



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LPT-24-L45-8TW-SAF12095-DALI-UNV 4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18557.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 27-MAR-2020

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

[LUMINAIRE] LED 22" ARRAYS 2x4' RECESSED GRID LUMINAIRE

[MORE] WHITE INTERNAL REFLECTORS w/.095" PAT12 ACRYLIC LENS

[LUMCAT] LPT-24-L45/8TW-AF12095-DALI-UNV 4000k

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 4504 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 129 |
| Total Luminaire Watts | 34.8 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.18 |
| Spacing Criterion (90-270) | 1.18 |
| Spacing Criterion (Diagonal) | 1.26 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 3.77 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 | 2489 | 2459 | 2429 |
| 55 | 1921 | 1816 | 1736 |
| 65 | 1502 | 1368 | 1377 |
| 75 | 1244 | 1168 | 1326 |
| 85 | 1400 | 1461 | 1725 |

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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 | 2034.347 | 2034.347 | 2034.347 | 2034.347 | 2034.347 |
| 5 | 2035.441 | 2034.347 | 2034.347 | 2034.347 | 2034.347 |
| 10 | 1992.785 | 1990.598 | 1989.504 | 1990.598 | 1988.410 |
| 15 | 1929.349 | 1927.161 | 1929.349 | 1929.349 | 1931.536 |
| 20 | 1858.256 | 1858.256 | 1860.443 | 1862.631 | 1865.912 |
| 25 | 1722.633 | 1720.445 | 1722.633 | 1727.008 | 1731.382 |
| 30 | 1584.822 | 1584.822 | 1584.822 | 1587.009 | 1590.291 |
| 35 | 1452.480 | 1451.386 | 1451.386 | 1451.386 | 1455.761 |
| 40 | 1258.889 | 1253.420 | 1253.420 | 1250.139 | 1253.420 |
| 45 | 1088.266 | 1082.798 | 1075.141 | 1062.017 | 1062.017 |
| 50 | 874.988 | 867.332 | 848.738 | 824.676 | 821.395 |
| 55 | 681.397 | 668.272 | 644.210 | 621.241 | 615.773 |
| 60 | 520.618 | 503.118 | 483.431 | 468.119 | 465.931 |
| 65 | 392.651 | 375.151 | 357.651 | 357.651 | 359.839 |
| 70 | 283.277 | 272.340 | 255.934 | 272.340 | 278.902 |
| 75 | 199.060 | 196.872 | 187.029 | 204.528 | 212.185 |
| 80 | 139.998 | 137.811 | 138.904 | 149.842 | 160.779 |
| 85 | 75.468 | 74.374 | 78.749 | 91.874 | 92.967 |
| 90 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : LPT-24-L45-8TW-SAF12095-DALI-UNV 4000K_.IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 737.46 | N.A. | 16.40 |
| 0-30 | 1532.4 | N.A. | 34.00 |
| 0-40 | 2431.15 | N.A. | 54.00 |
| 0-60 | 3836.57 | N.A. | 85.20 |
| 0-80 | 4419.7 | N.A. | 98.10 |
| 0-90 | 4503.79 | N.A. | 100.00 |
| 10-90 | 4311.17 | N.A. | 95.70 |
| 20-40 | 1693.69 | N.A. | 37.60 |
| 20-50 | 2512.73 | N.A. | 55.80 |
| 40-70 | 1774.26 | N.A. | 39.40 |
| 60-80 | 583.13 | N.A. | 12.90 |
| 70-80 | 214.28 | N.A. | 4.80 |
| 80-90 | 84.09 | N.A. | 1.90 |
| 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 | 4503.79 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 192.62 |
| 10-20 | 544.84 |
| 20-30 | 794.94 |
| 30-40 | 898.75 |
| 40-50 | 819.04 |
| 50-60 | 586.38 |
| 60-70 | 368.84 |
| 70-80 | 214.28 |
| 80-90 | 84.09 |
| 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 RW | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| 0 | 66 | 66 | 66 | 66 | 64 | 64 | 64 | 64 | 61 | 61 | 61 | 59 | 59 | 59 | 56 | 56 | 56 | 55 |
| 1 | 60 | 58 | 56 | 54 | 59 | 57 | 55 | 53 | 54 | 53 | 51 | 52 | 51 | 50 | 50 | 49 | 48 | 47 |
| 2 | 56 | 51 | 48 | 45 | 54 | 50 | 47 | 45 | 48 | 46 | 43 | 47 | 44 | 43 | 45 | 43 | 42 | 40 |
| 3 | 51 | 46 | 42 | 38 | 50 | 45 | 41 | 38 | 43 | 40 | 37 | 42 | 39 | 37 | 40 | 38 | 36 | 35 |
| 4 | 47 | 41 | 37 | 33 | 46 | 40 | 36 | 33 | 39 | 35 | 32 | 38 | 35 | 32 | 37 | 34 | 32 | 30 |
| 5 | 44 | 37 | 32 | 29 | 42 | 36 | 32 | 29 | 35 | 31 | 28 | 34 | 31 | 28 | 33 | 30 | 28 | 27 |
| 6 | 40 | 34 | 29 | 26 | 39 | 33 | 29 | 26 | 32 | 28 | 25 | 31 | 28 | 25 | 30 | 27 | 25 | 24 |
| 7 | 38 | 31 | 26 | 23 | 37 | 30 | 26 | 23 | 29 | 25 | 23 | 29 | 25 | 22 | 28 | 25 | 22 | 21 |
| 8 | 35 | 28 | 24 | 21 | 34 | 28 | 23 | 21 | 27 | 23 | 20 | 26 | 23 | 20 | 26 | 23 | 20 | 19 |
| 9 | 33 | 26 | 22 | 19 | 32 | 26 | 21 | 19 | 25 | 21 | 19 | 24 | 21 | 18 | 24 | 21 | 18 | 17 |
| 10 | 31 | 24 | 20 | 17 | 30 | 24 | 20 | 17 | 23 | 20 | 17 | 23 | 19 | 17 | 22 | 19 | 17 | 16 |

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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 | 15.5 | 17.1 | 15.9 | 17.4 | 17.7 | UGR Viewed Endwise | | | |
|------|------|------|------|------|------|------|--------------------|------|------|------|
| | 3H | 16.9 | 18.3 | 17.3 | 18.6 | 19.0 | 15.0 | 16.5 | 15.4 | 16.8 |
| | 4H | 17.4 | 18.7 | 17.8 | 19.1 | 19.4 | 16.5 | 17.8 | 16.9 | 18.2 |
| | 6H | 17.9 | 19.1 | 18.4 | 19.5 | 19.9 | 17.1 | 18.4 | 17.5 | 18.8 |
| | 8H | 18.1 | 19.3 | 18.6 | 19.7 | 20.1 | 17.8 | 19.0 | 18.2 | 19.4 |
| | 12H | 18.3 | 19.4 | 18.8 | 19.8 | 20.2 | 18.1 | 19.2 | 18.5 | 19.6 |

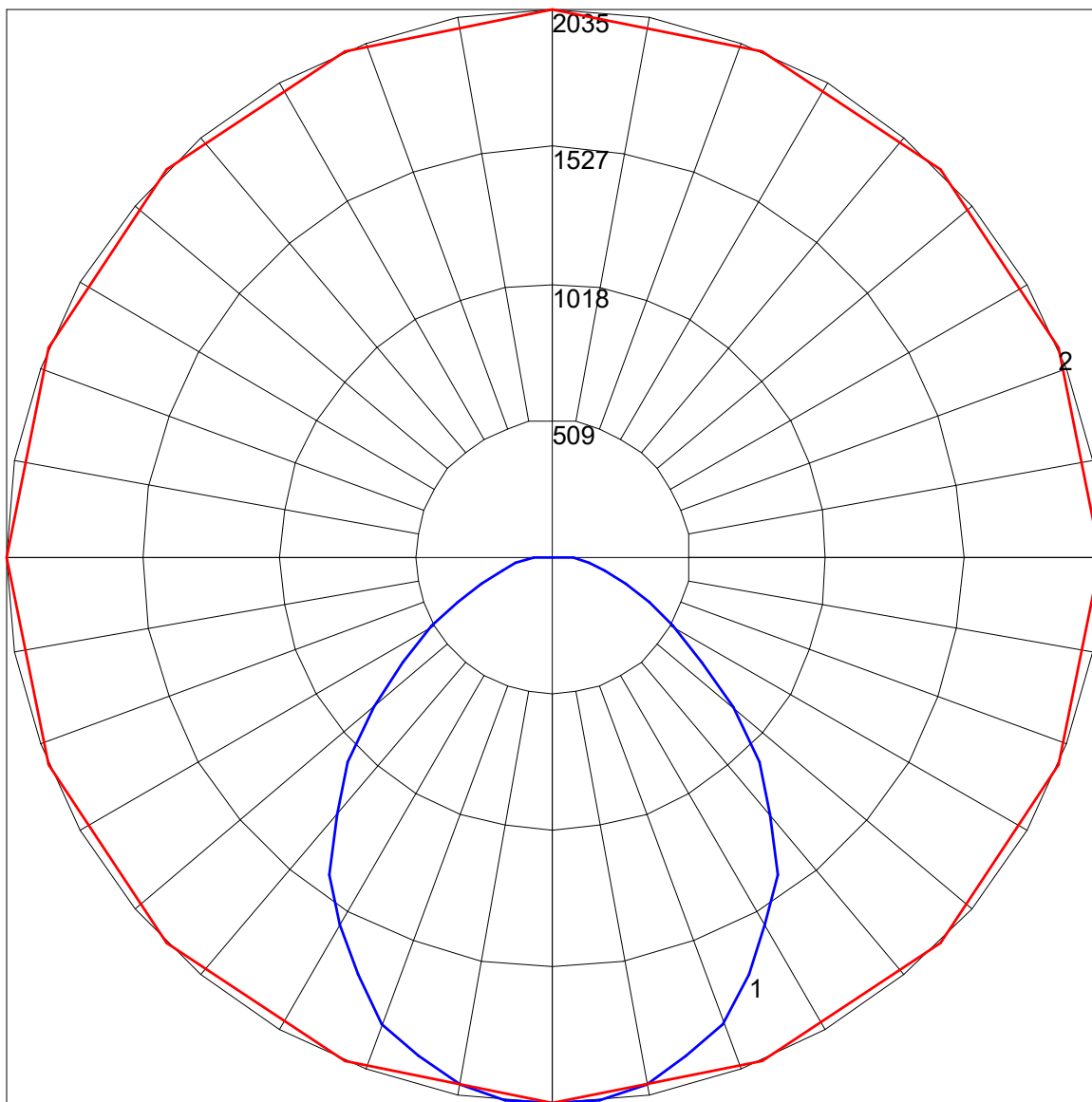
| | | | | | | | | | | |
|----|-----|------|------|------|------|------|------|------|------|------|
| 4H | 2H | 15.9 | 17.2 | 16.3 | 17.5 | 17.9 | 18.4 | 19.5 | 18.8 | 19.9 |
| | 3H | 17.5 | 18.6 | 17.9 | 19.0 | 19.4 | 15.5 | 16.7 | 15.9 | 17.1 |
| | 4H | 18.2 | 19.2 | 18.6 | 19.6 | 20.0 | 17.2 | 18.2 | 17.6 | 18.6 |
| | 6H | 18.9 | 19.7 | 19.3 | 20.1 | 20.6 | 18.0 | 19.0 | 18.4 | 19.4 |
| | 8H | 19.1 | 19.9 | 19.6 | 20.4 | 20.8 | 18.8 | 19.7 | 19.3 | 20.1 |
| | 12H | 19.4 | 20.1 | 19.9 | 20.6 | 21.1 | 19.2 | 20.0 | 19.7 | 20.5 |

| | | | | | | | | | | |
|----|-----|------|------|------|------|------|------|------|------|------|
| 8H | 4H | 18.4 | 19.2 | 18.9 | 19.7 | 20.1 | 19.6 | 20.3 | 20.1 | 20.8 |
| | 6H | 19.3 | 19.9 | 19.8 | 20.4 | 20.9 | 15.9 | 17.1 | 17.5 | 18.5 |
| | 8H | 19.7 | 20.3 | 20.2 | 20.8 | 21.2 | 16.5 | 17.8 | 16.9 | 18.2 |
| | 12H | 20.0 | 20.6 | 20.5 | 21.0 | 21.6 | 17.1 | 18.4 | 17.5 | 18.8 |

| | | | | | | | | | | |
|-----|----|------|------|------|------|------|------|------|------|------|
| 12H | 4H | 18.5 | 19.2 | 19.0 | 19.7 | 20.1 | 18.8 | 19.5 | 18.8 | 19.9 |
| | 6H | 19.4 | 20.0 | 19.9 | 20.4 | 21.0 | 19.4 | 20.0 | 19.9 | 20.4 |
| | 8H | 19.8 | 20.3 | 20.3 | 20.8 | 21.4 | 20.0 | 20.5 | 20.5 | 21.0 |

Maximum UGR = 21.9

POLAR GRAPH



Maximum Candela = 2035.441 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.)