



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LPT-22-L27-835-SA19156-(L20)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 18632.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 10-27-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC CARTHAGE, MO 64836
 [LUMINAIRE] 2x2' LED TROFFER
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] LPT-22-L27-835-SA19156-(L20)-DIM-UNV
 [LAMPCAT] HLM 80 CRI 3500K CCT
 [_SEARCH_SOURCETYPE]LED
 [_SEARCH_APPLICATION]INDOOR,OFFICE,CLASSROOM,COMMERCIAL,DIRECT
 [_SEARCH_MOUNTING]RECESSED

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 1923 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 120 |
| Total Luminaire Watts | 16 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.20 |
| Spacing Criterion (90-270) | 1.22 |
| Spacing Criterion (Diagonal) | 1.28 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 1.77 ft |
| Luminous Width (90-270) | 1.77 ft |
| Luminous Height | 0.00 ft |

LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 2198 | 2237 | 2254 |
| 55 | 1755 | 1736 | 1698 |
| 65 | 1398 | 1303 | 1310 |
| 75 | 1150 | 1120 | 1269 |
| 85 | 1109 | 1215 | 1320 |

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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> |
|-----------|------------|-------------|-------------|-------------|-------------|
| 0 | 836.919 | 836.919 | 836.919 | 836.919 | 836.919 |
| 5 | 836.029 | 836.474 | 833.359 | 830.690 | 830.690 |
| 10 | 820.456 | 820.456 | 821.791 | 818.677 | 820.456 |
| 15 | 798.655 | 797.320 | 799.544 | 799.100 | 800.879 |
| 20 | 764.840 | 763.950 | 764.840 | 768.399 | 773.293 |
| 25 | 722.126 | 720.791 | 723.461 | 727.020 | 739.034 |
| 30 | 667.399 | 665.175 | 666.954 | 681.192 | 686.531 |
| 35 | 604.219 | 606.888 | 606.888 | 623.796 | 623.796 |
| 40 | 531.250 | 534.809 | 537.034 | 550.827 | 546.378 |
| 45 | 450.717 | 449.827 | 458.726 | 467.180 | 462.285 |
| 50 | 367.070 | 364.400 | 372.854 | 379.083 | 371.074 |
| 55 | 291.876 | 287.427 | 288.761 | 292.766 | 282.532 |
| 60 | 225.581 | 220.687 | 216.237 | 218.017 | 211.788 |
| 65 | 171.299 | 162.845 | 159.731 | 160.176 | 160.621 |
| 70 | 123.691 | 120.132 | 116.127 | 119.242 | 121.912 |
| 75 | 86.317 | 87.652 | 84.092 | 88.542 | 95.216 |
| 80 | 56.506 | 56.951 | 57.396 | 61.401 | 68.965 |
| 85 | 28.031 | 25.806 | 30.700 | 34.260 | 33.370 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 304.20 | N.A. | 15.80 |
| 0-30 | 637.61 | N.A. | 33.20 |
| 0-40 | 1019.32 | N.A. | 53.00 |
| 0-60 | 1632.67 | N.A. | 84.90 |
| 0-80 | 1890.16 | N.A. | 98.30 |
| 0-90 | 1922.93 | N.A. | 100.00 |
| 10-90 | 1843.8 | N.A. | 95.90 |
| 20-40 | 715.12 | N.A. | 37.20 |
| 20-50 | 1067.58 | N.A. | 55.50 |
| 40-70 | 777.21 | N.A. | 40.40 |
| 60-80 | 257.49 | N.A. | 13.40 |
| 70-80 | 93.63 | N.A. | 4.90 |
| 80-90 | 32.77 | N.A. | 1.70 |
| 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 | 1922.93 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 79.13 |
| 10-20 | 225.07 |
| 20-30 | 333.41 |
| 30-40 | 381.71 |
| 40-50 | 352.46 |
| 50-60 | 260.89 |
| 60-70 | 163.86 |
| 70-80 | 93.63 |
| 80-90 | 32.77 |
| 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 | 110 | 105 | 101 | 98 | 107 | 103 | 100 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 90 | 88 | 86 |
| 2 | 101 | 93 | 87 | 82 | 98 | 91 | 85 | 81 | 88 | 83 | 79 | 85 | 80 | 77 | 82 | 78 | 75 | 73 |
| 3 | 93 | 83 | 75 | 69 | 90 | 81 | 74 | 69 | 78 | 72 | 67 | 76 | 70 | 66 | 73 | 69 | 65 | 63 |
| 4 | 85 | 74 | 66 | 60 | 83 | 73 | 65 | 59 | 70 | 64 | 58 | 68 | 62 | 58 | 66 | 61 | 57 | 55 |
| 5 | 79 | 67 | 58 | 52 | 77 | 66 | 58 | 52 | 64 | 57 | 51 | 62 | 55 | 51 | 60 | 54 | 50 | 48 |
| 6 | 73 | 60 | 52 | 46 | 71 | 60 | 52 | 46 | 58 | 51 | 45 | 56 | 50 | 45 | 55 | 49 | 45 | 43 |
| 7 | 68 | 55 | 47 | 41 | 66 | 54 | 46 | 41 | 53 | 46 | 41 | 51 | 45 | 40 | 50 | 44 | 40 | 38 |
| 8 | 63 | 51 | 42 | 37 | 62 | 50 | 42 | 37 | 49 | 42 | 37 | 47 | 41 | 36 | 46 | 40 | 36 | 34 |
| 9 | 59 | 47 | 39 | 33 | 58 | 46 | 38 | 33 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 10 | 56 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 28 |

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UGR TABLE - CORRECTED

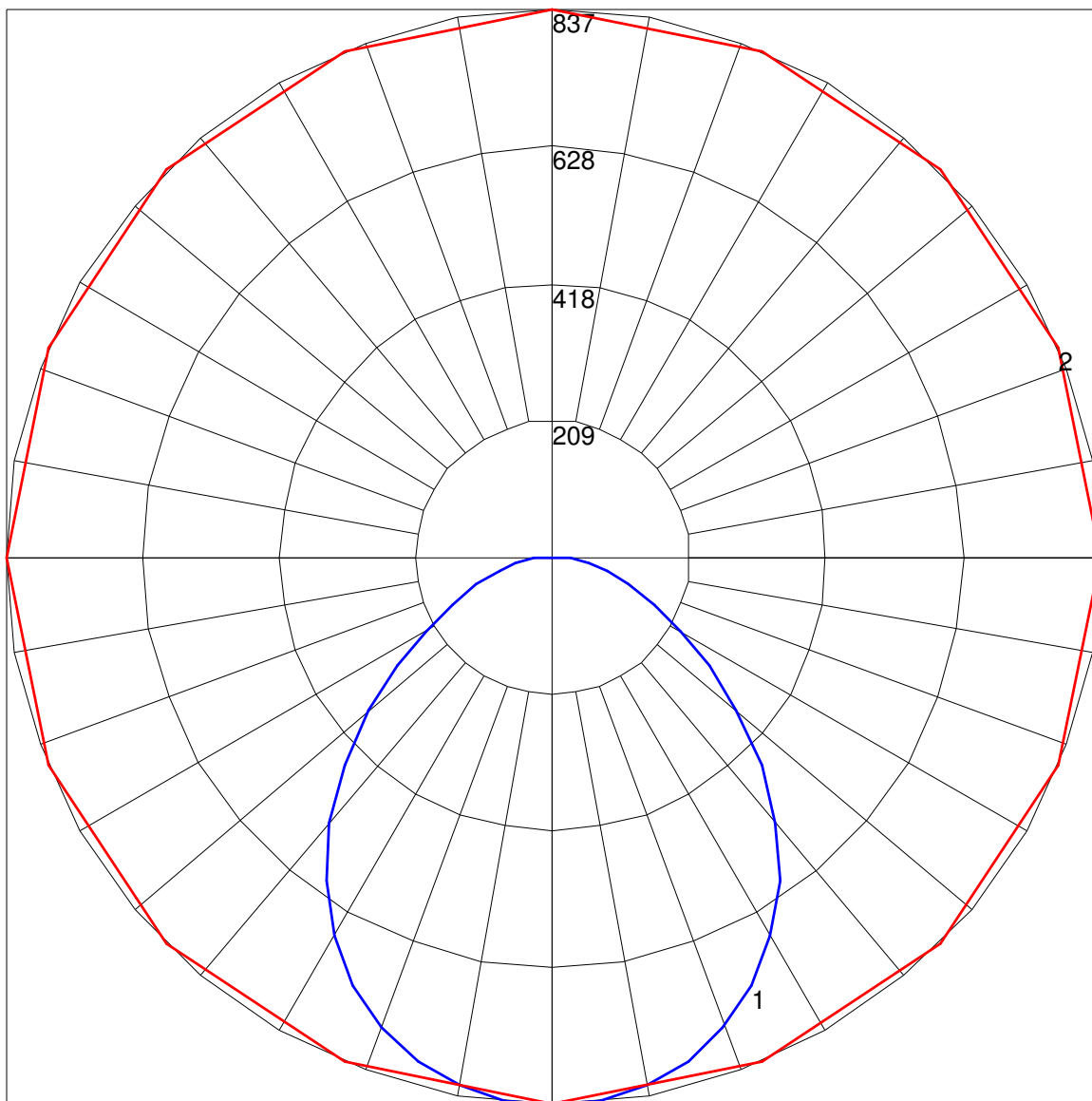
Reflectances

| | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|
| 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 | | | | | UGR Viewed Endwise | | | | |
|-----------|------|----------------------|------|------|------|------|--------------------|------|------|------|------|
| X=2H | Y=2H | 13.3 | 14.8 | 13.6 | 15.1 | 15.4 | 13.2 | 14.8 | 13.6 | 15.1 | 15.4 |
| | 3H | 14.6 | 16.0 | 15.0 | 16.3 | 16.7 | 14.6 | 15.9 | 14.9 | 16.3 | 16.6 |
| | 4H | 15.2 | 16.5 | 15.6 | 16.8 | 17.2 | 15.2 | 16.5 | 15.6 | 16.8 | 17.2 |
| | 6H | 15.7 | 16.8 | 16.1 | 17.2 | 17.6 | 15.8 | 17.0 | 16.2 | 17.4 | 17.8 |
| | 8H | 15.8 | 17.0 | 16.3 | 17.4 | 17.8 | 16.1 | 17.2 | 16.5 | 17.6 | 18.0 |
| | 12H | 16.0 | 17.0 | 16.4 | 17.4 | 17.9 | 16.2 | 17.3 | 16.7 | 17.7 | 18.1 |
| 4H | 2H | 13.7 | 15.0 | 14.1 | 15.3 | 15.7 | 13.6 | 14.9 | 14.0 | 15.3 | 15.7 |
| | 3H | 15.3 | 16.4 | 15.7 | 16.8 | 17.2 | 15.2 | 16.3 | 15.6 | 16.7 | 17.1 |
| | 4H | 16.0 | 17.0 | 16.4 | 17.4 | 17.8 | 16.0 | 17.0 | 16.4 | 17.4 | 17.8 |
| | 6H | 16.6 | 17.5 | 17.1 | 17.9 | 18.4 | 16.8 | 17.6 | 17.2 | 18.1 | 18.5 |
| | 8H | 16.8 | 17.6 | 17.3 | 18.1 | 18.5 | 17.1 | 17.9 | 17.6 | 18.3 | 18.8 |
| | 12H | 17.0 | 17.7 | 17.5 | 18.2 | 18.7 | 17.4 | 18.1 | 17.8 | 18.5 | 19.0 |
| 8H | 4H | 16.2 | 17.0 | 16.7 | 17.5 | 17.9 | 16.3 | 17.0 | 16.7 | 17.5 | 18.0 |
| | 6H | 17.0 | 17.7 | 17.5 | 18.2 | 18.6 | 17.2 | 17.8 | 17.7 | 18.3 | 18.8 |
| | 8H | 17.3 | 17.9 | 17.8 | 18.4 | 18.9 | 17.6 | 18.2 | 18.1 | 18.7 | 19.2 |
| | 12H | 17.6 | 18.1 | 18.1 | 18.6 | 19.2 | 18.0 | 18.5 | 18.5 | 19.0 | 19.6 |
| 12H | 4H | 16.3 | 17.0 | 16.8 | 17.5 | 17.9 | 16.3 | 17.0 | 16.8 | 17.5 | 17.9 |
| | 6H | 17.1 | 17.7 | 17.6 | 18.1 | 18.7 | 17.2 | 17.8 | 17.8 | 18.3 | 18.8 |
| | 8H | 17.5 | 18.0 | 18.0 | 18.5 | 19.0 | 17.7 | 18.2 | 18.2 | 18.7 | 19.3 |

Maximum UGR = 19.6

POLAR GRAPH



Maximum Candela = 836.919 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.)