

IES INDOOR REPORT

PHOTOMETRIC FILENAME : FLX-22-5630-150-24-IP20-27K LL-0725 ALU-DFR_IESNA95.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-1995
 [TEST] 01
 [TESTLAB] LED-123 LAB
 [TESTDATE] 12-15-2020
 [ISSUEDATE] XX-XXX-1995
 [NEARFIELD]
 [LAMPPOSITION] 0,0
 [OTHER] LED123
 [MANUFAC] LED123
 [LUMCAT] FLX-22-5630-150-24-IP20-27K
 [LUMINAIRE] LL-0725 ALU LL-0725 DFR
 [LAMPCAT] 1
 [LAMP] 5630 128LED CRI80 PCB 12MM
 [BALLAST] DC24V

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | 2755.8 (1 lamp) |
| Total Lamp Lumens | 2755.8 |
| Luminaire Lumens | 2756 |
| Total Luminaire Efficiency | 100 % |
| Luminaire Efficacy Rating (LER) | 114 |
| Total Luminaire Watts | 24.2 |
| Ballast Factor | 1.00 |
| CIE Type | Semi-Direct |
| Spacing Criterion (0-180) | 1.30 |
| Spacing Criterion (90-270) | 2.12 |
| Spacing Criterion (Diagonal) | 1.44 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 1.00 m |
| Luminous Width (90-270) | 0.02 m |
| Luminous Height | 0.00 m |



LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|------------------|---------------|----------------|----------------|
| 45 | 39910 | 74792 | 94133 |
| 55 | 37490 | 86275 | 115370 |
| 65 | 35088 | 105537 | 150263 |
| 75 | 35196 | 143203 | 208400 |
| 85 | 46931 | 337008 | 549082 |

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CANDELA TABULATION

| | <u>0</u> | <u>30</u> | <u>60</u> | <u>90</u> | <u>120</u> | <u>150</u> | <u>180</u> | <u>210</u> | <u>240</u> | <u>270</u> |
|-----|----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|
| 0 | 648.146 | 648.146 | 648.146 | 648.146 | 648.146 | 648.146 | 648.146 | 648.146 | 648.146 | 648.146 |
| 5 | 669.890 | 684.740 | 696.130 | 704.190 | 693.570 | 679.100 | 663.550 | 612.290 | 576.190 | 563.970 |
| 10 | 663.170 | 710.720 | 746.110 | 764.160 | 743.550 | 703.170 | 646.850 | 565.890 | 509.890 | 491.330 |
| 15 | 648.580 | 729.980 | 795.330 | 819.330 | 791.230 | 719.100 | 622.140 | 513.280 | 439.490 | 416.060 |
| 20 | 625.920 | 740.860 | 833.540 | 868.160 | 827.330 | 726.660 | 590.210 | 457.410 | 370.050 | 344.190 |
| 25 | 598.850 | 742.850 | 864.320 | 909.060 | 855.870 | 725.890 | 552.450 | 401.220 | 307.780 | 277.950 |
| 30 | 564.930 | 738.050 | 888.060 | 943.620 | 877.180 | 716.740 | 507.840 | 344.190 | 246.020 | 219.200 |
| 35 | 523.010 | 727.490 | 903.420 | 970.430 | 889.980 | 699.140 | 460.290 | 290.110 | 194.300 | 170.370 |
| 40 | 474.940 | 707.010 | 910.910 | 988.540 | 895.230 | 674.300 | 411.330 | 240.060 | 151.740 | 131.580 |
| 45 | 423.490 | 677.180 | 910.080 | 998.850 | 891.970 | 642.180 | 355.780 | 193.220 | 116.350 | 100.420 |
| 50 | 371.710 | 640.830 | 901.310 | 1000.060 | 880.830 | 607.300 | 301.380 | 151.740 | 88.510 | 76.540 |
| 55 | 322.690 | 600.260 | 884.930 | 993.020 | 861.500 | 565.890 | 250.500 | 115.970 | 66.880 | 58.750 |
| 60 | 270.850 | 554.620 | 861.060 | 977.090 | 834.430 | 517.820 | 201.860 | 84.740 | 49.790 | 44.670 |
| 65 | 222.530 | 507.330 | 831.300 | 952.960 | 801.410 | 468.420 | 153.410 | 59.580 | 36.800 | 33.660 |
| 70 | 178.370 | 457.730 | 784.770 | 899.330 | 762.050 | 416.830 | 112.380 | 40.130 | 26.820 | 26.240 |
| 75 | 136.700 | 410.620 | 701.760 | 809.410 | 692.030 | 365.440 | 74.620 | 25.660 | 19.520 | 19.460 |
| 80 | 99.390 | 364.100 | 612.480 | 765.760 | 575.300 | 320.510 | 41.600 | 16.380 | 15.100 | 16.190 |
| 85 | 61.380 | 315.330 | 566.210 | 718.140 | 530.500 | 272.700 | 15.680 | 11.390 | 12.930 | 14.020 |
| 90 | 37.060 | 267.780 | 542.530 | 649.730 | 505.860 | 225.660 | 5.700 | 9.150 | 11.580 | 12.860 |
| 95 | 8.770 | 174.020 | 385.660 | 580.670 | 338.560 | 143.550 | 4.540 | 8.130 | 10.430 | 12.420 |
| 100 | 5.630 | 130.690 | 371.010 | 508.610 | 330.690 | 92.860 | 3.840 | 7.740 | 10.050 | 12.100 |
| 105 | 4.990 | 89.540 | 303.740 | 402.180 | 263.550 | 44.800 | 4.290 | 8.060 | 10.180 | 11.780 |
| 110 | 5.180 | 26.240 | 194.880 | 259.900 | 161.220 | 3.840 | 4.670 | 8.130 | 10.620 | 11.970 |
| 115 | 5.250 | 3.460 | 94.140 | 133.310 | 70.980 | 3.200 | 5.060 | 8.320 | 11.010 | 12.290 |
| 120 | 5.570 | 3.520 | 29.630 | 50.750 | 17.410 | 3.520 | 5.500 | 8.640 | 11.200 | 12.540 |
| 125 | 6.080 | 3.840 | 4.800 | 10.820 | 4.350 | 3.840 | 5.950 | 8.900 | 11.330 | 12.670 |
| 130 | 6.530 | 4.350 | 4.350 | 3.260 | 4.420 | 4.290 | 6.340 | 9.220 | 11.390 | 12.740 |
| 135 | 6.850 | 4.800 | 4.480 | 3.580 | 4.610 | 4.740 | 6.780 | 9.470 | 11.460 | 12.800 |
| 140 | 7.230 | 5.180 | 4.800 | 3.970 | 4.930 | 5.250 | 7.230 | 9.660 | 11.460 | 12.670 |
| 145 | 7.620 | 5.700 | 5.250 | 4.480 | 5.310 | 5.820 | 7.620 | 9.730 | 11.460 | 12.540 |
| 150 | 8.000 | 6.210 | 5.700 | 5.060 | 5.820 | 6.340 | 7.940 | 9.860 | 11.260 | 12.220 |
| 155 | 8.260 | 6.660 | 6.270 | 5.630 | 6.340 | 6.850 | 8.260 | 9.860 | 11.070 | 11.900 |
| 160 | 8.640 | 7.170 | 6.780 | 6.270 | 6.910 | 7.360 | 8.640 | 9.920 | 10.820 | 11.580 |
| 165 | 8.900 | 7.680 | 7.420 | 6.980 | 7.420 | 7.870 | 8.960 | 9.790 | 10.430 | 11.140 |
| 170 | 9.150 | 8.190 | 8.000 | 7.680 | 8.060 | 8.380 | 9.220 | 9.660 | 10.050 | 10.620 |
| 175 | 9.340 | 8.640 | 8.640 | 8.450 | 8.700 | 8.830 | 9.410 | 9.470 | 9.600 | 9.980 |
| 180 | 9.265 | 9.265 | 9.265 | 9.265 | 9.265 | 9.265 | 9.265 | 9.265 | 9.265 | 9.265 |

Vert. Horizontal Angles

| | <u>300</u> | <u>330</u> | <u>360</u> |
|----|------------|------------|------------|
| 0 | 648.146 | 648.146 | 648.146 |
| 5 | 572.220 | 605.820 | 669.890 |
| 10 | 507.650 | 563.070 | 663.170 |
| 15 | 439.870 | 513.980 | 648.580 |
| 20 | 372.610 | 461.500 | 625.920 |
| 25 | 312.260 | 410.240 | 598.850 |
| 30 | 251.840 | 356.480 | 564.930 |
| 35 | 201.410 | 302.660 | 523.010 |
| 40 | 158.910 | 253.760 | 474.940 |
| 45 | 122.430 | 205.180 | 423.490 |
| 50 | 93.180 | 162.180 | 371.710 |
| 55 | 70.460 | 125.180 | 322.690 |
| 60 | 52.420 | 91.710 | 270.850 |
| 65 | 38.530 | 62.850 | 222.530 |
| 70 | 26.940 | 43.580 | 178.370 |
| 75 | 19.260 | 27.900 | 136.700 |
| 80 | 13.700 | 17.790 | 99.390 |

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| | | | |
|------------|--------|--------|--------|
| 85 | 12.800 | 12.670 | 61.380 |
| 90 | 11.140 | 10.750 | 37.060 |
| 95 | 11.460 | 9.730 | 8.770 |
| 100 | 10.880 | 9.020 | 5.630 |
| 105 | 10.750 | 8.260 | 4.990 |
| 110 | 11.070 | 8.130 | 5.180 |
| 115 | 11.260 | 8.510 | 5.250 |
| 120 | 11.460 | 8.900 | 5.570 |
| 125 | 11.580 | 9.220 | 6.080 |
| 130 | 11.710 | 9.540 | 6.530 |
| 135 | 11.780 | 9.730 | 6.850 |
| 140 | 11.780 | 9.920 | 7.230 |
| 145 | 11.710 | 10.050 | 7.620 |
| 150 | 11.580 | 10.110 | 8.000 |
| 155 | 11.330 | 10.110 | 8.260 |
| 160 | 11.010 | 10.110 | 8.640 |
| 165 | 10.620 | 9.980 | 8.900 |
| 170 | 10.180 | 9.860 | 9.150 |
| 175 | 9.660 | 9.600 | 9.340 |
| 180 | 9.265 | 9.265 | 9.265 |

IES INDOOR REPORT**PHOTOMETRIC FILENAME : FLX-22-5630-150-24-IP20-27K LL-0725 ALU-DFR_IESNA95.IES****ZONAL LUMEN SUMMARY**

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|--------|
| 0-20 | 236.36 | 8.60 | 8.60 |
| 0-30 | 503.83 | 18.30 | 18.30 |
| 0-40 | 834.64 | 30.30 | 30.30 |
| 0-60 | 1564.76 | 56.80 | 56.80 |
| 0-80 | 2200.36 | 79.80 | 79.80 |
| 0-90 | 2432.97 | 88.30 | 88.30 |
| 10-90 | 2371.81 | 86.10 | 86.10 |
| 20-40 | 598.28 | 21.70 | 21.70 |
| 20-50 | 961.57 | 34.90 | 34.90 |
| 40-70 | 1074.19 | 39.00 | 39.00 |
| 60-80 | 635.60 | 23.10 | 23.10 |
| 70-80 | 291.53 | 10.60 | 10.60 |
| 80-90 | 232.61 | 8.40 | 8.40 |
| 90-110 | 262.69 | 9.50 | 9.50 |
| 90-120 | 296.17 | 10.70 | 10.70 |
| 90-130 | 304.50 | 11.00 | 11.00 |
| 90-150 | 315.46 | 11.40 | 11.40 |
| 90-180 | 322.82 | 11.70 | 11.70 |
| 110-180 | 60.13 | 2.20 | 2.20 |
| 0-180 | 2755.79 | 100.00 | 100.00 |

Total Luminaire Efficiency = 100.00%

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|--------|
| 0-10 | 61.16 |
| 10-20 | 175.19 |
| 20-30 | 267.47 |
| 30-40 | 330.81 |
| 40-50 | 363.29 |
| 50-60 | 366.83 |
| 60-70 | 344.07 |
| 70-80 | 291.53 |
| 80-90 | 232.61 |
| 90-100 | 162.79 |
| 100-110 | 99.89 |
| 110-120 | 33.48 |
| 120-130 | 8.34 |
| 130-140 | 5.87 |
| 140-150 | 5.08 |
| 150-160 | 3.95 |
| 160-170 | 2.53 |
| 170-180 | 0.87 |

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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 | 116 | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 105 | 105 | 105 | 98 | 98 | 98 | 91 | 91 | 91 | 88 |
| 1 | 103 | 96 | 91 | 86 | 98 | 93 | 88 | 83 | 86 | 82 | 78 | 80 | 77 | 74 | 75 | 72 | 70 | 66 |
| 2 | 92 | 82 | 74 | 67 | 88 | 79 | 72 | 65 | 74 | 67 | 62 | 68 | 63 | 59 | 64 | 59 | 56 | 53 |
| 3 | 83 | 71 | 62 | 54 | 79 | 69 | 60 | 53 | 64 | 57 | 51 | 59 | 53 | 48 | 55 | 50 | 46 | 43 |
| 4 | 76 | 62 | 53 | 45 | 72 | 60 | 51 | 44 | 56 | 48 | 42 | 52 | 46 | 40 | 49 | 43 | 39 | 36 |
| 5 | 69 | 55 | 46 | 38 | 66 | 53 | 44 | 38 | 50 | 42 | 36 | 47 | 40 | 35 | 44 | 38 | 33 | 31 |
| 6 | 64 | 50 | 40 | 33 | 61 | 48 | 39 | 32 | 45 | 37 | 31 | 42 | 35 | 30 | 39 | 33 | 29 | 26 |
| 7 | 59 | 45 | 35 | 29 | 56 | 43 | 35 | 28 | 41 | 33 | 27 | 38 | 31 | 26 | 36 | 30 | 25 | 23 |
| 8 | 55 | 41 | 32 | 26 | 53 | 39 | 31 | 25 | 37 | 30 | 24 | 35 | 28 | 23 | 33 | 27 | 23 | 20 |
| 9 | 51 | 37 | 29 | 23 | 49 | 36 | 28 | 23 | 34 | 27 | 22 | 32 | 26 | 21 | 30 | 25 | 20 | 18 |
| 10 | 48 | 34 | 26 | 21 | 46 | 33 | 26 | 20 | 31 | 24 | 20 | 30 | 23 | 19 | 28 | 22 | 18 | 17 |

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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 | 23.9 | 25.4 | 24.4 | 26.0 | 26.5 | 30.4 | 32.0 | 31.0 | 32.5 | 33.1 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| | 3H | 25.8 | 27.2 | 26.4 | 27.8 | 28.4 | 33.8 | 35.2 | 34.4 | 35.7 | 36.4 |
| | 4H | 26.7 | 28.0 | 27.2 | 28.5 | 29.2 | 35.4 | 36.7 | 36.0 | 37.3 | 37.9 |
| | 6H | 27.4 | 28.6 | 28.0 | 29.2 | 29.9 | 37.2 | 38.4 | 37.7 | 39.0 | 39.6 |
| | 8H | 27.7 | 28.9 | 28.3 | 29.5 | 30.2 | 38.2 | 39.3 | 38.7 | 39.9 | 40.6 |
| | 12H | 28.0 | 29.2 | 28.6 | 29.8 | 30.5 | 39.3 | 40.4 | 39.9 | 41.0 | 41.7 |

UGR Viewed Endwise

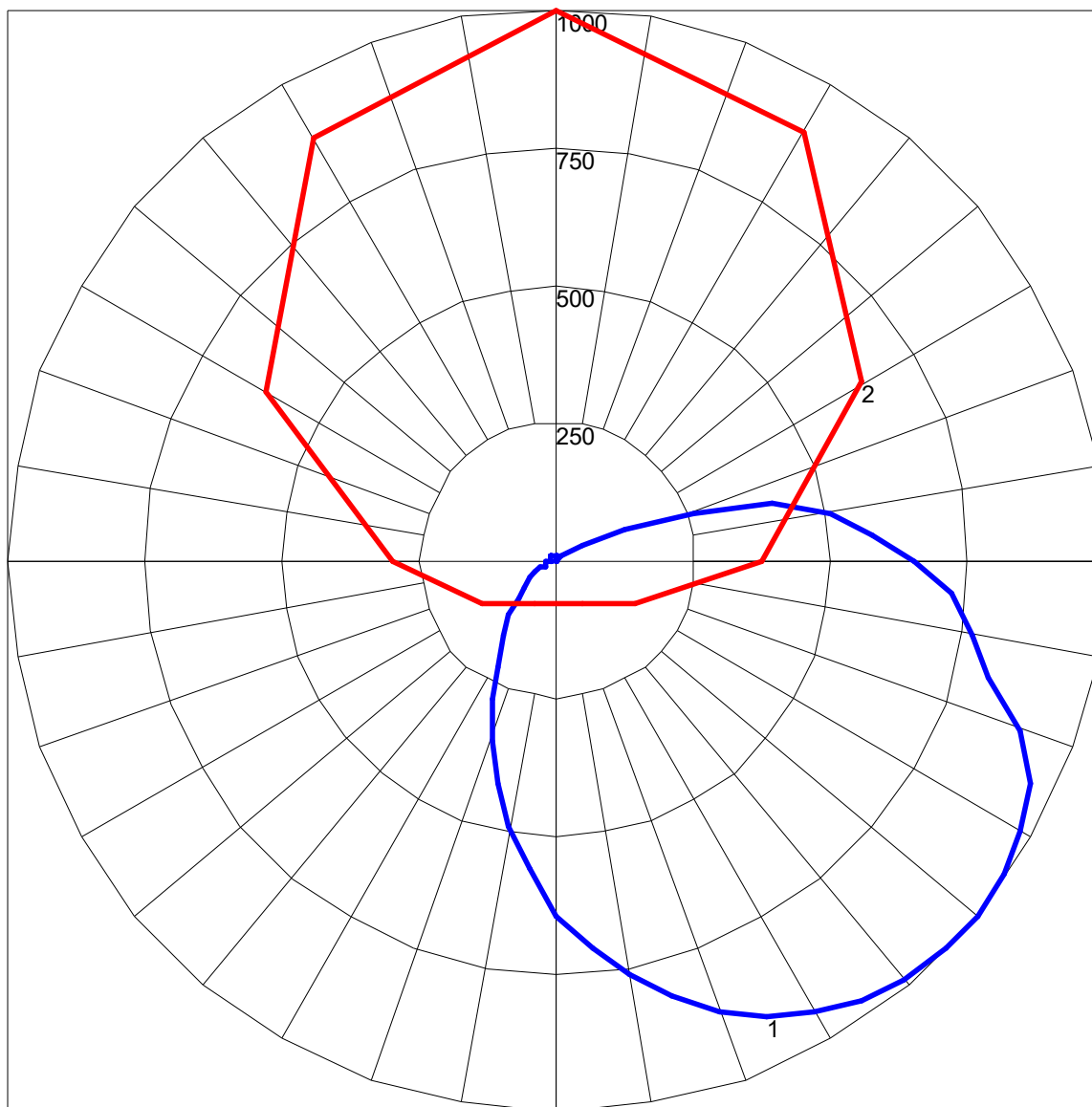
| | | | | | | | | | | | |
|-----|-----|------|------|------|------|------|------|------|------|------|------|
| 4H | 2H | 25.8 | 27.1 | 26.4 | 27.7 | 28.3 | 31.0 | 32.3 | 31.6 | 32.9 | 33.5 |
| | 3H | 28.0 | 29.2 | 28.6 | 29.8 | 30.4 | 34.7 | 35.8 | 35.3 | 36.4 | 37.1 |
| | 4H | 29.0 | 30.1 | 29.6 | 30.7 | 31.4 | 36.5 | 37.6 | 37.1 | 38.2 | 38.9 |
| | 6H | 30.0 | 30.9 | 30.6 | 31.5 | 32.3 | 38.5 | 39.4 | 39.1 | 40.1 | 40.8 |
| | 8H | 30.4 | 31.3 | 31.0 | 31.9 | 32.6 | 39.6 | 40.5 | 40.2 | 41.1 | 41.8 |
| | 12H | 30.7 | 31.5 | 31.4 | 32.2 | 32.9 | 40.9 | 41.7 | 41.5 | 42.3 | 43.1 |
| 8H | 4H | 30.7 | 31.6 | 31.3 | 32.2 | 32.9 | 36.9 | 37.8 | 37.5 | 38.4 | 39.1 |
| | 6H | 32.0 | 32.7 | 32.6 | 33.4 | 34.1 | 39.1 | 39.9 | 39.8 | 40.5 | 41.3 |
| | 8H | 32.6 | 33.3 | 33.2 | 33.9 | 34.7 | 40.4 | 41.1 | 41.1 | 41.8 | 42.5 |
| | 12H | 33.1 | 33.8 | 33.8 | 34.4 | 35.2 | 42.0 | 42.6 | 42.6 | 43.3 | 44.1 |
| 12H | 4H | 31.2 | 32.0 | 31.8 | 32.7 | 33.4 | 36.9 | 37.7 | 37.6 | 38.4 | 39.1 |
| | 6H | 32.7 | 33.4 | 33.4 | 34.1 | 34.8 | 39.2 | 39.9 | 39.9 | 40.6 | 41.4 |
| | 8H | 33.5 | 34.1 | 34.2 | 34.8 | 35.6 | 40.7 | 41.3 | 41.3 | 41.9 | 42.7 |

Maximum UGR = 44.1

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POLAR GRAPH



Maximum Candela = 1000.06 Located At Horizontal Angle = 90, Vertical Angle = 50

1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)

2 - Horizontal Cone Through Vertical Angle (50) (Through Max. Cd.)