

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: P243239

Luminaire Tested: S122RDRP-H675D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243239
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-63)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122RDRP-H675D935-X4F0-XX-UDD-F-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

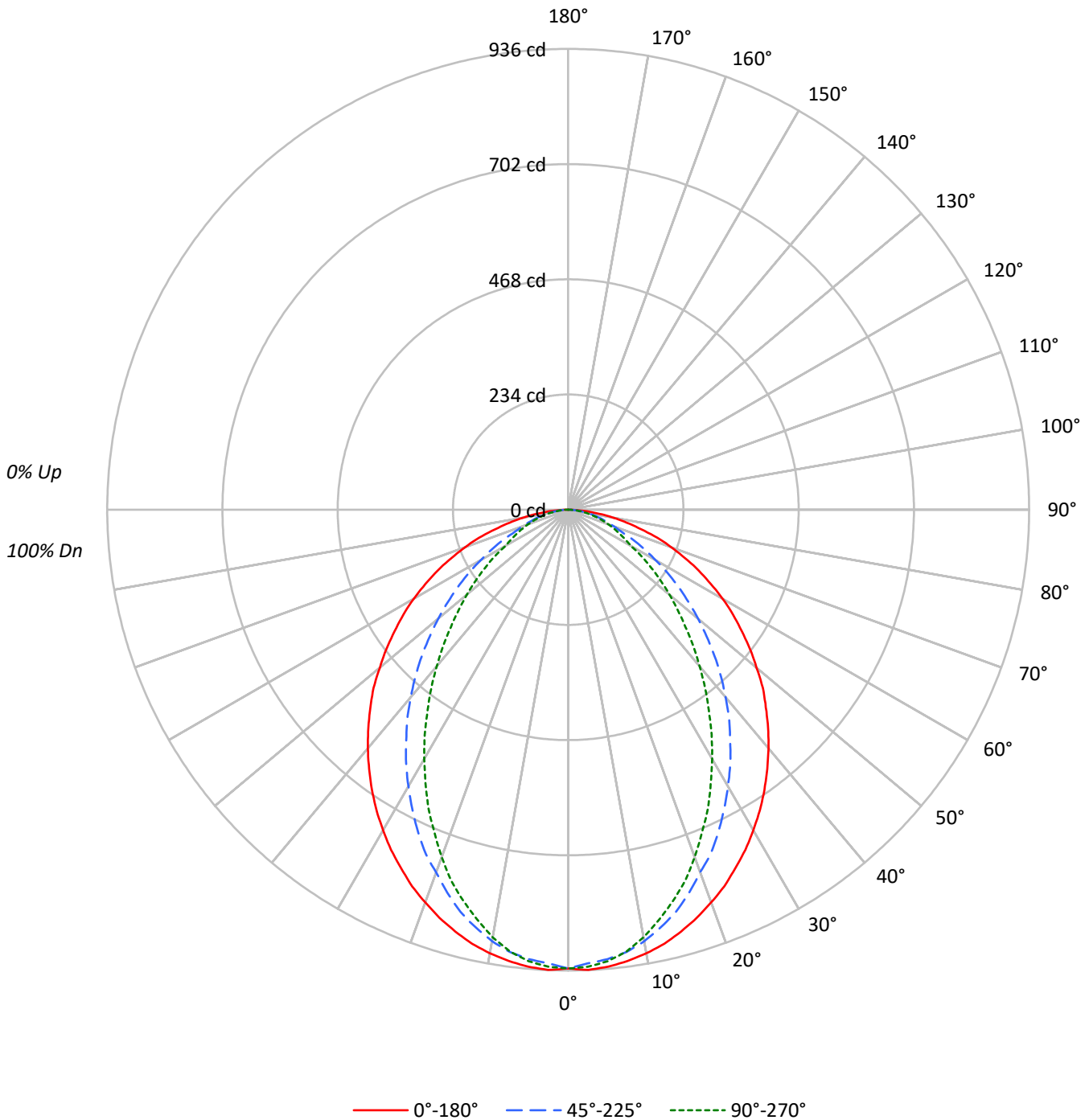
Lumens per Lamp: N/A
Luminaire Lumens: 1910.8 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 23.6
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 | 110 | 106 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 94 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 94 | 87 | 82 | 98 | 92 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 79 | 76 | 74 |
| 3 | 93 | 83 | 76 | 70 | 90 | 82 | 75 | 69 | 79 | 73 | 68 | 76 | 71 | 67 | 74 | 69 | 66 | 64 |
| 4 | 86 | 75 | 66 | 60 | 83 | 73 | 66 | 60 | 71 | 64 | 59 | 69 | 63 | 58 | 66 | 62 | 57 | 55 |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 |
| 6 | 74 | 61 | 53 | 47 | 72 | 60 | 52 | 46 | 58 | 51 | 46 | 57 | 50 | 46 | 55 | 50 | 45 | 43 |
| 7 | 68 | 56 | 47 | 42 | 67 | 55 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 |
| 8 | 64 | 51 | 43 | 38 | 62 | 51 | 43 | 37 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 |
| 9 | 60 | 47 | 39 | 34 | 59 | 47 | 39 | 34 | 46 | 39 | 34 | 44 | 38 | 34 | 44 | 38 | 34 | 32 |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 41 | 35 | 31 | 29 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 17747 | 17747 | 17747 |
| 5° | 17815 | 17522 | 17600 |
| 10° | 17694 | 17212 | 17057 |
| 15° | 17485 | 16677 | 16217 |
| 20° | 17207 | 15888 | 15219 |
| 25° | 16879 | 15172 | 14092 |
| 30° | 16531 | 14268 | 12854 |
| 35° | 16152 | 13329 | 11571 |
| 40° | 15732 | 12353 | 10314 |
| 45° | 15290 | 11325 | 9073 |
| 50° | 14793 | 10197 | 7956 |
| 55° | 14283 | 9076 | 6861 |
| 60° | 13813 | 7810 | 5604 |
| 65° | 13188 | 6594 | 5183 |
| 70° | 12403 | 5463 | 4834 |
| 75° | 11297 | 4968 | 4438 |
| 80° | 10135 | 4410 | 3971 |
| 85° | 8436 | 3693 | 3519 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15290 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 87.3 | 4.6 |
| 10°-20° | 239.2 | 12.5 |
| 20°-30° | 335.5 | 17.6 |
| 30°-40° | 365.4 | 19.1 |
| 40°-50° | 335.9 | 17.6 |
| 50°-60° | 263.6 | 13.8 |
| 60°-70° | 172.0 | 9.0 |
| 70°-80° | 88.9 | 4.7 |
| 80°-90° | 23.0 | 1.2 |
| 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° | 661.9 | 34.6 |
| 0°-40° | 1027.4 | 53.8 |
| 0°-60° | 1626.9 | 85.1 |
| 0°-90° | 1910.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1910.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 932 | 932 | 932 | 932 | 932 | |
| 5° | 932 | 927 | 916 | 923 | 920 | 88 |
| 15° | 887 | 876 | 846 | 829 | 822 | 250 |
| 25° | 803 | 775 | 722 | 686 | 670 | 370 |
| 35° | 695 | 649 | 573 | 520 | 498 | 434 |
| 45° | 568 | 510 | 420 | 359 | 337 | 438 |
| 55° | 430 | 366 | 273 | 222 | 207 | 385 |
| 65° | 293 | 222 | 146 | 119 | 115 | 289 |
| 75° | 154 | 96 | 68 | 62 | 60 | 164 |
| 85° | 39 | 18 | 17 | 16 | 16 | 45 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 931.7 | 931.7 | 931.7 | 931.7 | 931.7 |
| 2.5° | 935.7 | 931.7 | 922.1 | 930.9 | 929.3 |
| 5° | 931.7 | 926.9 | 916.4 | 922.9 | 920.5 |
| 7.5° | 924.5 | 919.7 | 906.0 | 909.2 | 905.2 |
| 10° | 914.8 | 908.4 | 889.9 | 886.7 | 881.9 |
| 12.5° | 902.8 | 893.9 | 869.0 | 859.4 | 852.9 |
| 15° | 886.7 | 876.2 | 845.7 | 828.8 | 822.4 |
| 17.5° | 869.0 | 853.7 | 816.0 | 796.7 | 790.2 |
| 20° | 848.9 | 831.2 | 783.8 | 763.7 | 750.8 |
| 22.5° | 828.0 | 805.5 | 756.5 | 725.1 | 709.8 |
| 25° | 803.1 | 775.0 | 721.9 | 686.5 | 670.5 |
| 27.5° | 779.0 | 746.0 | 685.7 | 644.7 | 627.0 |
| 30° | 751.6 | 715.5 | 648.7 | 601.3 | 584.4 |
| 32.5° | 724.3 | 682.5 | 612.6 | 561.1 | 541.8 |
| 35° | 694.6 | 648.7 | 573.2 | 520.1 | 497.6 |
| 37.5° | 664.0 | 616.6 | 537.0 | 478.3 | 456.6 |
| 40° | 632.7 | 579.6 | 496.8 | 435.7 | 414.8 |
| 42.5° | 600.5 | 546.7 | 459.0 | 396.3 | 376.2 |
| 45° | 567.6 | 509.7 | 420.4 | 359.3 | 336.8 |
| 47.5° | 536.2 | 473.5 | 381.0 | 323.2 | 301.5 |
| 50° | 499.2 | 437.3 | 344.1 | 285.4 | 268.5 |
| 52.5° | 465.5 | 401.1 | 307.9 | 251.6 | 237.1 |
| 55° | 430.1 | 365.8 | 273.3 | 221.9 | 206.6 |
| 57.5° | 397.1 | 328.8 | 238.8 | 192.1 | 177.7 |
| 60° | 362.6 | 293.4 | 205.0 | 162.4 | 147.1 |
| 62.5° | 326.4 | 257.2 | 175.2 | 135.1 | 130.2 |
| 65° | 292.6 | 221.9 | 146.3 | 119.0 | 115.0 |
| 67.5° | 256.4 | 188.9 | 116.6 | 104.5 | 100.5 |
| 70° | 222.7 | 156.8 | 98.1 | 89.2 | 86.8 |
| 72.5° | 189.7 | 126.2 | 82.8 | 75.6 | 73.2 |
| 75° | 153.5 | 95.7 | 67.5 | 61.9 | 60.3 |
| 77.5° | 122.2 | 67.5 | 53.9 | 49.8 | 48.2 |
| 80° | 92.4 | 49.0 | 40.2 | 37.8 | 36.2 |
| 82.5° | 63.5 | 33.0 | 28.1 | 26.5 | 25.7 |
| 85° | 38.6 | 18.5 | 16.9 | 16.1 | 16.1 |
| 87.5° | 15.3 | 7.2 | 7.2 | 6.4 | 6.4 |
| 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 | 21.24 | 22.76 | 21.60 | 23.08 | 23.39 | 17.12 | 18.65 | 17.49 | 18.96 | 19.27 |
| | 3H | 23.01 | 24.37 | 23.38 | 24.70 | 25.06 | 18.42 | 19.78 | 18.80 | 20.11 | 20.47 |
| | 4H | 23.67 | 24.95 | 24.07 | 25.30 | 25.68 | 18.93 | 20.21 | 19.33 | 20.56 | 20.93 |
| | 6H | 24.16 | 25.34 | 24.57 | 25.71 | 26.10 | 19.31 | 20.49 | 19.72 | 20.86 | 21.25 |
| | 8H | 24.32 | 25.45 | 24.75 | 25.84 | 26.24 | 19.43 | 20.56 | 19.86 | 20.95 | 21.35 |
| | 12H | 24.43 | 25.51 | 24.86 | 25.89 | 26.32 | 19.51 | 20.59 | 19.94 | 20.97 | 21.40 |
| 4H | 2H | 21.34 | 22.62 | 21.74 | 22.97 | 23.35 | 17.83 | 19.11 | 18.23 | 19.46 | 19.84 |
| | 3H | 23.28 | 24.34 | 23.69 | 24.74 | 25.14 | 19.30 | 20.37 | 19.71 | 20.77 | 21.17 |
| | 4H | 24.02 | 24.98 | 24.46 | 25.40 | 25.83 | 19.91 | 20.87 | 20.34 | 21.28 | 21.72 |
| | 6H | 24.61 | 25.45 | 25.07 | 25.89 | 26.35 | 20.40 | 21.23 | 20.86 | 21.68 | 22.14 |
| | 8H | 24.83 | 25.61 | 25.29 | 26.05 | 26.52 | 20.56 | 21.34 | 21.03 | 21.78 | 22.25 |
| | 12H | 24.99 | 25.69 | 25.47 | 26.16 | 26.63 | 20.68 | 21.38 | 21.16 | 21.85 | 22.32 |
| 8H | 4H | 24.05 | 24.83 | 24.51 | 25.27 | 25.74 | 20.27 | 21.05 | 20.73 | 21.49 | 21.96 |
| | 6H | 24.68 | 25.33 | 25.18 | 25.82 | 26.30 | 20.86 | 21.51 | 21.36 | 22.00 | 22.48 |
| | 8H | 24.93 | 25.51 | 25.45 | 26.02 | 26.51 | 21.09 | 21.66 | 21.60 | 22.17 | 22.66 |
| | 12H | 25.15 | 25.66 | 25.66 | 26.15 | 26.72 | 21.27 | 21.78 | 21.78 | 22.27 | 22.83 |
| 12H | 4H | 24.03 | 24.73 | 24.51 | 25.21 | 25.68 | 20.31 | 21.01 | 20.80 | 21.49 | 21.96 |
| | 6H | 24.67 | 25.24 | 25.18 | 25.75 | 26.24 | 20.93 | 21.51 | 21.44 | 22.02 | 22.50 |
| | 8H | 24.95 | 25.46 | 25.46 | 25.95 | 26.52 | 21.20 | 21.71 | 21.71 | 22.21 | 22.77 |