

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P911928

Luminaire Tested: DFN2DIP-SQ3F0-070D100US850-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911928
REPORT IS A COMBINATION OF REPORTS P899975 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-070D100US850-FLLFLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

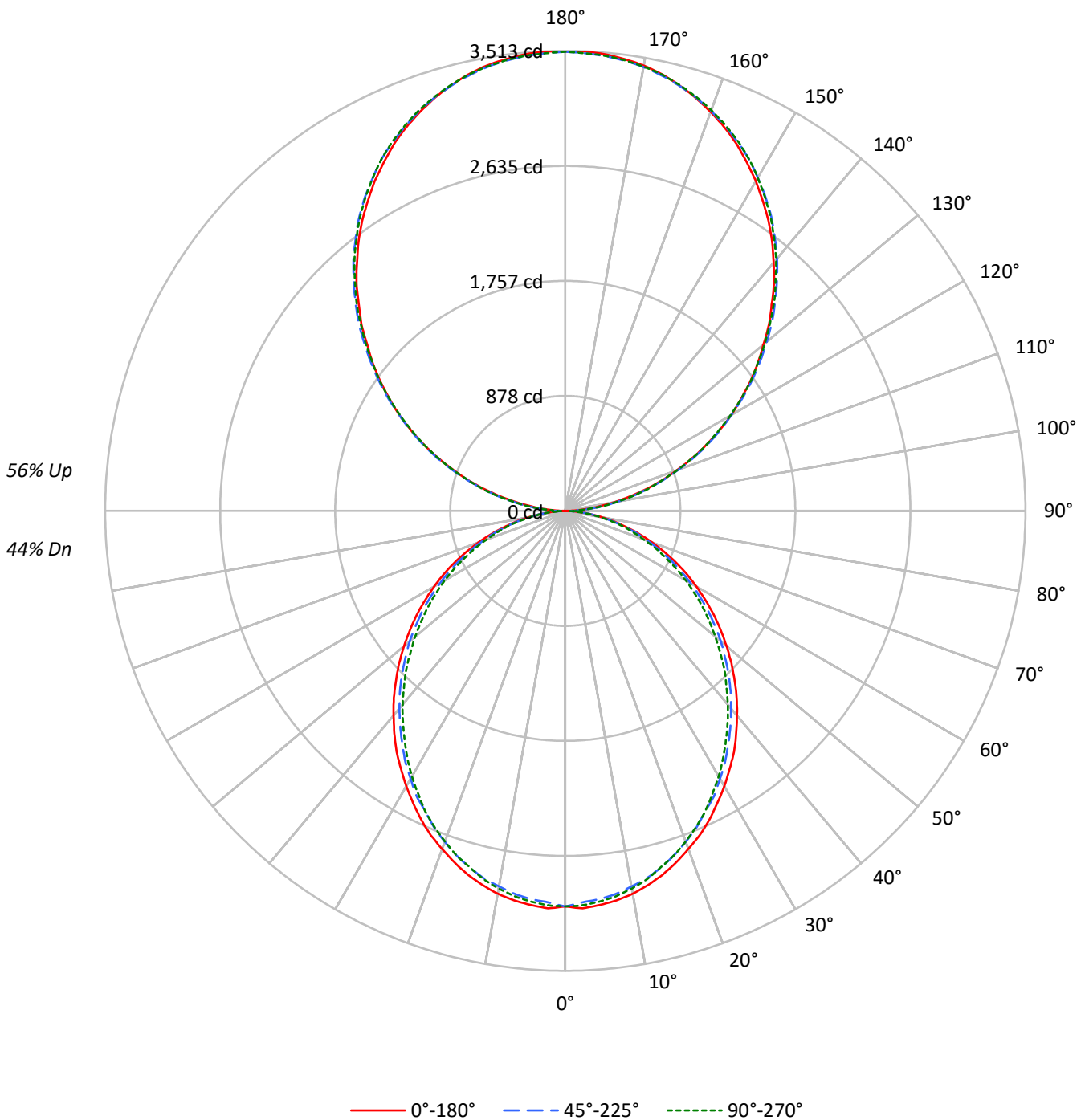
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17500.0 lumens
Efficiency: N/A
Efficacy: 122.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 143.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 284.3 | 1.6 |
| 10°-20° | 799.9 | 4.6 |
| 20°-30° | 1175.6 | 6.7 |
| 30°-40° | 1365.3 | 7.8 |
| 40°-50° | 1363.6 | 7.8 |
| 50°-60° | 1189.1 | 6.8 |
| 60°-70° | 879.0 | 5.0 |
| 70°-80° | 497.3 | 2.8 |
| 80°-90° | 141.2 | 0.8 |
| 90°-100° | 217.0 | 1.2 |
| 100°-110° | 689.6 | 3.9 |
| 110°-120° | 1180.1 | 6.7 |
| 120°-130° | 1552.0 | 8.9 |
| 130°-140° | 1742.1 | 10.0 |
| 140°-150° | 1708.3 | 9.8 |
| 150°-160° | 1433.0 | 8.2 |
| 160°-170° | 950.4 | 5.4 |
| 170°-180° | 332.2 | 1.9 |
| 0°-30° | 2259.8 | 12.9 |
| 0°-40° | 3625.1 | 20.7 |
| 0°-60° | 6177.8 | 35.3 |
| 0°-90° | 7695.3 | 44.0 |
| 90°-120° | 2086.7 | 11.9 |
| 90°-150° | 7089.1 | 40.5 |
| 90°-180° | 9805.0 | 56.0 |
| 0°-180° | 17500.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 3021 | 3021 | 3021 | 3021 | 3021 | |
| 5° | 3021 | 3009 | 2977 | 3000 | 2995 | 287 |
| 15° | 2876 | 2858 | 2820 | 2832 | 2818 | 810 |
| 25° | 2602 | 2579 | 2530 | 2536 | 2530 | 1198 |
| 35° | 2245 | 2216 | 2170 | 2152 | 2138 | 1402 |
| 45° | 1827 | 1807 | 1763 | 1731 | 1720 | 1410 |
| 55° | 1383 | 1365 | 1330 | 1296 | 1281 | 1236 |
| 65° | 933 | 915 | 886 | 860 | 845 | 922 |
| 75° | 488 | 482 | 467 | 450 | 456 | 521 |
| 85° | 119 | 116 | 114 | 104 | 102 | 133 |
| 90° | 3 | 38 | 104 | 97 | 100 | 17 |
| 95° | 154 | 184 | 189 | 189 | 184 | 172 |
| 105° | 637 | 645 | 651 | 657 | 657 | 672 |
| 115° | 1184 | 1201 | 1196 | 1193 | 1184 | 1171 |
| 125° | 1722 | 1749 | 1740 | 1731 | 1728 | 1539 |
| 135° | 2228 | 2261 | 2267 | 2264 | 2255 | 1722 |
| 145° | 2705 | 2726 | 2743 | 2746 | 2734 | 1690 |
| 155° | 3093 | 3101 | 3111 | 3126 | 3116 | 1424 |
| 165° | 3365 | 3361 | 3361 | 3383 | 3368 | 949 |
| 175° | 3501 | 3493 | 3486 | 3507 | 3489 | 333 |
| 180° | 3507 | 3507 | 3507 | 3507 | 3507 | |



TEST NUMBER: P911928

CATALOG NUMBER: DFN2DIP-SQ3F0-070D100US850-FLLFL

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 3020.6 | 3020.6 | 3020.6 | 3020.6 | 3020.6 |
| 2.5° | 3038.2 | 3023.7 | 2991.6 | 3020.6 | 3015.0 |
| 5° | 3020.6 | 3009.3 | 2977.2 | 3000.3 | 2994.7 |
| 7.5° | 3000.3 | 2983.0 | 2950.9 | 2974.4 | 2968.6 |
| 10° | 2968.6 | 2948.2 | 2913.3 | 2936.5 | 2927.9 |
| 12.5° | 2924.8 | 2907.6 | 2872.8 | 2887.2 | 2881.3 |
| 15° | 2875.5 | 2858.2 | 2820.3 | 2832.1 | 2817.5 |
| 17.5° | 2814.4 | 2797.2 | 2759.3 | 2773.8 | 2759.3 |
| 20° | 2747.5 | 2730.4 | 2689.7 | 2698.3 | 2686.9 |
| 22.5° | 2681.0 | 2654.8 | 2616.9 | 2616.9 | 2611.0 |
| 25° | 2602.5 | 2579.3 | 2530.1 | 2535.6 | 2530.1 |
| 27.5° | 2515.2 | 2494.9 | 2457.3 | 2448.7 | 2434.1 |
| 30° | 2428.4 | 2404.9 | 2361.5 | 2352.9 | 2341.1 |
| 32.5° | 2335.2 | 2318.0 | 2271.5 | 2253.9 | 2242.2 |
| 35° | 2245.3 | 2216.3 | 2169.8 | 2152.2 | 2137.7 |
| 37.5° | 2143.6 | 2117.4 | 2070.8 | 2050.5 | 2036.0 |
| 40° | 2039.1 | 2015.7 | 1969.1 | 1943.3 | 1931.5 |
| 42.5° | 1937.4 | 1914.0 | 1867.8 | 1838.5 | 1821.2 |
| 45° | 1827.1 | 1806.8 | 1763.0 | 1731.3 | 1719.5 |
| 47.5° | 1719.5 | 1699.2 | 1652.6 | 1620.6 | 1603.4 |
| 50° | 1606.2 | 1591.6 | 1550.9 | 1510.3 | 1495.8 |
| 52.5° | 1495.8 | 1475.5 | 1437.9 | 1405.9 | 1385.5 |
| 55° | 1382.7 | 1365.2 | 1330.4 | 1295.5 | 1281.0 |
| 57.5° | 1269.4 | 1254.8 | 1216.9 | 1182.1 | 1170.4 |
| 60° | 1155.9 | 1144.5 | 1103.9 | 1071.8 | 1063.2 |
| 62.5° | 1045.6 | 1025.3 | 996.3 | 967.4 | 955.6 |
| 65° | 932.6 | 914.9 | 886.0 | 859.8 | 845.3 |
| 67.5° | 816.3 | 801.6 | 775.6 | 755.3 | 743.6 |
| 70° | 708.8 | 697.1 | 670.8 | 650.5 | 639.1 |
| 72.5° | 598.4 | 586.8 | 572.2 | 551.9 | 543.3 |
| 75° | 487.8 | 482.3 | 467.4 | 450.3 | 456.1 |
| 77.5° | 389.3 | 377.5 | 371.6 | 363.0 | 354.4 |
| 80° | 290.6 | 287.6 | 281.7 | 273.0 | 267.2 |
| 82.5° | 197.5 | 197.5 | 194.7 | 183.1 | 183.1 |
| 85° | 119.0 | 116.2 | 113.5 | 104.5 | 101.7 |
| 87.5° | 52.3 | 46.6 | 40.7 | 32.1 | 28.9 |
| 90° | 3.2 | 38.0 | 103.6 | 97.3 | 100.5 |
| 92.5° | 65.5 | 88.8 | 92.0 | 95.2 | 95.2 |
| 95° | 154.4 | 184.0 | 189.3 | 189.3 | 184.0 |
| 97.5° | 257.0 | 284.5 | 296.1 | 296.1 | 296.1 |
| 100° | 375.4 | 399.7 | 408.1 | 408.1 | 405.0 |
| 102.5° | 500.2 | 518.1 | 529.8 | 532.9 | 529.8 |
| 105° | 636.6 | 645.0 | 651.3 | 656.6 | 656.6 |
| 107.5° | 771.9 | 784.6 | 784.6 | 786.7 | 771.9 |
| 110° | 903.1 | 919.9 | 919.9 | 919.9 | 911.5 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 1044.7 | 1062.6 | 1059.5 | 1051.0 | 1044.7 |
| 115° | 1184.3 | 1201.2 | 1195.9 | 1192.7 | 1184.3 |
| 117.5° | 1322.8 | 1346.1 | 1331.2 | 1322.8 | 1314.3 |
| 120° | 1462.3 | 1485.6 | 1462.3 | 1462.3 | 1452.9 |
| 122.5° | 1589.2 | 1618.8 | 1604.1 | 1595.6 | 1589.2 |
| 125° | 1722.5 | 1748.9 | 1740.5 | 1730.9 | 1727.8 |
| 127.5° | 1852.6 | 1885.3 | 1873.7 | 1861.0 | 1852.6 |
| 130° | 1974.1 | 2012.2 | 2007.0 | 2000.5 | 1989.0 |
| 132.5° | 2110.5 | 2140.1 | 2142.3 | 2127.5 | 2119.0 |
| 135° | 2227.9 | 2260.7 | 2267.0 | 2263.9 | 2255.4 |
| 137.5° | 2359.1 | 2385.5 | 2390.8 | 2388.7 | 2375.9 |
| 140° | 2474.3 | 2500.7 | 2515.5 | 2515.5 | 2503.9 |
| 142.5° | 2592.7 | 2619.1 | 2627.6 | 2630.8 | 2619.1 |
| 145° | 2704.7 | 2725.9 | 2742.9 | 2746.0 | 2734.4 |
| 147.5° | 2805.2 | 2831.7 | 2844.4 | 2849.7 | 2838.0 |
| 150° | 2908.9 | 2926.9 | 2938.5 | 2947.9 | 2938.5 |
| 152.5° | 3000.8 | 3018.8 | 3033.7 | 3045.3 | 3033.7 |
| 155° | 3092.9 | 3101.3 | 3110.9 | 3125.6 | 3116.1 |
| 157.5° | 3172.2 | 3178.5 | 3183.8 | 3204.9 | 3190.1 |
| 160° | 3243.0 | 3249.4 | 3252.5 | 3270.4 | 3257.8 |
| 162.5° | 3308.6 | 3308.6 | 3311.7 | 3331.8 | 3317.0 |
| 165° | 3364.6 | 3361.4 | 3361.4 | 3382.6 | 3367.8 |
| 167.5° | 3415.4 | 3405.8 | 3405.8 | 3427.0 | 3412.2 |
| 170° | 3453.4 | 3445.0 | 3441.8 | 3463.0 | 3445.0 |
| 172.5° | 3479.8 | 3471.4 | 3468.2 | 3489.4 | 3471.4 |
| 175° | 3501.0 | 3492.6 | 3486.3 | 3507.3 | 3489.4 |
| 177.5° | 3512.6 | 3504.2 | 3497.8 | 3515.8 | 3497.8 |
| 180° | 3507.3 | 3507.3 | 3507.3 | 3507.3 | 3507.3 |



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CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 10.97 | 11.78 | 11.97 | 12.79 | 14.15 | 10.52 | 11.33 | 11.53 | 12.35 | 13.70 |
| | 3H | 12.62 | 13.34 | 13.64 | 14.37 | 15.74 | 12.13 | 12.85 | 13.14 | 13.88 | 15.25 |
| | 4H | 13.20 | 13.89 | 14.23 | 14.92 | 16.30 | 12.71 | 13.39 | 13.74 | 14.42 | 15.81 |
| | 6H | 13.59 | 14.23 | 14.63 | 15.26 | 16.66 | 13.09 | 13.73 | 14.13 | 14.76 | 16.16 |
| | 8H | 13.69 | 14.30 | 14.74 | 15.35 | 16.74 | 13.19 | 13.80 | 14.24 | 14.85 | 16.24 |
| | 12H | 13.74 | 14.31 | 14.79 | 15.36 | 16.77 | 13.23 | 13.80 | 14.28 | 14.85 | 16.26 |
| 4H | 2H | 11.42 | 12.10 | 12.45 | 13.13 | 14.52 | 11.06 | 11.75 | 12.10 | 12.78 | 14.16 |
| | 3H | 13.27 | 13.85 | 14.32 | 14.90 | 16.30 | 12.86 | 13.44 | 13.91 | 14.50 | 15.89 |
| | 4H | 13.98 | 14.51 | 15.03 | 15.56 | 16.97 | 13.56 | 14.08 | 14.61 | 15.13 | 16.55 |
| | 6H | 14.49 | 14.94 | 15.55 | 16.01 | 17.43 | 14.06 | 14.51 | 15.12 | 15.58 | 16.99 |
| | 8H | 14.63 | 15.06 | 15.70 | 16.12 | 17.55 | 14.20 | 14.62 | 15.26 | 15.68 | 17.11 |
| | 12H | 14.70 | 15.09 | 15.78 | 16.16 | 17.60 | 14.25 | 14.64 | 15.33 | 15.71 | 17.15 |
| 8H | 4H | 14.17 | 14.59 | 15.23 | 15.66 | 17.08 | 13.79 | 14.21 | 14.85 | 15.28 | 16.71 |
| | 6H | 14.79 | 15.14 | 15.88 | 16.25 | 17.67 | 14.41 | 14.76 | 15.49 | 15.86 | 17.29 |
| | 8H | 15.01 | 15.32 | 16.10 | 16.40 | 17.85 | 14.62 | 14.92 | 15.71 | 16.01 | 17.46 |
| | 12H | 15.13 | 15.40 | 16.23 | 16.49 | 17.97 | 14.72 | 14.99 | 15.82 | 16.08 | 17.56 |
| 12H | 4H | 14.15 | 14.53 | 15.23 | 15.61 | 17.05 | 13.78 | 14.16 | 14.86 | 15.24 | 16.68 |
| | 6H | 14.82 | 15.13 | 15.91 | 16.22 | 17.66 | 14.45 | 14.75 | 15.54 | 15.84 | 17.29 |
| | 8H | 15.05 | 15.32 | 16.15 | 16.41 | 17.90 | 14.67 | 14.94 | 15.77 | 16.03 | 17.51 |