

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: P645243

Luminaire Tested: OMN4DP-SR4F0-50D840-CLB-1DUDD-WW

Issue Date: 2/16/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P645243  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/16/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: OMN4DP-SR4F0-50D840-CLB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - BATWING LENS - 500 LUMENS PER FOOT  
DIRECT ONLY  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

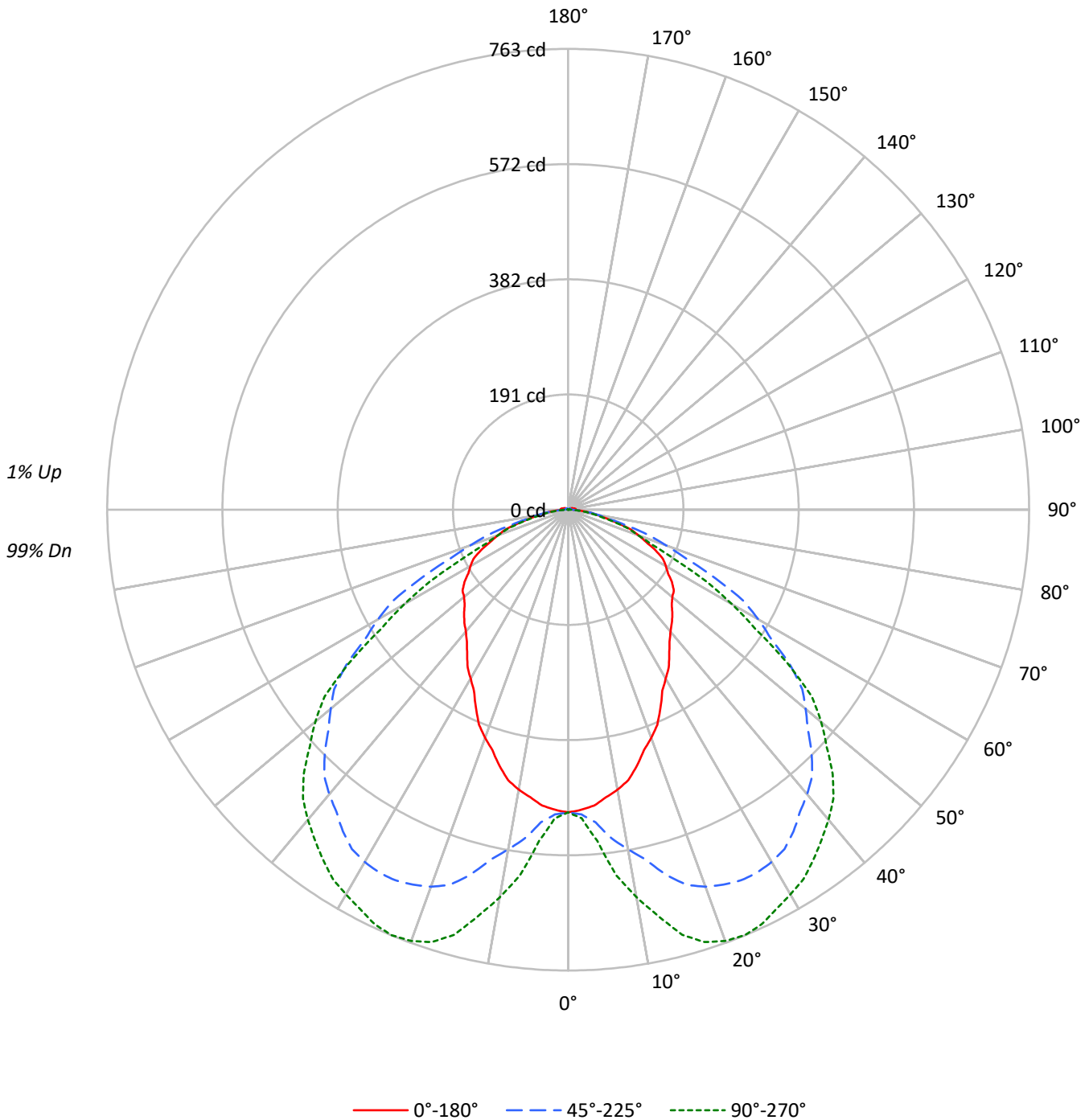
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1938.2 lumens  
Efficiency: N/A  
Efficacy: 135.5 lumens/watt  
Spacing Criteria (0/90/45): 0.99 / 1.87 / 1.75  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 14.3  
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 |   |
| 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  | 50 | 30 | 10 | 0  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 101 | 101 | 101 | 99 |    |    |    |   |
| 1   | 109 | 104 | 100 | 97  | 106 | 102 | 98  | 95  | 98  | 95  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 84 |    |    |    |   |
| 2   | 99  | 91  | 85  | 79  | 97  | 89  | 83  | 78  | 86  | 81  | 76  | 82  | 78  | 74  | 79  | 76  | 73  | 70 |    |    |    |   |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 75  | 69  | 64  | 73  | 67  | 63  | 70  | 65  | 62  | 59 |    |    |    |   |
| 4   | 83  | 71  | 62  | 56  | 80  | 70  | 61  | 55  | 67  | 60  | 54  | 65  | 58  | 53  | 62  | 57  | 53  | 50 |    |    |    |   |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 47  | 60  | 52  | 47  | 58  | 51  | 46  | 56  | 50  | 46  | 43 |    |    |    |   |
| 6   | 70  | 57  | 48  | 41  | 68  | 56  | 47  | 41  | 54  | 46  | 41  | 52  | 45  | 40  | 50  | 45  | 40  | 38 |    |    |    |   |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 49  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 35  | 33 |    |    |    |   |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 44  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 31  | 29 |    |    |    |   |
| 9   | 56  | 43  | 34  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 28  | 39  | 33  | 28  | 26 |    |    |    |   |
| 10  | 53  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 30  | 26  | 36  | 30  | 25  | 24 |    |    |    |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°   | 90°   |
|-----|------|-------|-------|
| 0°  | 8091 | 8091  | 8091  |
| 5°  | 7971 | 8425  | 8916  |
| 10° | 7719 | 9361  | 10681 |
| 15° | 7345 | 10460 | 12176 |
| 20° | 6909 | 11414 | 13055 |
| 25° | 6437 | 12063 | 13495 |
| 30° | 6018 | 12558 | 13711 |
| 35° | 5744 | 12818 | 13943 |
| 40° | 5552 | 12969 | 14124 |
| 45° | 5562 | 13013 | 14129 |
| 50° | 5649 | 12881 | 13730 |
| 55° | 5906 | 12631 | 12467 |
| 60° | 6022 | 11741 | 10123 |
| 65° | 6101 | 10285 | 7435  |
| 70° | 5830 | 8087  | 5778  |
| 75° | 5234 | 6032  | 4872  |
| 80° | 4444 | 4770  | 3905  |
| 85° | 4316 | 3890  | 3242  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 14129 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 51.4   | 2.7       |
| 10°-20°   | 170.8  | 8.8       |
| 20°-30°   | 283.7  | 14.6      |
| 30°-40°   | 357.9  | 18.5      |
| 40°-50°   | 382.6  | 19.7      |
| 50°-60°   | 337.7  | 17.4      |
| 60°-70°   | 216.8  | 11.2      |
| 70°-80°   | 96.1   | 5.0       |
| 80°-90°   | 24.9   | 1.3       |
| 90°-100°  | 6.6    | 0.3       |
| 100°-110° | 4.2    | 0.2       |
| 110°-120° | 3.2    | 0.2       |
| 120°-130° | 2.0    | 0.1       |
| 130°-140° | 0.2    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 505.9  | 26.1      |
| 0°-40°    | 863.9  | 44.6      |
| 0°-60°    | 1584.2 | 81.7      |
| 0°-90°    | 1922.0 | 99.2      |
| 90°-120°  | 13.9   | 0.7       |
| 90°-150°  | 16.2   | 0.8       |
| 90°-180°  | 16.0   | 0.8       |
| 0°-180°   | 1938.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 501 | 501   | 501 | 501   | 501 |      |
| 5°   | 492 | 507   | 520 | 538   | 550 | 46   |
| 15°  | 439 | 507   | 626 | 701   | 728 | 123  |
| 25°  | 361 | 490   | 677 | 740   | 758 | 166  |
| 35°  | 291 | 448   | 650 | 693   | 707 | 183  |
| 45°  | 244 | 383   | 570 | 605   | 619 | 188  |
| 55°  | 210 | 301   | 449 | 451   | 443 | 186  |
| 65°  | 160 | 202   | 269 | 219   | 195 | 156  |
| 75°  | 84  | 93    | 97  | 83    | 78  | 90   |
| 85°  | 23  | 20    | 21  | 19    | 18  | 25   |
| 90°  | 8   | 8     | 7   | 7     | 5   | 6    |
| 95°  | 13  | 8     | 6   | 4     | 2   | 10   |
| 105° | 8   | 7     | 4   | 1     | 0   | 9    |
| 115° | 6   | 5     | 4   | 1     | 0   | 6    |
| 125° | 4   | 4     | 4   | 1     | 0   | 3    |
| 135° | 0   | 0     | 0   | 0     | 0   | 0    |
| 145° | 0   | 0     | 0   | 0     | 0   | 0    |
| 155° | 0   | 0     | 0   | 0     | 0   | 0    |
| 165° | 0   | 0     | 0   | 0     | 0   | 0    |
| 175° | 0   | 0     | 0   | 0     | 0   | 0    |
| 180° | 0   | 0     | 0   | 0     | 0   | 0    |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 501.1 | 501.1 | 501.1 | 501.1 | 501.1 |
| 2.5°   | 497.4 | 504.7 | 504.9 | 507.7 | 511.4 |
| 5°     | 491.8 | 506.6 | 519.8 | 537.5 | 550.1 |
| 7.5°   | 480.1 | 506.6 | 548.7 | 589.9 | 610.4 |
| 10°    | 470.8 | 507.3 | 571.0 | 626.4 | 651.5 |
| 12.5°  | 458.7 | 507.0 | 593.4 | 660.0 | 688.8 |
| 15°    | 439.4 | 506.6 | 625.8 | 701.0 | 728.4 |
| 17.5°  | 417.0 | 504.5 | 651.2 | 726.6 | 750.5 |
| 20°    | 402.1 | 502.3 | 664.3 | 735.9 | 759.8 |
| 22.5°  | 385.3 | 497.4 | 671.7 | 740.5 | 762.6 |
| 25°    | 361.3 | 490.0 | 677.1 | 740.4 | 757.5 |
| 27.5°  | 337.7 | 479.5 | 677.3 | 731.0 | 745.6 |
| 30°    | 322.8 | 471.0 | 673.6 | 721.7 | 735.4 |
| 32.5°  | 309.8 | 461.5 | 666.1 | 710.5 | 725.1 |
| 35°    | 291.4 | 447.5 | 650.3 | 692.6 | 707.4 |
| 37.5°  | 275.5 | 431.4 | 630.2 | 671.4 | 688.8 |
| 40°    | 263.4 | 418.4 | 615.3 | 656.4 | 670.1 |
| 42.5°  | 254.1 | 404.5 | 597.6 | 637.7 | 649.6 |
| 45°    | 243.6 | 382.6 | 569.9 | 605.2 | 618.8 |
| 47.5°  | 232.4 | 360.0 | 537.9 | 571.2 | 580.1 |
| 50°    | 224.9 | 343.4 | 512.8 | 543.2 | 546.6 |
| 52.5°  | 220.3 | 326.0 | 488.5 | 507.7 | 508.3 |
| 55°    | 209.8 | 300.9 | 448.7 | 450.8 | 442.9 |
| 57.5°  | 195.8 | 271.7 | 398.1 | 386.7 | 367.6 |
| 60°    | 186.5 | 251.4 | 363.6 | 340.8 | 313.5 |
| 62.5°  | 177.1 | 232.1 | 327.2 | 290.4 | 258.5 |
| 65°    | 159.7 | 201.8 | 269.2 | 218.6 | 194.6 |
| 67.5°  | 139.4 | 168.6 | 211.4 | 163.5 | 147.5 |
| 70°    | 123.5 | 146.3 | 171.3 | 133.8 | 122.4 |
| 72.5°  | 108.6 | 124.1 | 138.7 | 110.6 | 104.7 |
| 75°    | 83.9  | 93.0  | 96.7  | 82.6  | 78.1  |
| 77.5°  | 61.8  | 62.2  | 67.1  | 58.2  | 55.9  |
| 80°    | 47.8  | 45.5  | 51.3  | 44.2  | 42.0  |
| 82.5°  | 36.6  | 33.4  | 37.3  | 32.1  | 30.8  |
| 85°    | 23.3  | 19.9  | 21.0  | 18.6  | 17.5  |
| 87.5°  | 13.8  | 11.0  | 10.7  | 9.8   | 8.4   |
| 90°    | 8.2   | 8.2   | 7.0   | 6.9   | 4.7   |
| 92.5°  | 11.0  | 8.2   | 6.1   | 5.1   | 2.8   |
| 95°    | 12.8  | 8.3   | 5.8   | 3.5   | 2.3   |
| 97.5°  | 11.4  | 8.0   | 4.4   | 2.3   | 1.2   |
| 100°   | 10.5  | 7.1   | 3.5   | 2.3   | 1.2   |
| 102.5° | 9.6   | 7.0   | 3.5   | 1.4   | 0.2   |
| 105°   | 8.2   | 7.0   | 3.5   | 1.1   | 0.0   |
| 107.5° | 7.9   | 5.9   | 3.5   | 1.1   | 0.0   |
| 110°   | 7.0   | 5.9   | 3.5   | 1.1   | 0.0   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 7.0 | 5.9   | 3.5 | 1.1   | 0.0 |
| 115°   | 5.8 | 4.7   | 3.5 | 1.1   | 0.0 |
| 117.5° | 5.6 | 4.7   | 3.5 | 1.1   | 0.0 |
| 120°   | 4.7 | 4.7   | 3.5 | 1.1   | 0.0 |
| 122.5° | 4.7 | 3.8   | 2.6 | 1.1   | 0.0 |
| 125°   | 3.5 | 3.5   | 3.5 | 1.1   | 0.0 |
| 127.5° | 2.3 | 3.2   | 2.3 | 0.9   | 0.0 |
| 130°   | 2.3 | 2.3   | 2.3 | 0.0   | 0.0 |
| 132.5° | 0.5 | 0.5   | 0.5 | 0.0   | 0.0 |
| 135°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 137.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 140°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 142.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 145°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 147.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 150°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 152.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 155°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 157.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 160°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 162.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 165°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 167.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 170°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 172.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 175°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 177.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 180°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |

(END OF REPORT)