

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: P644980

Luminaire Tested: OMN4DIP-SR4F0-50D50U930-WBMOOB-1DUDD-WW

Issue Date: 9/2/2020



Test Information

Test Method: LM-79-2019
Report Number: P644980
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-27)
Test Lab: INNOVATION CENTER
Issue Date: 9/2/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: OMN4DIP-SR4F0-50D50U930-WBMOOB-1DUDD-WW
Description: NEO-RAY CIRQUE 4-INCH DIAMETER LINEAR LED LUMINAIRE
DOWNLIGHT - WHITE BAFFLE WITH MEDIUM OPTIC - 500 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 500 LUMENS PER FOOT
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

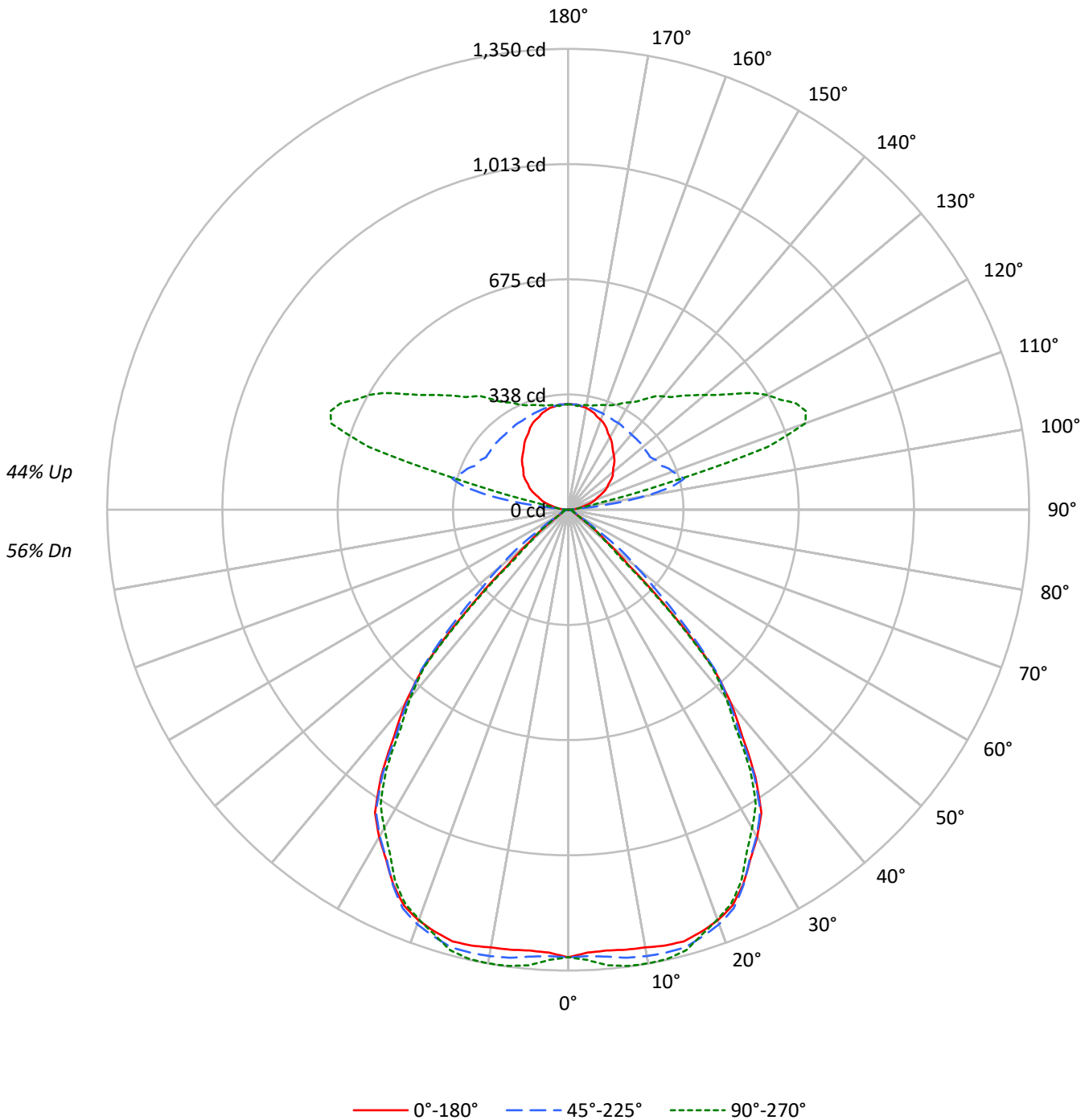
Lumens per Lamp: N/A
Luminaire Lumens: 3768.4 lumens
Efficiency: N/A
Efficacy: 114.9 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.21 / 1.19
Luminous Opening: Rectangular (W 0.21' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 32.8
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

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Luminous Intensity Polar Plot





TEST NUMBER: P644980

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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 | 109 | 109 | 109 | 109 | 101 | 101 | 101 | 101 | 87 | 87 | 87 | 74 | 74 | 74 | 62 | 62 | 62 | 56 | | | | | | | | | | | | | | | | | | | |
| 1 | 101 | 97 | 94 | 91 | 94 | 91 | 88 | 86 | 79 | 77 | 75 | 68 | 66 | 65 | 57 | 57 | 56 | 51 | | | | | | | | | | | | | | | | | | | |
| 2 | 94 | 88 | 83 | 78 | 87 | 82 | 78 | 74 | 72 | 68 | 66 | 62 | 60 | 58 | 53 | 52 | 50 | 46 | | | | | | | | | | | | | | | | | | | |
| 3 | 87 | 79 | 73 | 68 | 81 | 74 | 69 | 64 | 65 | 61 | 58 | 57 | 54 | 52 | 49 | 47 | 45 | 42 | | | | | | | | | | | | | | | | | | | |
| 4 | 81 | 71 | 65 | 59 | 75 | 67 | 61 | 57 | 60 | 55 | 51 | 52 | 49 | 46 | 45 | 43 | 41 | 38 | | | | | | | | | | | | | | | | | | | |
| 5 | 75 | 65 | 58 | 53 | 70 | 61 | 55 | 50 | 54 | 50 | 46 | 48 | 44 | 42 | 42 | 39 | 37 | 34 | | | | | | | | | | | | | | | | | | | |
| 6 | 70 | 59 | 52 | 47 | 65 | 56 | 50 | 45 | 50 | 45 | 41 | 44 | 40 | 38 | 39 | 36 | 34 | 31 | | | | | | | | | | | | | | | | | | | |
| 7 | 65 | 54 | 47 | 42 | 61 | 51 | 45 | 40 | 46 | 41 | 37 | 41 | 37 | 34 | 36 | 33 | 31 | 29 | | | | | | | | | | | | | | | | | | | |
| 8 | 61 | 50 | 43 | 38 | 57 | 47 | 41 | 36 | 42 | 37 | 34 | 38 | 34 | 31 | 34 | 31 | 28 | 26 | | | | | | | | | | | | | | | | | | | |
| 9 | 57 | 46 | 39 | 34 | 53 | 44 | 37 | 33 | 39 | 34 | 31 | 35 | 31 | 28 | 31 | 28 | 26 | 24 | | | | | | | | | | | | | | | | | | | |
| 10 | 53 | 42 | 36 | 31 | 50 | 40 | 34 | 30 | 36 | 32 | 28 | 33 | 29 | 26 | 29 | 26 | 24 | 22 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 16935 | 16935 | 16935 |
| 5° | 16808 | 17039 | 17371 |
| 10° | 17080 | 17417 | 17701 |
| 15° | 17506 | 17744 | 17863 |
| 20° | 17601 | 17764 | 17560 |
| 25° | 17265 | 17306 | 17095 |
| 30° | 16506 | 16463 | 16065 |
| 35° | 15070 | 14945 | 14633 |
| 40° | 12518 | 12336 | 12102 |
| 45° | 7864 | 8945 | 7502 |
| 50° | 3016 | 5297 | 2797 |
| 55° | 1423 | 2223 | 1446 |
| 60° | 690 | 1121 | 612 |
| 65° | 633 | 663 | 575 |
| 70° | 634 | 634 | 559 |
| 75° | 639 | 639 | 544 |
| 80° | 662 | 588 | 513 |
| 85° | 726 | 578 | 445 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 8945 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 126.3 | 3.4 |
| 10°-20° | 373.5 | 9.9 |
| 20°-30° | 554.9 | 14.7 |
| 30°-40° | 580.8 | 15.4 |
| 40°-50° | 351.8 | 9.3 |
| 50°-60° | 81.2 | 2.2 |
| 60°-70° | 22.3 | 0.6 |
| 70°-80° | 13.1 | 0.3 |
| 80°-90° | 5.2 | 0.1 |
| 90°-100° | 38.0 | 1.0 |
| 100°-110° | 270.7 | 7.2 |
| 110°-120° | 367.5 | 9.8 |
| 120°-130° | 299.1 | 7.9 |
| 130°-140° | 240.5 | 6.4 |
| 140°-150° | 189.6 | 5.0 |
| 150°-160° | 138.7 | 3.7 |
| 160°-170° | 86.1 | 2.3 |
| 170°-180° | 29.4 | 0.8 |
| 0°-30° | 1054.7 | 28.0 |
| 0°-40° | 1635.4 | 43.4 |
| 0°-60° | 2068.3 | 54.9 |
| 0°-90° | 2108.9 | 56.0 |
| 90°-120° | 676.1 | 17.9 |
| 90°-150° | 1405.3 | 37.3 |
| 90°-180° | 1659.0 | 44.0 |
| 0°-180° | 3768.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1311 | 1311 | 1311 | 1311 | 1311 | |
| 5° | 1296 | 1326 | 1314 | 1320 | 1340 | 124 |
| 15° | 1309 | 1349 | 1327 | 1316 | 1336 | 369 |
| 25° | 1211 | 1247 | 1214 | 1183 | 1200 | 555 |
| 35° | 956 | 970 | 948 | 926 | 928 | 587 |
| 45° | 430 | 489 | 490 | 472 | 411 | 331 |
| 55° | 63 | 72 | 99 | 68 | 64 | 66 |
| 65° | 21 | 22 | 22 | 20 | 19 | 21 |
| 75° | 13 | 13 | 13 | 12 | 11 | 14 |
| 85° | 5 | 5 | 4 | 4 | 3 | 5 |
| 90° | 0 | 2 | 4 | 6 | 6 | 1 |
| 95° | 16 | 29 | 16 | 18 | 21 | 17 |
| 105° | 60 | 92 | 352 | 449 | 297 | 63 |
| 115° | 107 | 130 | 303 | 630 | 736 | 106 |
| 125° | 154 | 174 | 286 | 500 | 591 | 136 |
| 135° | 190 | 211 | 288 | 411 | 472 | 146 |
| 145° | 225 | 244 | 290 | 358 | 396 | 142 |
| 155° | 264 | 274 | 295 | 325 | 340 | 121 |
| 165° | 293 | 297 | 303 | 311 | 317 | 82 |
| 175° | 309 | 311 | 309 | 307 | 305 | 29 |
| 180° | 309 | 309 | 309 | 309 | 309 | |

TEST NUMBER: P644980

CATALOG NUMBER: OMN4DIP-SR4F0-50D50U930-WBMOOB-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1311.1 | 1311.1 | 1311.1 | 1311.1 | 1311.1 |
| 2.5° | 1298.5 | 1321.6 | 1308.7 | 1309.8 | 1320.6 |
| 5° | 1296.3 | 1326.2 | 1314.1 | 1319.5 | 1339.7 |
| 7.5° | 1299.8 | 1331.1 | 1323.9 | 1325.8 | 1348.0 |
| 10° | 1302.2 | 1335.0 | 1327.9 | 1327.4 | 1349.6 |
| 12.5° | 1307.7 | 1342.1 | 1328.7 | 1325.8 | 1347.2 |
| 15° | 1309.1 | 1348.7 | 1326.9 | 1316.5 | 1335.8 |
| 17.5° | 1296.3 | 1339.9 | 1310.5 | 1288.9 | 1304.4 |
| 20° | 1280.5 | 1324.9 | 1292.3 | 1262.1 | 1277.5 |
| 22.5° | 1256.0 | 1299.6 | 1264.7 | 1232.1 | 1248.3 |
| 25° | 1211.4 | 1247.1 | 1214.3 | 1183.1 | 1199.5 |
| 27.5° | 1154.9 | 1180.0 | 1152.0 | 1122.3 | 1131.6 |
| 30° | 1106.7 | 1131.8 | 1103.8 | 1073.3 | 1077.1 |
| 32.5° | 1053.0 | 1074.3 | 1046.9 | 1019.5 | 1022.6 |
| 35° | 955.7 | 970.2 | 947.8 | 926.1 | 928.0 |
| 37.5° | 837.2 | 839.1 | 824.0 | 804.2 | 804.6 |
| 40° | 742.4 | 748.2 | 731.6 | 715.8 | 717.7 |
| 42.5° | 629.5 | 652.3 | 636.0 | 621.8 | 622.2 |
| 45° | 430.5 | 489.3 | 489.7 | 472.5 | 410.7 |
| 47.5° | 237.7 | 305.9 | 349.7 | 271.2 | 204.8 |
| 50° | 150.1 | 193.5 | 263.6 | 158.5 | 139.2 |
| 52.5° | 107.4 | 126.9 | 192.5 | 112.1 | 102.1 |
| 55° | 63.2 | 71.9 | 98.7 | 68.0 | 64.2 |
| 57.5° | 38.5 | 46.0 | 57.7 | 45.5 | 38.7 |
| 60° | 26.7 | 33.4 | 43.4 | 30.5 | 23.7 |
| 62.5° | 23.5 | 25.6 | 34.0 | 24.2 | 22.1 |
| 65° | 20.7 | 21.7 | 21.7 | 19.7 | 18.8 |
| 67.5° | 18.4 | 19.3 | 18.4 | 17.4 | 16.4 |
| 70° | 16.8 | 17.7 | 16.8 | 15.8 | 14.8 |
| 72.5° | 15.2 | 16.2 | 15.2 | 14.2 | 13.2 |
| 75° | 12.8 | 12.8 | 12.8 | 11.8 | 10.9 |
| 77.5° | 10.5 | 10.5 | 10.3 | 9.5 | 8.5 |
| 80° | 8.9 | 8.9 | 7.9 | 7.9 | 6.9 |
| 82.5° | 7.3 | 7.3 | 6.3 | 6.3 | 5.3 |
| 85° | 4.9 | 4.9 | 3.9 | 3.9 | 3.0 |
| 87.5° | 2.4 | 2.7 | 2.4 | 2.7 | 2.0 |
| 90° | 0.0 | 1.9 | 3.9 | 5.8 | 5.8 |
| 92.5° | 4.7 | 6.6 | 8.5 | 12.1 | 13.6 |
| 95° | 15.5 | 28.8 | 15.5 | 17.6 | 21.4 |
| 97.5° | 27.6 | 55.3 | 114.2 | 33.7 | 29.1 |
| 100° | 36.9 | 69.2 | 229.3 | 67.5 | 44.7 |
| 102.5° | 46.2 | 80.1 | 310.1 | 178.1 | 97.5 |
| 105° | 60.2 | 92.5 | 351.7 | 449.3 | 297.3 |
| 107.5° | 74.2 | 98.5 | 335.7 | 653.8 | 612.4 |
| 110° | 83.5 | 106.3 | 326.4 | 687.0 | 738.3 |



TEST NUMBER: P644980

CATALOG NUMBER: OMN4DIP-SR4F0-50D50U930-WBMOOB-1DUDD-WW

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 92.9 | 115.7 | 317.1 | 667.6 | 753.9 |
| 115° | 106.9 | 129.7 | 303.1 | 630.0 | 736.4 |
| 117.5° | 121.2 | 143.7 | 299.6 | 589.3 | 698.7 |
| 120° | 132.1 | 153.0 | 293.4 | 558.3 | 672.3 |
| 122.5° | 139.9 | 162.3 | 285.6 | 531.6 | 636.5 |
| 125° | 153.5 | 174.4 | 285.6 | 499.5 | 590.7 |
| 127.5° | 164.8 | 186.0 | 286.0 | 462.1 | 552.2 |
| 130° | 171.0 | 193.8 | 287.6 | 437.2 | 522.7 |
| 132.5° | 178.8 | 201.5 | 287.6 | 425.9 | 496.2 |
| 135° | 190.4 | 211.3 | 287.6 | 411.3 | 472.1 |
| 137.5° | 200.1 | 222.5 | 287.6 | 395.2 | 447.3 |
| 140° | 207.9 | 228.8 | 287.6 | 385.8 | 433.3 |
| 142.5° | 215.7 | 235.0 | 289.1 | 374.8 | 419.3 |
| 145° | 225.4 | 244.4 | 289.5 | 358.4 | 396.4 |
| 147.5° | 237.0 | 253.8 | 291.8 | 346.5 | 375.8 |
| 150° | 244.8 | 260.0 | 293.4 | 338.6 | 363.3 |
| 152.5° | 252.6 | 266.3 | 293.4 | 332.3 | 352.5 |
| 155° | 264.2 | 273.7 | 295.3 | 324.8 | 340.0 |
| 157.5° | 273.6 | 282.7 | 297.7 | 320.1 | 331.1 |
| 160° | 279.8 | 287.4 | 299.2 | 316.9 | 326.4 |
| 162.5° | 284.4 | 292.0 | 300.8 | 315.3 | 321.8 |
| 165° | 293.4 | 297.2 | 303.1 | 311.0 | 316.7 |
| 167.5° | 298.4 | 301.9 | 305.0 | 309.0 | 312.4 |
| 170° | 303.1 | 305.0 | 305.0 | 309.0 | 310.9 |
| 172.5° | 304.7 | 308.1 | 306.6 | 307.4 | 309.3 |
| 175° | 308.9 | 310.8 | 308.9 | 306.9 | 305.0 |
| 177.5° | 308.9 | 310.4 | 308.9 | 308.9 | 307.4 |
| 180° | 308.9 | 308.9 | 308.9 | 308.9 | 308.9 |

(END OF REPORT)