

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: P243030

Luminaire Tested: **S121DR-H1025D930-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243030
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H1025D930-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3174.6 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

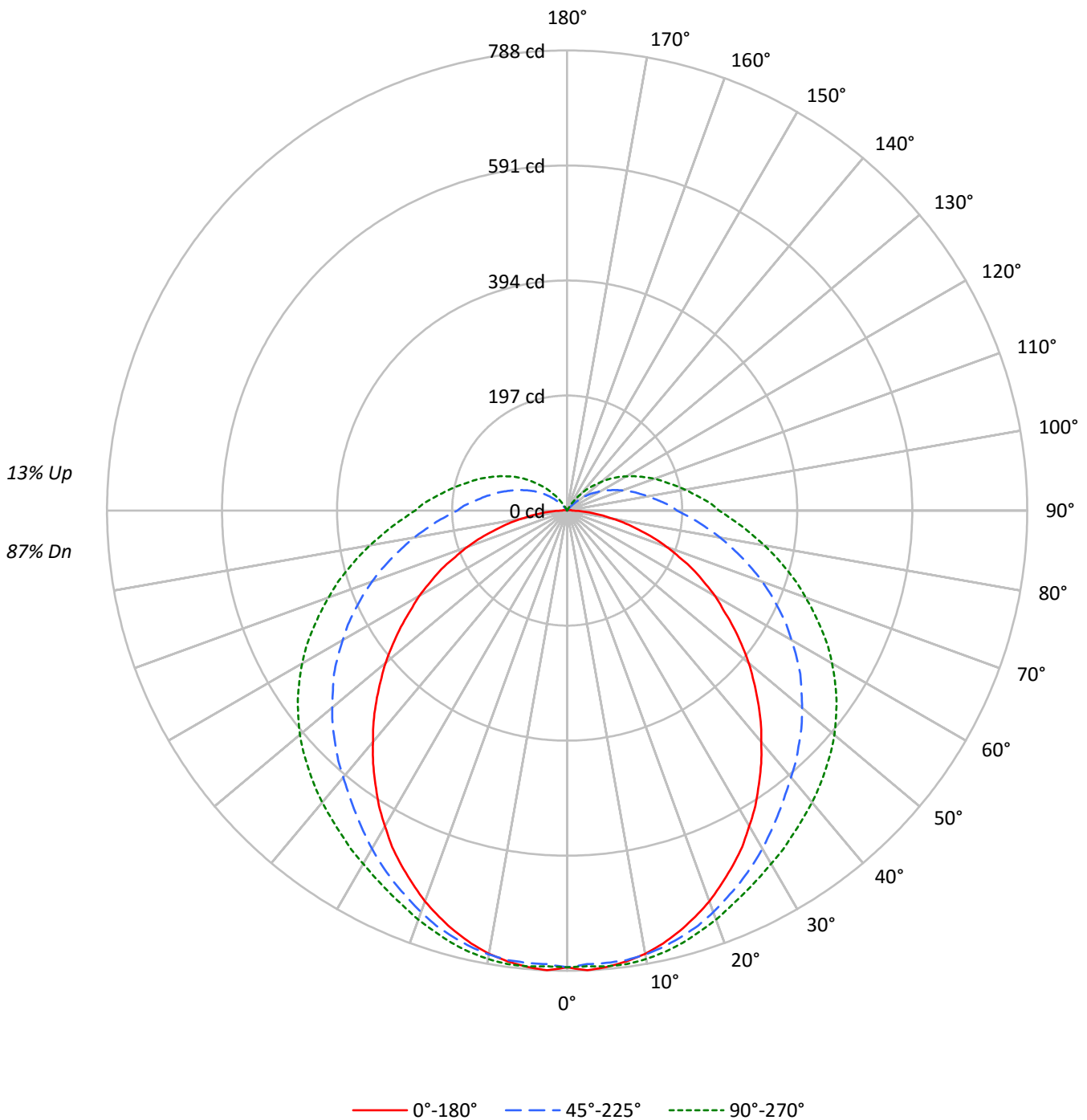
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P243030

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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 | 104 | 104 | 104 | 97 | 97 | 97 | 90 | 90 | 90 | 87 | | | | 87 |
| 1 | 103 | 97 | 92 | 87 | 99 | 94 | 89 | 84 | 87 | 83 | 79 | 81 | 78 | 75 | 75 | 72 | 70 | 67 | | | | 67 |
| 2 | 93 | 83 | 75 | 69 | 89 | 80 | 73 | 67 | 74 | 69 | 63 | 69 | 64 | 60 | 64 | 60 | 57 | 54 | | | | 54 |
| 3 | 84 | 72 | 63 | 56 | 80 | 70 | 61 | 55 | 65 | 58 | 52 | 60 | 54 | 50 | 56 | 51 | 47 | 44 | | | | 44 |
| 4 | 76 | 64 | 54 | 47 | 73 | 61 | 53 | 46 | 57 | 50 | 44 | 53 | 47 | 42 | 49 | 44 | 40 | 37 | | | | 37 |
| 5 | 70 | 56 | 47 | 40 | 67 | 54 | 46 | 39 | 51 | 43 | 37 | 47 | 41 | 36 | 44 | 39 | 34 | 32 | | | | 32 |
| 6 | 65 | 51 | 41 | 34 | 62 | 49 | 40 | 34 | 46 | 38 | 32 | 43 | 36 | 31 | 40 | 34 | 30 | 27 | | | | 27 |
| 7 | 60 | 46 | 37 | 30 | 57 | 44 | 36 | 30 | 41 | 34 | 29 | 39 | 32 | 27 | 36 | 31 | 26 | 24 | | | | 24 |
| 8 | 55 | 42 | 33 | 27 | 53 | 40 | 32 | 26 | 38 | 31 | 25 | 36 | 29 | 24 | 33 | 28 | 23 | 21 | | | | 21 |
| 9 | 52 | 38 | 30 | 24 | 50 | 37 | 29 | 24 | 35 | 28 | 23 | 33 | 26 | 22 | 31 | 25 | 21 | 19 | | | | 19 |
| 10 | 48 | 35 | 27 | 22 | 47 | 34 | 26 | 21 | 32 | 25 | 21 | 30 | 24 | 20 | 29 | 23 | 19 | 17 | | | | 17 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 23173 | 23173 | 23173 |
| 5° | 23287 | 21892 | 21617 |
| 10° | 23100 | 20854 | 20283 |
| 15° | 22734 | 19773 | 18980 |
| 20° | 22282 | 18692 | 17758 |
| 25° | 21716 | 17649 | 16671 |
| 30° | 21084 | 16677 | 15791 |
| 35° | 20394 | 15755 | 15060 |
| 40° | 19650 | 14975 | 14456 |
| 45° | 18960 | 14324 | 13892 |
| 50° | 18247 | 13700 | 13375 |
| 55° | 17416 | 13118 | 12818 |
| 60° | 16705 | 12435 | 12230 |
| 65° | 15910 | 11787 | 11592 |
| 70° | 14822 | 11124 | 10938 |
| 75° | 13491 | 10417 | 10310 |
| 80° | 11862 | 9763 | 9685 |
| 85° | 10315 | 9144 | 9118 |



TEST NUMBER: P243030

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 74.4 | 2.3 |
| 10°-20° | 213.7 | 6.7 |
| 20°-30° | 323.3 | 10.2 |
| 30°-40° | 395.2 | 12.4 |
| 40°-50° | 429.0 | 13.5 |
| 50°-60° | 423.4 | 13.3 |
| 60°-70° | 379.2 | 11.9 |
| 70°-80° | 305.1 | 9.6 |
| 80°-90° | 220.5 | 6.9 |
| 90°-100° | 157.9 | 5.0 |
| 100°-110° | 112.7 | 3.6 |
| 110°-120° | 74.6 | 2.4 |
| 120°-130° | 42.4 | 1.3 |
| 130°-140° | 19.0 | 0.6 |
| 140°-150° | 4.0 | 0.1 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 611.5 | 19.3 |
| 0°-40° | 1006.7 | 31.7 |
| 0°-60° | 1859.0 | 58.6 |
| 0°-90° | 2763.9 | 87.1 |
| 90°-120° | 345.3 | 10.9 |
| 90°-150° | 410.7 | 12.9 |
| 90°-180° | 411.0 | 12.9 |
| 0°-180° | 3174.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0° | 782 | 782 | 782 | 782 | 782 | |
| 5° | 784 | 782 | 778 | 786 | 783 | 74 |
| 15° | 745 | 754 | 756 | 766 | 766 | 210 |
| 25° | 671 | 688 | 702 | 718 | 721 | 309 |
| 35° | 572 | 602 | 632 | 665 | 676 | 358 |
| 45° | 462 | 506 | 562 | 610 | 626 | 357 |
| 55° | 348 | 406 | 487 | 544 | 563 | 311 |
| 65° | 237 | 311 | 400 | 462 | 480 | 234 |
| 75° | 127 | 214 | 310 | 370 | 389 | 136 |
| 85° | 38 | 128 | 225 | 282 | 299 | 39 |
| 90° | 9 | 96 | 188 | 244 | 260 | 6 |
| 95° | 7 | 77 | 164 | 217 | 233 | 5 |
| 105° | 3 | 46 | 120 | 166 | 180 | 4 |
| 115° | 2 | 22 | 83 | 125 | 138 | 2 |
| 125° | 1 | 2 | 50 | 86 | 98 | 1 |
| 135° | 0 | 0 | 20 | 48 | 57 | 0 |
| 145° | 0 | 0 | 0 | 13 | 21 | 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: P243030

CATALOG NUMBER: S121DR-H1025D930-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 0° | 782.1 | 782.1 | 782.1 | 782.1 | 782.1 |
| 2.5° | 787.9 | 783.3 | 777.5 | 783.3 | 781.0 |
| 5° | 784.4 | 782.1 | 777.5 | 785.6 | 783.3 |
| 7.5° | 778.7 | 778.7 | 776.4 | 784.4 | 783.3 |
| 10° | 770.7 | 773.0 | 771.8 | 781.0 | 779.8 |
| 12.5° | 759.2 | 763.8 | 764.9 | 775.2 | 774.1 |
| 15° | 745.4 | 753.5 | 755.8 | 766.1 | 766.1 |
| 17.5° | 729.4 | 739.7 | 745.4 | 755.8 | 755.8 |
| 20° | 712.2 | 723.6 | 731.7 | 744.3 | 745.4 |
| 22.5° | 691.5 | 707.6 | 716.8 | 731.7 | 732.8 |
| 25° | 670.9 | 688.1 | 701.9 | 717.9 | 721.3 |
| 27.5° | 649.1 | 668.6 | 685.8 | 704.1 | 709.9 |
| 30° | 623.9 | 645.7 | 668.6 | 690.4 | 698.4 |
| 32.5° | 599.8 | 625.0 | 650.2 | 677.8 | 688.1 |
| 35° | 572.3 | 602.1 | 631.9 | 665.2 | 675.5 |
| 37.5° | 545.9 | 578.0 | 613.5 | 651.4 | 664.0 |
| 40° | 517.2 | 553.9 | 596.3 | 638.8 | 652.5 |
| 42.5° | 490.8 | 528.7 | 580.3 | 623.9 | 639.9 |
| 45° | 462.2 | 505.7 | 561.9 | 610.1 | 626.2 |
| 47.5° | 433.5 | 480.5 | 544.7 | 594.0 | 612.4 |
| 50° | 406.0 | 455.3 | 525.2 | 579.1 | 597.5 |
| 52.5° | 376.2 | 432.3 | 505.7 | 560.8 | 580.3 |
| 55° | 347.5 | 406.0 | 487.4 | 543.6 | 563.1 |
| 57.5° | 317.7 | 384.2 | 465.6 | 525.2 | 543.6 |
| 60° | 292.4 | 359.0 | 443.8 | 504.6 | 524.1 |
| 62.5° | 263.8 | 334.9 | 423.2 | 482.8 | 503.5 |
| 65° | 237.4 | 310.8 | 400.2 | 462.2 | 480.5 |
| 67.5° | 207.6 | 286.7 | 378.4 | 439.2 | 457.6 |
| 70° | 181.2 | 262.6 | 355.5 | 416.3 | 434.6 |
| 72.5° | 154.8 | 239.7 | 332.6 | 394.5 | 412.9 |
| 75° | 127.3 | 214.5 | 309.6 | 370.4 | 388.8 |
| 77.5° | 103.2 | 191.5 | 286.7 | 347.5 | 365.8 |
| 80° | 78.0 | 168.6 | 266.1 | 325.7 | 342.9 |
| 82.5° | 57.3 | 147.9 | 244.3 | 303.9 | 320.0 |
| 85° | 37.8 | 128.4 | 224.8 | 282.1 | 299.3 |
| 87.5° | 21.8 | 111.2 | 205.3 | 262.6 | 278.7 |
| 90° | 9.2 | 96.3 | 188.1 | 244.3 | 260.3 |
| 92.5° | 6.9 | 87.2 | 177.8 | 231.7 | 247.7 |
| 95° | 6.9 | 76.8 | 164.0 | 216.7 | 232.8 |
| 97.5° | 5.7 | 67.7 | 151.4 | 203.0 | 217.9 |
| 100° | 4.6 | 59.6 | 141.1 | 190.4 | 205.3 |
| 102.5° | 4.6 | 52.8 | 129.6 | 177.8 | 192.7 |
| 105° | 3.4 | 45.9 | 120.4 | 166.3 | 180.0 |
| 107.5° | 3.4 | 39.0 | 110.1 | 156.0 | 169.7 |
| 110° | 2.3 | 33.3 | 100.9 | 145.6 | 159.4 |



TEST NUMBER: P243030

CATALOG NUMBER: S121DR-H1025D930-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|------|-------|-------|
| 112.5° | 2.3 | 27.5 | 91.7 | 135.3 | 147.9 |
| 115° | 2.3 | 21.8 | 82.6 | 125.0 | 137.6 |
| 117.5° | 1.1 | 16.1 | 74.5 | 114.7 | 127.3 |
| 120° | 1.1 | 11.5 | 66.5 | 104.4 | 117.0 |
| 122.5° | 1.1 | 5.7 | 57.3 | 95.2 | 107.8 |
| 125° | 1.1 | 2.3 | 50.5 | 86.0 | 97.5 |
| 127.5° | 0.0 | 0.0 | 42.4 | 75.7 | 87.2 |
| 130° | 0.0 | 0.0 | 34.4 | 66.5 | 76.8 |
| 132.5° | 0.0 | 0.0 | 27.5 | 57.3 | 66.5 |
| 135° | 0.0 | 0.0 | 19.5 | 48.2 | 57.3 |
| 137.5° | 0.0 | 0.0 | 12.6 | 39.0 | 48.2 |
| 140° | 0.0 | 0.0 | 5.7 | 29.8 | 37.8 |
| 142.5° | 0.0 | 0.0 | 1.1 | 21.8 | 28.7 |
| 145° | 0.0 | 0.0 | 0.0 | 12.6 | 20.6 |
| 147.5° | 0.0 | 0.0 | 0.0 | 4.6 | 11.5 |
| 150° | 0.0 | 0.0 | 0.0 | 0.0 | 3.4 |
| 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)