

Signify Classified - Internal
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: P644296

Luminaire Tested: CRQ4DIP-SR4F0-125D50U840-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644296
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-SR4F0-125D50U840-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 500 LUMENS PER FOOT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

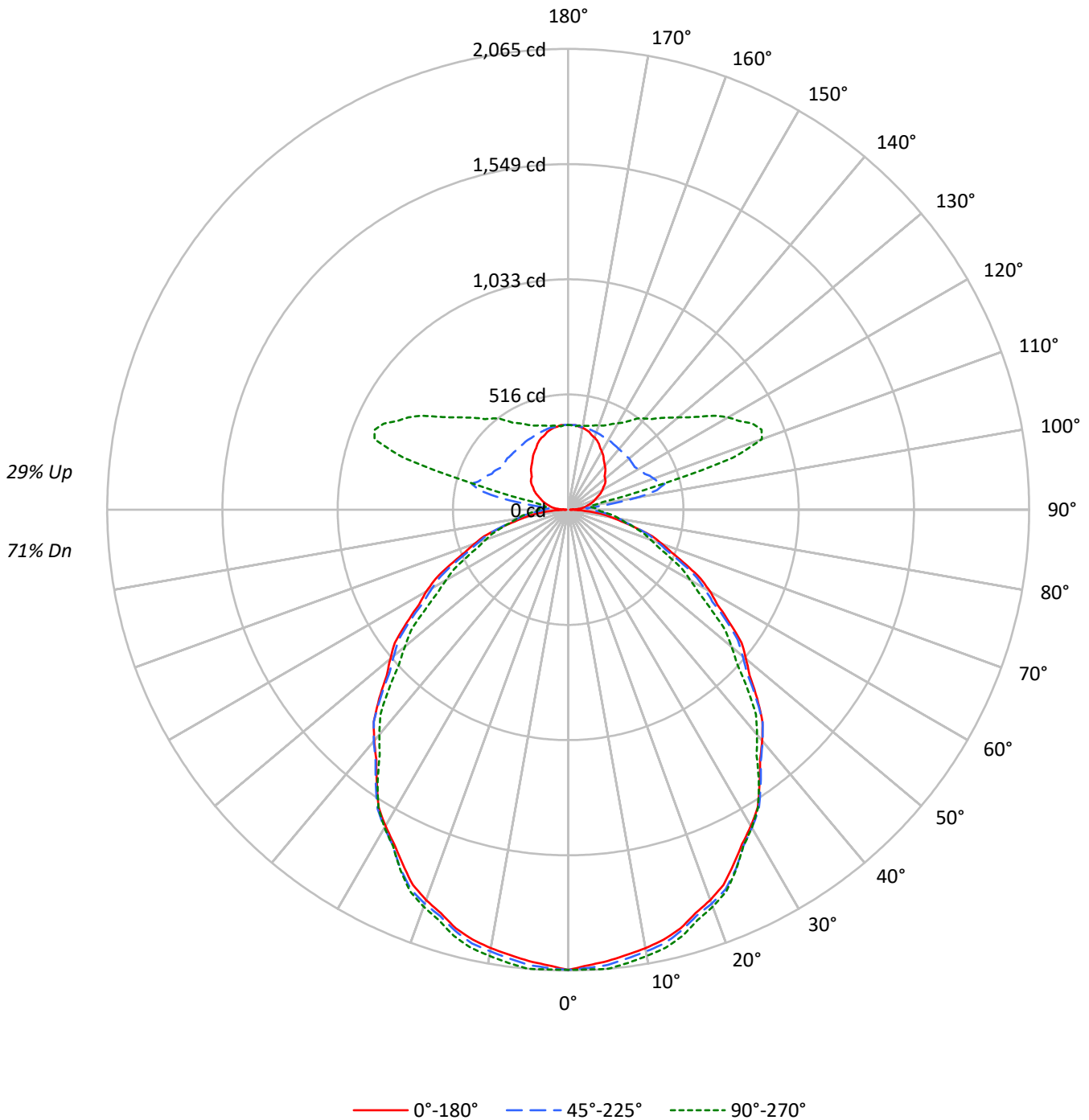
Lumens per Lamp: N/A
Luminaire Lumens: 7359.2 lumens
Efficiency: N/A
Efficacy: 134.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: Semi-Direct

Input Watts (W): 54.6
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





TEST NUMBER: P644296

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 70 | | | | | | | | | 30 | | | | | | | | | 10 | | | | | | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | | | | | | | | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 112 | 112 | 112 | 112 | 106 | 106 | 106 | 106 | 95 | 95 | 95 | 85 | 85 | 85 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 71 | | | | | | | | | | | | | |
| 1 | 102 | 98 | 93 | 90 | 97 | 93 | 89 | 86 | 83 | 80 | 78 | 74 | 72 | 70 | 66 | 65 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 59 | | | | | | | | | | | | | |
| 2 | 93 | 85 | 79 | 74 | 88 | 81 | 75 | 70 | 73 | 68 | 64 | 65 | 62 | 59 | 58 | 56 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 50 | | | | | | | | | | | | | |
| 3 | 85 | 75 | 68 | 61 | 80 | 71 | 65 | 59 | 64 | 59 | 54 | 58 | 54 | 50 | 52 | 48 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 42 | | | | | | | | | | | | | |
| 4 | 78 | 67 | 59 | 52 | 74 | 64 | 56 | 50 | 57 | 51 | 47 | 52 | 47 | 43 | 46 | 43 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 36 | | | | | | | | | | | | | |
| 5 | 72 | 60 | 51 | 45 | 68 | 57 | 49 | 44 | 52 | 45 | 40 | 47 | 41 | 37 | 42 | 38 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 32 | | | | | | | | | | | | | |
| 6 | 66 | 54 | 45 | 39 | 63 | 51 | 44 | 38 | 47 | 40 | 35 | 42 | 37 | 33 | 38 | 34 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 28 | | | | | | | | | | | | | |
| 7 | 61 | 49 | 40 | 35 | 58 | 47 | 39 | 34 | 42 | 36 | 31 | 39 | 33 | 29 | 35 | 31 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 25 | | | | | | | | | | | | | |
| 8 | 57 | 44 | 36 | 31 | 54 | 42 | 35 | 30 | 39 | 33 | 28 | 35 | 30 | 26 | 32 | 28 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 22 | | | | | | | | | | | | | |
| 9 | 53 | 41 | 33 | 28 | 50 | 39 | 32 | 27 | 36 | 30 | 25 | 33 | 27 | 24 | 30 | 25 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 20 | | | | | | | | | | | | | |
| 10 | 50 | 37 | 30 | 25 | 47 | 36 | 29 | 24 | 33 | 27 | 23 | 30 | 25 | 22 | 28 | 23 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 18 | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 33293 | 33293 | 33293 |
| 5° | 32663 | 29395 | 28483 |
| 10° | 32234 | 26154 | 24605 |
| 15° | 31762 | 23421 | 21521 |
| 20° | 31034 | 21011 | 18824 |
| 25° | 30067 | 18762 | 16404 |
| 30° | 29115 | 16578 | 14238 |
| 35° | 27826 | 14581 | 12221 |
| 40° | 26622 | 12765 | 10360 |
| 45° | 25229 | 10971 | 8646 |
| 50° | 23756 | 9292 | 7092 |
| 55° | 22200 | 7819 | 5719 |
| 60° | 20710 | 6408 | 4572 |
| 65° | 18880 | 5110 | 3618 |
| 70° | 17117 | 4004 | 2858 |
| 75° | 14965 | 3076 | 2254 |
| 80° | 12502 | 2287 | 1755 |
| 85° | 9118 | 1664 | 1334 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 25229 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 194.6 | 2.6 |
| 10°-20° | 552.3 | 7.5 |
| 20°-30° | 815.3 | 11.1 |
| 30°-40° | 937.4 | 12.7 |
| 40°-50° | 909.3 | 12.4 |
| 50°-60° | 761.2 | 10.3 |
| 60°-70° | 548.4 | 7.5 |
| 70°-80° | 335.1 | 4.6 |
| 80°-90° | 163.6 | 2.2 |
| 90°-100° | 111.2 | 1.5 |
| 100°-110° | 356.4 | 4.8 |
| 110°-120° | 460.4 | 6.3 |
| 120°-130° | 371.4 | 5.0 |
| 130°-140° | 296.5 | 4.0 |
| 140°-150° | 233.4 | 3.2 |
| 150°-160° | 170.7 | 2.3 |
| 160°-170° | 106.0 | 1.4 |
| 170°-180° | 36.1 | 0.5 |
| 0°-30° | 1562.2 | 21.2 |
| 0°-40° | 2499.6 | 34.0 |
| 0°-60° | 4170.0 | 56.7 |
| 0°-90° | 5217.1 | 70.9 |
| 90°-120° | 928.0 | 12.6 |
| 90°-150° | 1829.3 | 24.9 |
| 90°-180° | 2142.0 | 29.1 |
| 0°-180° | 7359.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 2062 | 2062 | 2062 | 2062 | 2062 | |
| 5° | 2030 | 2067 | 2047 | 2051 | 2065 | 193 |
| 15° | 1943 | 1971 | 1954 | 1963 | 1978 | 546 |
| 25° | 1753 | 1782 | 1777 | 1768 | 1780 | 808 |
| 35° | 1494 | 1517 | 1503 | 1488 | 1488 | 936 |
| 45° | 1197 | 1208 | 1188 | 1153 | 1136 | 923 |
| 55° | 882 | 894 | 862 | 809 | 783 | 791 |
| 65° | 582 | 585 | 556 | 515 | 501 | 579 |
| 75° | 314 | 314 | 320 | 312 | 306 | 336 |
| 85° | 96 | 116 | 160 | 172 | 172 | 101 |
| 90° | 9 | 60 | 110 | 130 | 132 | 12 |
| 95° | 48 | 62 | 80 | 103 | 111 | 46 |
| 105° | 103 | 126 | 447 | 579 | 398 | 109 |
| 115° | 152 | 169 | 379 | 781 | 912 | 150 |
| 125° | 201 | 221 | 354 | 615 | 727 | 178 |
| 135° | 234 | 260 | 354 | 506 | 581 | 181 |
| 145° | 277 | 301 | 356 | 441 | 488 | 174 |
| 155° | 325 | 337 | 364 | 400 | 418 | 149 |
| 165° | 361 | 366 | 373 | 383 | 390 | 101 |
| 175° | 380 | 382 | 380 | 378 | 375 | 36 |
| 180° | 380 | 380 | 380 | 380 | 380 | |

TEST NUMBER: P644296

CATALOG NUMBER: CRQ4DIP-SR4F0-125D50U840-FLLOOB-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 2062.0 | 2062.0 | 2062.0 | 2062.0 | 2062.0 |
| 2.5° | 2043.4 | 2073.0 | 2055.0 | 2059.7 | 2062.0 |
| 5° | 2030.0 | 2067.0 | 2047.4 | 2050.7 | 2064.9 |
| 7.5° | 2011.3 | 2045.5 | 2028.2 | 2032.1 | 2048.6 |
| 10° | 1995.0 | 2029.2 | 2009.6 | 2015.7 | 2030.0 |
| 12.5° | 1974.0 | 2005.9 | 1990.9 | 1997.1 | 2011.3 |
| 15° | 1942.6 | 1971.1 | 1954.2 | 1963.3 | 1977.5 |
| 17.5° | 1896.0 | 1926.8 | 1908.8 | 1913.8 | 1928.0 |
| 20° | 1861.0 | 1889.5 | 1878.5 | 1878.8 | 1893.1 |
| 22.5° | 1819.1 | 1849.9 | 1841.2 | 1834.6 | 1851.1 |
| 25° | 1753.3 | 1781.8 | 1776.6 | 1768.1 | 1779.5 |
| 27.5° | 1688.0 | 1709.1 | 1699.1 | 1690.6 | 1699.1 |
| 30° | 1636.8 | 1662.4 | 1645.5 | 1637.0 | 1645.5 |
| 32.5° | 1580.9 | 1606.5 | 1589.6 | 1578.6 | 1582.6 |
| 35° | 1494.1 | 1516.9 | 1502.8 | 1488.3 | 1488.3 |
| 37.5° | 1411.9 | 1426.8 | 1417.2 | 1392.6 | 1386.3 |
| 40° | 1351.4 | 1368.5 | 1354.3 | 1325.0 | 1316.4 |
| 42.5° | 1288.5 | 1305.5 | 1289.0 | 1257.3 | 1244.2 |
| 45° | 1197.0 | 1208.4 | 1188.3 | 1152.9 | 1135.9 |
| 47.5° | 1102.6 | 1114.6 | 1086.9 | 1048.0 | 1027.5 |
| 50° | 1039.7 | 1054.0 | 1019.4 | 978.1 | 955.3 |
| 52.5° | 979.2 | 988.8 | 956.4 | 908.2 | 887.7 |
| 55° | 882.5 | 893.9 | 862.1 | 809.1 | 783.4 |
| 57.5° | 792.2 | 803.0 | 765.4 | 714.8 | 694.9 |
| 60° | 733.9 | 742.5 | 704.8 | 651.9 | 632.0 |
| 62.5° | 668.7 | 677.2 | 641.9 | 596.0 | 576.1 |
| 65° | 582.5 | 585.3 | 556.3 | 515.2 | 500.9 |
| 67.5° | 501.5 | 501.5 | 477.1 | 446.5 | 435.1 |
| 70° | 445.6 | 445.6 | 428.1 | 404.6 | 393.2 |
| 72.5° | 394.3 | 392.1 | 381.5 | 365.0 | 355.9 |
| 75° | 314.5 | 314.5 | 320.4 | 311.5 | 305.8 |
| 77.5° | 244.6 | 240.1 | 265.0 | 263.8 | 261.0 |
| 80° | 198.0 | 198.0 | 230.1 | 235.8 | 233.0 |
| 82.5° | 156.1 | 160.7 | 202.1 | 210.2 | 207.4 |
| 85° | 96.1 | 116.0 | 160.2 | 171.8 | 171.8 |
| 87.5° | 43.7 | 78.9 | 126.8 | 142.4 | 143.0 |
| 90° | 8.7 | 59.5 | 109.6 | 129.6 | 132.4 |
| 92.5° | 23.8 | 51.8 | 96.7 | 118.7 | 125.7 |
| 95° | 48.3 | 61.8 | 80.3 | 103.2 | 110.8 |
| 97.5° | 68.9 | 85.4 | 184.9 | 102.7 | 100.5 |
| 100° | 80.4 | 100.2 | 317.1 | 132.7 | 110.3 |
| 102.5° | 89.5 | 111.2 | 407.3 | 259.4 | 163.7 |
| 105° | 103.3 | 125.9 | 447.4 | 579.2 | 397.9 |
| 107.5° | 117.0 | 130.4 | 421.4 | 821.1 | 772.9 |
| 110° | 126.1 | 139.9 | 407.5 | 857.2 | 923.2 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 137.6 | 151.4 | 396.1 | 828.7 | 937.7 |
| 115° | 151.9 | 168.6 | 378.9 | 781.2 | 912.1 |
| 117.5° | 166.1 | 185.7 | 374.0 | 727.5 | 862.2 |
| 120° | 177.2 | 197.2 | 364.0 | 687.1 | 827.4 |
| 122.5° | 186.7 | 206.3 | 354.4 | 654.3 | 783.4 |
| 125° | 200.6 | 220.6 | 354.4 | 614.7 | 726.9 |
| 127.5° | 210.9 | 234.8 | 354.9 | 568.8 | 679.6 |
| 130° | 216.3 | 244.3 | 356.8 | 538.0 | 643.2 |
| 132.5° | 221.2 | 249.2 | 354.5 | 524.2 | 610.7 |
| 135° | 234.3 | 260.1 | 353.9 | 506.2 | 581.1 |
| 137.5° | 246.3 | 273.9 | 353.9 | 486.4 | 550.5 |
| 140° | 255.9 | 281.6 | 353.9 | 474.8 | 533.2 |
| 142.5° | 265.4 | 289.3 | 355.8 | 461.3 | 516.0 |
| 145° | 277.4 | 300.8 | 356.3 | 441.0 | 487.8 |
| 147.5° | 291.7 | 312.3 | 359.2 | 426.5 | 462.5 |
| 150° | 301.3 | 320.0 | 361.1 | 416.8 | 447.2 |
| 152.5° | 310.9 | 327.7 | 361.1 | 409.0 | 433.8 |
| 155° | 325.2 | 336.9 | 363.5 | 399.8 | 418.5 |
| 157.5° | 336.7 | 347.9 | 366.3 | 393.9 | 407.5 |
| 160° | 344.3 | 353.7 | 368.2 | 390.0 | 401.7 |
| 162.5° | 350.1 | 359.4 | 370.2 | 388.0 | 396.0 |
| 165° | 361.1 | 365.7 | 373.0 | 382.8 | 389.8 |
| 167.5° | 367.3 | 371.5 | 375.4 | 380.3 | 384.5 |
| 170° | 373.0 | 375.4 | 375.4 | 380.3 | 382.6 |
| 172.5° | 374.9 | 379.1 | 377.3 | 378.3 | 380.7 |
| 175° | 380.2 | 382.5 | 380.2 | 377.8 | 375.4 |
| 177.5° | 380.2 | 382.1 | 380.2 | 380.2 | 378.3 |
| 180° | 380.2 | 380.2 | 380.2 | 380.2 | 380.2 |

(END OF REPORT)