



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4AR-L12-9DW-DIM-UNV-OM-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-L12-9DW-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 | 1136 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 49 |
| Total Luminaire Watts | 23.4 |
| 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 | 314 | 314 | 314 |
| 55 | 129 | 129 | 129 |
| 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 | 4193.953 | 4193.953 | 4193.953 | 4193.953 | 4193.953 | 4193.953 | 4193.953 | 4193.953 | 4193.953 |
| 5 | 4174.139 | 4132.710 | 4127.306 | 4124.304 | 4124.905 | 4138.714 | 4135.112 | 4132.710 | 4121.903 |
| 10 | 3695.002 | 3676.989 | 3696.203 | 3679.991 | 3662.579 | 3569.514 | 3575.518 | 3586.325 | 3494.461 |
| 15 | 2202.951 | 2220.364 | 2379.476 | 2302.021 | 2253.987 | 2044.440 | 1823.484 | 1831.290 | 1711.205 |
| 20 | 770.342 | 786.554 | 818.977 | 824.381 | 779.949 | 690.486 | 650.258 | 615.433 | 582.410 |
| 25 | 324.228 | 335.636 | 350.046 | 353.049 | 344.643 | 289.404 | 258.182 | 249.175 | 222.757 |
| 30 | 117.082 | 117.082 | 121.886 | 122.486 | 111.078 | 100.871 | 85.860 | 79.256 | 68.448 |
| 35 | 21.015 | 19.214 | 20.414 | 19.814 | 19.214 | 18.013 | 15.611 | 15.611 | 15.611 |
| 40 | 7.805 | 7.205 | 6.605 | 6.605 | 6.605 | 6.605 | 6.004 | 6.004 | 5.404 |
| 45 | 1.801 | 1.801 | 1.801 | 1.801 | 1.801 | 1.801 | 1.201 | 1.801 | 1.801 |
| 50 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.000 | 0.000 | 0.600 |
| 55 | 0.600 | 0.600 | 0.600 | 0.000 | 0.600 | 1.201 | 0.000 | 1.201 | 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-L12-9DW-DIM-UNV-OM-OF-CS_0 DEGREE TILT_.IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 950.65 | N.A. | 83.70 |
| 0-30 | 1111.37 | N.A. | 97.80 |
| 0-40 | 1133.5 | N.A. | 99.80 |
| 0-60 | 1135.82 | N.A. | 100.00 |
| 0-80 | 1135.82 | N.A. | 100.00 |
| 0-90 | 1135.82 | N.A. | 100.00 |
| 10-90 | 758.56 | N.A. | 66.80 |
| 20-40 | 182.86 | N.A. | 16.10 |
| 20-50 | 184.83 | N.A. | 16.30 |
| 40-70 | 2.32 | 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 | 1135.82 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 377.26 |
| 10-20 | 573.39 |
| 20-30 | 160.73 |
| 30-40 | 22.13 |
| 40-50 | 1.97 |
| 50-60 | 0.35 |
| 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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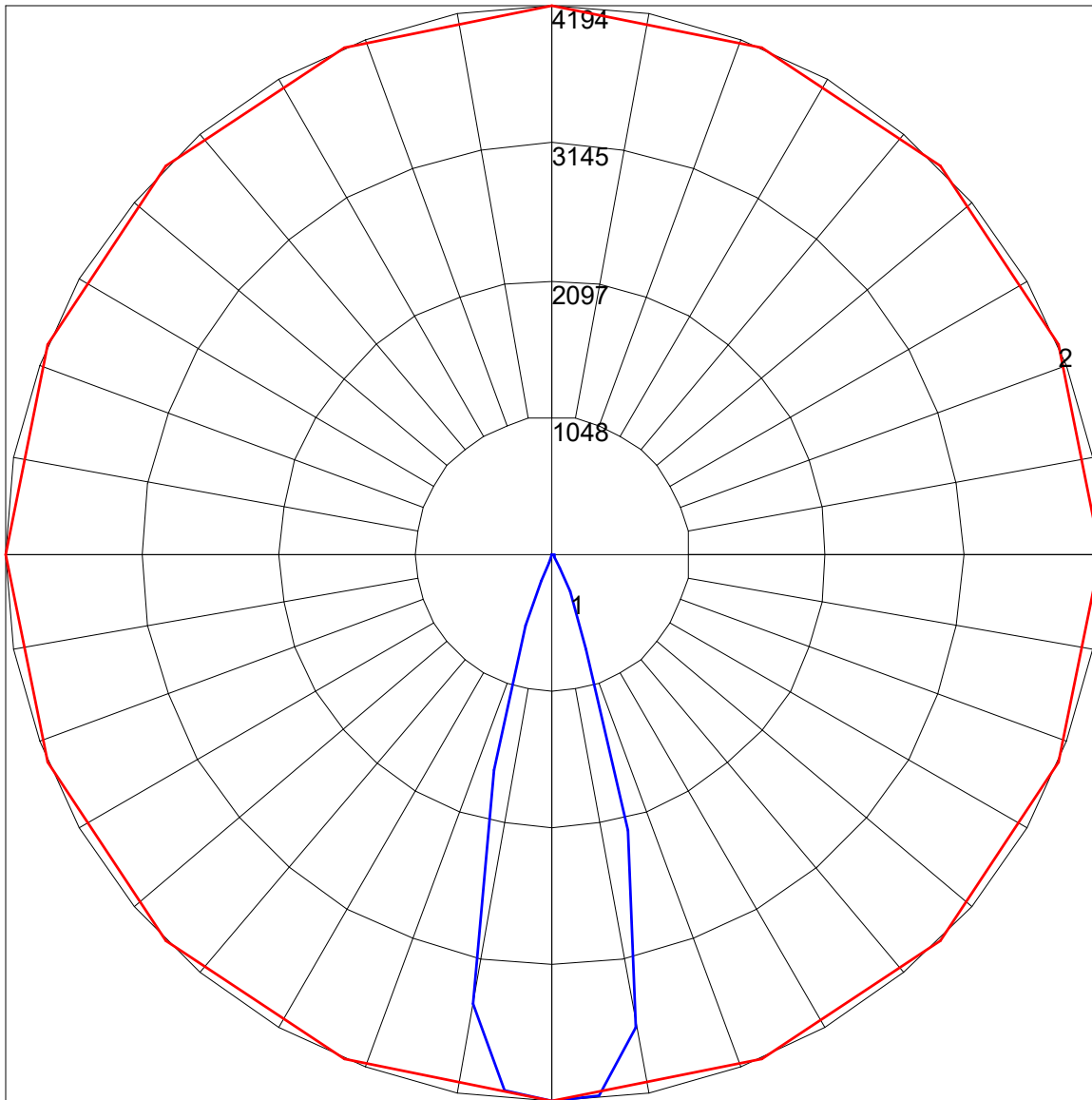
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 | 209 | 209 | 209 | 209 | 204 | 204 | 204 | 204 | 195 | 195 | 195 | 186 | 186 | 186 | 179 | 179 | 179 | 175 |
| 1 | 202 | 198 | 195 | 192 | 198 | 194 | 192 | 189 | 187 | 185 | 183 | 181 | 179 | 178 | 175 | 174 | 173 | 170 |
| 2 | 195 | 189 | 184 | 180 | 192 | 186 | 182 | 178 | 181 | 177 | 174 | 176 | 173 | 170 | 171 | 169 | 167 | 164 |
| 3 | 189 | 181 | 175 | 170 | 186 | 179 | 173 | 169 | 175 | 170 | 166 | 171 | 167 | 164 | 167 | 164 | 161 | 159 |
| 4 | 184 | 174 | 168 | 163 | 181 | 173 | 166 | 162 | 169 | 164 | 160 | 166 | 162 | 158 | 163 | 159 | 156 | 154 |
| 5 | 178 | 168 | 161 | 156 | 176 | 167 | 160 | 155 | 164 | 158 | 154 | 161 | 157 | 153 | 159 | 155 | 152 | 150 |
| 6 | 173 | 163 | 156 | 150 | 171 | 162 | 155 | 150 | 159 | 153 | 149 | 157 | 152 | 148 | 155 | 151 | 147 | 145 |
| 7 | 169 | 158 | 150 | 145 | 167 | 157 | 150 | 145 | 155 | 149 | 144 | 153 | 148 | 144 | 151 | 147 | 143 | 141 |
| 8 | 164 | 153 | 146 | 141 | 162 | 152 | 145 | 141 | 150 | 144 | 140 | 149 | 144 | 140 | 147 | 143 | 139 | 137 |
| 9 | 160 | 148 | 141 | 137 | 158 | 148 | 141 | 137 | 146 | 140 | 136 | 145 | 140 | 136 | 144 | 139 | 135 | 134 |
| 10 | 156 | 144 | 137 | 133 | 154 | 144 | 137 | 133 | 143 | 137 | 132 | 141 | 136 | 132 | 140 | 135 | 132 | 130 |

POLAR GRAPH



Maximum Candela = 4193.953 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.)