

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: P243216

Luminaire Tested: S122RDRP-H865D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243216
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-H865D927-X4F0-XX-UDD-F-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

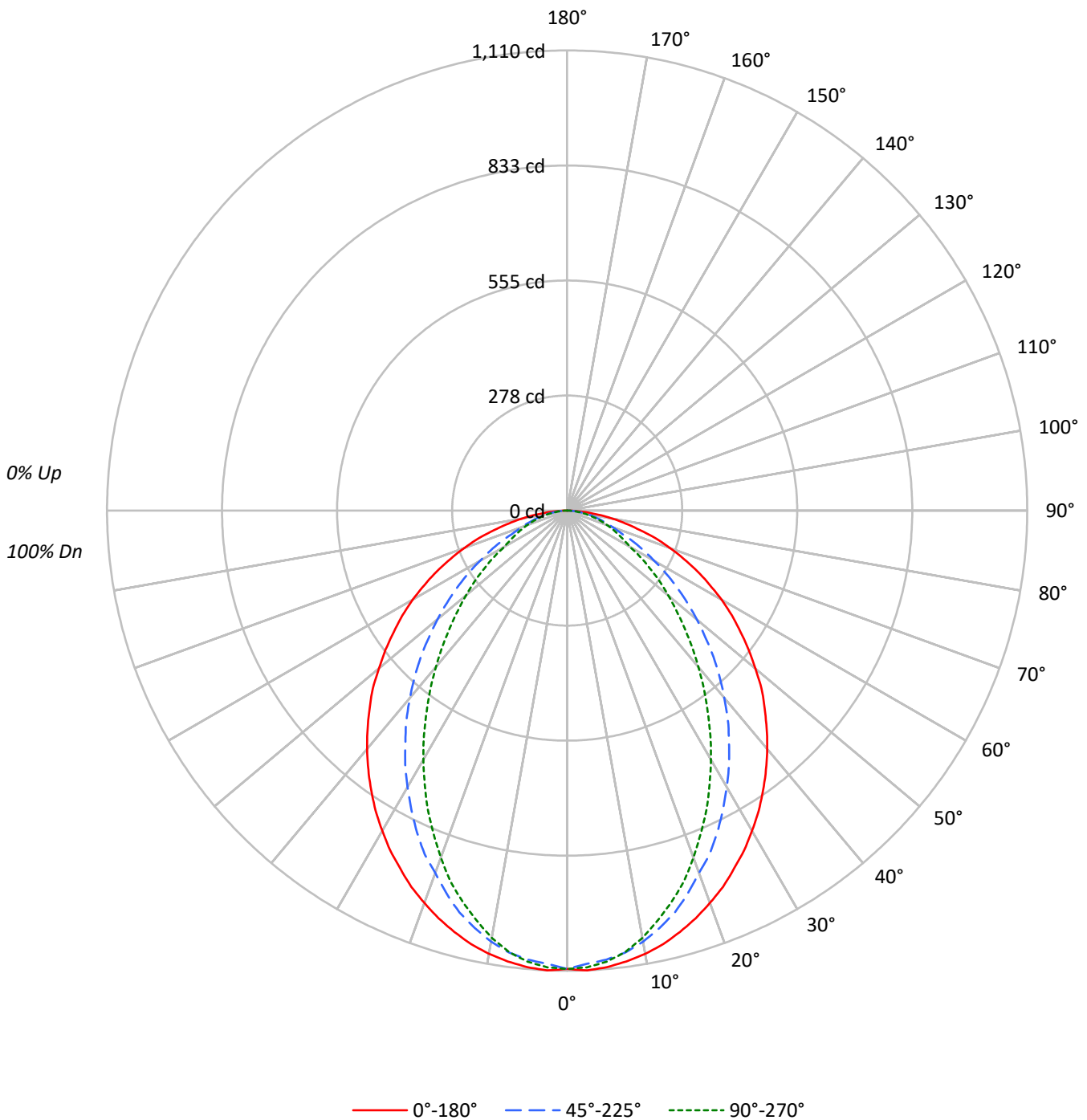
Lumens per Lamp: N/A
Luminaire Lumens: 2267.3 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 31.5
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 | 50 | 30 | 10 | 0 | |
| RCR | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | 100 |
| 1 | 110 | 106 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 94 | 95 | 93 | 91 | 92 | 90 | 88 | 86 | | | | 86 |
| 2 | 101 | 94 | 87 | 82 | 98 | 92 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 79 | 76 | 74 | | | | 74 |
| 3 | 93 | 83 | 76 | 70 | 90 | 82 | 75 | 69 | 79 | 73 | 68 | 76 | 71 | 67 | 74 | 69 | 66 | 64 | | | | 64 |
| 4 | 86 | 75 | 66 | 60 | 83 | 73 | 66 | 60 | 71 | 64 | 59 | 69 | 63 | 58 | 66 | 62 | 57 | 55 | | | | 55 |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 | | | | 49 |
| 6 | 74 | 61 | 53 | 47 | 72 | 60 | 52 | 46 | 58 | 51 | 46 | 57 | 50 | 46 | 55 | 50 | 45 | 43 | | | | 43 |
| 7 | 68 | 56 | 47 | 42 | 67 | 55 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 | | | | 39 |
| 8 | 64 | 51 | 43 | 38 | 62 | 51 | 43 | 37 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 | | | | 35 |
| 9 | 60 | 47 | 39 | 34 | 59 | 47 | 39 | 34 | 46 | 39 | 34 | 44 | 38 | 34 | 44 | 38 | 34 | 32 | | | | 32 |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 41 | 35 | 31 | 29 | | | | 29 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 21057 | 21057 | 21057 |
| 5° | 21138 | 20792 | 20883 |
| 10° | 20995 | 20423 | 20239 |
| 15° | 20747 | 19789 | 19242 |
| 20° | 20418 | 18851 | 18059 |
| 25° | 20027 | 18003 | 16719 |
| 30° | 19617 | 16931 | 15253 |
| 35° | 19163 | 15814 | 13729 |
| 40° | 18666 | 14658 | 12239 |
| 45° | 18140 | 13439 | 10767 |
| 50° | 17555 | 12099 | 9441 |
| 55° | 16946 | 10770 | 8139 |
| 60° | 16389 | 9265 | 6651 |
| 65° | 15649 | 7824 | 6148 |
| 70° | 14714 | 6483 | 5736 |
| 75° | 13409 | 5895 | 5262 |
| 80° | 12033 | 5232 | 4706 |
| 85° | 10009 | 4371 | 4174 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 18140 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 103.5 | 4.6 |
| 10°-20° | 283.8 | 12.5 |
| 20°-30° | 398.1 | 17.6 |
| 30°-40° | 433.6 | 19.1 |
| 40°-50° | 398.6 | 17.6 |
| 50°-60° | 312.8 | 13.8 |
| 60°-70° | 204.0 | 9.0 |
| 70°-80° | 105.5 | 4.7 |
| 80°-90° | 27.3 | 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° | 785.4 | 34.6 |
| 0°-40° | 1219.1 | 53.8 |
| 0°-60° | 1930.4 | 85.1 |
| 0°-90° | 2267.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2267.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1106 | 1106 | 1106 | 1106 | 1106 | |
| 5° | 1106 | 1100 | 1087 | 1095 | 1092 | 105 |
| 15° | 1052 | 1040 | 1004 | 983 | 976 | 297 |
| 25° | 953 | 920 | 857 | 815 | 796 | 439 |
| 35° | 824 | 770 | 680 | 617 | 590 | 515 |
| 45° | 673 | 605 | 499 | 426 | 400 | 520 |
| 55° | 510 | 434 | 324 | 263 | 245 | 457 |
| 65° | 347 | 263 | 174 | 141 | 136 | 343 |
| 75° | 182 | 114 | 80 | 73 | 72 | 195 |
| 85° | 46 | 22 | 20 | 19 | 19 | 53 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: S122RDRP-H865D927-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1105.5 | 1105.5 | 1105.5 | 1105.5 | 1105.5 |
| 2.5° | 1110.3 | 1105.5 | 1094.1 | 1104.6 | 1102.7 |
| 5° | 1105.5 | 1099.8 | 1087.4 | 1095.0 | 1092.2 |
| 7.5° | 1096.9 | 1091.2 | 1075.0 | 1078.8 | 1074.1 |
| 10° | 1085.5 | 1077.9 | 1055.9 | 1052.1 | 1046.4 |
| 12.5° | 1071.2 | 1060.7 | 1031.1 | 1019.7 | 1012.1 |
| 15° | 1052.1 | 1039.7 | 1003.5 | 983.4 | 975.8 |
| 17.5° | 1031.1 | 1013.0 | 968.2 | 945.3 | 937.6 |
| 20° | 1007.3 | 986.3 | 930.0 | 906.2 | 890.9 |
| 22.5° | 982.5 | 955.8 | 897.6 | 860.4 | 842.3 |
| 25° | 952.9 | 919.5 | 856.6 | 814.6 | 795.5 |
| 27.5° | 924.3 | 885.2 | 813.6 | 765.0 | 744.0 |
| 30° | 891.9 | 848.9 | 769.8 | 713.5 | 693.5 |
| 32.5° | 859.4 | 809.8 | 726.8 | 665.8 | 642.9 |
| 35° | 824.1 | 769.8 | 680.1 | 617.2 | 590.4 |
| 37.5° | 787.9 | 731.6 | 637.2 | 567.6 | 541.8 |
| 40° | 750.7 | 687.7 | 589.5 | 517.0 | 492.2 |
| 42.5° | 712.5 | 648.6 | 544.7 | 470.3 | 446.4 |
| 45° | 673.4 | 604.8 | 498.9 | 426.4 | 399.7 |
| 47.5° | 636.2 | 561.8 | 452.1 | 383.5 | 357.7 |
| 50° | 592.4 | 518.9 | 408.3 | 338.6 | 318.6 |
| 52.5° | 552.3 | 476.0 | 365.3 | 298.6 | 281.4 |
| 55° | 510.3 | 434.0 | 324.3 | 263.3 | 245.1 |
| 57.5° | 471.2 | 390.1 | 283.3 | 228.0 | 210.8 |
| 60° | 430.2 | 348.2 | 243.2 | 192.7 | 174.6 |
| 62.5° | 387.3 | 305.2 | 207.9 | 160.2 | 154.5 |
| 65° | 347.2 | 263.3 | 173.6 | 141.2 | 136.4 |
| 67.5° | 304.3 | 224.2 | 138.3 | 124.0 | 119.2 |
| 70° | 264.2 | 186.0 | 116.4 | 105.9 | 103.0 |
| 72.5° | 225.1 | 149.8 | 98.2 | 89.7 | 86.8 |
| 75° | 182.2 | 113.5 | 80.1 | 73.4 | 71.5 |
| 77.5° | 145.0 | 80.1 | 63.9 | 59.1 | 57.2 |
| 80° | 109.7 | 58.2 | 47.7 | 44.8 | 42.9 |
| 82.5° | 75.4 | 39.1 | 33.4 | 31.5 | 30.5 |
| 85° | 45.8 | 21.9 | 20.0 | 19.1 | 19.1 |
| 87.5° | 18.1 | 8.6 | 8.6 | 7.6 | 7.6 |
| 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 | 21.83 | 23.36 | 22.20 | 23.67 | 23.98 | 17.72 | 19.24 | 18.09 | 19.56 | 19.87 |
| | 3H | 23.60 | 24.97 | 23.98 | 25.29 | 25.66 | 19.01 | 20.38 | 19.39 | 20.71 | 21.07 |
| | 4H | 24.26 | 25.54 | 24.66 | 25.89 | 26.27 | 19.52 | 20.80 | 19.92 | 21.15 | 21.53 |
| | 6H | 24.75 | 25.94 | 25.16 | 26.30 | 26.69 | 19.90 | 21.09 | 20.31 | 21.45 | 21.84 |
| | 8H | 24.92 | 26.04 | 25.34 | 26.43 | 26.83 | 20.03 | 21.15 | 20.45 | 21.54 | 21.94 |
| | 12H | 25.03 | 26.11 | 25.46 | 26.49 | 26.92 | 20.11 | 21.19 | 20.54 | 21.57 | 22.00 |
| 4H | 2H | 21.93 | 23.22 | 22.33 | 23.56 | 23.94 | 18.43 | 19.71 | 18.83 | 20.06 | 20.43 |
| | 3H | 23.87 | 24.94 | 24.28 | 25.34 | 25.74 | 19.90 | 20.96 | 20.31 | 21.36 | 21.76 |
| | 4H | 24.62 | 25.57 | 25.05 | 25.99 | 26.43 | 20.50 | 21.46 | 20.94 | 21.88 | 22.32 |
| | 6H | 25.21 | 26.04 | 25.67 | 26.48 | 26.94 | 21.00 | 21.83 | 21.45 | 22.27 | 22.73 |
| | 8H | 25.42 | 26.20 | 25.89 | 26.64 | 27.11 | 21.16 | 21.93 | 21.62 | 22.38 | 22.85 |
| | 12H | 25.59 | 26.28 | 26.07 | 26.76 | 27.23 | 21.27 | 21.97 | 21.76 | 22.45 | 22.92 |
| 8H | 4H | 24.64 | 25.42 | 25.11 | 25.86 | 26.33 | 20.86 | 21.64 | 21.33 | 22.09 | 22.55 |
| | 6H | 25.28 | 25.92 | 25.78 | 26.41 | 26.89 | 21.46 | 22.10 | 21.95 | 22.59 | 23.07 |
| | 8H | 25.53 | 26.11 | 26.04 | 26.62 | 27.10 | 21.68 | 22.26 | 22.19 | 22.77 | 23.25 |
| | 12H | 25.74 | 26.25 | 26.25 | 26.75 | 27.31 | 21.86 | 22.37 | 22.37 | 22.86 | 23.43 |
| 12H | 4H | 24.63 | 25.32 | 25.11 | 25.80 | 26.27 | 20.91 | 21.60 | 21.39 | 22.08 | 22.55 |
| | 6H | 25.26 | 25.84 | 25.77 | 26.35 | 26.84 | 21.52 | 22.10 | 22.04 | 22.61 | 23.10 |
| | 8H | 25.54 | 26.05 | 26.05 | 26.55 | 27.11 | 21.80 | 22.31 | 22.31 | 22.80 | 23.36 |