

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: P243220

Luminaire Tested: S122RDRP-H675D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243220
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-H675D830-X4F0-XX-UDD-F-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

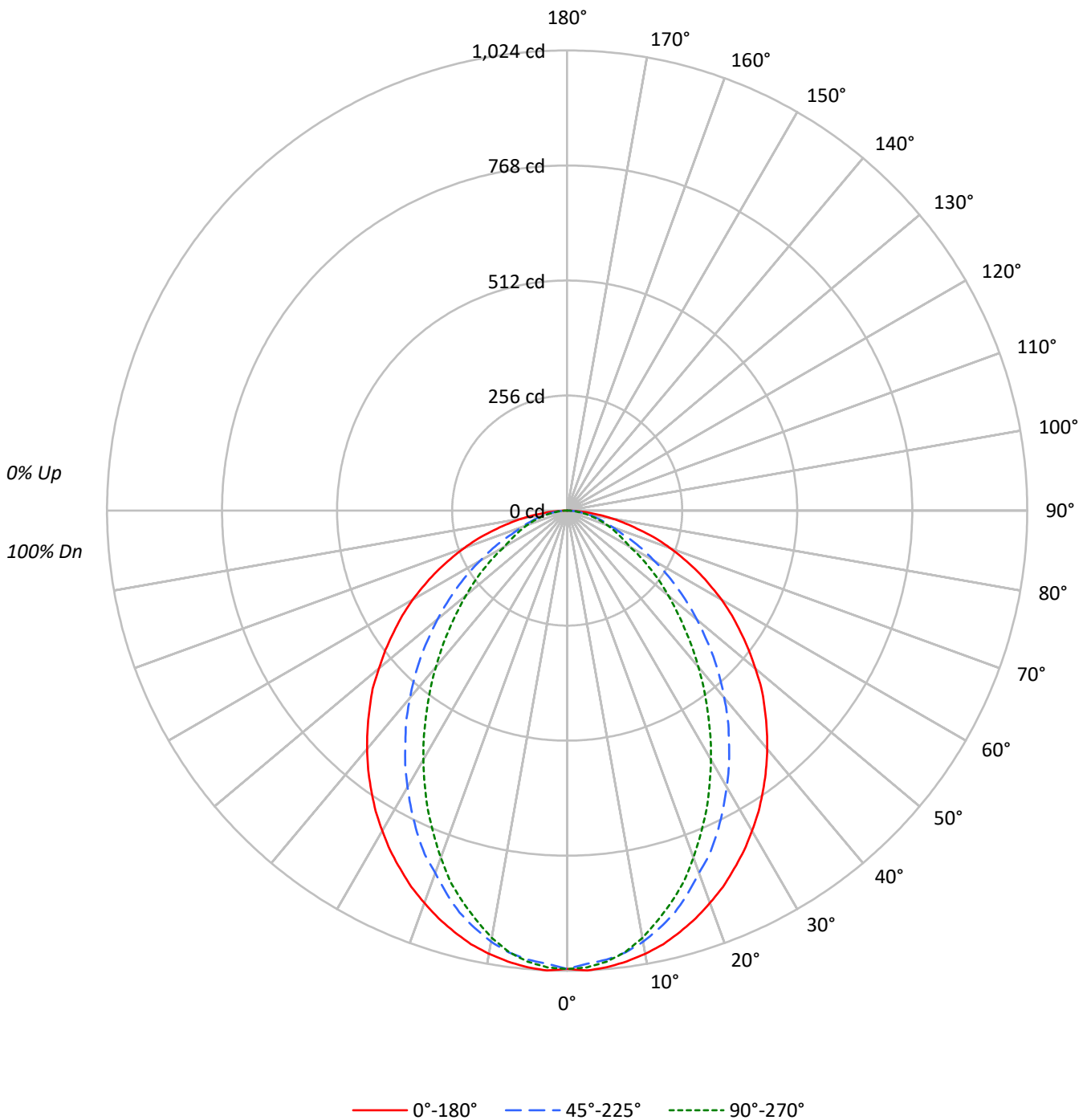
Lumens per Lamp: N/A
Luminaire Lumens: 2091.8 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')
CIE Type: Direct

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° | 19429 | 19429 | 19429 |
| 5° | 19503 | 19182 | 19266 |
| 10° | 19371 | 18843 | 18672 |
| 15° | 19142 | 18256 | 17754 |
| 20° | 18837 | 17392 | 16662 |
| 25° | 18478 | 16610 | 15424 |
| 30° | 18097 | 15620 | 14072 |
| 35° | 17679 | 14591 | 12666 |
| 40° | 17222 | 13524 | 11291 |
| 45° | 16736 | 12399 | 9932 |
| 50° | 16194 | 11163 | 8709 |
| 55° | 15635 | 9936 | 7512 |
| 60° | 15120 | 8549 | 6133 |
| 65° | 14436 | 7220 | 5670 |
| 70° | 13578 | 5981 | 5291 |
| 75° | 12371 | 5439 | 4857 |
| 80° | 11101 | 4826 | 4344 |
| 85° | 9223 | 4043 | 3846 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16736 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 95.5 | 4.6 |
| 10°-20° | 261.8 | 12.5 |
| 20°-30° | 367.3 | 17.6 |
| 30°-40° | 400.1 | 19.1 |
| 40°-50° | 367.7 | 17.6 |
| 50°-60° | 288.6 | 13.8 |
| 60°-70° | 188.2 | 9.0 |
| 70°-80° | 97.4 | 4.7 |
| 80°-90° | 25.2 | 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° | 724.6 | 34.6 |
| 0°-40° | 1124.7 | 53.8 |
| 0°-60° | 1781.0 | 85.1 |
| 0°-90° | 2091.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2091.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1020 | 1020 | 1020 | 1020 | 1020 | |
| 5° | 1020 | 1015 | 1003 | 1010 | 1008 | 97 |
| 15° | 971 | 959 | 926 | 907 | 900 | 274 |
| 25° | 879 | 848 | 790 | 752 | 734 | 405 |
| 35° | 760 | 710 | 628 | 569 | 545 | 475 |
| 45° | 621 | 558 | 460 | 393 | 369 | 480 |
| 55° | 471 | 400 | 299 | 243 | 226 | 422 |
| 65° | 320 | 243 | 160 | 130 | 126 | 316 |
| 75° | 168 | 105 | 74 | 68 | 66 | 180 |
| 85° | 42 | 20 | 18 | 18 | 18 | 49 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

TEST NUMBER: P243220

CATALOG NUMBER: S122RDRP-H675D830-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1020.0 | 1020.0 | 1020.0 | 1020.0 | 1020.0 |
| 2.5° | 1024.4 | 1020.0 | 1009.4 | 1019.1 | 1017.3 |
| 5° | 1020.0 | 1014.7 | 1003.2 | 1010.3 | 1007.6 |
| 7.5° | 1012.0 | 1006.8 | 991.8 | 995.3 | 990.9 |
| 10° | 1001.5 | 994.4 | 974.2 | 970.7 | 965.4 |
| 12.5° | 988.3 | 978.6 | 951.3 | 940.8 | 933.7 |
| 15° | 970.7 | 959.2 | 925.8 | 907.3 | 900.3 |
| 17.5° | 951.3 | 934.6 | 893.2 | 872.1 | 865.1 |
| 20° | 929.3 | 910.0 | 858.0 | 836.0 | 822.0 |
| 22.5° | 906.4 | 881.8 | 828.1 | 793.8 | 777.1 |
| 25° | 879.2 | 848.4 | 790.3 | 751.5 | 733.9 |
| 27.5° | 852.8 | 816.7 | 750.7 | 705.8 | 686.4 |
| 30° | 822.8 | 783.2 | 710.2 | 658.3 | 639.8 |
| 32.5° | 792.9 | 747.1 | 670.6 | 614.3 | 593.1 |
| 35° | 760.3 | 710.2 | 627.5 | 569.4 | 544.7 |
| 37.5° | 726.9 | 675.0 | 587.9 | 523.6 | 499.9 |
| 40° | 692.6 | 634.5 | 543.9 | 477.0 | 454.1 |
| 42.5° | 657.4 | 598.4 | 502.5 | 433.9 | 411.9 |
| 45° | 621.3 | 557.9 | 460.3 | 393.4 | 368.7 |
| 47.5° | 587.0 | 518.3 | 417.1 | 353.8 | 330.0 |
| 50° | 546.5 | 478.7 | 376.7 | 312.4 | 293.9 |
| 52.5° | 509.5 | 439.1 | 337.1 | 275.5 | 259.6 |
| 55° | 470.8 | 400.4 | 299.2 | 242.9 | 226.2 |
| 57.5° | 434.7 | 359.9 | 261.4 | 210.3 | 194.5 |
| 60° | 396.9 | 321.2 | 224.4 | 177.8 | 161.0 |
| 62.5° | 357.3 | 281.6 | 191.8 | 147.8 | 142.6 |
| 65° | 320.3 | 242.9 | 160.2 | 130.2 | 125.8 |
| 67.5° | 280.7 | 206.8 | 127.6 | 114.4 | 110.0 |
| 70° | 243.8 | 171.6 | 107.4 | 97.7 | 95.0 |
| 72.5° | 207.7 | 138.2 | 90.6 | 82.7 | 80.1 |
| 75° | 168.1 | 104.7 | 73.9 | 67.8 | 66.0 |
| 77.5° | 133.8 | 73.9 | 59.0 | 54.6 | 52.8 |
| 80° | 101.2 | 53.7 | 44.0 | 41.4 | 39.6 |
| 82.5° | 69.5 | 36.1 | 30.8 | 29.0 | 28.2 |
| 85° | 42.2 | 20.2 | 18.5 | 17.6 | 17.6 |
| 87.5° | 16.7 | 7.9 | 7.9 | 7.0 | 7.0 |
| 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 | 21.55 | 23.08 | 21.92 | 23.39 | 23.70 | 17.44 | 18.96 | 17.80 | 19.27 | 19.59 |
| | 3H | 23.32 | 24.69 | 23.70 | 25.01 | 25.38 | 18.73 | 20.10 | 19.11 | 20.43 | 20.79 |
| | 4H | 23.98 | 25.26 | 24.38 | 25.61 | 25.99 | 19.24 | 20.52 | 19.64 | 20.87 | 21.25 |
| | 6H | 24.47 | 25.65 | 24.88 | 26.02 | 26.41 | 19.62 | 20.81 | 20.04 | 21.17 | 21.57 |
| | 8H | 24.64 | 25.76 | 25.06 | 26.15 | 26.55 | 19.75 | 20.87 | 20.17 | 21.26 | 21.66 |
| | 12H | 24.75 | 25.82 | 25.18 | 26.21 | 26.64 | 19.83 | 20.91 | 20.26 | 21.29 | 21.72 |
| 4H | 2H | 21.65 | 22.94 | 22.05 | 23.28 | 23.66 | 18.15 | 19.43 | 18.55 | 19.78 | 20.15 |
| | 3H | 23.59 | 24.66 | 24.00 | 25.06 | 25.46 | 19.62 | 20.68 | 20.03 | 21.08 | 21.48 |
| | 4H | 24.34 | 25.29 | 24.77 | 25.71 | 26.15 | 20.22 | 21.18 | 20.66 | 21.60 | 22.04 |
| | 6H | 24.93 | 25.76 | 25.39 | 26.20 | 26.66 | 20.72 | 21.55 | 21.17 | 21.99 | 22.45 |
| | 8H | 25.14 | 25.92 | 25.61 | 26.36 | 26.83 | 20.88 | 21.66 | 21.34 | 22.10 | 22.57 |
| | 12H | 25.30 | 26.00 | 25.79 | 26.48 | 26.95 | 21.00 | 21.69 | 21.48 | 22.17 | 22.64 |
| 8H | 4H | 24.36 | 25.14 | 24.83 | 25.58 | 26.05 | 20.59 | 21.36 | 21.05 | 21.81 | 22.28 |
| | 6H | 25.00 | 25.64 | 25.50 | 26.13 | 26.61 | 21.18 | 21.82 | 21.68 | 22.31 | 22.79 |
| | 8H | 25.25 | 25.83 | 25.76 | 26.34 | 26.82 | 21.40 | 21.98 | 21.92 | 22.49 | 22.98 |
| | 12H | 25.46 | 25.97 | 25.97 | 26.47 | 27.03 | 21.58 | 22.09 | 22.09 | 22.58 | 23.15 |
| 12H | 4H | 24.35 | 25.04 | 24.83 | 25.52 | 25.99 | 20.63 | 21.32 | 21.11 | 21.80 | 22.27 |
| | 6H | 24.98 | 25.56 | 25.49 | 26.07 | 26.56 | 21.24 | 21.82 | 21.76 | 22.33 | 22.82 |
| | 8H | 25.26 | 25.77 | 25.77 | 26.27 | 26.83 | 21.52 | 22.03 | 22.03 | 22.52 | 23.09 |