 | 538 |

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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 | 629.860 | 629.860 | 629.860 | 629.860 | 629.860 | 629.860 | 629.860 | 629.860 | 629.860 |
| 5 | 700.074 | 699.042 | 684.586 | 663.935 | 640.186 | 614.372 | 592.688 | 576.167 | 566.874 |
| 10 | 758.930 | 747.572 | 715.563 | 671.163 | 618.502 | 569.972 | 533.832 | 505.953 | 495.628 |
| 15 | 825.014 | 804.363 | 758.930 | 688.716 | 614.372 | 549.321 | 501.823 | 470.846 | 457.423 |
| 20 | 845.665 | 819.851 | 748.605 | 657.739 | 557.581 | 477.042 | 415.088 | 382.046 | 370.688 |
| 25 | 866.316 | 832.242 | 754.800 | 650.512 | 535.898 | 447.098 | 382.046 | 349.005 | 338.679 |
| 30 | 873.544 | 835.339 | 741.377 | 613.339 | 489.432 | 391.339 | 330.419 | 300.474 | 292.214 |
| 35 | 850.828 | 813.656 | 728.986 | 594.753 | 465.684 | 364.493 | 308.735 | 282.921 | 274.660 |
| 40 | 771.321 | 739.312 | 662.902 | 531.767 | 402.698 | 310.800 | 261.237 | 244.716 | 238.521 |
| 45 | 655.674 | 646.381 | 590.623 | 477.042 | 346.939 | 267.433 | 225.098 | 216.837 | 208.577 |
| 50 | 494.595 | 510.084 | 497.693 | 413.023 | 298.409 | 228.195 | 197.219 | 186.893 | 186.893 |
| 55 | 335.581 | 360.363 | 392.372 | 341.777 | 246.781 | 189.991 | 170.372 | 164.177 | 164.177 |
| 60 | 186.893 | 225.098 | 283.953 | 266.400 | 196.186 | 152.819 | 142.493 | 142.493 | 142.493 |
| 65 | 62.986 | 103.256 | 178.633 | 193.088 | 147.656 | 119.777 | 112.549 | 112.549 | 115.646 |
| 70 | 18.586 | 28.912 | 85.702 | 131.135 | 104.288 | 89.833 | 88.800 | 89.833 | 96.028 |
| 75 | 3.098 | 3.098 | 19.619 | 67.116 | 55.758 | 56.791 | 59.888 | 67.116 | 73.312 |
| 80 | 3.098 | 3.098 | 6.195 | 18.586 | 22.716 | 28.912 | 37.172 | 46.465 | 50.595 |
| 85 | 1.033 | 1.033 | 1.033 | 2.065 | 2.065 | 7.228 | 14.456 | 19.619 | 23.749 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : AMD4AERNG-L44-835-A-SS-READING ONLY_.IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 234.47 | N.A. | 15.10 |
| 0-30 | 495.17 | N.A. | 31.90 |
| 0-40 | 812.17 | N.A. | 52.30 |
| 0-60 | 1356.09 | N.A. | 87.30 |
| 0-80 | 1543.62 | N.A. | 99.30 |
| 0-90 | 1554.16 | N.A. | 100.00 |
| 10-90 | 1493.86 | N.A. | 96.10 |
| 20-40 | 577.70 | N.A. | 37.20 |
| 20-50 | 884.88 | N.A. | 56.90 |
| 40-70 | 678.71 | N.A. | 43.70 |
| 60-80 | 187.53 | N.A. | 12.10 |
| 70-80 | 52.74 | N.A. | 3.40 |
| 80-90 | 10.54 | N.A. | 0.70 |
| 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 | 1554.16 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 60.30 |
| 10-20 | 174.18 |
| 20-30 | 260.70 |
| 30-40 | 317.00 |
| 40-50 | 307.18 |
| 50-60 | 236.75 |
| 60-70 | 134.79 |
| 70-80 | 52.74 |
| 80-90 | 10.54 |
| 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 | 123 | 123 | 123 | 123 | 120 | 120 | 120 | 120 | 115 | 115 | 115 | 110 | 110 | 110 | 105 | 105 | 105 | 103 |
| 1 | 114 | 110 | 106 | 102 | 111 | 107 | 104 | 101 | 103 | 100 | 97 | 99 | 97 | 94 | 95 | 93 | 92 | 90 |
| 2 | 105 | 97 | 91 | 85 | 102 | 95 | 89 | 84 | 91 | 87 | 82 | 88 | 84 | 81 | 85 | 82 | 79 | 77 |
| 3 | 96 | 86 | 78 | 72 | 94 | 85 | 77 | 72 | 82 | 75 | 70 | 79 | 74 | 69 | 76 | 72 | 68 | 66 |
| 4 | 88 | 77 | 69 | 62 | 86 | 76 | 68 | 62 | 73 | 66 | 61 | 71 | 65 | 60 | 69 | 63 | 59 | 57 |
| 5 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 54 | 66 | 59 | 53 | 64 | 58 | 53 | 62 | 56 | 52 | 50 |
| 6 | 75 | 62 | 54 | 48 | 74 | 62 | 53 | 47 | 60 | 52 | 47 | 58 | 51 | 47 | 56 | 51 | 46 | 44 |
| 7 | 70 | 57 | 48 | 42 | 68 | 56 | 48 | 42 | 54 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 41 | 39 |
| 8 | 65 | 52 | 44 | 38 | 64 | 51 | 43 | 38 | 50 | 43 | 37 | 49 | 42 | 37 | 48 | 42 | 37 | 35 |
| 9 | 61 | 48 | 40 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 32 |
| 10 | 57 | 44 | 36 | 31 | 56 | 44 | 36 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 31 | 29 |

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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

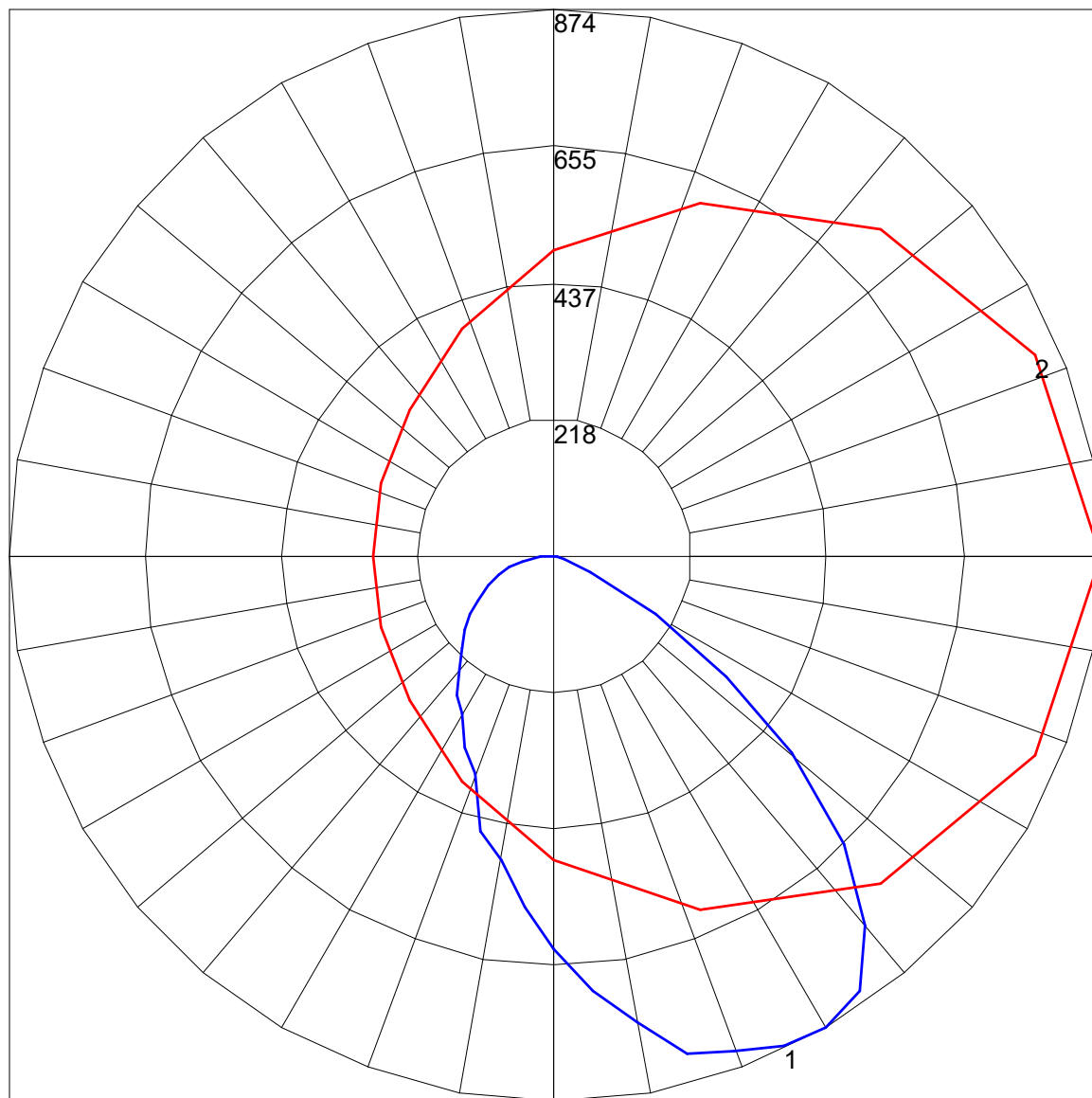
| X=2H | Y=2H | 21.2 | 22.7 | 21.5 | 23.0 | 23.3 | 20.0 | 21.5 | 20.4 | 21.9 | 22.2 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| | 3H | 21.2 | 22.5 | 21.6 | 22.9 | 23.2 | 21.3 | 22.6 | 21.7 | 23.0 | 23.3 |
| | 4H | 21.1 | 22.4 | 21.5 | 22.7 | 23.1 | 21.6 | 22.9 | 22.0 | 23.2 | 23.6 |
| | 6H | 21.0 | 22.2 | 21.5 | 22.6 | 23.0 | 21.7 | 22.9 | 22.1 | 23.2 | 23.6 |
| | 8H | 21.0 | 22.1 | 21.4 | 22.5 | 22.9 | 21.7 | 22.8 | 22.1 | 23.2 | 23.6 |
| | 12H | 21.0 | 22.1 | 21.4 | 22.4 | 22.9 | 21.7 | 22.7 | 22.1 | 23.1 | 23.6 |

UGR Viewed Endwise

| | | | | | | | | | | | |
|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H | 2H | 21.6 | 22.9 | 22.0 | 23.2 | 23.6 | 20.4 | 21.7 | 20.8 | 22.1 | 22.4 |
| | 3H | 21.7 | 22.7 | 22.1 | 23.1 | 23.5 | 21.9 | 22.9 | 22.3 | 23.3 | 23.7 |
| | 4H | 21.6 | 22.5 | 22.0 | 23.0 | 23.4 | 22.2 | 23.2 | 22.7 | 23.6 | 24.1 |
| | 6H | 21.5 | 22.4 | 22.0 | 22.8 | 23.3 | 22.4 | 23.3 | 22.9 | 23.7 | 24.2 |
| | 8H | 21.5 | 22.3 | 22.0 | 22.7 | 23.2 | 22.4 | 23.2 | 22.9 | 23.7 | 24.1 |
| | 12H | 21.5 | 22.1 | 21.9 | 22.6 | 23.1 | 22.4 | 23.1 | 22.9 | 23.6 | 24.1 |
| 8H | 4H | 21.6 | 22.4 | 22.1 | 22.8 | 23.3 | 22.3 | 23.1 | 22.8 | 23.5 | 24.0 |
| | 6H | 21.5 | 22.2 | 22.0 | 22.7 | 23.1 | 22.5 | 23.1 | 23.0 | 23.6 | 24.1 |
| | 8H | 21.5 | 22.1 | 22.0 | 22.6 | 23.0 | 22.5 | 23.1 | 23.0 | 23.6 | 24.1 |
| | 12H | 21.5 | 22.0 | 22.0 | 22.4 | 23.0 | 22.5 | 23.0 | 23.1 | 23.5 | 24.1 |
| 12H | 4H | 21.6 | 22.3 | 22.1 | 22.8 | 23.2 | 22.3 | 23.0 | 22.8 | 23.4 | 23.9 |
| | 6H | 21.5 | 22.1 | 22.0 | 22.5 | 23.1 | 22.5 | 23.1 | 23.0 | 23.5 | 24.1 |
| | 8H | 21.5 | 22.0 | 22.0 | 22.5 | 23.0 | 22.6 | 23.1 | 23.1 | 23.6 | 24.1 |

Maximum UGR = 24.2

POLAR GRAPH



Maximum Candela = 873.544 Located At Horizontal Angle = 0, Vertical Angle = 30
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (30) (Through Max. Cd.)