



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4AR-P10-8TW-POE-OW-OF-CS 4000K_0 DEGREE TILT_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20445.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 12-MAR-2020

[MANUFAC] WILLAIMS INDOOR

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

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

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

[LUMCAT] 4AR-P10-8TW-PoE-OW-OF-CS 4000k_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 | 708 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 58 |
| Total Luminaire Watts | 12.3 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 0.76 |
| Spacing Criterion (90-270) | 0.76 |
| Spacing Criterion (Diagonal) | 0.64 |
| 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 | 448 | 358 | 717 |
| 55 | 442 | 442 | 442 |
| 65 | 450 | 150 | 150 |
| 75 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 |

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4AR-P10-8TW-POE-OW-OF-CS 4000K_0 DEGREE TILT_.IES

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 | 1375.982 | 1375.982 | 1375.982 | 1375.982 | 1375.982 | 1375.982 | 1375.982 | 1375.982 | 1375.982 |
| 5 | 1419.078 | 1416.000 | 1413.948 | 1411.382 | 1410.356 | 1412.408 | 1414.461 | 1419.591 | 1416.513 |
| 10 | 1466.791 | 1461.148 | 1457.043 | 1458.582 | 1461.661 | 1472.948 | 1479.104 | 1484.748 | 1485.774 |
| 15 | 1375.469 | 1359.565 | 1352.382 | 1354.948 | 1362.130 | 1390.348 | 1409.843 | 1412.922 | 1417.539 |
| 20 | 929.122 | 890.643 | 899.878 | 855.756 | 910.139 | 881.922 | 956.313 | 976.322 | 1018.904 |
| 25 | 346.817 | 337.070 | 352.974 | 371.443 | 374.522 | 367.339 | 356.052 | 353.487 | 349.896 |
| 30 | 92.348 | 95.426 | 88.243 | 74.391 | 92.348 | 97.991 | 83.626 | 75.930 | 88.757 |
| 35 | 10.774 | 10.261 | 10.774 | 12.313 | 16.417 | 17.443 | 15.391 | 14.878 | 15.391 |
| 40 | 4.104 | 4.104 | 4.104 | 6.157 | 7.183 | 7.696 | 6.670 | 6.670 | 6.670 |
| 45 | 2.565 | 2.565 | 2.052 | 2.052 | 4.104 | 4.617 | 3.591 | 3.591 | 3.591 |
| 50 | 3.591 | 2.052 | 1.539 | 2.565 | 2.565 | 3.591 | 2.052 | 2.565 | 2.565 |
| 55 | 2.052 | 2.052 | 2.052 | 1.026 | 2.052 | 1.539 | 1.539 | 1.539 | 1.539 |
| 60 | 1.539 | 1.026 | 0.513 | 1.026 | 1.026 | 0.513 | 0.513 | 0.513 | 1.026 |
| 65 | 1.539 | 1.539 | 0.513 | 0.513 | 0.513 | 0.000 | 0.000 | 0.000 | 0.000 |
| 70 | 1.026 | 0.513 | 1.026 | 0.000 | 0.513 | 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-P10-8TW-POE-OW-OF-CS 4000K_0 DEGREE TILT_.IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|-------|--------|
| 0-20 | 494.88 | N.A. | 69.90 |
| 0-30 | 685.00 | N.A. | 96.70 |
| 0-40 | 703.20 | N.A. | 99.30 |
| 0-60 | 707.54 | N.A. | 99.90 |
| 0-80 | 708.14 | N.A. | 100.00 |
| 0-90 | 708.14 | N.A. | 100.00 |
| 10-90 | 571.63 | N.A. | 80.70 |
| 20-40 | 208.32 | N.A. | 29.40 |
| 20-50 | 211.17 | N.A. | 29.80 |
| 40-70 | 4.86 | N.A. | 0.70 |
| 60-80 | 0.60 | N.A. | 0.10 |
| 70-80 | 0.08 | 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 | 708.14 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 136.51 |
| 10-20 | 358.37 |
| 20-30 | 190.12 |
| 30-40 | 18.20 |
| 40-50 | 2.86 |
| 50-60 | 1.49 |
| 60-70 | 0.51 |
| 70-80 | 0.08 |
| 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 |

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4AR-P10-8TW-POE-OW-OF-CS 4000K_0 DEGREE TILT_.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

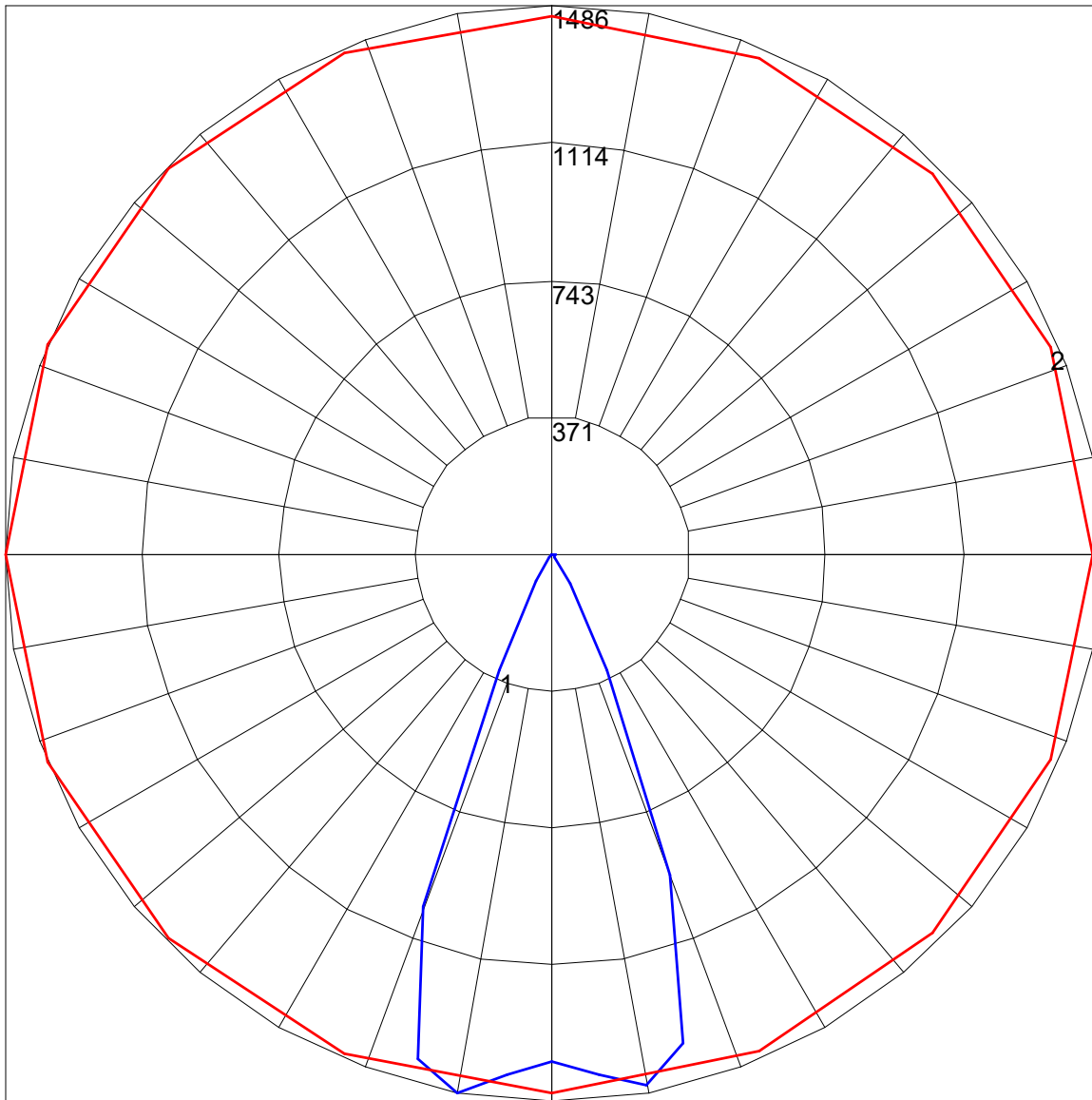
Effective Floor Cavity Reflectance 0.20

| 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 | 110 | 110 | 110 | 110 | 108 | 108 | 108 | 108 | 103 | 103 | 103 | 99 | 99 | 99 | 95 | 95 | 95 | 93 |
| 1 | 106 | 104 | 102 | 101 | 104 | 102 | 100 | 99 | 98 | 97 | 96 | 95 | 94 | 93 | 92 | 91 | 90 | 89 |
| 2 | 102 | 99 | 96 | 93 | 100 | 97 | 94 | 92 | 94 | 92 | 90 | 92 | 90 | 88 | 89 | 88 | 86 | 85 |
| 3 | 99 | 94 | 90 | 87 | 97 | 93 | 89 | 87 | 90 | 88 | 85 | 88 | 86 | 84 | 86 | 84 | 83 | 81 |
| 4 | 95 | 90 | 86 | 82 | 94 | 89 | 85 | 82 | 87 | 84 | 81 | 85 | 82 | 80 | 83 | 81 | 79 | 78 |
| 5 | 92 | 86 | 81 | 78 | 90 | 85 | 81 | 78 | 83 | 80 | 77 | 82 | 79 | 77 | 81 | 78 | 76 | 75 |
| 6 | 88 | 82 | 78 | 75 | 87 | 81 | 77 | 74 | 80 | 77 | 74 | 79 | 76 | 73 | 78 | 75 | 73 | 72 |
| 7 | 85 | 79 | 74 | 71 | 84 | 78 | 74 | 71 | 77 | 73 | 71 | 76 | 73 | 70 | 75 | 72 | 70 | 69 |
| 8 | 83 | 76 | 71 | 68 | 82 | 75 | 71 | 68 | 74 | 71 | 68 | 73 | 70 | 68 | 73 | 70 | 67 | 66 |
| 9 | 80 | 73 | 69 | 66 | 79 | 72 | 68 | 66 | 72 | 68 | 65 | 71 | 68 | 65 | 70 | 67 | 65 | 64 |
| 10 | 77 | 70 | 66 | 63 | 76 | 70 | 66 | 63 | 69 | 65 | 63 | 68 | 65 | 63 | 68 | 65 | 63 | 62 |

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4AR-P10-8TW-POE-OW-OF-CS 4000K_0 DEGREE TILT_.IES

POLAR GRAPH



Maximum Candela = 1485.774 Located At Horizontal Angle = 180, Vertical Angle = 10

1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)