

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: P243111

Luminaire Tested: S122DRP-H485D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243111
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-48)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-H485D927-X4F0-XX-UDD-F-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

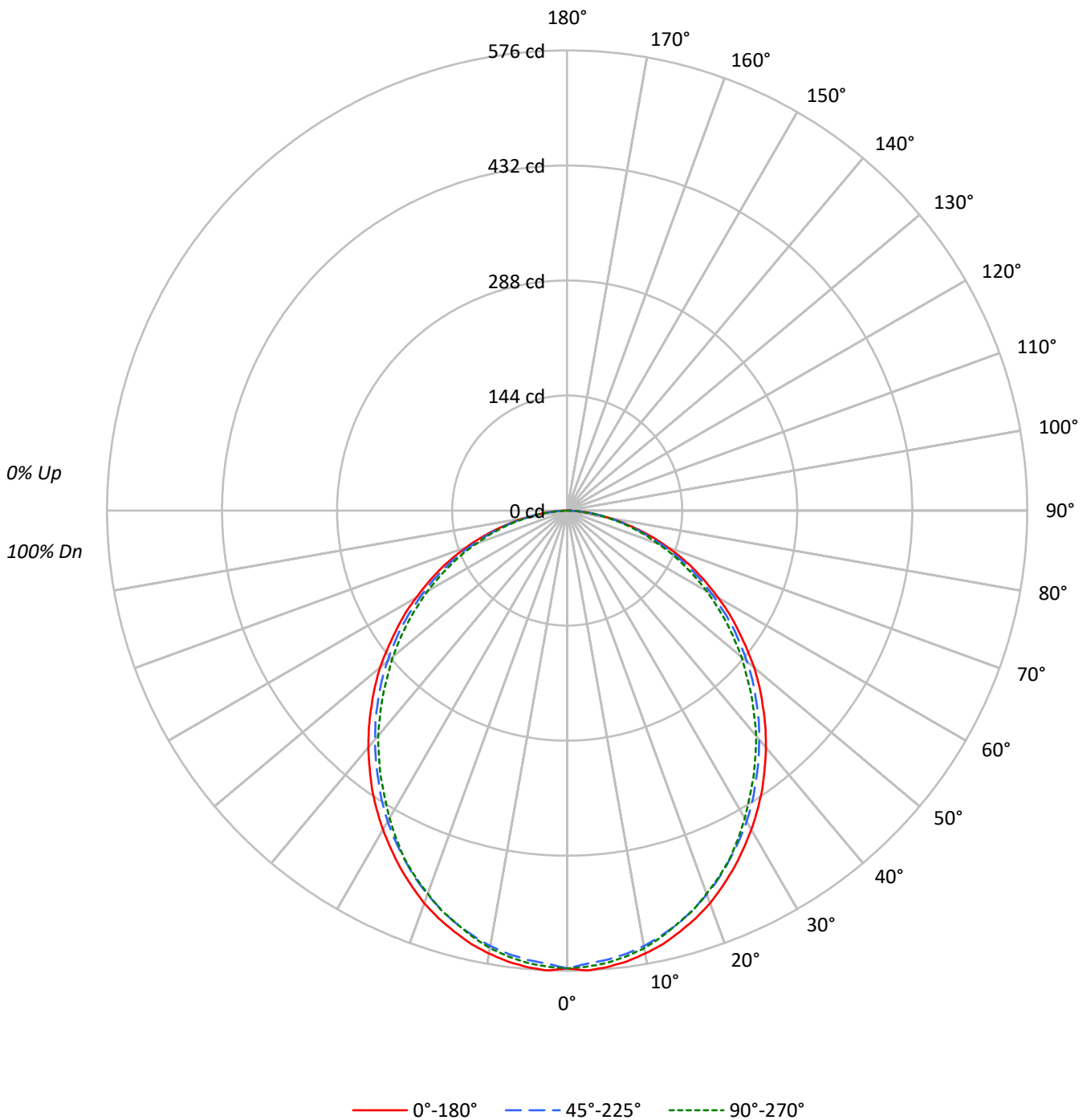
Lumens per Lamp: N/A
Luminaire Lumens: 1458.1 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')
CIE Type: Direct

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 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 85 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 74 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 51 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 55 | 48 | 61 | 53 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 48 | 42 | 55 | 48 | 42 | 53 | 47 | 42 | 52 | 46 | 41 | 39 |
| 7 | 66 | 52 | 44 | 38 | 64 | 52 | 43 | 38 | 50 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 40 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 33 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 9 | 57 | 44 | 36 | 30 | 56 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 53 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 27 | 37 | 32 | 27 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 10914 | 10914 | 10914 |
| 5° | 10968 | 10795 | 10866 |
| 10° | 10889 | 10706 | 10756 |
| 15° | 10759 | 10560 | 10550 |
| 20° | 10599 | 10362 | 10342 |
| 25° | 10378 | 10124 | 10111 |
| 30° | 10142 | 9884 | 9781 |
| 35° | 9899 | 9578 | 9457 |
| 40° | 9625 | 9297 | 9153 |
| 45° | 9334 | 9005 | 8779 |
| 50° | 9062 | 8700 | 8437 |
| 55° | 8681 | 8382 | 8066 |
| 60° | 8309 | 7989 | 7684 |
| 65° | 7950 | 7567 | 7238 |
| 70° | 7468 | 7090 | 6733 |
| 75° | 6800 | 6528 | 6219 |
| 80° | 5912 | 5737 | 5507 |
| 85° | 5070 | 4502 | 4152 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9334 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 53.9 | 3.7 |
| 10°-20° | 151.9 | 10.4 |
| 20°-30° | 223.3 | 15.3 |
| 30°-40° | 259.3 | 17.8 |
| 40°-50° | 258.9 | 17.8 |
| 50°-60° | 225.5 | 15.5 |
| 60°-70° | 166.8 | 11.4 |
| 70°-80° | 94.0 | 6.4 |
| 80°-90° | 24.5 | 1.7 |
| 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° | 429.1 | 29.4 |
| 0°-40° | 688.4 | 47.2 |
| 0°-60° | 1172.8 | 80.4 |
| 0°-90° | 1458.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1458.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 573 | 573 | 573 | 573 | 573 | |
| 5° | 574 | 571 | 565 | 569 | 568 | 54 |
| 15° | 546 | 543 | 536 | 538 | 535 | 154 |
| 25° | 494 | 490 | 482 | 481 | 481 | 227 |
| 35° | 426 | 421 | 412 | 408 | 407 | 266 |
| 45° | 346 | 343 | 334 | 329 | 326 | 268 |
| 55° | 261 | 259 | 252 | 246 | 243 | 234 |
| 65° | 176 | 174 | 168 | 163 | 161 | 174 |
| 75° | 92 | 92 | 89 | 86 | 84 | 98 |
| 85° | 23 | 22 | 21 | 20 | 19 | 26 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 573.0 | 573.0 | 573.0 | 573.0 | 573.0 |
| 2.5° | 576.2 | 573.6 | 567.7 | 572.5 | 571.4 |
| 5° | 573.6 | 570.9 | 564.6 | 569.3 | 568.3 |
| 7.5° | 569.3 | 566.7 | 559.8 | 564.6 | 563.0 |
| 10° | 563.0 | 559.8 | 553.5 | 556.7 | 556.1 |
| 12.5° | 555.6 | 552.4 | 545.0 | 547.7 | 546.6 |
| 15° | 545.6 | 542.9 | 535.5 | 537.6 | 535.0 |
| 17.5° | 535.0 | 530.8 | 523.9 | 526.0 | 524.4 |
| 20° | 522.9 | 518.6 | 511.2 | 512.3 | 510.2 |
| 22.5° | 508.6 | 504.4 | 497.5 | 497.5 | 496.4 |
| 25° | 493.8 | 489.6 | 481.7 | 481.1 | 481.1 |
| 27.5° | 477.4 | 473.7 | 465.8 | 464.2 | 463.2 |
| 30° | 461.1 | 457.9 | 449.4 | 446.3 | 444.7 |
| 32.5° | 443.6 | 439.4 | 431.5 | 427.8 | 425.1 |
| 35° | 425.7 | 420.9 | 411.9 | 408.2 | 406.7 |
| 37.5° | 406.1 | 401.4 | 393.5 | 390.3 | 387.1 |
| 40° | 387.1 | 382.9 | 373.9 | 369.2 | 368.1 |
| 42.5° | 367.1 | 362.8 | 354.9 | 349.6 | 346.5 |
| 45° | 346.5 | 342.8 | 334.3 | 329.0 | 325.9 |
| 47.5° | 326.4 | 322.2 | 314.8 | 308.4 | 304.2 |
| 50° | 305.8 | 301.6 | 293.6 | 286.2 | 284.7 |
| 52.5° | 283.1 | 280.4 | 272.5 | 265.7 | 263.5 |
| 55° | 261.4 | 259.3 | 252.4 | 245.6 | 242.9 |
| 57.5° | 240.8 | 238.2 | 230.3 | 225.0 | 221.8 |
| 60° | 218.1 | 216.5 | 209.7 | 203.9 | 201.7 |
| 62.5° | 197.0 | 194.9 | 189.1 | 183.3 | 180.6 |
| 65° | 176.4 | 173.8 | 167.9 | 162.7 | 160.6 |
| 67.5° | 155.3 | 152.6 | 147.9 | 143.7 | 141.5 |
| 70° | 134.1 | 132.0 | 127.3 | 123.6 | 120.9 |
| 72.5° | 113.5 | 111.4 | 107.2 | 103.5 | 103.0 |
| 75° | 92.4 | 91.9 | 88.7 | 85.6 | 84.5 |
| 77.5° | 72.9 | 72.4 | 70.2 | 68.7 | 67.6 |
| 80° | 53.9 | 53.9 | 52.3 | 50.7 | 50.2 |
| 82.5° | 37.0 | 37.5 | 35.9 | 34.9 | 34.9 |
| 85° | 23.2 | 22.2 | 20.6 | 19.5 | 19.0 |
| 87.5° | 9.5 | 7.9 | 7.4 | 5.8 | 5.3 |
| 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 | 19.59 | 21.20 | 19.95 | 21.51 | 21.83 | 19.16 | 20.77 | 19.53 | 21.08 | 21.40 |
| | 3H | 21.34 | 22.80 | 21.72 | 23.12 | 23.48 | 20.86 | 22.31 | 21.24 | 22.64 | 23.00 |
| | 4H | 21.99 | 23.36 | 22.39 | 23.70 | 24.08 | 21.49 | 22.86 | 21.89 | 23.20 | 23.58 |
| | 6H | 22.45 | 23.71 | 22.86 | 24.08 | 24.47 | 21.95 | 23.22 | 22.36 | 23.58 | 23.97 |
| | 8H | 22.58 | 23.79 | 23.01 | 24.18 | 24.58 | 22.09 | 23.30 | 22.51 | 23.69 | 24.09 |
| | 12H | 22.68 | 23.84 | 23.11 | 24.22 | 24.65 | 22.17 | 23.33 | 22.60 | 23.71 | 24.14 |
| 4H | 2H | 20.15 | 21.52 | 20.55 | 21.86 | 22.24 | 19.81 | 21.18 | 20.21 | 21.52 | 21.90 |
| | 3H | 22.12 | 23.27 | 22.53 | 23.67 | 24.07 | 21.72 | 22.87 | 22.13 | 23.27 | 23.67 |
| | 4H | 22.90 | 23.94 | 23.33 | 24.35 | 24.79 | 22.47 | 23.51 | 22.90 | 23.92 | 24.36 |
| | 6H | 23.49 | 24.39 | 23.94 | 24.83 | 25.29 | 23.05 | 23.96 | 23.51 | 24.40 | 24.86 |
| | 8H | 23.67 | 24.52 | 24.13 | 24.96 | 25.43 | 23.24 | 24.08 | 23.70 | 24.53 | 24.99 |
| | 12H | 23.81 | 24.57 | 24.29 | 25.04 | 25.51 | 23.35 | 24.11 | 23.83 | 24.59 | 25.06 |
| 8H | 4H | 23.17 | 24.02 | 23.63 | 24.46 | 24.93 | 22.79 | 23.64 | 23.25 | 24.08 | 24.55 |
| | 6H | 23.88 | 24.58 | 24.37 | 25.07 | 25.54 | 23.49 | 24.19 | 23.98 | 24.68 | 25.16 |
| | 8H | 24.13 | 24.76 | 24.64 | 25.27 | 25.75 | 23.74 | 24.37 | 24.25 | 24.88 | 25.36 |
| | 12H | 24.33 | 24.89 | 24.84 | 25.38 | 25.94 | 23.92 | 24.47 | 24.42 | 24.96 | 25.52 |
| 12H | 4H | 23.20 | 23.96 | 23.68 | 24.43 | 24.90 | 22.83 | 23.59 | 23.31 | 24.06 | 24.53 |
| | 6H | 23.92 | 24.55 | 24.43 | 25.06 | 25.54 | 23.54 | 24.18 | 24.05 | 24.68 | 25.17 |
| | 8H | 24.23 | 24.78 | 24.73 | 25.27 | 25.84 | 23.85 | 24.41 | 24.36 | 24.90 | 25.46 |