

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P242323

Luminaire Tested: **S122DR-S1005D927-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242323  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DR-S1005D927-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3091.1 lumens  
Efficiency: N/A  
Efficacy: 75.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

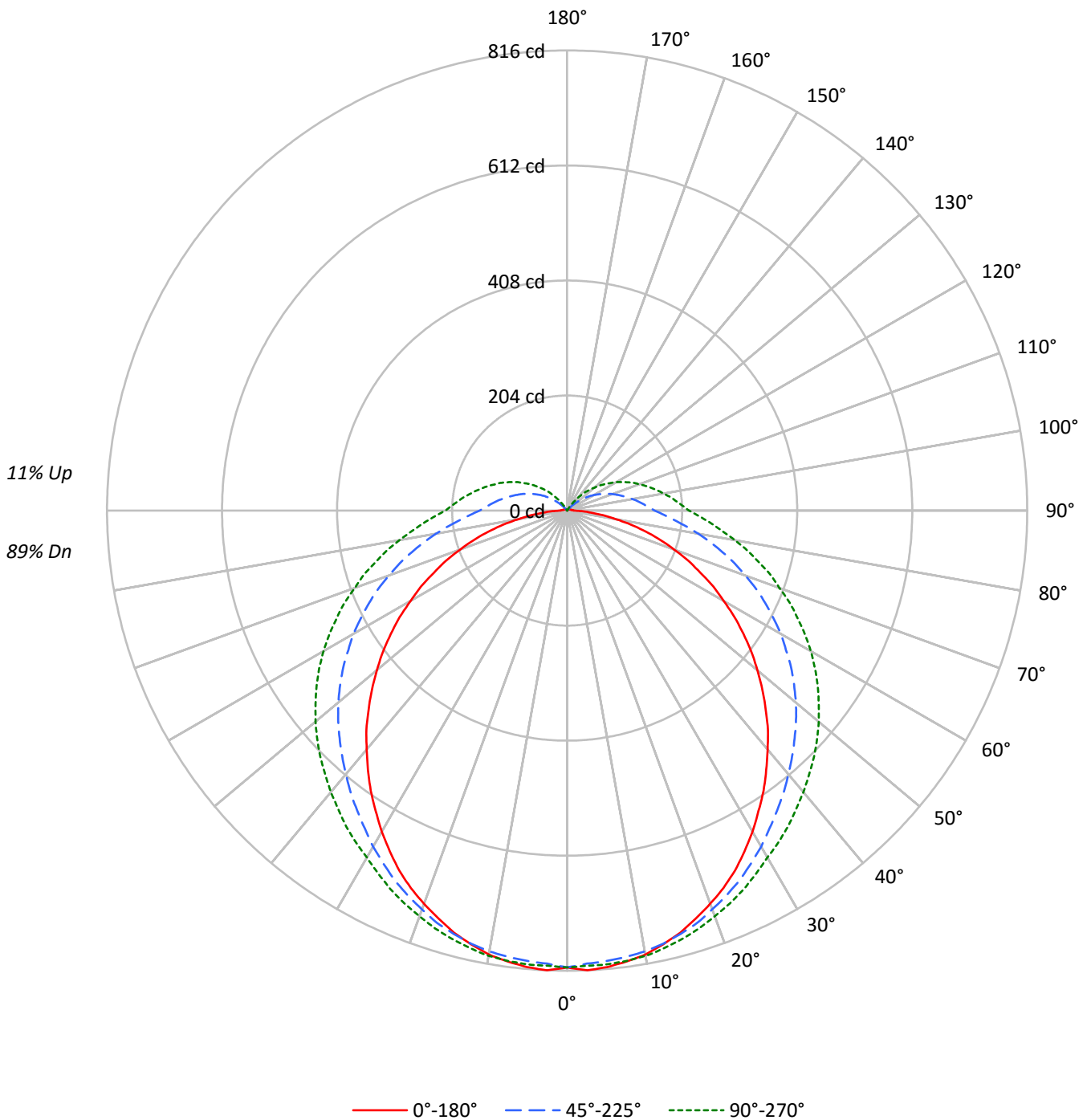
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 116 | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 105 | 105 | 105 | 98 | 98 | 98 | 92 | 92 | 92 | 89 |    |    |    |   |
| 1   | 104 | 98  | 93  | 88  | 100 | 95  | 90  | 86  | 88  | 85  | 81  | 82 | 79 | 77 | 77 | 75 | 72 | 69 |    |    |    |   |
| 2   | 94  | 84  | 77  | 70  | 90  | 81  | 74  | 68  | 76  | 70  | 65  | 71 | 66 | 62 | 66 | 62 | 59 | 56 |    |    |    |   |
| 3   | 85  | 73  | 64  | 57  | 81  | 71  | 63  | 56  | 66  | 59  | 54  | 62 | 56 | 51 | 58 | 53 | 49 | 46 |    |    |    |   |
| 4   | 77  | 64  | 55  | 48  | 74  | 62  | 54  | 47  | 58  | 51  | 45  | 55 | 48 | 43 | 51 | 46 | 42 | 39 |    |    |    |   |
| 5   | 71  | 57  | 48  | 41  | 68  | 56  | 47  | 40  | 52  | 44  | 39  | 49 | 42 | 37 | 46 | 40 | 36 | 33 |    |    |    |   |
| 6   | 65  | 51  | 42  | 35  | 63  | 50  | 41  | 35  | 47  | 39  | 34  | 44 | 37 | 32 | 42 | 36 | 31 | 29 |    |    |    |   |
| 7   | 60  | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 43  | 35  | 30  | 40 | 34 | 29 | 38 | 32 | 28 | 25 |    |    |    |   |
| 8   | 56  | 42  | 34  | 28  | 54  | 41  | 33  | 27  | 39  | 32  | 26  | 37 | 30 | 25 | 35 | 29 | 25 | 23 |    |    |    |   |
| 9   | 52  | 39  | 30  | 25  | 50  | 38  | 30  | 24  | 36  | 29  | 24  | 34 | 27 | 23 | 32 | 26 | 22 | 20 |    |    |    |   |
| 10  | 49  | 36  | 28  | 22  | 47  | 35  | 27  | 22  | 33  | 26  | 21  | 31 | 25 | 21 | 30 | 24 | 20 | 18 |    |    |    |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 15431 | 15431 | 15431 |
| 5°  | 15506 | 14790 | 14710 |
| 10° | 15405 | 14295 | 14090 |
| 15° | 15193 | 13778 | 13452 |
| 20° | 14924 | 13236 | 12845 |
| 25° | 14657 | 12714 | 12294 |
| 30° | 14284 | 12183 | 11747 |
| 35° | 13905 | 11672 | 11348 |
| 40° | 13507 | 11230 | 10951 |
| 45° | 13127 | 10830 | 10606 |
| 50° | 12721 | 10463 | 10265 |
| 55° | 12295 | 10072 | 9918  |
| 60° | 11771 | 9664  | 9554  |
| 65° | 11228 | 9194  | 9130  |
| 70° | 10617 | 8691  | 8677  |
| 75° | 9838  | 8187  | 8246  |
| 80° | 8613  | 7664  | 7804  |
| 85° | 7421  | 7177  | 7426  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 76.8   | 2.5       |
| 10°-20°   | 220.3  | 7.1       |
| 20°-30°   | 333.7  | 10.8      |
| 30°-40°   | 406.4  | 13.1      |
| 40°-50°   | 437.2  | 14.1      |
| 50°-60°   | 424.6  | 13.7      |
| 60°-70°   | 370.8  | 12.0      |
| 70°-80°   | 285.4  | 9.2       |
| 80°-90°   | 191.2  | 6.2       |
| 90°-100°  | 131.9  | 4.3       |
| 100°-110° | 96.3   | 3.1       |
| 110°-120° | 63.6   | 2.1       |
| 120°-130° | 35.4   | 1.1       |
| 130°-140° | 14.9   | 0.5       |
| 140°-150° | 2.5    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 630.8  | 20.4      |
| 0°-40°    | 1037.2 | 33.6      |
| 0°-60°    | 1899.1 | 61.4      |
| 0°-90°    | 2746.5 | 88.9      |
| 90°-120°  | 291.8  | 9.4       |
| 90°-150°  | 344.6  | 11.1      |
| 90°-180°  | 345.0  | 11.2      |
| 0°-180°   | 3091.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 810 | 810   | 810 | 810   | 810 |      |
| 5°   | 812 | 809   | 802 | 809   | 808 | 77   |
| 15°  | 775 | 777   | 777 | 788   | 787 | 218  |
| 25°  | 704 | 713   | 723 | 737   | 741 | 324  |
| 35°  | 607 | 627   | 649 | 675   | 683 | 379  |
| 45°  | 498 | 530   | 571 | 607   | 619 | 384  |
| 55°  | 382 | 424   | 485 | 527   | 542 | 341  |
| 65°  | 261 | 318   | 387 | 436   | 451 | 259  |
| 75°  | 144 | 210   | 285 | 336   | 351 | 153  |
| 85°  | 42  | 115   | 190 | 240   | 256 | 45   |
| 90°  | 12  | 80    | 155 | 202   | 216 | 8    |
| 95°  | 9   | 65    | 135 | 180   | 194 | 7    |
| 105° | 6   | 40    | 101 | 142   | 155 | 7    |
| 115° | 5   | 18    | 70  | 106   | 119 | 4    |
| 125° | 2   | 2     | 40  | 72    | 82  | 2    |
| 135° | 1   | 1     | 13  | 38    | 47  | 1    |
| 145° | 0   | 0     | 0   | 7     | 13  | 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°     | 810.1 | 810.1 | 810.1 | 810.1 | 810.1 |
| 2.5°   | 816.0 | 812.5 | 804.2 | 810.1 | 807.8 |
| 5°     | 812.5 | 808.9 | 801.9 | 808.9 | 807.8 |
| 7.5°   | 806.6 | 804.2 | 798.4 | 806.6 | 805.4 |
| 10°    | 799.5 | 797.2 | 793.7 | 803.1 | 801.9 |
| 12.5°  | 787.8 | 789.0 | 786.6 | 796.0 | 794.8 |
| 15°    | 774.9 | 777.2 | 777.2 | 787.8 | 786.6 |
| 17.5°  | 758.5 | 763.1 | 766.7 | 777.2 | 777.2 |
| 20°    | 742.0 | 747.9 | 752.6 | 765.5 | 765.5 |
| 22.5°  | 724.4 | 731.4 | 738.5 | 751.4 | 753.8 |
| 25°    | 704.4 | 712.7 | 723.2 | 737.3 | 740.8 |
| 27.5°  | 681.0 | 693.9 | 705.6 | 723.2 | 725.6 |
| 30°    | 657.5 | 672.7 | 688.0 | 706.8 | 710.3 |
| 32.5°  | 631.7 | 649.3 | 668.0 | 690.4 | 697.4 |
| 35°    | 607.0 | 627.0 | 649.3 | 675.1 | 683.3 |
| 37.5°  | 580.0 | 602.3 | 630.5 | 658.7 | 666.9 |
| 40°    | 553.0 | 578.8 | 610.5 | 641.0 | 651.6 |
| 42.5°  | 527.2 | 553.0 | 590.6 | 624.6 | 635.2 |
| 45°    | 497.8 | 529.5 | 570.6 | 607.0 | 618.7 |
| 47.5°  | 469.6 | 503.7 | 550.6 | 588.2 | 601.1 |
| 50°    | 440.3 | 476.7 | 529.5 | 569.4 | 582.3 |
| 52.5°  | 412.1 | 450.8 | 507.2 | 548.3 | 562.4 |
| 55°    | 381.6 | 423.8 | 484.9 | 527.2 | 542.4 |
| 57.5°  | 352.2 | 399.2 | 460.2 | 506.0 | 521.3 |
| 60°    | 320.5 | 371.0 | 437.9 | 482.5 | 499.0 |
| 62.5°  | 292.3 | 345.2 | 412.1 | 460.2 | 475.5 |
| 65°    | 260.6 | 318.2 | 387.4 | 435.6 | 450.8 |
| 67.5°  | 232.5 | 292.3 | 362.8 | 410.9 | 427.4 |
| 70°    | 201.9 | 263.0 | 335.8 | 386.3 | 400.4 |
| 72.5°  | 173.8 | 237.2 | 311.1 | 360.4 | 378.1 |
| 75°    | 144.4 | 210.2 | 285.3 | 335.8 | 351.0 |
| 77.5°  | 116.2 | 184.3 | 260.6 | 311.1 | 327.6 |
| 80°    | 88.1  | 159.7 | 236.0 | 285.3 | 301.7 |
| 82.5°  | 64.6  | 135.0 | 212.5 | 261.8 | 277.1 |
| 85°    | 42.3  | 115.1 | 190.2 | 239.5 | 255.9 |
| 87.5°  | 25.8  | 96.3  | 171.4 | 219.6 | 234.8 |
| 90°    | 11.7  | 79.8  | 155.0 | 201.9 | 216.0 |
| 92.5°  | 10.6  | 72.8  | 144.4 | 190.2 | 204.3 |
| 95°    | 9.4   | 64.6  | 135.0 | 179.6 | 193.7 |
| 97.5°  | 8.2   | 58.7  | 126.8 | 170.2 | 184.3 |
| 100°   | 8.2   | 51.7  | 117.4 | 160.8 | 173.8 |
| 102.5° | 7.0   | 45.8  | 109.2 | 151.5 | 164.4 |
| 105°   | 5.9   | 39.9  | 101.0 | 142.1 | 155.0 |
| 107.5° | 5.9   | 34.0  | 92.8  | 132.7 | 145.6 |
| 110°   | 4.7   | 28.2  | 85.7  | 123.3 | 136.2 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°   |
|--------|-----|-------|------|-------|-------|
| 112.5° | 4.7 | 23.5  | 77.5 | 115.1 | 128.0 |
| 115°   | 4.7 | 17.6  | 70.4 | 105.7 | 118.6 |
| 117.5° | 3.5 | 12.9  | 62.2 | 97.4  | 109.2 |
| 120°   | 3.5 | 8.2   | 55.2 | 88.1  | 101.0 |
| 122.5° | 3.5 | 4.7   | 48.1 | 79.8  | 90.4  |
| 125°   | 2.3 | 2.3   | 39.9 | 71.6  | 82.2  |
| 127.5° | 2.3 | 1.2   | 32.9 | 62.2  | 72.8  |
| 130°   | 2.3 | 1.2   | 25.8 | 54.0  | 63.4  |
| 132.5° | 2.3 | 1.2   | 18.8 | 45.8  | 55.2  |
| 135°   | 1.2 | 1.2   | 12.9 | 37.6  | 47.0  |
| 137.5° | 1.2 | 1.2   | 7.0  | 29.4  | 37.6  |
| 140°   | 1.2 | 0.0   | 2.3  | 21.1  | 28.2  |
| 142.5° | 1.2 | 0.0   | 0.0  | 14.1  | 20.0  |
| 145°   | 0.0 | 0.0   | 0.0  | 7.0   | 12.9  |
| 147.5° | 0.0 | 0.0   | 0.0  | 1.2   | 4.7   |
| 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)