

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: P644254

Luminaire Tested: CRQ4DIP-SR4F0-125D100U940-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644254
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-14)
Test Lab: INNOVATION CENTER
Issue Date: 2/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: CRQ4DIP-SR4F0-125D100U940-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 1000 LUMENS PER FOOT
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

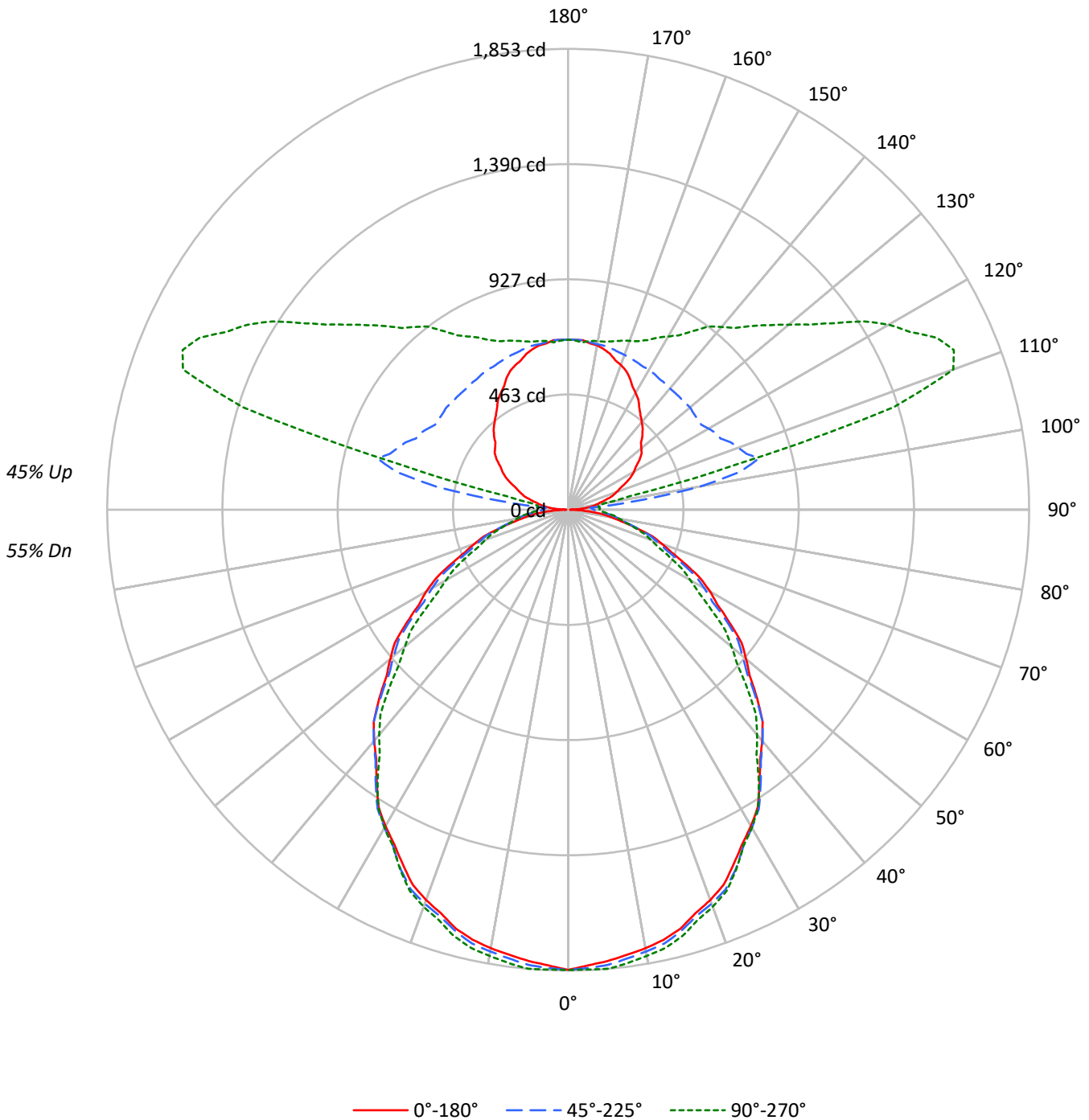
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8445.7 lumens
Efficiency: N/A
Efficacy: 122.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 69
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
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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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|
| RF | 20 | | | | 20 | | | | 20 | | | 20 | | | 20 | | | 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 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 108 | 108 | 108 | 108 | 101 | 101 | 101 | 101 | 86 | 86 | 86 | 73 | 73 | 73 | 61 | 61 | 61 | 55 |
| 1 | 99 | 94 | 90 | 87 | 92 | 88 | 84 | 81 | 75 | 73 | 71 | 64 | 62 | 61 | 54 | 52 | 51 | 46 |
| 2 | 90 | 82 | 76 | 71 | 83 | 77 | 71 | 67 | 66 | 62 | 58 | 56 | 53 | 51 | 47 | 45 | 43 | 39 |
| 3 | 82 | 73 | 65 | 59 | 76 | 68 | 61 | 56 | 58 | 53 | 49 | 50 | 46 | 43 | 42 | 39 | 37 | 33 |
| 4 | 75 | 64 | 56 | 50 | 70 | 60 | 53 | 48 | 52 | 47 | 42 | 45 | 40 | 37 | 38 | 35 | 32 | 28 |
| 5 | 69 | 57 | 49 | 43 | 64 | 54 | 46 | 41 | 47 | 41 | 36 | 40 | 36 | 32 | 34 | 31 | 28 | 25 |
| 6 | 64 | 52 | 43 | 38 | 59 | 48 | 41 | 36 | 42 | 36 | 32 | 36 | 32 | 28 | 31 | 27 | 25 | 22 |
| 7 | 59 | 47 | 39 | 33 | 55 | 44 | 37 | 31 | 38 | 32 | 28 | 33 | 28 | 25 | 28 | 25 | 22 | 19 |
| 8 | 55 | 42 | 35 | 29 | 51 | 40 | 33 | 28 | 35 | 29 | 25 | 30 | 26 | 22 | 26 | 22 | 20 | 17 |
| 9 | 51 | 39 | 31 | 26 | 47 | 36 | 30 | 25 | 32 | 26 | 23 | 28 | 23 | 20 | 24 | 20 | 18 | 16 |
| 10 | 48 | 36 | 28 | 24 | 44 | 34 | 27 | 22 | 30 | 24 | 20 | 26 | 21 | 18 | 22 | 19 | 16 | 14 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 29878 | 29878 | 29878 |
| 5° | 29312 | 26380 | 25561 |
| 10° | 28928 | 23470 | 22080 |
| 15° | 28504 | 21019 | 19314 |
| 20° | 27851 | 18856 | 16893 |
| 25° | 26982 | 16837 | 14721 |
| 30° | 26128 | 14877 | 12777 |
| 35° | 24971 | 13086 | 10967 |
| 40° | 23889 | 11456 | 9297 |
| 45° | 22641 | 9846 | 7758 |
| 50° | 21321 | 8339 | 6364 |
| 55° | 19921 | 7016 | 5132 |
| 60° | 18585 | 5751 | 4103 |
| 65° | 16942 | 4585 | 3248 |
| 70° | 15361 | 3593 | 2564 |
| 75° | 13433 | 2760 | 2022 |
| 80° | 11220 | 2053 | 1575 |
| 85° | 8188 | 1493 | 1197 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 22641 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 174.7 | 2.1 |
| 10°-20° | 495.6 | 5.9 |
| 20°-30° | 731.6 | 8.7 |
| 30°-40° | 841.2 | 10.0 |
| 40°-50° | 816.0 | 9.7 |
| 50°-60° | 683.1 | 8.1 |
| 60°-70° | 492.2 | 5.8 |
| 70°-80° | 300.7 | 3.6 |
| 80°-90° | 147.6 | 1.7 |
| 90°-100° | 141.9 | 1.7 |
| 100°-110° | 620.1 | 7.3 |
| 110°-120° | 820.7 | 9.7 |
| 120°-130° | 665.1 | 7.9 |
| 130°-140° | 532.9 | 6.3 |
| 140°-150° | 419.8 | 5.0 |
| 150°-160° | 306.9 | 3.6 |
| 160°-170° | 190.7 | 2.3 |
| 170°-180° | 65.0 | 0.8 |
| 0°-30° | 1401.9 | 16.6 |
| 0°-40° | 2243.1 | 26.6 |
| 0°-60° | 3742.2 | 44.3 |
| 0°-90° | 4682.7 | 55.4 |
| 90°-120° | 1582.7 | 18.7 |
| 90°-150° | 3200.4 | 37.9 |
| 90°-180° | 3763.0 | 44.6 |
| 0°-180° | 8445.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1850 | 1850 | 1850 | 1850 | 1850 | |
| 5° | 1822 | 1855 | 1837 | 1840 | 1853 | 173 |
| 15° | 1743 | 1769 | 1754 | 1762 | 1775 | 490 |
| 25° | 1573 | 1599 | 1594 | 1587 | 1597 | 725 |
| 35° | 1341 | 1361 | 1349 | 1336 | 1336 | 840 |
| 45° | 1074 | 1084 | 1066 | 1035 | 1019 | 828 |
| 55° | 792 | 802 | 774 | 726 | 703 | 710 |
| 65° | 523 | 525 | 499 | 462 | 450 | 520 |
| 75° | 282 | 282 | 288 | 280 | 274 | 302 |
| 85° | 86 | 104 | 144 | 154 | 154 | 91 |
| 90° | 8 | 56 | 103 | 123 | 125 | 11 |
| 95° | 60 | 87 | 89 | 112 | 123 | 61 |
| 105° | 160 | 216 | 792 | 1018 | 687 | 168 |
| 115° | 255 | 295 | 676 | 1400 | 1635 | 253 |
| 125° | 350 | 391 | 635 | 1106 | 1308 | 311 |
| 135° | 422 | 468 | 637 | 911 | 1045 | 325 |
| 145° | 499 | 541 | 641 | 793 | 877 | 313 |
| 155° | 585 | 606 | 654 | 719 | 753 | 269 |
| 165° | 650 | 658 | 671 | 688 | 701 | 182 |
| 175° | 684 | 688 | 684 | 680 | 675 | 65 |
| 180° | 684 | 684 | 684 | 684 | 684 | |

TEST NUMBER: P644254

CATALOG NUMBER: CRQ4DIP-SR4F0-125D100U940-FLLOOB-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1850.5 | 1850.5 | 1850.5 | 1850.5 | 1850.5 |
| 2.5° | 1833.7 | 1860.3 | 1844.2 | 1848.4 | 1850.5 |
| 5° | 1821.7 | 1854.9 | 1837.4 | 1840.3 | 1853.1 |
| 7.5° | 1805.0 | 1835.7 | 1820.2 | 1823.6 | 1838.5 |
| 10° | 1790.4 | 1821.0 | 1803.4 | 1808.9 | 1821.7 |
| 12.5° | 1771.5 | 1800.2 | 1786.7 | 1792.2 | 1805.0 |
| 15° | 1743.3 | 1768.9 | 1753.8 | 1761.9 | 1774.7 |
| 17.5° | 1701.5 | 1729.1 | 1713.0 | 1717.5 | 1730.2 |
| 20° | 1670.1 | 1695.7 | 1685.8 | 1686.1 | 1698.9 |
| 22.5° | 1632.5 | 1660.1 | 1652.4 | 1646.4 | 1661.2 |
| 25° | 1573.4 | 1599.0 | 1594.3 | 1586.7 | 1597.0 |
| 27.5° | 1514.9 | 1533.8 | 1524.8 | 1517.1 | 1524.8 |
| 30° | 1468.9 | 1491.9 | 1476.7 | 1469.1 | 1476.7 |
| 32.5° | 1418.7 | 1441.7 | 1426.5 | 1416.7 | 1420.3 |
| 35° | 1340.8 | 1361.3 | 1348.7 | 1335.6 | 1335.6 |
| 37.5° | 1267.1 | 1280.4 | 1271.8 | 1249.7 | 1244.1 |
| 40° | 1212.7 | 1228.1 | 1215.4 | 1189.0 | 1181.4 |
| 42.5° | 1156.3 | 1171.6 | 1156.8 | 1128.3 | 1116.6 |
| 45° | 1074.2 | 1084.4 | 1066.4 | 1034.7 | 1019.3 |
| 47.5° | 989.5 | 1000.3 | 975.4 | 940.5 | 922.1 |
| 50° | 933.1 | 945.9 | 914.8 | 877.7 | 857.3 |
| 52.5° | 878.7 | 887.4 | 858.3 | 815.0 | 796.6 |
| 55° | 791.9 | 802.2 | 773.6 | 726.1 | 703.1 |
| 57.5° | 710.9 | 720.6 | 686.9 | 641.5 | 623.6 |
| 60° | 658.6 | 666.3 | 632.5 | 585.1 | 567.2 |
| 62.5° | 600.1 | 607.8 | 576.1 | 534.9 | 517.0 |
| 65° | 522.7 | 525.3 | 499.2 | 462.3 | 449.6 |
| 67.5° | 450.1 | 450.1 | 428.1 | 400.7 | 390.5 |
| 70° | 399.9 | 399.9 | 384.2 | 363.1 | 352.8 |
| 72.5° | 353.9 | 351.8 | 342.4 | 327.6 | 319.4 |
| 75° | 282.3 | 282.3 | 287.5 | 279.5 | 274.4 |
| 77.5° | 219.5 | 215.5 | 237.8 | 236.7 | 234.2 |
| 80° | 177.7 | 177.7 | 206.5 | 211.6 | 209.1 |
| 82.5° | 140.1 | 144.2 | 181.4 | 188.6 | 186.1 |
| 85° | 86.3 | 104.1 | 143.8 | 154.2 | 154.2 |
| 87.5° | 39.2 | 71.2 | 114.6 | 129.1 | 129.6 |
| 90° | 7.8 | 55.5 | 102.7 | 122.7 | 125.3 |
| 92.5° | 26.5 | 53.7 | 96.3 | 119.9 | 127.9 |
| 95° | 60.5 | 87.4 | 89.3 | 112.1 | 123.1 |
| 97.5° | 92.4 | 138.0 | 292.6 | 129.6 | 122.5 |
| 100° | 113.1 | 166.7 | 538.9 | 193.9 | 148.6 |
| 102.5° | 131.6 | 188.6 | 709.5 | 430.4 | 255.1 |
| 105° | 159.5 | 215.6 | 791.6 | 1018.2 | 686.8 |
| 107.5° | 187.3 | 226.3 | 750.5 | 1462.1 | 1373.0 |
| 110° | 205.9 | 243.5 | 727.8 | 1531.4 | 1647.5 |

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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 226.5 | 264.2 | 707.2 | 1484.2 | 1677.7 |
| 115° | 254.9 | 295.1 | 676.2 | 1399.8 | 1635.3 |
| 117.5° | 283.5 | 326.0 | 667.9 | 1306.5 | 1548.8 |
| 120° | 305.5 | 346.7 | 652.1 | 1235.9 | 1488.2 |
| 122.5° | 322.7 | 365.2 | 634.9 | 1176.9 | 1409.0 |
| 125° | 350.2 | 391.4 | 634.9 | 1105.7 | 1307.5 |
| 127.5° | 372.1 | 417.1 | 635.7 | 1023.0 | 1222.4 |
| 130° | 383.7 | 434.2 | 639.2 | 967.7 | 1157.0 |
| 132.5° | 396.7 | 447.2 | 637.1 | 942.9 | 1098.5 |
| 135° | 421.5 | 467.8 | 636.6 | 910.6 | 1045.2 |
| 137.5° | 443.0 | 492.6 | 636.6 | 874.9 | 990.1 |
| 140° | 460.2 | 506.5 | 636.6 | 854.0 | 959.1 |
| 142.5° | 477.4 | 520.3 | 640.0 | 829.8 | 928.2 |
| 145° | 498.9 | 541.0 | 640.9 | 793.3 | 877.4 |
| 147.5° | 524.7 | 561.7 | 646.0 | 767.1 | 831.8 |
| 150° | 541.9 | 575.6 | 649.5 | 749.6 | 804.3 |
| 152.5° | 559.1 | 589.4 | 649.5 | 735.6 | 780.2 |
| 155° | 585.0 | 606.0 | 653.8 | 719.0 | 752.7 |
| 157.5° | 605.6 | 625.8 | 658.9 | 708.5 | 732.9 |
| 160° | 619.4 | 636.2 | 662.4 | 701.6 | 722.6 |
| 162.5° | 629.7 | 646.5 | 665.8 | 698.0 | 712.3 |
| 165° | 649.5 | 657.9 | 671.0 | 688.5 | 701.1 |
| 167.5° | 660.7 | 668.2 | 675.3 | 684.0 | 691.6 |
| 170° | 671.0 | 675.2 | 675.3 | 684.0 | 688.2 |
| 172.5° | 674.4 | 682.0 | 678.7 | 680.5 | 684.7 |
| 175° | 683.9 | 688.1 | 683.9 | 679.5 | 675.3 |
| 177.5° | 683.9 | 687.2 | 683.9 | 683.8 | 680.4 |
| 180° | 683.9 | 683.9 | 683.9 | 683.9 | 683.9 |

(END OF REPORT)