

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: P243219

Luminaire Tested: S122RDRP-H485D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243219
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-H485D830-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

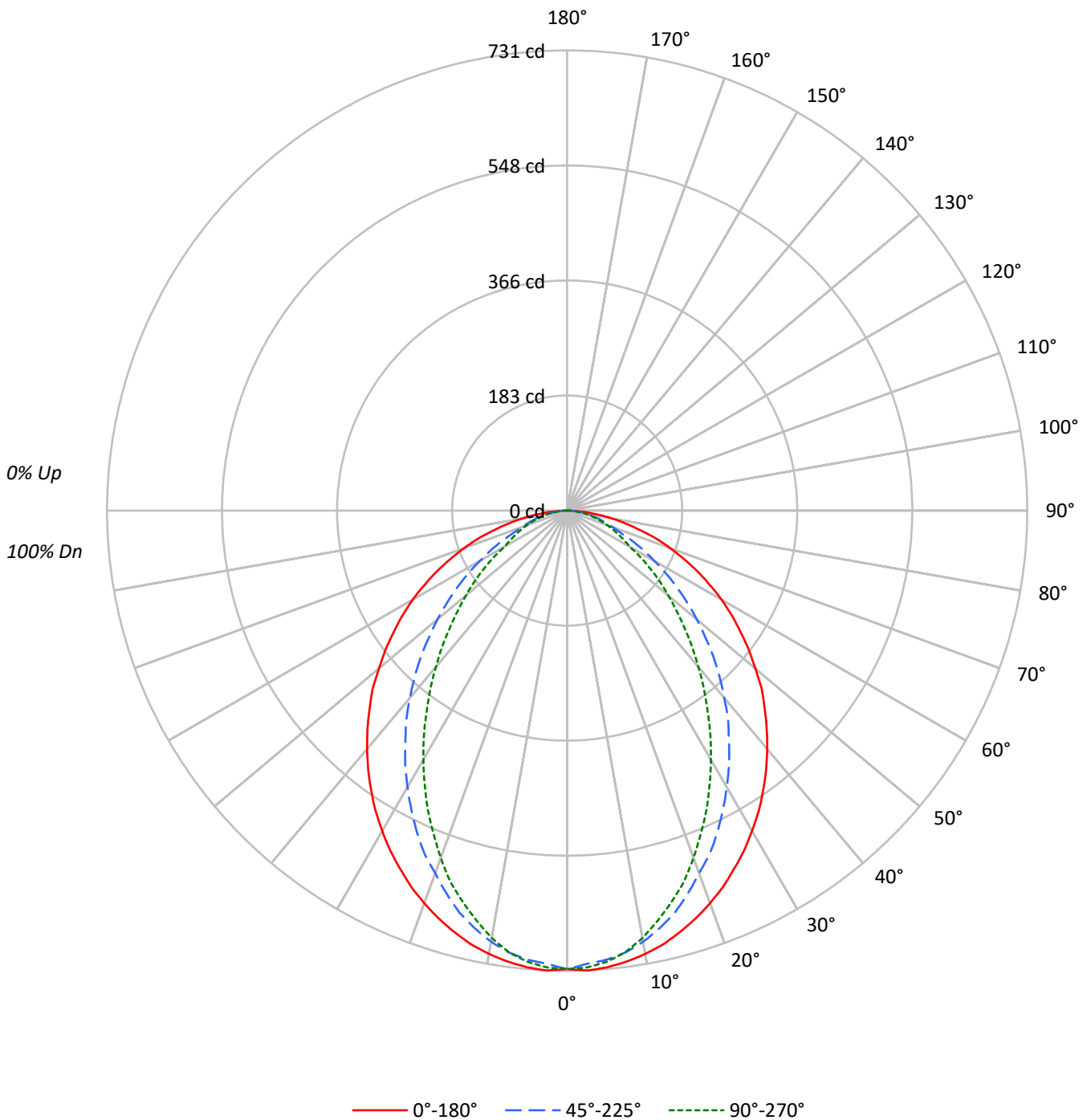
Lumens per Lamp: N/A
Luminaire Lumens: 1493.6 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 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 | 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° | 13872 | 13872 | 13872 |
| 5° | 13925 | 13696 | 13757 |
| 10° | 13831 | 13454 | 13332 |
| 15° | 13668 | 13037 | 12676 |
| 20° | 13451 | 12420 | 11897 |
| 25° | 13192 | 11860 | 11015 |
| 30° | 12922 | 11153 | 10047 |
| 35° | 12624 | 10417 | 9045 |
| 40° | 12296 | 9655 | 8061 |
| 45° | 11949 | 8852 | 7093 |
| 50° | 11563 | 7968 | 6220 |
| 55° | 11165 | 7093 | 5363 |
| 60° | 10796 | 6103 | 4381 |
| 65° | 10308 | 5156 | 4052 |
| 70° | 9696 | 4272 | 3781 |
| 75° | 8831 | 3886 | 3466 |
| 80° | 7931 | 3444 | 3104 |
| 85° | 6600 | 2885 | 2754 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11949 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 68.2 | 4.6 |
| 10°-20° | 187.0 | 12.5 |
| 20°-30° | 262.3 | 17.6 |
| 30°-40° | 285.7 | 19.1 |
| 40°-50° | 262.6 | 17.6 |
| 50°-60° | 206.0 | 13.8 |
| 60°-70° | 134.4 | 9.0 |
| 70°-80° | 69.5 | 4.7 |
| 80°-90° | 18.0 | 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° | 517.4 | 34.6 |
| 0°-40° | 803.1 | 53.8 |
| 0°-60° | 1271.7 | 85.1 |
| 0°-90° | 1493.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1493.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 728 | 728 | 728 | 728 | 728 | |
| 5° | 728 | 724 | 716 | 721 | 720 | 69 |
| 15° | 693 | 685 | 661 | 648 | 643 | 195 |
| 25° | 628 | 606 | 564 | 537 | 524 | 289 |
| 35° | 543 | 507 | 448 | 407 | 389 | 340 |
| 45° | 444 | 398 | 329 | 281 | 263 | 342 |
| 55° | 336 | 286 | 214 | 173 | 162 | 301 |
| 65° | 229 | 173 | 114 | 93 | 90 | 226 |
| 75° | 120 | 75 | 53 | 48 | 47 | 128 |
| 85° | 30 | 14 | 13 | 13 | 13 | 35 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

TEST NUMBER: P243219

CATALOG NUMBER: S122RDRP-H485D830-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 728.3 | 728.3 | 728.3 | 728.3 | 728.3 |
| 2.5° | 731.4 | 728.3 | 720.7 | 727.7 | 726.4 |
| 5° | 728.3 | 724.5 | 716.3 | 721.4 | 719.5 |
| 7.5° | 722.6 | 718.9 | 708.2 | 710.7 | 707.6 |
| 10° | 715.1 | 710.1 | 695.6 | 693.1 | 689.3 |
| 12.5° | 705.7 | 698.8 | 679.3 | 671.7 | 666.7 |
| 15° | 693.1 | 684.9 | 661.1 | 647.9 | 642.8 |
| 17.5° | 679.3 | 667.3 | 637.8 | 622.7 | 617.7 |
| 20° | 663.6 | 649.7 | 612.7 | 597.0 | 586.9 |
| 22.5° | 647.2 | 629.6 | 591.3 | 566.8 | 554.9 |
| 25° | 627.7 | 605.8 | 564.3 | 536.6 | 524.1 |
| 27.5° | 608.9 | 583.1 | 536.0 | 504.0 | 490.1 |
| 30° | 587.5 | 559.3 | 507.1 | 470.0 | 456.8 |
| 32.5° | 566.2 | 533.5 | 478.8 | 438.6 | 423.5 |
| 35° | 542.9 | 507.1 | 448.0 | 406.6 | 389.0 |
| 37.5° | 519.0 | 482.0 | 419.8 | 373.9 | 356.9 |
| 40° | 494.5 | 453.1 | 388.3 | 340.6 | 324.2 |
| 42.5° | 469.4 | 427.3 | 358.8 | 309.8 | 294.1 |
| 45° | 443.6 | 398.4 | 328.6 | 280.9 | 263.3 |
| 47.5° | 419.1 | 370.1 | 297.8 | 252.6 | 235.6 |
| 50° | 390.2 | 341.8 | 268.9 | 223.1 | 209.9 |
| 52.5° | 363.8 | 313.6 | 240.7 | 196.7 | 185.4 |
| 55° | 336.2 | 285.9 | 213.6 | 173.4 | 161.5 |
| 57.5° | 310.4 | 257.0 | 186.6 | 150.2 | 138.9 |
| 60° | 283.4 | 229.4 | 160.2 | 126.9 | 115.0 |
| 62.5° | 255.1 | 201.1 | 137.0 | 105.6 | 101.8 |
| 65° | 228.7 | 173.4 | 114.4 | 93.0 | 89.9 |
| 67.5° | 200.5 | 147.7 | 91.1 | 81.7 | 78.5 |
| 70° | 174.1 | 122.5 | 76.7 | 69.7 | 67.9 |
| 72.5° | 148.3 | 98.7 | 64.7 | 59.1 | 57.2 |
| 75° | 120.0 | 74.8 | 52.8 | 48.4 | 47.1 |
| 77.5° | 95.5 | 52.8 | 42.1 | 39.0 | 37.7 |
| 80° | 72.3 | 38.3 | 31.4 | 29.5 | 28.3 |
| 82.5° | 49.6 | 25.8 | 22.0 | 20.7 | 20.1 |
| 85° | 30.2 | 14.5 | 13.2 | 12.6 | 12.6 |
| 87.5° | 11.9 | 5.7 | 5.7 | 5.0 | 5.0 |
| 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 | 20.38 | 21.91 | 20.75 | 22.22 | 22.53 | 16.27 | 17.79 | 16.64 | 18.11 | 18.42 |
| | 3H | 22.15 | 23.52 | 22.53 | 23.84 | 24.21 | 17.56 | 18.93 | 17.94 | 19.26 | 19.62 |
| | 4H | 22.81 | 24.09 | 23.21 | 24.44 | 24.82 | 18.07 | 19.35 | 18.47 | 19.70 | 20.08 |
| | 6H | 23.30 | 24.49 | 23.71 | 24.85 | 25.24 | 18.45 | 19.64 | 18.87 | 20.00 | 20.40 |
| | 8H | 23.47 | 24.59 | 23.89 | 24.98 | 25.38 | 18.58 | 19.70 | 19.00 | 20.09 | 20.49 |
| | 12H | 23.58 | 24.66 | 24.01 | 25.04 | 25.47 | 18.66 | 19.74 | 19.09 | 20.12 | 20.55 |
| 4H | 2H | 20.49 | 21.77 | 20.88 | 22.11 | 22.49 | 16.98 | 18.26 | 17.38 | 18.61 | 18.99 |
| | 3H | 22.42 | 23.49 | 22.83 | 23.89 | 24.29 | 18.45 | 19.51 | 18.86 | 19.91 | 20.31 |
| | 4H | 23.17 | 24.12 | 23.60 | 24.54 | 24.98 | 19.05 | 20.01 | 19.49 | 20.43 | 20.87 |
| | 6H | 23.76 | 24.59 | 24.22 | 25.03 | 25.49 | 19.55 | 20.38 | 20.00 | 20.82 | 21.28 |
| | 8H | 23.97 | 24.75 | 24.44 | 25.19 | 25.66 | 19.71 | 20.49 | 20.17 | 20.93 | 21.40 |
| | 12H | 24.14 | 24.83 | 24.62 | 25.31 | 25.78 | 19.83 | 20.52 | 20.31 | 21.00 | 21.47 |
| 8H | 4H | 23.19 | 23.97 | 23.66 | 24.41 | 24.88 | 19.42 | 20.19 | 19.88 | 20.64 | 21.11 |
| | 6H | 23.83 | 24.47 | 24.33 | 24.96 | 25.44 | 20.01 | 20.65 | 20.51 | 21.14 | 21.62 |
| | 8H | 24.08 | 24.66 | 24.59 | 25.17 | 25.65 | 20.23 | 20.81 | 20.74 | 21.32 | 21.81 |
| | 12H | 24.29 | 24.80 | 24.80 | 25.30 | 25.86 | 20.41 | 20.92 | 20.92 | 21.41 | 21.98 |
| 12H | 4H | 23.18 | 23.87 | 23.66 | 24.35 | 24.82 | 19.46 | 20.15 | 19.94 | 20.63 | 21.10 |
| | 6H | 23.81 | 24.39 | 24.32 | 24.90 | 25.39 | 20.07 | 20.65 | 20.59 | 21.16 | 21.65 |
| | 8H | 24.09 | 24.60 | 24.60 | 25.10 | 25.66 | 20.35 | 20.86 | 20.86 | 21.35 | 21.92 |