

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: P644921

Luminaire Tested: OMN4DIP-SR4F0-50D150U935-BBMOOB-1DUDD-WW

Issue Date: 9/2/2020



Test Information

Test Method: LM-79-2019
Report Number: P644921
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-SR4F0-50D150U935-BBMOOB-1DUDD-WW
Description: NEO-RAY CIRQUE 4-INCH DIAMETER LINEAR LED LUMINAIRE
DOWNLIGHT - BLACK BAFFLE WITH MEDIUM OPTIC - 500 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 1500 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

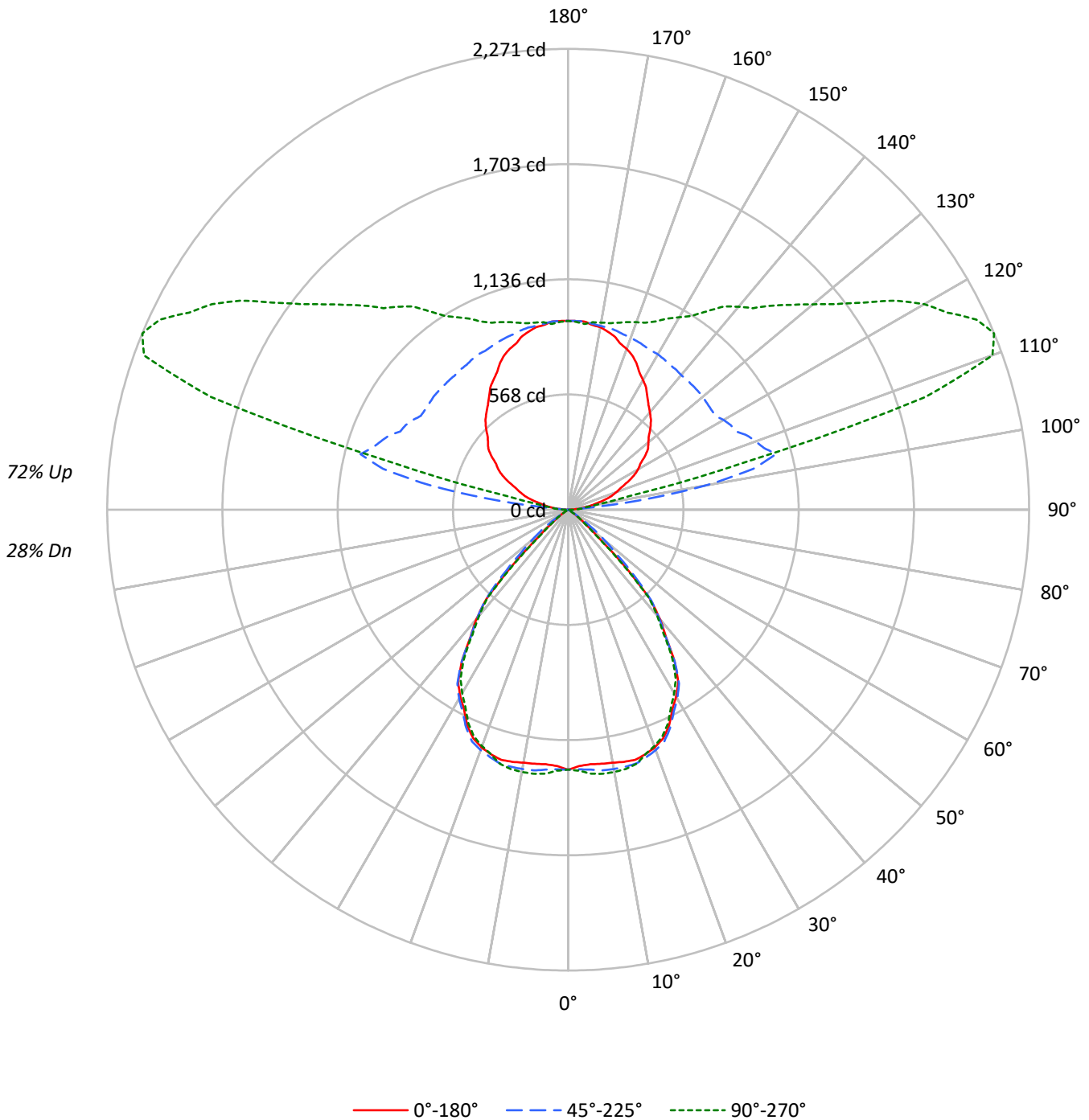
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6968.8 lumens
Efficiency: N/A
Efficacy: 104.3 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: Semi-Indirect

Input Watts (W): 66.8
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

TEST NUMBER: P644921
CATALOG NUMBER: OMN4DIP-SR4F0-50D150U935-BBMOOB-1DUDD-WW

Luminous Intensity Polar Plot





TEST NUMBER: P644921

CATALOG NUMBER: OMN4DIP-SR4F0-50D150U935-BBMOOB-1DUDD-WW

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 | 102 | 102 | 102 | 102 | 91 | 91 | 91 | 91 | 71 | 71 | 71 | 53 | 53 | 53 | 36 | 36 | 36 | 28 | | | | |
| 1 | 94 | 90 | 87 | 84 | 84 | 81 | 78 | 76 | 64 | 62 | 61 | 48 | 47 | 46 | 34 | 33 | 33 | 26 | | | | |
| 2 | 87 | 80 | 75 | 70 | 77 | 72 | 68 | 64 | 57 | 54 | 52 | 44 | 42 | 40 | 31 | 30 | 29 | 24 | | | | |
| 3 | 80 | 71 | 65 | 60 | 71 | 65 | 59 | 55 | 52 | 48 | 45 | 40 | 37 | 36 | 29 | 27 | 26 | 22 | | | | |
| 4 | 73 | 64 | 57 | 52 | 66 | 58 | 52 | 48 | 47 | 43 | 39 | 36 | 34 | 31 | 26 | 25 | 24 | 20 | | | | |
| 5 | 68 | 57 | 50 | 45 | 61 | 52 | 46 | 42 | 42 | 38 | 35 | 33 | 30 | 28 | 24 | 23 | 21 | 18 | | | | |
| 6 | 63 | 52 | 45 | 40 | 56 | 47 | 41 | 37 | 38 | 34 | 31 | 30 | 27 | 25 | 22 | 21 | 19 | 16 | | | | |
| 7 | 58 | 47 | 40 | 35 | 52 | 43 | 37 | 32 | 35 | 31 | 27 | 28 | 25 | 23 | 21 | 19 | 18 | 15 | | | | |
| 8 | 54 | 43 | 36 | 31 | 49 | 39 | 33 | 29 | 32 | 28 | 25 | 26 | 23 | 20 | 19 | 18 | 16 | 14 | | | | |
| 9 | 50 | 39 | 32 | 28 | 45 | 36 | 30 | 26 | 30 | 25 | 22 | 24 | 21 | 19 | 18 | 16 | 15 | 13 | | | | |
| 10 | 47 | 36 | 29 | 25 | 43 | 33 | 27 | 23 | 27 | 23 | 20 | 22 | 19 | 17 | 17 | 15 | 14 | 12 | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 16546 | 16546 | 16546 |
| 5° | 16324 | 16674 | 16934 |
| 10° | 16605 | 17025 | 17208 |
| 15° | 17063 | 17317 | 17344 |
| 20° | 17141 | 17333 | 17045 |
| 25° | 16746 | 16931 | 16561 |
| 30° | 15855 | 16034 | 15571 |
| 35° | 14412 | 14412 | 14113 |
| 40° | 11854 | 11736 | 11483 |
| 45° | 7088 | 8330 | 6759 |
| 50° | 2291 | 4642 | 2150 |
| 55° | 811 | 1554 | 811 |
| 60° | 52 | 439 | 26 |
| 65° | 31 | 31 | 0 |
| 70° | 38 | 0 | 0 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 148 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 8330 cd/sqm



TEST NUMBER: P644921

CATALOG NUMBER: OMN4DIP-SR4F0-50D150U935-BBMOOB-1DUDD-WW

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 123.2 | 1.8 |
| 10°-20° | 364.7 | 5.2 |
| 20°-30° | 539.7 | 7.7 |
| 30°-40° | 557.8 | 8.0 |
| 40°-50° | 324.6 | 4.7 |
| 50°-60° | 55.0 | 0.8 |
| 60°-70° | 2.2 | 0.0 |
| 70°-80° | 0.3 | 0.0 |
| 80°-90° | 2.4 | 0.0 |
| 90°-100° | 114.4 | 1.6 |
| 100°-110° | 815.3 | 11.7 |
| 110°-120° | 1106.9 | 15.9 |
| 120°-130° | 900.9 | 12.9 |
| 130°-140° | 724.6 | 10.4 |
| 140°-150° | 571.2 | 8.2 |
| 150°-160° | 417.7 | 6.0 |
| 160°-170° | 259.4 | 3.7 |
| 170°-180° | 88.5 | 1.3 |
| 0°-30° | 1027.6 | 14.7 |
| 0°-40° | 1585.4 | 22.7 |
| 0°-60° | 1964.9 | 28.2 |
| 0°-90° | 1969.8 | 28.3 |
| 90°-120° | 2036.7 | 29.2 |
| 90°-150° | 4233.4 | 60.7 |
| 90°-180° | 4999.0 | 71.7 |
| 0°-180° | 6968.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1281 | 1281 | 1281 | 1281 | 1281 | |
| 5° | 1259 | 1292 | 1286 | 1289 | 1306 | 121 |
| 15° | 1276 | 1321 | 1295 | 1288 | 1297 | 359 |
| 25° | 1175 | 1214 | 1188 | 1152 | 1162 | 537 |
| 35° | 914 | 929 | 914 | 891 | 895 | 560 |
| 45° | 388 | 452 | 456 | 440 | 370 | 300 |
| 55° | 36 | 42 | 69 | 39 | 36 | 40 |
| 65° | 1 | 1 | 1 | 0 | 0 | 1 |
| 75° | 0 | 1 | 0 | 0 | 0 | 0 |
| 85° | 1 | 1 | 0 | 0 | 0 | 0 |
| 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: P644921

CATALOG NUMBER: OMN4DIP-SR4F0-50D150U935-BBMOOB-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1281.0 | 1281.0 | 1281.0 | 1281.0 | 1281.0 |
| 2.5° | 1264.2 | 1289.2 | 1280.2 | 1281.1 | 1287.4 |
| 5° | 1259.0 | 1292.2 | 1286.0 | 1289.4 | 1306.0 |
| 7.5° | 1262.8 | 1296.4 | 1295.6 | 1296.6 | 1312.8 |
| 10° | 1266.0 | 1301.2 | 1298.0 | 1297.3 | 1312.0 |
| 12.5° | 1272.4 | 1310.7 | 1298.0 | 1296.5 | 1308.8 |
| 15° | 1276.0 | 1321.0 | 1295.0 | 1288.2 | 1297.0 |
| 17.5° | 1263.8 | 1313.9 | 1278.6 | 1260.5 | 1264.0 |
| 20° | 1247.0 | 1297.8 | 1261.0 | 1234.1 | 1240.0 |
| 22.5° | 1220.6 | 1269.1 | 1236.2 | 1203.0 | 1210.4 |
| 25° | 1175.0 | 1214.1 | 1188.0 | 1152.2 | 1162.0 |
| 27.5° | 1110.2 | 1141.1 | 1124.6 | 1089.9 | 1096.0 |
| 30° | 1063.0 | 1088.4 | 1075.0 | 1041.1 | 1044.0 |
| 32.5° | 1008.6 | 1030.1 | 1015.8 | 986.6 | 986.4 |
| 35° | 914.0 | 928.7 | 914.0 | 891.1 | 895.0 |
| 37.5° | 790.2 | 801.3 | 786.4 | 772.6 | 774.6 |
| 40° | 703.0 | 711.8 | 696.0 | 683.0 | 681.0 |
| 42.5° | 594.2 | 618.6 | 603.2 | 585.5 | 588.2 |
| 45° | 388.0 | 451.6 | 456.0 | 440.4 | 370.0 |
| 47.5° | 195.6 | 265.0 | 317.4 | 240.8 | 172.6 |
| 50° | 114.0 | 156.0 | 231.0 | 127.5 | 107.0 |
| 52.5° | 74.8 | 92.6 | 161.4 | 80.6 | 71.0 |
| 55° | 36.0 | 41.9 | 69.0 | 38.9 | 36.0 |
| 57.5° | 12.4 | 19.0 | 30.6 | 19.5 | 13.8 |
| 60° | 2.0 | 7.9 | 17.0 | 5.9 | 1.0 |
| 62.5° | 1.2 | 2.4 | 10.6 | 1.2 | 0.2 |
| 65° | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| 67.5° | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 70° | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 75° | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 85° | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.8 | 1.9 | 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 |



TEST NUMBER: P644921

CATALOG NUMBER: OMN4DIP-SR4F0-50D150U935-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)