

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: P644303

Luminaire Tested: CRQ4DIP-SR4F0-125D75U830-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644303  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-125D75U830-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

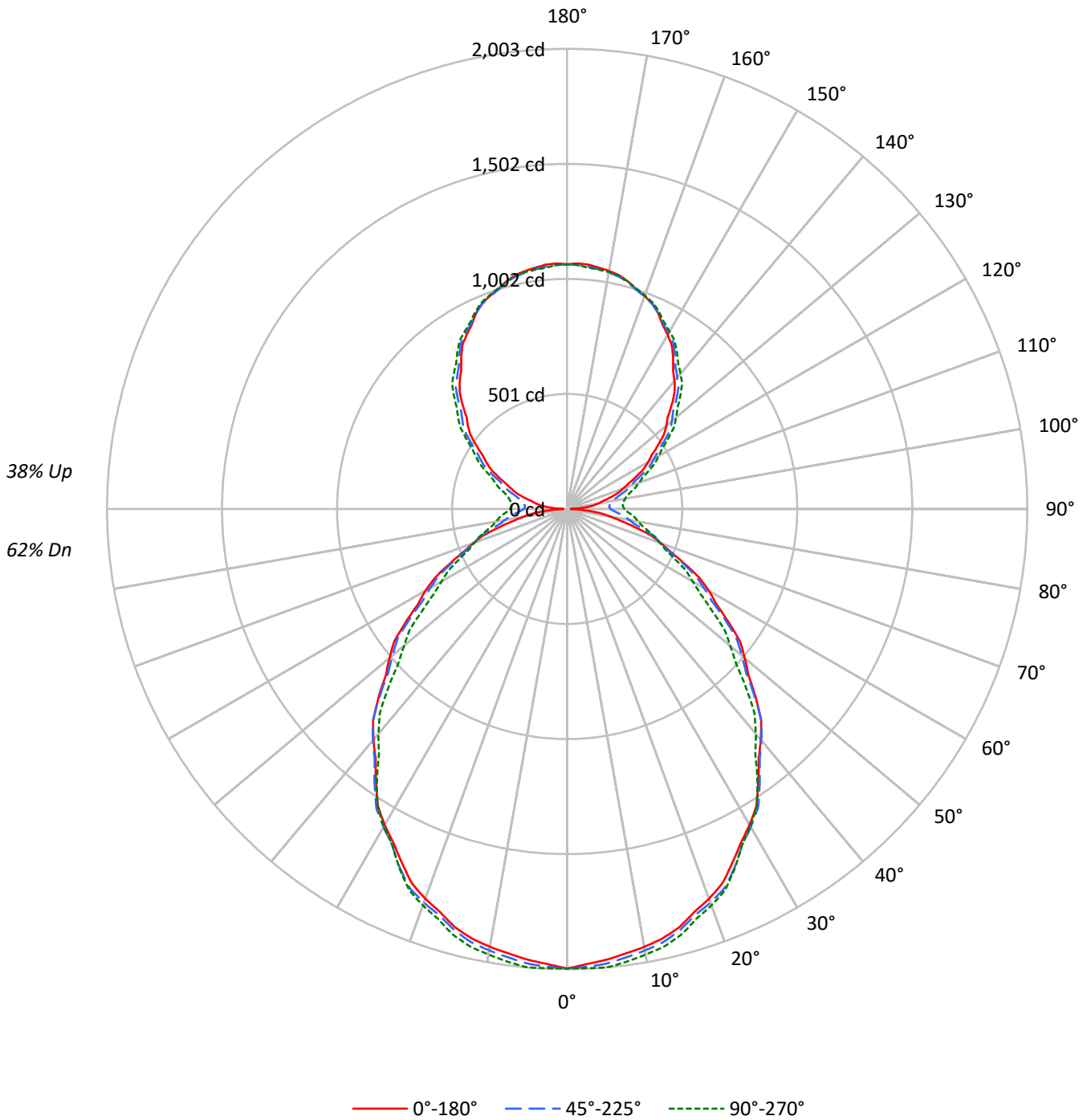
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8302.9 lumens  
Efficiency: N/A  
Efficacy: 136.6 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): 60.8  
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: P644303

CATALOG NUMBER: CRQ4DIP-SR4F0-125D75U830-FLLFLL-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 | 0  |
| RCR |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |    |
| 0   | 110 | 110 | 110 | 110 | 103 | 103 | 103 | 103 | 90 | 90 | 90 | 78 | 78 | 78 | 68 | 68 | 68 | 62 |
| 1   | 100 | 95  | 91  | 87  | 93  | 89  | 86  | 82  | 78 | 76 | 73 | 68 | 66 | 64 | 59 | 57 | 56 | 51 |
| 2   | 91  | 83  | 77  | 71  | 85  | 78  | 72  | 68  | 69 | 64 | 60 | 60 | 56 | 54 | 52 | 49 | 47 | 43 |
| 3   | 83  | 73  | 66  | 59  | 78  | 69  | 62  | 57  | 61 | 55 | 51 | 53 | 49 | 45 | 46 | 43 | 40 | 36 |
| 4   | 76  | 65  | 57  | 50  | 71  | 61  | 54  | 48  | 54 | 48 | 43 | 47 | 43 | 39 | 41 | 38 | 35 | 31 |
| 5   | 70  | 58  | 50  | 43  | 65  | 55  | 47  | 41  | 48 | 42 | 38 | 43 | 38 | 34 | 37 | 33 | 30 | 27 |
| 6   | 65  | 52  | 44  | 38  | 60  | 49  | 42  | 36  | 44 | 38 | 33 | 39 | 34 | 30 | 34 | 30 | 27 | 24 |
| 7   | 60  | 47  | 39  | 33  | 56  | 45  | 37  | 32  | 40 | 34 | 29 | 35 | 30 | 26 | 31 | 27 | 24 | 21 |
| 8   | 56  | 43  | 35  | 30  | 52  | 41  | 33  | 28  | 36 | 30 | 26 | 32 | 27 | 24 | 28 | 24 | 21 | 19 |
| 9   | 52  | 39  | 32  | 26  | 49  | 37  | 30  | 25  | 33 | 28 | 23 | 30 | 25 | 21 | 26 | 22 | 19 | 17 |
| 10  | 48  | 36  | 29  | 24  | 45  | 34  | 28  | 23  | 31 | 25 | 21 | 28 | 23 | 19 | 24 | 20 | 18 | 16 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 32300 | 32300 | 32300 |
| 5°  | 31688 | 28519 | 27633 |
| 10° | 31273 | 25388 | 23870 |
| 15° | 30815 | 22736 | 20880 |
| 20° | 30109 | 20397 | 18263 |
| 25° | 29170 | 18202 | 15914 |
| 30° | 28247 | 16107 | 13813 |
| 35° | 26995 | 14179 | 11856 |
| 40° | 25828 | 12395 | 10051 |
| 45° | 24477 | 10655 | 8388  |
| 50° | 23048 | 9045  | 6880  |
| 55° | 21536 | 7605  | 5606  |
| 60° | 20092 | 6258  | 4566  |
| 65° | 18316 | 5061  | 3740  |
| 70° | 16606 | 4065  | 3117  |
| 75° | 14523 | 3299  | 2678  |
| 80° | 12129 | 2724  | 2367  |
| 85° | 8843  | 2366  | 2172  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 24477 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 188.9  | 2.3       |
| 10°-20°   | 536.0  | 6.5       |
| 20°-30°   | 791.4  | 9.5       |
| 30°-40°   | 910.3  | 11.0      |
| 40°-50°   | 883.3  | 10.6      |
| 50°-60°   | 742.3  | 8.9       |
| 60°-70°   | 547.1  | 6.6       |
| 70°-80°   | 361.1  | 4.3       |
| 80°-90°   | 227.1  | 2.7       |
| 90°-100°  | 189.3  | 2.3       |
| 100°-110° | 254.5  | 3.1       |
| 110°-120° | 359.1  | 4.3       |
| 120°-130° | 460.1  | 5.5       |
| 130°-140° | 518.4  | 6.2       |
| 140°-150° | 512.0  | 6.2       |
| 150°-160° | 433.0  | 5.2       |
| 160°-170° | 288.3  | 3.5       |
| 170°-180° | 100.8  | 1.2       |
| 0°-30°    | 1516.2 | 18.3      |
| 0°-40°    | 2426.5 | 29.2      |
| 0°-60°    | 4052.0 | 48.8      |
| 0°-90°    | 5187.4 | 62.5      |
| 90°-120°  | 802.9  | 9.7       |
| 90°-150°  | 2293.4 | 27.6      |
| 90°-180°  | 3116.0 | 37.5      |
| 0°-180°   | 8302.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 2000 | 2000  | 2000 | 2000  | 2000 |      |
| 5°   | 1969 | 2005  | 1986 | 1990  | 2003 | 187  |
| 15°  | 1885 | 1914  | 1897 | 1905  | 1919 | 530  |
| 25°  | 1701 | 1731  | 1724 | 1715  | 1726 | 784  |
| 35°  | 1450 | 1475  | 1461 | 1444  | 1444 | 908  |
| 45°  | 1161 | 1176  | 1154 | 1119  | 1102 | 895  |
| 55°  | 856  | 872   | 839  | 788   | 768  | 768  |
| 65°  | 565  | 574   | 551  | 526   | 518  | 562  |
| 75°  | 305  | 314   | 344  | 360   | 363  | 326  |
| 85°  | 93   | 139   | 228  | 270   | 280  | 99   |
| 90°  | 16   | 93    | 188  | 235   | 249  | 16   |
| 95°  | 79   | 100   | 185  | 233   | 242  | 77   |
| 105° | 194  | 193   | 239  | 278   | 287  | 207  |
| 115° | 331  | 337   | 363  | 384   | 390  | 328  |
| 125° | 483  | 496   | 517  | 534   | 538  | 432  |
| 135° | 644  | 659   | 672  | 689   | 696  | 497  |
| 145° | 804  | 814   | 819  | 824   | 833  | 502  |
| 155° | 938  | 944   | 940  | 941   | 946  | 431  |
| 165° | 1024 | 1029  | 1021 | 1018  | 1024 | 289  |
| 175° | 1067 | 1072  | 1058 | 1054  | 1054 | 101  |
| 180° | 1065 | 1065  | 1065 | 1065  | 1065 |      |

TEST NUMBER: P644303

CATALOG NUMBER: CRQ4DIP-SR4F0-125D75U830-FLLFLL-1DUDD-WW

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 2000.5 | 2000.5 | 2000.5 | 2000.5 | 2000.5 |
| 2.5°   | 1982.4 | 2011.2 | 1994.6 | 1998.3 | 2000.5 |
| 5°     | 1969.4 | 2005.3 | 1986.4 | 1989.5 | 2003.3 |
| 7.5°   | 1951.3 | 1985.4 | 1968.9 | 1971.5 | 1987.5 |
| 10°    | 1935.5 | 1968.7 | 1950.8 | 1955.6 | 1969.4 |
| 12.5°  | 1915.2 | 1947.9 | 1931.8 | 1937.5 | 1951.3 |
| 15°    | 1884.7 | 1914.5 | 1897.1 | 1904.8 | 1918.6 |
| 17.5°  | 1839.4 | 1870.4 | 1853.0 | 1856.7 | 1870.5 |
| 20°    | 1805.5 | 1834.3 | 1823.6 | 1822.8 | 1836.6 |
| 22.5°  | 1764.9 | 1795.8 | 1787.5 | 1779.9 | 1795.9 |
| 25°    | 1701.0 | 1730.8 | 1723.6 | 1715.4 | 1726.4 |
| 27.5°  | 1637.7 | 1662.1 | 1649.8 | 1640.2 | 1648.4 |
| 30°    | 1588.0 | 1615.0 | 1598.7 | 1588.2 | 1596.4 |
| 32.5°  | 1533.7 | 1561.7 | 1544.5 | 1531.5 | 1535.4 |
| 35°    | 1449.5 | 1474.9 | 1461.4 | 1443.9 | 1443.9 |
| 37.5°  | 1369.8 | 1388.6 | 1376.1 | 1351.1 | 1345.0 |
| 40°    | 1311.1 | 1332.1 | 1315.0 | 1285.4 | 1277.2 |
| 42.5°  | 1250.0 | 1271.0 | 1252.6 | 1219.8 | 1207.1 |
| 45°    | 1161.3 | 1175.7 | 1154.0 | 1118.6 | 1102.0 |
| 47.5°  | 1069.8 | 1085.6 | 1056.1 | 1016.8 | 996.9  |
| 50°    | 1008.7 | 1025.9 | 992.3  | 948.9  | 926.8  |
| 52.5°  | 950.0  | 963.6  | 930.4  | 882.1  | 863.0  |
| 55°    | 856.1  | 871.6  | 838.6  | 788.4  | 768.0  |
| 57.5°  | 768.6  | 783.5  | 746.2  | 703.8  | 686.8  |
| 60°    | 712.0  | 724.8  | 688.3  | 647.3  | 631.2  |
| 62.5°  | 648.8  | 662.3  | 629.1  | 597.6  | 583.3  |
| 65°    | 565.1  | 574.5  | 551.0  | 525.9  | 517.7  |
| 67.5°  | 486.6  | 493.2  | 478.4  | 467.5  | 463.3  |
| 70°    | 432.3  | 438.9  | 434.6  | 432.3  | 428.9  |
| 72.5°  | 382.6  | 387.9  | 395.7  | 401.1  | 400.0  |
| 75°    | 305.2  | 314.0  | 343.6  | 360.1  | 363.4  |
| 77.5°  | 237.3  | 244.9  | 299.9  | 326.0  | 332.3  |
| 80°    | 192.1  | 207.6  | 274.1  | 307.0  | 314.2  |
| 82.5°  | 151.5  | 174.9  | 254.2  | 292.1  | 299.3  |
| 85°    | 93.2   | 139.1  | 227.8  | 269.8  | 279.8  |
| 87.5°  | 44.0   | 110.2  | 204.4  | 249.9  | 261.5  |
| 90°    | 16.4   | 93.2   | 187.6  | 235.4  | 249.3  |
| 92.5°  | 40.8   | 92.0   | 184.0  | 230.9  | 243.4  |
| 95°    | 79.1   | 99.6   | 184.8  | 233.1  | 242.5  |
| 97.5°  | 114.2  | 118.5  | 194.7  | 238.4  | 247.9  |
| 100°   | 136.8  | 136.2  | 204.6  | 246.1  | 256.1  |
| 102.5° | 159.9  | 156.7  | 217.3  | 257.0  | 266.5  |
| 105°   | 194.5  | 193.4  | 239.1  | 277.8  | 286.6  |
| 107.5° | 233.1  | 233.0  | 270.0  | 304.8  | 312.2  |
| 110°   | 258.9  | 262.8  | 294.0  | 324.7  | 333.0  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 288.8  | 292.6  | 320.2  | 346.4  | 354.7  |
| 115°   | 330.7  | 337.3  | 362.9  | 384.5  | 390.1  |
| 117.5° | 374.3  | 383.9  | 406.7  | 425.2  | 430.5  |
| 120°   | 406.5  | 416.4  | 437.0  | 454.6  | 459.0  |
| 122.5° | 436.3  | 446.7  | 468.6  | 486.3  | 490.7  |
| 125°   | 482.8  | 496.0  | 517.3  | 533.8  | 538.2  |
| 127.5° | 530.3  | 545.1  | 564.5  | 581.3  | 587.0  |
| 130°   | 564.2  | 578.6  | 595.3  | 613.0  | 619.6  |
| 132.5° | 594.0  | 608.4  | 624.7  | 643.7  | 651.2  |
| 135°   | 644.5  | 658.8  | 671.6  | 688.7  | 696.5  |
| 137.5° | 693.5  | 707.5  | 717.3  | 730.8  | 740.6  |
| 140°   | 727.0  | 739.2  | 746.2  | 758.9  | 767.7  |
| 142.5° | 757.8  | 769.9  | 775.2  | 786.0  | 794.8  |
| 145°   | 803.9  | 813.8  | 818.6  | 824.4  | 833.3  |
| 147.5° | 847.1  | 856.8  | 858.8  | 863.9  | 869.5  |
| 150°   | 875.1  | 884.0  | 884.2  | 886.5  | 892.1  |
| 152.5° | 901.3  | 909.3  | 906.8  | 908.3  | 914.7  |
| 155°   | 938.4  | 944.0  | 939.6  | 940.8  | 946.3  |
| 157.5° | 967.8  | 973.4  | 966.5  | 968.6  | 973.0  |
| 160°   | 985.9  | 991.4  | 983.7  | 984.9  | 989.3  |
| 162.5° | 1003.1 | 1006.9 | 999.9  | 998.5  | 1004.7 |
| 165°   | 1024.4 | 1028.8 | 1021.0 | 1017.7 | 1024.4 |
| 167.5° | 1042.5 | 1046.9 | 1036.6 | 1033.1 | 1039.7 |
| 170°   | 1051.5 | 1055.9 | 1044.7 | 1040.3 | 1047.0 |
| 172.5° | 1059.6 | 1064.1 | 1051.9 | 1046.6 | 1051.5 |
| 175°   | 1067.3 | 1071.7 | 1058.3 | 1053.8 | 1053.8 |
| 177.5° | 1069.6 | 1072.2 | 1062.4 | 1057.9 | 1063.3 |
| 180°   | 1065.1 | 1065.1 | 1065.1 | 1065.1 | 1065.1 |

(END OF REPORT)