

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: P644561

Luminaire Tested: OMN4DIP-SR4F0-100D150U935-BBMOOB-1DUDD-WW

Issue Date: 9/2/2020



Test Information

Test Method: LM-79-2019
Report Number: P644561
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-23)
Test Lab: INNOVATION CENTER
Issue Date: 9/2/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: OMN4DIP-SR4F0-100D150U935-BBMOOB-1DUDD-WW
Description: NEO-RAY CIRQUE 4-INCH DIAMETER LINEAR LED LUMINAIRE
DOWNLIGHT - BLACK BAFFLE WITH MEDIUM OPTIC - 1000 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 1500 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

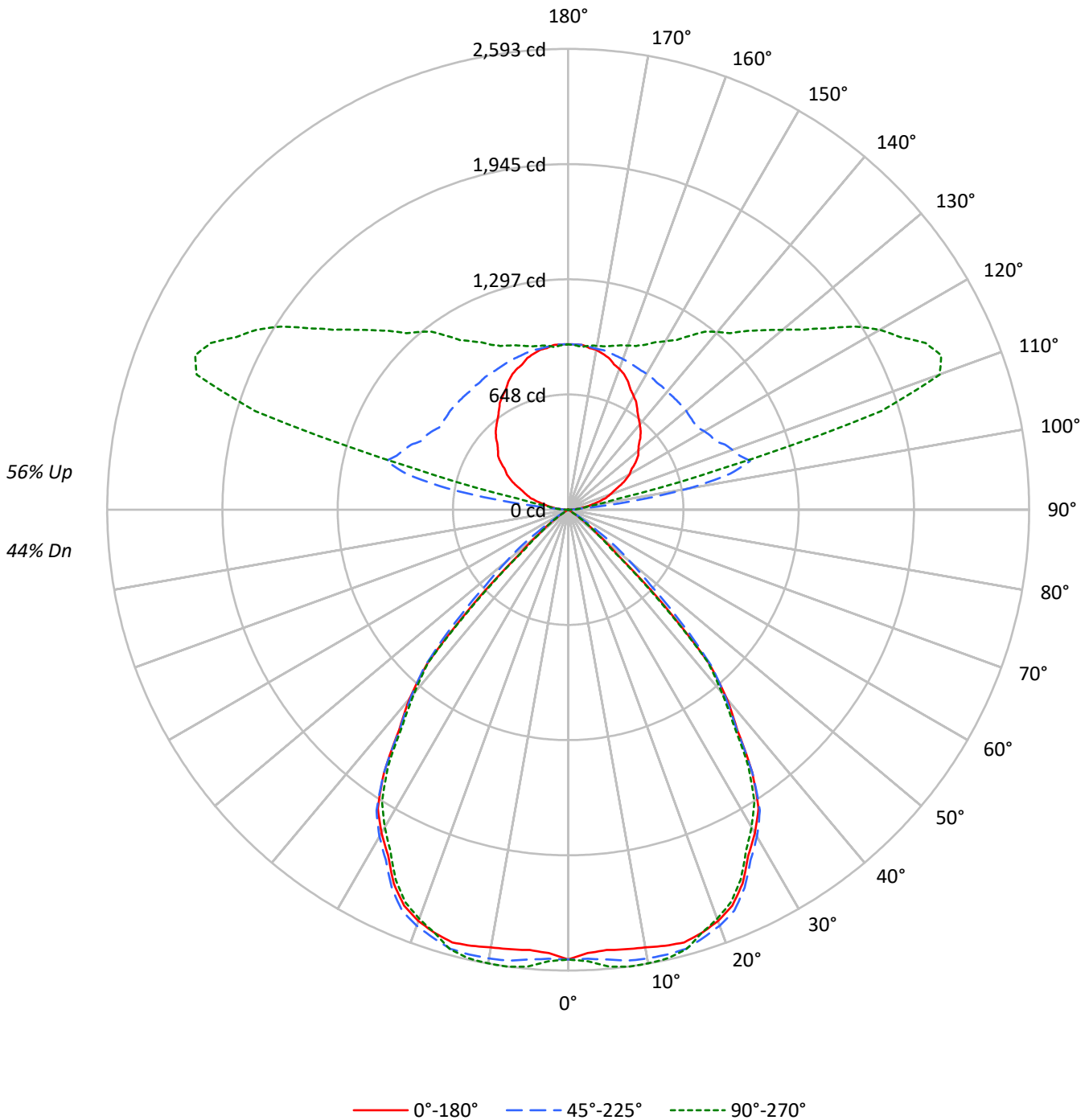
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8888.1 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.21 / 1.18
Luminous Opening: Rectangular (W 0.21' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 86.7
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





TEST NUMBER: P644561

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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 | 106 | 106 | 106 | 106 | 97 | 97 | 97 | 97 | 80 | 80 | 80 | 64 | 64 | 64 | 50 | 50 | 50 | 44 | | | | |
| 1 | 98 | 94 | 91 | 88 | 90 | 87 | 84 | 82 | 72 | 71 | 69 | 59 | 58 | 57 | 47 | 46 | 46 | 40 | | | | |
| 2 | 91 | 85 | 79 | 75 | 83 | 78 | 74 | 70 | 66 | 63 | 60 | 54 | 52 | 51 | 44 | 43 | 41 | 37 | | | | |
| 3 | 84 | 76 | 70 | 65 | 77 | 70 | 65 | 61 | 60 | 56 | 53 | 50 | 47 | 45 | 40 | 39 | 37 | 33 | | | | |
| 4 | 78 | 69 | 62 | 57 | 71 | 64 | 58 | 53 | 54 | 50 | 47 | 46 | 43 | 40 | 37 | 36 | 34 | 30 | | | | |
| 5 | 72 | 62 | 55 | 50 | 66 | 58 | 52 | 47 | 49 | 45 | 41 | 42 | 39 | 36 | 35 | 33 | 31 | 28 | | | | |
| 6 | 67 | 56 | 49 | 44 | 62 | 53 | 46 | 42 | 45 | 41 | 37 | 39 | 35 | 33 | 32 | 30 | 28 | 25 | | | | |
| 7 | 62 | 51 | 44 | 39 | 57 | 48 | 42 | 37 | 42 | 37 | 33 | 36 | 32 | 29 | 30 | 27 | 26 | 23 | | | | |
| 8 | 58 | 47 | 40 | 35 | 54 | 44 | 38 | 34 | 38 | 34 | 30 | 33 | 29 | 27 | 28 | 25 | 23 | 21 | | | | |
| 9 | 54 | 43 | 37 | 32 | 50 | 41 | 35 | 30 | 35 | 31 | 27 | 31 | 27 | 25 | 26 | 23 | 22 | 20 | | | | |
| 10 | 51 | 40 | 33 | 29 | 47 | 38 | 32 | 28 | 33 | 28 | 25 | 28 | 25 | 22 | 24 | 22 | 20 | 18 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 32686 | 32686 | 32686 |
| 5° | 32248 | 32939 | 33451 |
| 10° | 32802 | 33631 | 33994 |
| 15° | 33706 | 34209 | 34261 |
| 20° | 33861 | 34241 | 33670 |
| 25° | 33080 | 33447 | 32714 |
| 30° | 31320 | 31673 | 30759 |
| 35° | 28470 | 28470 | 27879 |
| 40° | 23416 | 23183 | 22684 |
| 45° | 14002 | 16455 | 13351 |
| 50° | 4525 | 9169 | 4248 |
| 55° | 1601 | 3069 | 1601 |
| 60° | 103 | 868 | 52 |
| 65° | 61 | 61 | 0 |
| 70° | 76 | 0 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 296 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 16455 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 243.4 | 2.7 |
| 10°-20° | 720.4 | 8.1 |
| 20°-30° | 1066.0 | 12.0 |
| 30°-40° | 1101.9 | 12.4 |
| 40°-50° | 641.1 | 7.2 |
| 50°-60° | 108.6 | 1.2 |
| 60°-70° | 4.3 | 0.0 |
| 70°-80° | 0.6 | 0.0 |
| 80°-90° | 2.7 | 0.0 |
| 90°-100° | 114.4 | 1.3 |
| 100°-110° | 815.3 | 9.2 |
| 110°-120° | 1106.9 | 12.5 |
| 120°-130° | 900.9 | 10.1 |
| 130°-140° | 724.6 | 8.2 |
| 140°-150° | 571.2 | 6.4 |
| 150°-160° | 417.7 | 4.7 |
| 160°-170° | 259.4 | 2.9 |
| 170°-180° | 88.5 | 1.0 |
| 0°-30° | 2029.9 | 22.8 |
| 0°-40° | 3131.8 | 35.2 |
| 0°-60° | 3881.5 | 43.7 |
| 0°-90° | 3889.1 | 43.8 |
| 90°-120° | 2036.7 | 22.9 |
| 90°-150° | 4233.4 | 47.6 |
| 90°-180° | 4999.0 | 56.2 |
| 0°-180° | 8888.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 2530 | 2530 | 2530 | 2530 | 2530 | |
| 5° | 2487 | 2553 | 2540 | 2547 | 2580 | 238 |
| 15° | 2521 | 2610 | 2558 | 2545 | 2562 | 709 |
| 25° | 2321 | 2398 | 2347 | 2276 | 2295 | 1060 |
| 35° | 1806 | 1834 | 1806 | 1760 | 1768 | 1106 |
| 45° | 766 | 892 | 901 | 870 | 731 | 593 |
| 55° | 71 | 83 | 136 | 77 | 71 | 78 |
| 65° | 2 | 2 | 2 | 0 | 0 | 2 |
| 75° | 0 | 2 | 0 | 0 | 0 | 1 |
| 85° | 2 | 2 | 0 | 0 | 0 | 1 |
| 90° | 0 | 6 | 12 | 18 | 18 | 2 |
| 95° | 47 | 87 | 47 | 53 | 64 | 52 |
| 105° | 181 | 279 | 1059 | 1353 | 896 | 191 |
| 115° | 322 | 391 | 913 | 1898 | 2218 | 320 |
| 125° | 462 | 525 | 860 | 1505 | 1779 | 411 |
| 135° | 574 | 636 | 866 | 1239 | 1422 | 441 |
| 145° | 679 | 736 | 872 | 1080 | 1194 | 426 |
| 155° | 796 | 825 | 890 | 978 | 1024 | 365 |
| 165° | 884 | 895 | 913 | 937 | 954 | 248 |
| 175° | 931 | 936 | 931 | 925 | 919 | 88 |
| 180° | 931 | 931 | 931 | 931 | 931 | |



TEST NUMBER: P644561

CATALOG NUMBER: OMN4DIP-SR4F0-100D150U935-BBMOOB-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 2530.5 | 2530.5 | 2530.5 | 2530.5 | 2530.5 |
| 2.5° | 2497.3 | 2546.8 | 2528.9 | 2530.8 | 2543.2 |
| 5° | 2487.1 | 2552.7 | 2540.4 | 2547.1 | 2579.9 |
| 7.5° | 2494.6 | 2561.0 | 2559.4 | 2561.3 | 2593.3 |
| 10° | 2500.9 | 2570.4 | 2564.1 | 2562.8 | 2591.8 |
| 12.5° | 2513.5 | 2589.2 | 2564.1 | 2561.1 | 2585.4 |
| 15° | 2520.6 | 2609.5 | 2558.2 | 2544.7 | 2562.1 |
| 17.5° | 2496.5 | 2595.4 | 2525.8 | 2490.0 | 2496.9 |
| 20° | 2463.4 | 2563.8 | 2491.0 | 2437.9 | 2449.5 |
| 22.5° | 2411.2 | 2507.0 | 2442.0 | 2376.4 | 2391.1 |
| 25° | 2321.1 | 2398.4 | 2346.8 | 2276.1 | 2295.4 |
| 27.5° | 2193.1 | 2254.1 | 2221.6 | 2153.1 | 2165.1 |
| 30° | 2099.9 | 2150.1 | 2123.6 | 2056.5 | 2062.3 |
| 32.5° | 1992.4 | 2034.9 | 2006.6 | 1948.9 | 1948.6 |
| 35° | 1805.5 | 1834.5 | 1805.5 | 1760.3 | 1768.0 |
| 37.5° | 1561.0 | 1583.0 | 1553.5 | 1526.3 | 1530.2 |
| 40° | 1388.7 | 1406.1 | 1374.9 | 1349.1 | 1345.3 |
| 42.5° | 1173.8 | 1222.1 | 1191.6 | 1156.5 | 1161.9 |
| 45° | 766.5 | 892.0 | 900.8 | 870.0 | 730.9 |
| 47.5° | 386.4 | 523.5 | 627.0 | 475.8 | 341.0 |
| 50° | 225.2 | 308.3 | 456.3 | 251.9 | 211.4 |
| 52.5° | 147.8 | 182.9 | 318.8 | 159.2 | 140.3 |
| 55° | 71.1 | 82.7 | 136.3 | 76.9 | 71.1 |
| 57.5° | 24.5 | 37.6 | 60.4 | 38.5 | 27.3 |
| 60° | 4.0 | 15.5 | 33.6 | 11.6 | 2.0 |
| 62.5° | 2.4 | 4.7 | 20.9 | 2.3 | 0.4 |
| 65° | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 |
| 67.5° | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 70° | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 75° | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 |
| 85° | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 1.6 | 2.7 | 2.3 | 3.5 | 3.5 |
| 90° | 0.0 | 5.7 | 11.7 | 17.6 | 17.6 |
| 92.5° | 14.0 | 19.8 | 25.8 | 36.4 | 41.0 |
| 95° | 46.8 | 86.9 | 46.8 | 52.9 | 64.4 |
| 97.5° | 83.1 | 166.7 | 344.2 | 101.5 | 87.8 |
| 100° | 111.2 | 208.5 | 690.6 | 203.3 | 134.6 |
| 102.5° | 139.3 | 241.2 | 934.1 | 536.5 | 293.8 |
| 105° | 181.4 | 278.7 | 1059.4 | 1353.3 | 895.5 |
| 107.5° | 223.6 | 296.8 | 1011.4 | 1969.6 | 1844.8 |
| 110° | 251.7 | 320.4 | 983.3 | 2069.6 | 2224.1 |



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CATALOG NUMBER: OMN4DIP-SR4F0-100D150U935-BBMOOB-1DUDD-WW

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 279.8 | 348.4 | 955.2 | 2011.1 | 2270.9 |
| 115° | 321.9 | 390.6 | 913.1 | 1897.8 | 2218.3 |
| 117.5° | 365.2 | 432.8 | 902.5 | 1775.1 | 2104.7 |
| 120° | 398.0 | 461.0 | 883.8 | 1681.7 | 2025.1 |
| 122.5° | 421.4 | 488.9 | 860.4 | 1601.5 | 1917.4 |
| 125° | 462.4 | 525.3 | 860.4 | 1504.6 | 1779.3 |
| 127.5° | 496.3 | 560.4 | 861.6 | 1392.1 | 1663.4 |
| 130° | 515.1 | 583.7 | 866.2 | 1316.9 | 1574.4 |
| 132.5° | 538.5 | 607.1 | 866.2 | 1283.1 | 1494.8 |
| 135° | 573.6 | 636.5 | 866.2 | 1239.1 | 1422.3 |
| 137.5° | 602.9 | 670.4 | 866.2 | 1190.5 | 1347.3 |
| 140° | 626.3 | 689.2 | 866.2 | 1162.1 | 1305.2 |
| 142.5° | 649.7 | 708.0 | 870.9 | 1129.1 | 1263.1 |
| 145° | 678.9 | 736.2 | 872.1 | 1079.5 | 1194.0 |
| 147.5° | 714.1 | 764.4 | 879.1 | 1043.8 | 1132.0 |
| 150° | 737.5 | 783.3 | 883.8 | 1020.1 | 1094.5 |
| 152.5° | 760.9 | 802.1 | 883.8 | 1001.1 | 1061.7 |
| 155° | 796.0 | 824.6 | 889.6 | 978.5 | 1024.3 |
| 157.5° | 824.1 | 851.6 | 896.7 | 964.1 | 997.3 |
| 160° | 842.8 | 865.7 | 901.4 | 954.7 | 983.3 |
| 162.5° | 856.9 | 879.8 | 906.0 | 949.8 | 969.2 |
| 165° | 883.8 | 895.2 | 913.1 | 936.9 | 954.0 |
| 167.5° | 899.0 | 909.3 | 918.9 | 930.9 | 941.2 |
| 170° | 913.1 | 918.8 | 918.9 | 930.7 | 936.5 |
| 172.5° | 917.7 | 928.0 | 923.6 | 926.1 | 931.8 |
| 175° | 930.6 | 936.3 | 930.6 | 924.6 | 918.9 |
| 177.5° | 930.6 | 935.2 | 930.6 | 930.5 | 925.9 |
| 180° | 930.6 | 930.6 | 930.6 | 930.6 | 930.6 |

(END OF REPORT)