

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: P242151

Luminaire Tested: **S121DR-S1025D927-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242151  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121DR-S1025D927-X4F0-XX-UDD-D-W  
Description: DEFINE 1 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: 3208.2 lumens  
Efficiency: N/A  
Efficacy: 78.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44  
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

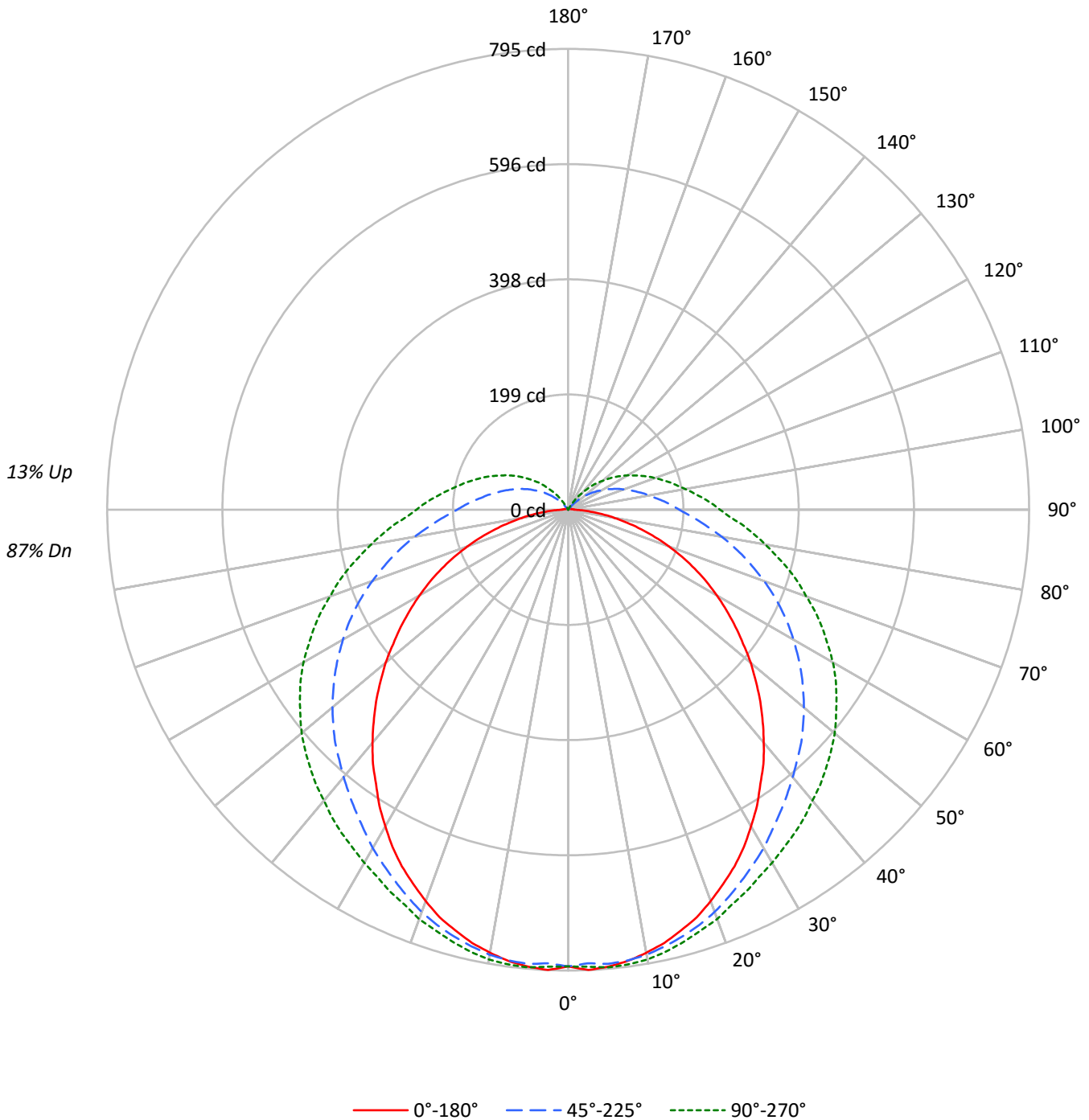
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P242151

CATALOG NUMBER: S121DR-S1025D927-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242151

CATALOG NUMBER: S121DR-S1025D927-X4F0-XX-UDD-D-W

**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   | 116 | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 104 | 104 | 104 | 97 | 97 | 97 | 90 | 90 | 90 | 87 |
| 1   | 103 | 97  | 92  | 87  | 99  | 94  | 89  | 84  | 87  | 83  | 79  | 81 | 77 | 75 | 75 | 72 | 70 | 67 |
| 2   | 93  | 83  | 75  | 69  | 89  | 80  | 73  | 67  | 74  | 68  | 63  | 69 | 64 | 60 | 64 | 60 | 57 | 54 |
| 3   | 84  | 72  | 63  | 56  | 80  | 70  | 61  | 55  | 65  | 58  | 52  | 60 | 54 | 49 | 56 | 51 | 47 | 44 |
| 4   | 76  | 63  | 54  | 47  | 73  | 61  | 53  | 46  | 57  | 50  | 44  | 53 | 47 | 42 | 49 | 44 | 40 | 37 |
| 5   | 70  | 56  | 47  | 40  | 67  | 54  | 46  | 39  | 51  | 43  | 37  | 47 | 41 | 36 | 44 | 39 | 34 | 32 |
| 6   | 65  | 51  | 41  | 34  | 62  | 49  | 40  | 34  | 46  | 38  | 32  | 43 | 36 | 31 | 40 | 34 | 30 | 27 |
| 7   | 60  | 46  | 37  | 30  | 57  | 44  | 36  | 30  | 41  | 34  | 28  | 39 | 32 | 27 | 36 | 31 | 26 | 24 |
| 8   | 55  | 42  | 33  | 27  | 53  | 40  | 32  | 26  | 38  | 31  | 25  | 36 | 29 | 24 | 33 | 28 | 23 | 21 |
| 9   | 52  | 38  | 30  | 24  | 50  | 37  | 29  | 23  | 35  | 28  | 23  | 33 | 26 | 22 | 31 | 25 | 21 | 19 |
| 10  | 48  | 35  | 27  | 22  | 47  | 34  | 26  | 21  | 32  | 25  | 20  | 30 | 24 | 20 | 29 | 23 | 19 | 17 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 23342 | 23342 | 23342 |
| 5°  | 23491 | 22148 | 21870 |
| 10° | 23262 | 21065 | 20491 |
| 15° | 22917 | 19936 | 19111 |
| 20° | 22479 | 18866 | 17901 |
| 25° | 21965 | 17772 | 16798 |
| 30° | 21307 | 16809 | 15902 |
| 35° | 20583 | 15895 | 15183 |
| 40° | 19939 | 15126 | 14514 |
| 45° | 19218 | 14487 | 13961 |
| 50° | 18467 | 13843 | 13431 |
| 55° | 17652 | 13210 | 12854 |
| 60° | 16905 | 12567 | 12302 |
| 65° | 16132 | 11931 | 11669 |
| 70° | 15075 | 11243 | 10993 |
| 75° | 13809 | 10548 | 10397 |
| 80° | 12319 | 9866  | 9750  |
| 85° | 10561 | 9217  | 9191  |



TEST NUMBER: P242151

CATALOG NUMBER: S121DR-S1025D927-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 75.2   | 2.3       |
| 10°-20°   | 215.7  | 6.7       |
| 20°-30°   | 326.2  | 10.2      |
| 30°-40°   | 398.8  | 12.4      |
| 40°-50°   | 433.0  | 13.5      |
| 50°-60°   | 427.2  | 13.3      |
| 60°-70°   | 383.4  | 12.0      |
| 70°-80°   | 308.6  | 9.6       |
| 80°-90°   | 222.9  | 6.9       |
| 90°-100°  | 159.3  | 5.0       |
| 100°-110° | 114.1  | 3.6       |
| 110°-120° | 76.1   | 2.4       |
| 120°-130° | 43.7   | 1.4       |
| 130°-140° | 19.7   | 0.6       |
| 140°-150° | 4.3    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 617.1  | 19.2      |
| 0°-40°    | 1016.0 | 31.7      |
| 0°-60°    | 1876.1 | 58.5      |
| 0°-90°    | 2791.0 | 87.0      |
| 90°-120°  | 349.4  | 10.9      |
| 90°-150°  | 417.2  | 13.0      |
| 90°-180°  | 417.0  | 13.0      |
| 0°-180°   | 3208.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 788 | 788   | 788 | 788   | 788 |      |
| 5°   | 791 | 790   | 787 | 794   | 792 | 75   |
| 15°  | 751 | 762   | 762 | 772   | 771 | 212  |
| 25°  | 679 | 696   | 707 | 723   | 727 | 312  |
| 35°  | 578 | 609   | 638 | 669   | 681 | 362  |
| 45°  | 468 | 511   | 568 | 614   | 629 | 361  |
| 55°  | 352 | 413   | 491 | 547   | 565 | 315  |
| 65°  | 241 | 317   | 405 | 465   | 484 | 238  |
| 75°  | 130 | 218   | 314 | 373   | 392 | 138  |
| 85°  | 39  | 132   | 227 | 284   | 302 | 41   |
| 90°  | 11  | 99    | 191 | 245   | 262 | 7    |
| 95°  | 8   | 79    | 166 | 218   | 232 | 6    |
| 105° | 5   | 47    | 121 | 168   | 182 | 5    |
| 115° | 4   | 24    | 84  | 126   | 138 | 3    |
| 125° | 2   | 4     | 52  | 87    | 99  | 2    |
| 135° | 1   | 1     | 20  | 49    | 59  | 1    |
| 145° | 0   | 0     | 0   | 14    | 20  | 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    |



TEST NUMBER: P242151

CATALOG NUMBER: S121DR-S1025D927-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 787.8 | 787.8 | 787.8 | 787.8 | 787.8 |
| 2.5°   | 794.8 | 791.3 | 783.1 | 791.3 | 789.0 |
| 5°     | 791.3 | 790.2 | 786.6 | 793.7 | 792.5 |
| 7.5°   | 785.5 | 787.8 | 784.3 | 793.7 | 791.3 |
| 10°    | 776.1 | 781.9 | 779.6 | 789.0 | 787.8 |
| 12.5°  | 765.5 | 772.5 | 771.4 | 781.9 | 780.8 |
| 15°    | 751.4 | 762.0 | 762.0 | 772.5 | 771.4 |
| 17.5°  | 737.3 | 747.9 | 751.4 | 763.1 | 760.8 |
| 20°    | 718.5 | 732.6 | 738.5 | 749.1 | 751.4 |
| 22.5°  | 698.6 | 716.2 | 723.2 | 736.1 | 737.3 |
| 25°    | 678.6 | 696.2 | 706.8 | 723.2 | 726.8 |
| 27.5°  | 656.3 | 676.3 | 690.4 | 709.1 | 713.8 |
| 30°    | 630.5 | 655.1 | 673.9 | 695.1 | 703.3 |
| 32.5°  | 605.8 | 632.8 | 655.1 | 683.3 | 691.5 |
| 35°    | 577.6 | 609.3 | 637.5 | 669.2 | 681.0 |
| 37.5°  | 553.0 | 585.9 | 619.9 | 656.3 | 669.2 |
| 40°    | 524.8 | 560.0 | 602.3 | 642.2 | 655.1 |
| 42.5°  | 496.6 | 536.6 | 584.7 | 629.3 | 643.4 |
| 45°    | 468.5 | 510.7 | 568.3 | 614.0 | 629.3 |
| 47.5°  | 439.1 | 487.2 | 549.5 | 598.8 | 615.2 |
| 50°    | 410.9 | 462.6 | 530.7 | 582.3 | 600.0 |
| 52.5°  | 380.4 | 437.9 | 510.7 | 564.7 | 582.3 |
| 55°    | 352.2 | 413.3 | 490.8 | 547.1 | 564.7 |
| 57.5°  | 324.0 | 388.6 | 469.6 | 527.2 | 547.1 |
| 60°    | 295.9 | 364.0 | 448.5 | 507.2 | 527.2 |
| 62.5°  | 268.9 | 340.5 | 427.4 | 487.2 | 504.9 |
| 65°    | 240.7 | 317.0 | 405.1 | 464.9 | 483.7 |
| 67.5°  | 212.5 | 292.3 | 382.7 | 442.6 | 461.4 |
| 70°    | 184.3 | 266.5 | 359.3 | 420.3 | 436.8 |
| 72.5°  | 157.3 | 243.0 | 335.8 | 398.0 | 415.6 |
| 75°    | 130.3 | 218.4 | 313.5 | 373.4 | 392.1 |
| 77.5°  | 104.5 | 194.9 | 291.2 | 351.0 | 367.5 |
| 80°    | 81.0  | 171.4 | 268.9 | 328.7 | 345.2 |
| 82.5°  | 58.7  | 151.5 | 246.6 | 305.3 | 322.9 |
| 85°    | 38.7  | 131.5 | 226.6 | 284.1 | 301.7 |
| 87.5°  | 23.5  | 113.9 | 207.8 | 264.2 | 278.3 |
| 90°    | 10.6  | 98.6  | 191.4 | 245.4 | 261.8 |
| 92.5°  | 9.4   | 88.1  | 178.5 | 232.5 | 247.7 |
| 95°    | 8.2   | 78.7  | 165.5 | 218.4 | 232.5 |
| 97.5°  | 7.0   | 69.3  | 152.6 | 204.3 | 218.4 |
| 100°   | 5.9   | 61.1  | 142.1 | 191.4 | 205.5 |
| 102.5° | 5.9   | 54.0  | 131.5 | 178.5 | 192.5 |
| 105°   | 4.7   | 47.0  | 120.9 | 167.9 | 182.0 |
| 107.5° | 4.7   | 41.1  | 111.5 | 157.3 | 170.2 |
| 110°   | 4.7   | 35.2  | 102.1 | 146.8 | 159.7 |



TEST NUMBER: P242151

CATALOG NUMBER: S121DR-S1025D927-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°   |
|--------|-----|-------|------|-------|-------|
| 112.5° | 3.5 | 29.4  | 93.9 | 136.2 | 149.1 |
| 115°   | 3.5 | 23.5  | 84.5 | 125.6 | 138.5 |
| 117.5° | 3.5 | 17.6  | 76.3 | 116.2 | 128.0 |
| 120°   | 2.3 | 12.9  | 66.9 | 106.8 | 118.6 |
| 122.5° | 2.3 | 8.2   | 59.9 | 96.3  | 108.0 |
| 125°   | 2.3 | 3.5   | 51.7 | 86.9  | 98.6  |
| 127.5° | 2.3 | 1.2   | 43.4 | 77.5  | 88.1  |
| 130°   | 1.2 | 1.2   | 36.4 | 68.1  | 77.5  |
| 132.5° | 1.2 | 1.2   | 28.2 | 58.7  | 69.3  |
| 135°   | 1.2 | 1.2   | 20.0 | 49.3  | 58.7  |
| 137.5° | 1.2 | 0.0   | 12.9 | 39.9  | 48.1  |
| 140°   | 1.2 | 0.0   | 7.0  | 31.7  | 38.7  |
| 142.5° | 1.2 | 0.0   | 1.2  | 22.3  | 30.5  |
| 145°   | 0.0 | 0.0   | 0.0  | 14.1  | 20.0  |
| 147.5° | 0.0 | 0.0   | 0.0  | 5.9   | 11.7  |
| 150°   | 0.0 | 0.0   | 0.0  | 0.0   | 3.5   |
| 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)