

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: P644250

Luminaire Tested: CRQ4DIP-SR4F0-125D100U930-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644250
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-SR4F0-125D100U930-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: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

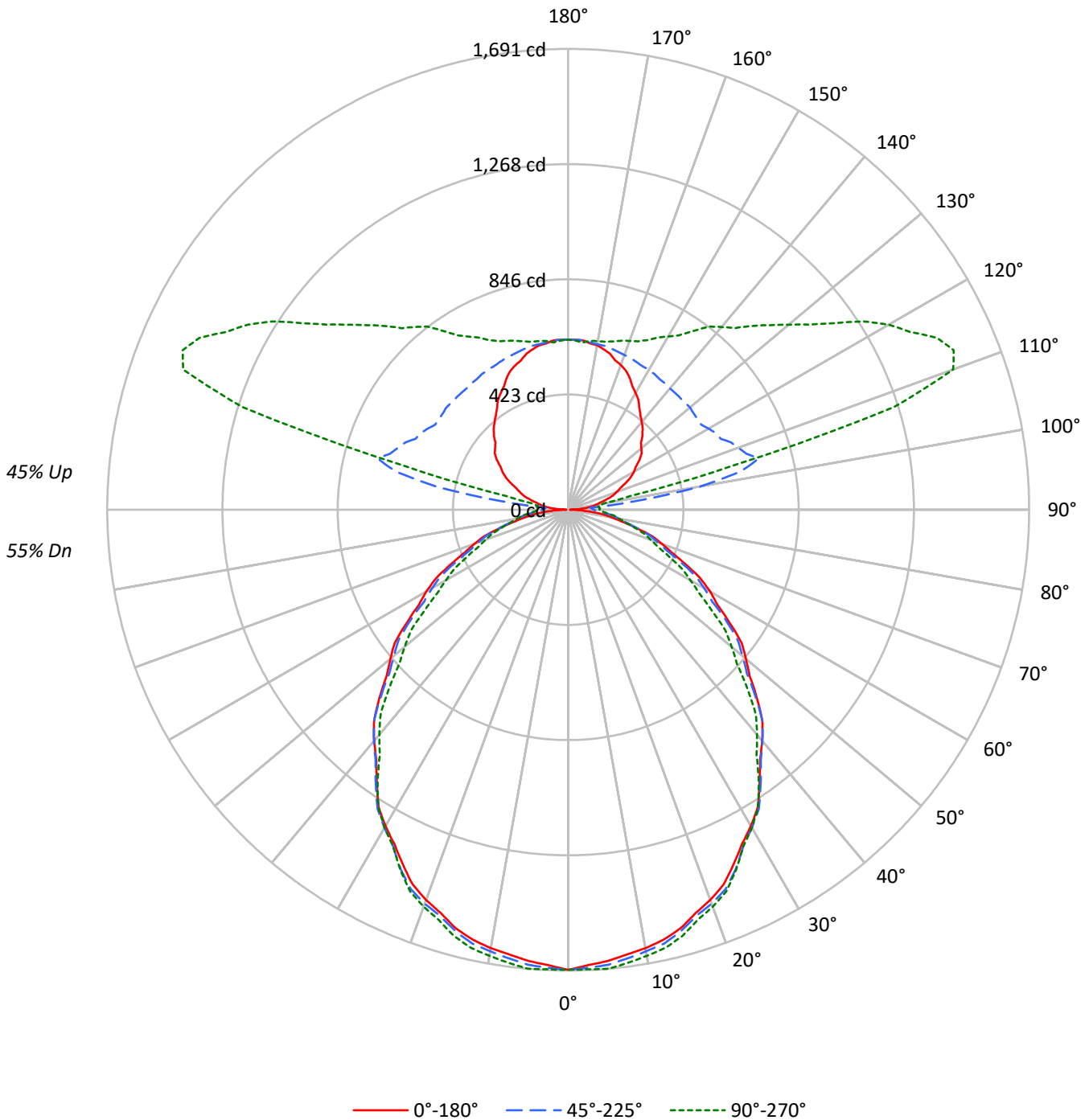
Lumens per Lamp: N/A
Luminaire Lumens: 7705.8 lumens
Efficiency: N/A
Efficacy: 111.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 69
Input Voltage (V): 120
Input Current (A_{in}): 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 | |
| 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° | 27259 | 27259 | 27259 |
| 5° | 26744 | 24068 | 23321 |
| 10° | 26393 | 21414 | 20146 |
| 15° | 26007 | 19177 | 17622 |
| 20° | 25411 | 17204 | 15413 |
| 25° | 24619 | 15361 | 13431 |
| 30° | 23839 | 13574 | 11658 |
| 35° | 22782 | 11939 | 10006 |
| 40° | 21797 | 10452 | 8483 |
| 45° | 20658 | 8982 | 7078 |
| 50° | 19452 | 7608 | 5807 |
| 55° | 18175 | 6402 | 4683 |
| 60° | 16957 | 5247 | 3743 |
| 65° | 15457 | 4184 | 2963 |
| 70° | 14017 | 3278 | 2340 |
| 75° | 12253 | 2518 | 1846 |
| 80° | 10241 | 1873 | 1437 |
| 85° | 7467 | 1363 | 1092 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 20658 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 159.4 | 2.1 |
| 10°-20° | 452.2 | 5.9 |
| 20°-30° | 667.5 | 8.7 |
| 30°-40° | 767.5 | 10.0 |
| 40°-50° | 744.5 | 9.7 |
| 50°-60° | 623.2 | 8.1 |
| 60°-70° | 449.0 | 5.8 |
| 70°-80° | 274.4 | 3.6 |
| 80°-90° | 134.7 | 1.7 |
| 90°-100° | 129.5 | 1.7 |
| 100°-110° | 565.8 | 7.3 |
| 110°-120° | 748.8 | 9.7 |
| 120°-130° | 606.8 | 7.9 |
| 130°-140° | 486.2 | 6.3 |
| 140°-150° | 383.0 | 5.0 |
| 150°-160° | 280.1 | 3.6 |
| 160°-170° | 173.9 | 2.3 |
| 170°-180° | 59.3 | 0.8 |
| 0°-30° | 1279.1 | 16.6 |
| 0°-40° | 2046.6 | 26.6 |
| 0°-60° | 3414.3 | 44.3 |
| 0°-90° | 4272.4 | 55.4 |
| 90°-120° | 1444.1 | 18.7 |
| 90°-150° | 2920.0 | 37.9 |
| 90°-180° | 3433.0 | 44.6 |
| 0°-180° | 7705.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1688 | 1688 | 1688 | 1688 | 1688 | |
| 5° | 1662 | 1692 | 1676 | 1679 | 1691 | 158 |
| 15° | 1591 | 1614 | 1600 | 1608 | 1619 | 447 |
| 25° | 1436 | 1459 | 1455 | 1448 | 1457 | 661 |
| 35° | 1223 | 1242 | 1230 | 1219 | 1219 | 766 |
| 45° | 980 | 989 | 973 | 944 | 930 | 755 |
| 55° | 722 | 732 | 706 | 662 | 642 | 648 |
| 65° | 477 | 479 | 456 | 422 | 410 | 474 |
| 75° | 258 | 258 | 262 | 255 | 250 | 275 |
| 85° | 79 | 95 | 131 | 141 | 141 | 83 |
| 90° | 7 | 51 | 94 | 112 | 114 | 10 |
| 95° | 55 | 80 | 82 | 102 | 112 | 55 |
| 105° | 146 | 197 | 722 | 929 | 627 | 154 |
| 115° | 232 | 269 | 617 | 1277 | 1492 | 230 |
| 125° | 320 | 357 | 579 | 1009 | 1193 | 284 |
| 135° | 385 | 427 | 581 | 831 | 954 | 297 |
| 145° | 455 | 494 | 585 | 724 | 800 | 286 |
| 155° | 534 | 553 | 596 | 656 | 687 | 245 |
| 165° | 593 | 600 | 612 | 628 | 640 | 166 |
| 175° | 624 | 628 | 624 | 620 | 616 | 59 |
| 180° | 624 | 624 | 624 | 624 | 624 | |

TEST NUMBER: P644250

CATALOG NUMBER: CRQ4DIP-SR4F0-125D100U930-FLLOOB-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1688.3 | 1688.3 | 1688.3 | 1688.3 | 1688.3 |
| 2.5° | 1673.1 | 1697.3 | 1682.6 | 1686.5 | 1688.3 |
| 5° | 1662.1 | 1692.4 | 1676.4 | 1679.1 | 1690.7 |
| 7.5° | 1646.8 | 1674.8 | 1660.7 | 1663.8 | 1677.4 |
| 10° | 1633.5 | 1661.5 | 1645.4 | 1650.4 | 1662.1 |
| 12.5° | 1616.3 | 1642.4 | 1630.1 | 1635.2 | 1646.8 |
| 15° | 1590.6 | 1613.9 | 1600.1 | 1607.5 | 1619.2 |
| 17.5° | 1552.4 | 1577.6 | 1562.9 | 1567.0 | 1578.6 |
| 20° | 1523.8 | 1547.1 | 1538.1 | 1538.4 | 1550.0 |
| 22.5° | 1489.5 | 1514.6 | 1507.6 | 1502.2 | 1515.7 |
| 25° | 1435.6 | 1458.9 | 1454.6 | 1447.7 | 1457.0 |
| 27.5° | 1382.1 | 1399.4 | 1391.2 | 1384.2 | 1391.2 |
| 30° | 1340.2 | 1361.2 | 1347.3 | 1340.3 | 1347.3 |
| 32.5° | 1294.4 | 1315.4 | 1301.5 | 1292.6 | 1295.8 |
| 35° | 1223.3 | 1242.0 | 1230.5 | 1218.6 | 1218.6 |
| 37.5° | 1156.1 | 1168.2 | 1160.4 | 1140.2 | 1135.1 |
| 40° | 1106.5 | 1120.5 | 1108.9 | 1084.9 | 1077.9 |
| 42.5° | 1055.0 | 1069.0 | 1055.4 | 1029.4 | 1018.7 |
| 45° | 980.1 | 989.4 | 972.9 | 944.0 | 930.0 |
| 47.5° | 902.8 | 912.6 | 890.0 | 858.1 | 841.3 |
| 50° | 851.3 | 863.0 | 834.6 | 800.8 | 782.2 |
| 52.5° | 801.7 | 809.6 | 783.1 | 743.6 | 726.8 |
| 55° | 722.5 | 731.9 | 705.9 | 662.5 | 641.5 |
| 57.5° | 648.6 | 657.5 | 626.7 | 585.3 | 569.0 |
| 60° | 600.9 | 607.9 | 577.1 | 533.8 | 517.5 |
| 62.5° | 547.5 | 554.5 | 525.6 | 488.0 | 471.7 |
| 65° | 476.9 | 479.3 | 455.5 | 421.8 | 410.2 |
| 67.5° | 410.6 | 410.6 | 390.6 | 365.6 | 356.3 |
| 70° | 364.9 | 364.9 | 350.5 | 331.3 | 321.9 |
| 72.5° | 322.9 | 321.0 | 312.4 | 298.9 | 291.4 |
| 75° | 257.5 | 257.5 | 262.3 | 255.1 | 250.4 |
| 77.5° | 200.3 | 196.6 | 217.0 | 216.0 | 213.7 |
| 80° | 162.2 | 162.2 | 188.4 | 193.1 | 190.8 |
| 82.5° | 127.8 | 131.5 | 165.5 | 172.1 | 169.8 |
| 85° | 78.7 | 95.0 | 131.2 | 140.7 | 140.7 |
| 87.5° | 35.8 | 65.0 | 104.6 | 117.8 | 118.2 |
| 90° | 7.2 | 50.6 | 93.7 | 112.0 | 114.3 |
| 92.5° | 24.2 | 49.0 | 87.9 | 109.4 | 116.7 |
| 95° | 55.2 | 79.8 | 81.5 | 102.3 | 112.3 |
| 97.5° | 84.3 | 125.9 | 267.0 | 118.2 | 111.8 |
| 100° | 103.2 | 152.1 | 491.7 | 176.9 | 135.6 |
| 102.5° | 120.1 | 172.1 | 647.3 | 392.7 | 232.8 |
| 105° | 145.5 | 196.7 | 722.2 | 928.9 | 626.6 |
| 107.5° | 170.9 | 206.5 | 684.8 | 1334.0 | 1252.7 |
| 110° | 187.8 | 222.2 | 664.0 | 1397.2 | 1503.1 |

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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 206.7 | 241.0 | 645.2 | 1354.2 | 1530.7 |
| 115° | 232.5 | 269.2 | 616.9 | 1277.2 | 1492.1 |
| 117.5° | 258.7 | 297.5 | 609.4 | 1192.0 | 1413.1 |
| 120° | 278.8 | 316.3 | 594.9 | 1127.6 | 1357.8 |
| 122.5° | 294.5 | 333.2 | 579.2 | 1073.8 | 1285.6 |
| 125° | 319.6 | 357.1 | 579.2 | 1008.8 | 1193.0 |
| 127.5° | 339.5 | 380.6 | 580.0 | 933.4 | 1115.3 |
| 130° | 350.1 | 396.1 | 583.2 | 883.0 | 1055.6 |
| 132.5° | 362.0 | 408.0 | 581.3 | 860.3 | 1002.2 |
| 135° | 384.6 | 426.8 | 580.8 | 830.8 | 953.6 |
| 137.5° | 404.2 | 449.5 | 580.8 | 798.2 | 903.4 |
| 140° | 419.9 | 462.1 | 580.8 | 779.2 | 875.1 |
| 142.5° | 435.6 | 474.7 | 583.9 | 757.1 | 846.8 |
| 145° | 455.2 | 493.6 | 584.7 | 723.8 | 800.5 |
| 147.5° | 478.8 | 512.5 | 589.4 | 699.9 | 758.9 |
| 150° | 494.5 | 525.1 | 592.6 | 683.9 | 733.8 |
| 152.5° | 510.1 | 537.8 | 592.6 | 671.2 | 711.9 |
| 155° | 533.7 | 552.9 | 596.5 | 656.0 | 686.7 |
| 157.5° | 552.5 | 570.9 | 601.2 | 646.4 | 668.7 |
| 160° | 565.1 | 580.4 | 604.3 | 640.1 | 659.3 |
| 162.5° | 574.5 | 589.9 | 607.5 | 636.8 | 649.9 |
| 165° | 592.6 | 600.2 | 612.2 | 628.1 | 639.6 |
| 167.5° | 602.8 | 609.7 | 616.1 | 624.1 | 631.0 |
| 170° | 612.2 | 616.0 | 616.1 | 624.0 | 627.9 |
| 172.5° | 615.3 | 622.2 | 619.2 | 620.9 | 624.7 |
| 175° | 624.0 | 627.8 | 624.0 | 619.9 | 616.1 |
| 177.5° | 624.0 | 627.0 | 624.0 | 623.9 | 620.8 |
| 180° | 624.0 | 624.0 | 624.0 | 624.0 | 624.0 |

(END OF REPORT)