H.E. WILLIAMS, INC.

**IES INDOOR REPORT**
**PHOTOMETRIC FILENAME : PT-14-P21-835-SA-POE X.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002
[TEST]GEN FROM BALLABS TEST NO. 20790.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 16-MAY-2019
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2-84 LED 22"ARRAYS w/WHITE REFLECTOR
[MORE] FROST SQUARED RIBBED LENS - 1x4 LUMINAIRE
[LUMCAT] PT-14-P21-835-SA-POE x
[LAMPCAT] HLM 80 CRI 3500K CCT

**CHARACTERISTICS**

| | |
|---|---|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 2207 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 138 |
| Total Luminaire Watts | 16 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.20 |
| Spacing Criterion (90-270) | 1.16 |
| Spacing Criterion (Diagonal) | 1.28 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 3.92 ft |
| Luminous Width (90-270) | 0.98 ft |
| Luminous Height | 0.00 ft |

**LUMINANCE DATA (cd/sq.m)**

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 1970 | 1909 | 1895 |
| 55 | 1773 | 1783 | 1823 |
| 65 | 1549 | 1714 | 1878 |
| 75 | 1251 | 1731 | 2160 |
| 85 | 580 | 1868 | 2257 |

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**CANDELA TABULATION**

| | 0.0 | 22.5 | 45.0 | 67.5 | 90.0 |
|---|---|---|---|---|---|
| **0** | 859.503 | 859.503 | 859.503 | 859.503 | 859.503 |
| **5** | 863.774 | 854.284 | 849.540 | 837.678 | 848.591 |
| **10** | 847.167 | 836.966 | 830.798 | 829.612 | 831.272 |
| **15** | 819.173 | 809.210 | 803.753 | 801.855 | 800.432 |
| **20** | 781.928 | 772.201 | 763.186 | 758.678 | 759.390 |
| **25** | 735.429 | 727.363 | 723.568 | 711.706 | 707.198 |
| **30** | 681.103 | 672.799 | 664.259 | 657.853 | 654.295 |
| **35** | 624.641 | 617.049 | 606.848 | 598.070 | 593.088 |
| **40** | 559.875 | 553.707 | 543.032 | 536.152 | 532.119 |
| **45** | 497.245 | 490.128 | 481.825 | 478.029 | 478.266 |
| **50** | 431.057 | 428.921 | 419.906 | 421.567 | 423.702 |
| **55** | 362.970 | 362.970 | 365.105 | 370.799 | 373.171 |
| **60** | 299.628 | 301.052 | 310.778 | 320.505 | 326.436 |
| **65** | 233.677 | 242.217 | 258.586 | 275.430 | 283.259 |
| **70** | 170.335 | 184.569 | 208.055 | 230.593 | 239.845 |
| **75** | 115.534 | 130.242 | 159.897 | 189.077 | 199.515 |
| **80** | 60.495 | 85.642 | 116.483 | 147.323 | 157.050 |
| **85** | 18.030 | 40.567 | 58.123 | 65.951 | 70.222 |
| **90** | 0.000 | 0.712 | 0.949 | 1.661 | 0.949 |

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## ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---|---|---|---|
| 0-20 | 307.54 | N.A. | 13.90 |
| 0-30 | 639.00 | N.A. | 29.00 |
| 0-40 | 1018.78 | N.A. | 46.20 |
| 0-60 | 1721.76 | N.A. | 78.00 |
| 0-80 | 2147.24 | N.A. | 97.30 |
| 0-90 | 2207.1 | N.A. | 100.00 |
| 10-90 | 2126.44 | N.A. | 96.30 |
| 20-40 | 711.24 | N.A. | 32.20 |
| 20-50 | 1085.45 | N.A. | 49.20 |
| 40-70 | 959.48 | N.A. | 43.50 |
| 60-80 | 425.48 | N.A. | 19.30 |
| 70-80 | 168.98 | N.A. | 7.70 |
| 80-90 | 59.86 | N.A. | 2.70 |
| 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 | 2207.1 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A.%

## ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---|---|
| 0-10 | 80.66 |
| 10-20 | 226.88 |
| 20-30 | 331.46 |
| 30-40 | 379.79 |
| 40-50 | 374.21 |
| 50-60 | 328.76 |
| 60-70 | 256.50 |
| 70-80 | 168.98 |
| 80-90 | 59.86 |
| 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 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 77 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 69 |
| 3 | 90 | 79 | 71 | 65 | 87 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 66 | 62 | 69 | 65 | 61 | 58 |
| 4 | 83 | 70 | 62 | 55 | 80 | 69 | 61 | 55 | 67 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 54 | 47 | 60 | 52 | 47 | 58 | 51 | 46 | 56 | 50 | 46 | 44 |
| 6 | 70 | 57 | 48 | 42 | 68 | 56 | 48 | 41 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 40 | 38 |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 49 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 32 | 30 |
| 9 | 57 | 44 | 35 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 27 | 25 |

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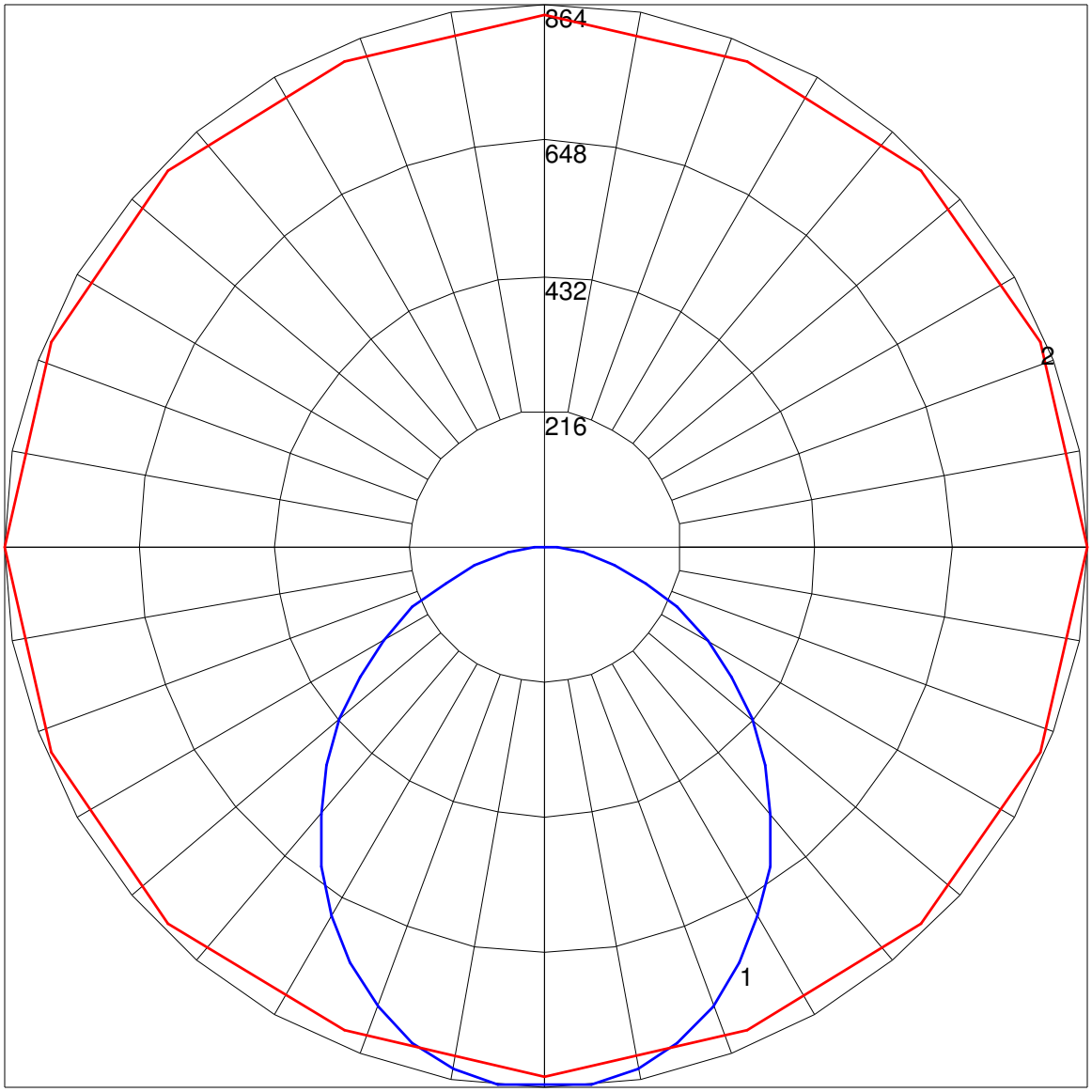
**POLAR GRAPH**




Maximum Candela = 863.774  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.)