

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P243558

Luminaire Tested: S124RDRP-H575D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243558
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-H575D927-X4F0-XX-UDD-F-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

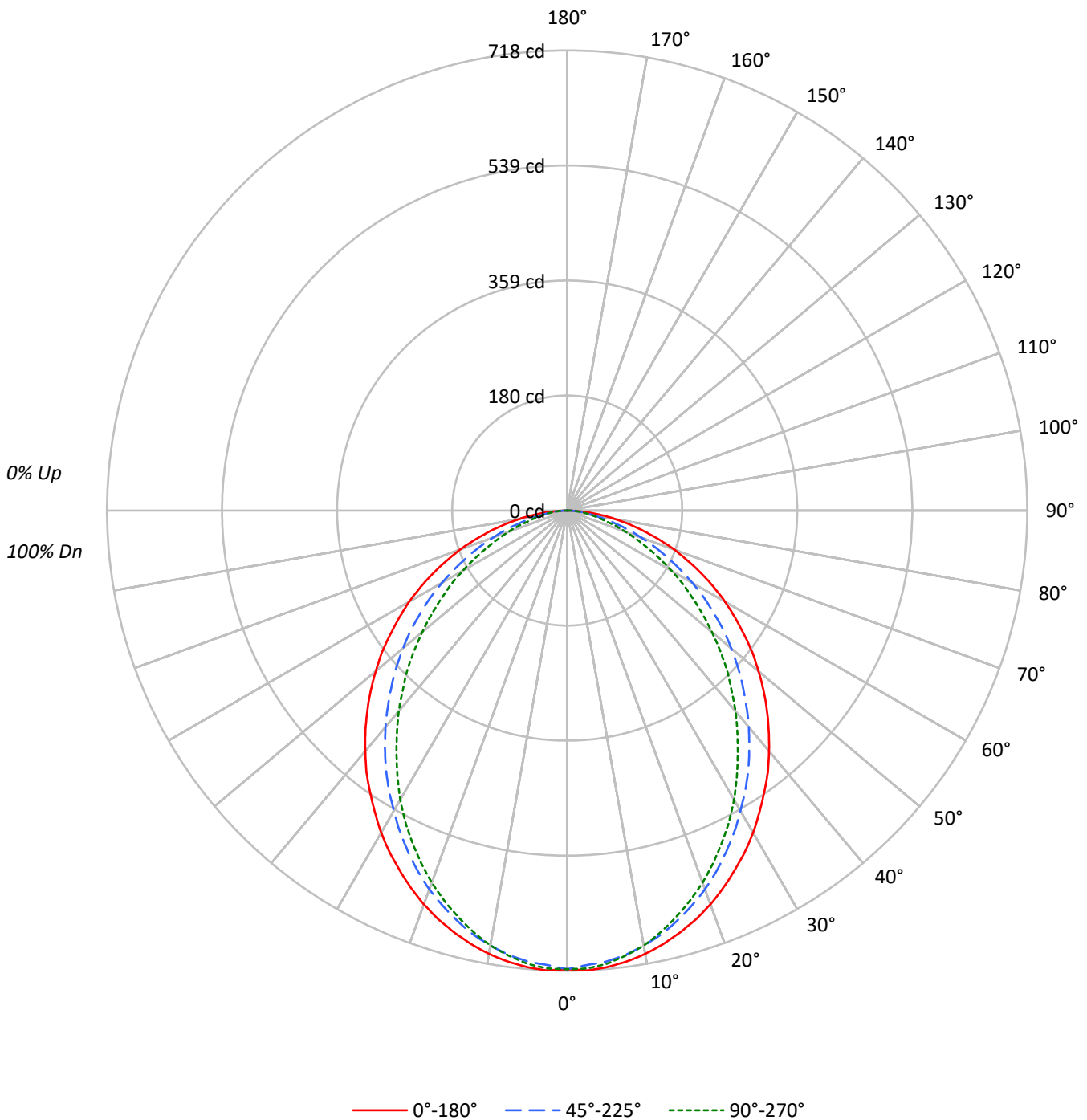
Lumens per Lamp: N/A
Luminaire Lumens: 1687.5 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 17.2
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





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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 109 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 95 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 86 | 80 | 97 | 90 | 84 | 79 | 87 | 82 | 78 | 84 | 79 | 76 | 81 | 77 | 74 | 72 |
| 3 | 92 | 82 | 74 | 68 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 74 | 69 | 65 | 72 | 67 | 64 | 61 |
| 4 | 84 | 73 | 64 | 58 | 82 | 71 | 64 | 57 | 69 | 62 | 57 | 67 | 61 | 56 | 64 | 59 | 55 | 53 |
| 5 | 78 | 65 | 57 | 50 | 76 | 64 | 56 | 50 | 62 | 55 | 49 | 60 | 54 | 49 | 58 | 53 | 48 | 46 |
| 6 | 72 | 59 | 50 | 44 | 70 | 58 | 50 | 44 | 56 | 49 | 44 | 55 | 48 | 43 | 53 | 47 | 43 | 41 |
| 7 | 67 | 54 | 45 | 39 | 65 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 36 |
| 8 | 62 | 49 | 41 | 35 | 61 | 49 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 34 | 33 |
| 9 | 58 | 45 | 37 | 32 | 57 | 45 | 37 | 32 | 44 | 37 | 32 | 42 | 36 | 31 | 41 | 36 | 31 | 30 |
| 10 | 55 | 42 | 34 | 29 | 54 | 41 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 39 | 33 | 29 | 27 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6361 | 6361 | 6361 |
| 5° | 6381 | 6300 | 6333 |
| 10° | 6340 | 6221 | 6221 |
| 15° | 6270 | 6099 | 6041 |
| 20° | 6185 | 5950 | 5845 |
| 25° | 6071 | 5760 | 5604 |
| 30° | 5957 | 5551 | 5344 |
| 35° | 5817 | 5346 | 5037 |
| 40° | 5687 | 5117 | 4744 |
| 45° | 5544 | 4872 | 4435 |
| 50° | 5390 | 4623 | 4075 |
| 55° | 5221 | 4338 | 3716 |
| 60° | 5061 | 4009 | 3342 |
| 65° | 4844 | 3622 | 2921 |
| 70° | 4613 | 3199 | 2539 |
| 75° | 4262 | 2665 | 2068 |
| 80° | 3895 | 2083 | 1894 |
| 85° | 3447 | 1989 | 1887 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5544 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 67.3 | 4.0 |
| 10°-20° | 187.9 | 11.1 |
| 20°-30° | 272.5 | 16.2 |
| 30°-40° | 310.6 | 18.4 |
| 40°-50° | 302.2 | 17.9 |
| 50°-60° | 253.9 | 15.0 |
| 60°-70° | 176.9 | 10.5 |
| 70°-80° | 91.3 | 5.4 |
| 80°-90° | 24.7 | 1.5 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 527.8 | 31.3 |
| 0°-40° | 838.4 | 49.7 |
| 0°-60° | 1394.6 | 82.6 |
| 0°-90° | 1687.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1687.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 716 | 716 | 716 | 716 | 716 | |
| 5° | 715 | 713 | 706 | 711 | 710 | 68 |
| 15° | 681 | 676 | 663 | 662 | 656 | 192 |
| 25° | 619 | 607 | 587 | 579 | 571 | 285 |
| 35° | 536 | 520 | 493 | 474 | 464 | 336 |
| 45° | 441 | 420 | 388 | 363 | 353 | 340 |
| 55° | 337 | 315 | 280 | 251 | 240 | 302 |
| 65° | 230 | 208 | 172 | 147 | 139 | 228 |
| 75° | 124 | 105 | 78 | 65 | 60 | 132 |
| 85° | 34 | 22 | 20 | 18 | 18 | 39 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 715.6 | 715.6 | 715.6 | 715.6 | 715.6 |
| 2.5° | 718.3 | 716.1 | 709.8 | 715.6 | 715.1 |
| 5° | 715.1 | 713.0 | 706.1 | 711.4 | 709.8 |
| 7.5° | 709.8 | 707.2 | 699.2 | 702.9 | 700.3 |
| 10° | 702.4 | 699.8 | 689.2 | 691.9 | 689.2 |
| 12.5° | 692.9 | 689.2 | 677.6 | 678.1 | 673.9 |
| 15° | 681.3 | 676.0 | 662.8 | 661.8 | 656.5 |
| 17.5° | 668.6 | 661.8 | 646.4 | 643.8 | 638.0 |
| 20° | 653.8 | 645.4 | 629.0 | 623.2 | 617.9 |
| 22.5° | 636.9 | 626.9 | 608.9 | 602.1 | 595.2 |
| 25° | 619.0 | 607.4 | 587.3 | 578.8 | 571.4 |
| 27.5° | 600.5 | 586.8 | 565.1 | 554.5 | 547.1 |
| 30° | 580.4 | 564.6 | 540.8 | 528.7 | 520.7 |
| 32.5° | 558.2 | 542.4 | 517.6 | 502.8 | 492.7 |
| 35° | 536.1 | 519.7 | 492.7 | 474.3 | 464.2 |
| 37.5° | 514.4 | 495.9 | 466.9 | 447.9 | 436.2 |
| 40° | 490.1 | 470.6 | 441.0 | 419.3 | 408.8 |
| 42.5° | 465.8 | 445.7 | 414.1 | 391.3 | 379.7 |
| 45° | 441.0 | 419.9 | 387.6 | 362.8 | 352.8 |
| 47.5° | 415.6 | 394.5 | 361.2 | 335.4 | 323.7 |
| 50° | 389.8 | 368.6 | 334.3 | 305.8 | 294.7 |
| 52.5° | 364.4 | 342.2 | 307.9 | 278.9 | 267.2 |
| 55° | 336.9 | 315.3 | 279.9 | 251.4 | 239.8 |
| 57.5° | 310.5 | 287.8 | 253.5 | 224.5 | 215.0 |
| 60° | 284.7 | 262.0 | 225.5 | 197.5 | 188.0 |
| 62.5° | 257.2 | 234.5 | 198.6 | 171.6 | 163.2 |
| 65° | 230.3 | 208.1 | 172.2 | 147.3 | 138.9 |
| 67.5° | 202.8 | 182.7 | 147.9 | 124.1 | 117.2 |
| 70° | 177.5 | 154.7 | 123.1 | 102.5 | 97.7 |
| 72.5° | 150.5 | 130.4 | 99.8 | 82.9 | 79.2 |
| 75° | 124.1 | 105.1 | 77.6 | 65.0 | 60.2 |
| 77.5° | 99.8 | 81.3 | 58.6 | 48.1 | 48.1 |
| 80° | 76.1 | 59.7 | 40.7 | 38.0 | 37.0 |
| 82.5° | 53.9 | 38.6 | 30.1 | 28.0 | 27.5 |
| 85° | 33.8 | 21.7 | 19.5 | 18.5 | 18.5 |
| 87.5° | 16.4 | 10.0 | 10.0 | 9.5 | 9.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 17.88 | 19.45 | 18.24 | 19.77 | 20.08 | 15.98 | 17.56 | 16.35 | 17.87 | 18.19 |
| | 3H | 19.69 | 21.11 | 20.07 | 21.44 | 21.80 | 17.25 | 18.66 | 17.62 | 18.99 | 19.35 |
| | 4H | 20.38 | 21.71 | 20.78 | 22.06 | 22.44 | 17.64 | 18.98 | 18.04 | 19.32 | 19.70 |
| | 6H | 20.89 | 22.13 | 21.30 | 22.49 | 22.88 | 17.92 | 19.15 | 18.33 | 19.52 | 19.91 |
| | 8H | 21.06 | 22.24 | 21.49 | 22.63 | 23.03 | 18.02 | 19.20 | 18.45 | 19.59 | 19.99 |
| | 12H | 21.18 | 22.31 | 21.61 | 22.69 | 23.12 | 18.10 | 19.23 | 18.53 | 19.61 | 20.04 |
| 4H | 2H | 18.23 | 19.56 | 18.63 | 19.91 | 20.29 | 16.69 | 18.02 | 17.09 | 18.37 | 18.74 |
| | 3H | 20.25 | 21.36 | 20.66 | 21.76 | 22.16 | 18.14 | 19.25 | 18.55 | 19.65 | 20.05 |
| | 4H | 21.06 | 22.06 | 21.49 | 22.48 | 22.91 | 18.62 | 19.62 | 19.05 | 20.03 | 20.47 |
| | 6H | 21.70 | 22.57 | 22.16 | 23.02 | 23.47 | 18.98 | 19.85 | 19.44 | 20.30 | 20.75 |
| | 8H | 21.92 | 22.74 | 22.38 | 23.18 | 23.64 | 19.12 | 19.93 | 19.58 | 20.38 | 20.84 |
| | 12H | 22.08 | 22.82 | 22.57 | 23.29 | 23.76 | 19.24 | 19.97 | 19.72 | 20.44 | 20.91 |
| 8H | 4H | 21.17 | 21.98 | 21.63 | 22.43 | 22.89 | 18.95 | 19.76 | 19.41 | 20.21 | 20.67 |
| | 6H | 21.89 | 22.57 | 22.39 | 23.06 | 23.53 | 19.40 | 20.07 | 19.89 | 20.56 | 21.04 |
| | 8H | 22.16 | 22.77 | 22.68 | 23.28 | 23.77 | 19.59 | 20.20 | 20.10 | 20.71 | 21.19 |
| | 12H | 22.39 | 22.93 | 22.90 | 23.42 | 23.98 | 19.78 | 20.31 | 20.29 | 20.81 | 21.37 |
| 12H | 4H | 21.16 | 21.89 | 21.64 | 22.37 | 22.84 | 18.99 | 19.72 | 19.47 | 20.20 | 20.67 |
| | 6H | 21.88 | 22.49 | 22.39 | 23.00 | 23.49 | 19.46 | 20.07 | 19.97 | 20.58 | 21.06 |
| | 8H | 22.20 | 22.74 | 22.71 | 23.23 | 23.79 | 19.71 | 20.25 | 20.22 | 20.74 | 21.30 |