

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: P243458

Luminaire Tested: S124DRP-H1195D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243458
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-84)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H1195D927-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

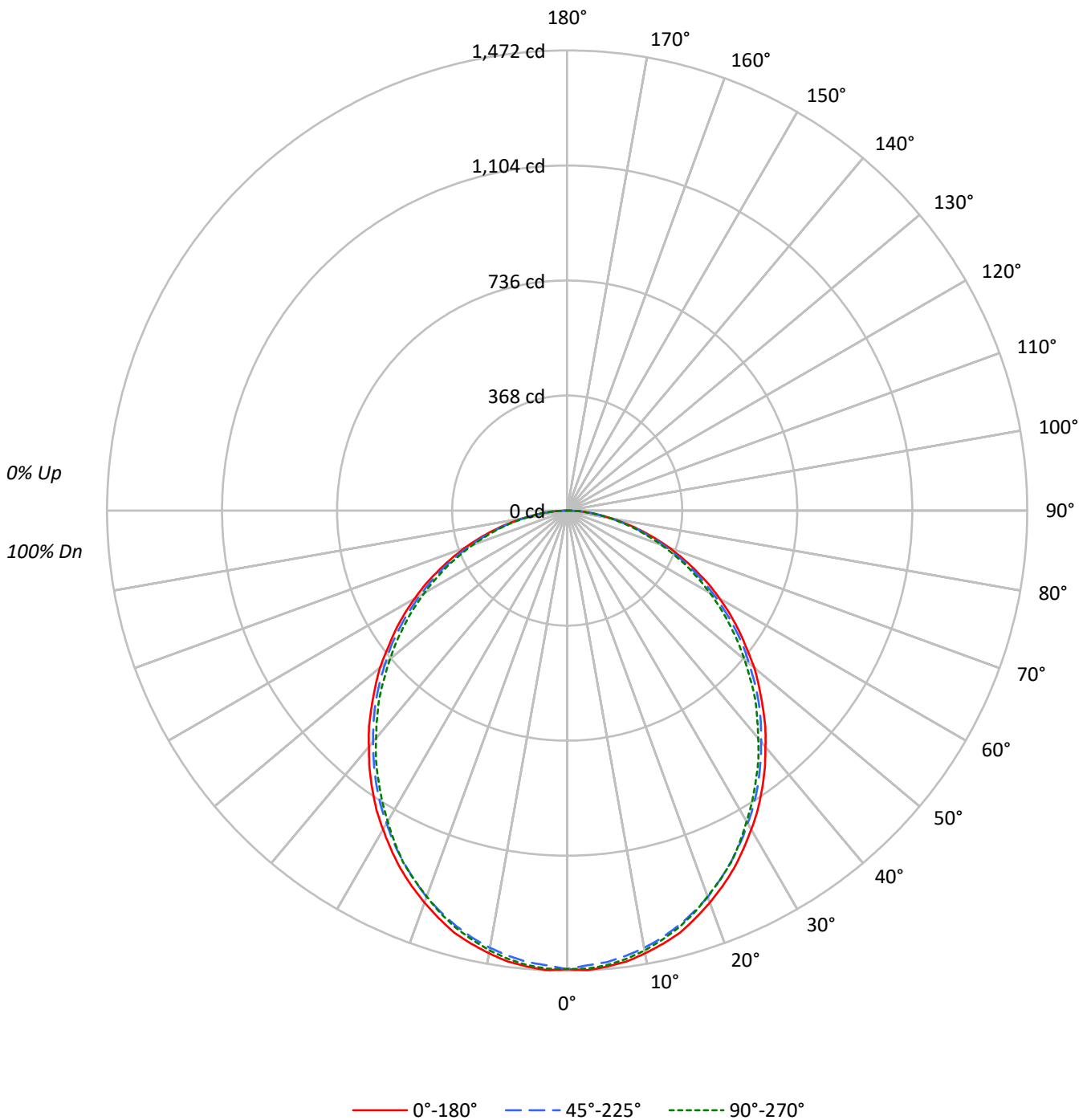
Lumens per Lamp: N/A
Luminaire Lumens: 3775.9 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 37.7
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 | 84 | 79 | 97 | 89 | 83 | 78 | 86 | 80 | 76 | 82 | 78 | 74 | 79 | 76 | 73 | 70 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 67 | 63 | 70 | 66 | 62 | 60 |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 |
| 5 | 77 | 64 | 55 | 48 | 74 | 63 | 54 | 48 | 61 | 53 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 44 |
| 6 | 71 | 58 | 49 | 42 | 69 | 57 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 41 | 39 |
| 7 | 66 | 52 | 44 | 38 | 64 | 51 | 43 | 37 | 50 | 43 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 39 | 34 | 60 | 47 | 39 | 33 | 46 | 38 | 33 | 45 | 38 | 33 | 43 | 37 | 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 | 52 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 13037 | 13037 | 13037 |
| 5° | 13067 | 12938 | 13024 |
| 10° | 12980 | 12819 | 12895 |
| 15° | 12860 | 12652 | 12707 |
| 20° | 12622 | 12441 | 12430 |
| 25° | 12384 | 12162 | 12173 |
| 30° | 12090 | 11858 | 11784 |
| 35° | 11798 | 11564 | 11422 |
| 40° | 11453 | 11203 | 11037 |
| 45° | 11116 | 10891 | 10681 |
| 50° | 10810 | 10496 | 10232 |
| 55° | 10413 | 10135 | 9821 |
| 60° | 10014 | 9675 | 9378 |
| 65° | 9538 | 9212 | 8912 |
| 70° | 9026 | 8623 | 8343 |
| 75° | 8322 | 7992 | 7748 |
| 80° | 7330 | 7207 | 7023 |
| 85° | 6456 | 6456 | 6334 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11116 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 138.3 | 3.7 |
| 10°-20° | 389.9 | 10.3 |
| 20°-30° | 574.2 | 15.2 |
| 30°-40° | 668.0 | 17.7 |
| 40°-50° | 668.3 | 17.7 |
| 50°-60° | 584.5 | 15.5 |
| 60°-70° | 434.1 | 11.5 |
| 70°-80° | 247.3 | 6.6 |
| 80°-90° | 71.3 | 1.9 |
| 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° | 1102.4 | 29.2 |
| 0°-40° | 1770.4 | 46.9 |
| 0°-60° | 3023.2 | 80.1 |
| 0°-90° | 3775.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3775.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1467 | 1467 | 1467 | 1467 | 1467 | |
| 5° | 1464 | 1462 | 1450 | 1461 | 1460 | 139 |
| 15° | 1398 | 1390 | 1375 | 1383 | 1381 | 393 |
| 25° | 1263 | 1257 | 1240 | 1244 | 1241 | 581 |
| 35° | 1087 | 1078 | 1066 | 1056 | 1053 | 680 |
| 45° | 884 | 881 | 866 | 853 | 850 | 683 |
| 55° | 672 | 667 | 654 | 640 | 634 | 601 |
| 65° | 454 | 450 | 438 | 428 | 424 | 450 |
| 75° | 242 | 238 | 233 | 228 | 226 | 257 |
| 85° | 63 | 62 | 63 | 61 | 62 | 72 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

TEST NUMBER: P243458

CATALOG NUMBER: S124DRP-H1195D927-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1466.7 | 1466.7 | 1466.7 | 1466.7 | 1466.7 |
| 2.5° | 1471.5 | 1467.9 | 1456.0 | 1467.9 | 1466.7 |
| 5° | 1464.4 | 1462.0 | 1450.0 | 1460.8 | 1459.6 |
| 7.5° | 1454.8 | 1450.0 | 1436.9 | 1447.7 | 1446.5 |
| 10° | 1438.1 | 1434.5 | 1420.2 | 1430.9 | 1428.6 |
| 12.5° | 1419.0 | 1415.4 | 1399.9 | 1408.3 | 1405.9 |
| 15° | 1397.5 | 1390.4 | 1374.9 | 1383.2 | 1380.8 |
| 17.5° | 1366.5 | 1361.7 | 1346.2 | 1353.4 | 1349.8 |
| 20° | 1334.3 | 1328.3 | 1315.2 | 1316.4 | 1314.0 |
| 22.5° | 1299.7 | 1293.7 | 1278.2 | 1283.0 | 1278.2 |
| 25° | 1262.7 | 1256.7 | 1240.0 | 1243.6 | 1241.2 |
| 27.5° | 1220.9 | 1214.9 | 1199.4 | 1200.6 | 1195.8 |
| 30° | 1177.9 | 1170.8 | 1155.3 | 1154.1 | 1148.1 |
| 32.5° | 1135.0 | 1127.8 | 1112.3 | 1107.5 | 1101.6 |
| 35° | 1087.2 | 1077.7 | 1065.7 | 1056.2 | 1052.6 |
| 37.5° | 1038.3 | 1033.5 | 1015.6 | 1009.7 | 1004.9 |
| 40° | 987.0 | 982.2 | 965.5 | 957.1 | 951.2 |
| 42.5° | 938.0 | 932.1 | 916.6 | 904.6 | 899.9 |
| 45° | 884.3 | 880.8 | 866.4 | 853.3 | 849.7 |
| 47.5° | 831.8 | 830.6 | 812.7 | 799.6 | 793.6 |
| 50° | 781.7 | 774.5 | 759.0 | 747.1 | 739.9 |
| 52.5° | 723.2 | 722.0 | 708.9 | 693.4 | 687.4 |
| 55° | 671.9 | 667.1 | 654.0 | 639.7 | 633.7 |
| 57.5° | 618.2 | 615.8 | 599.1 | 587.2 | 581.2 |
| 60° | 563.3 | 558.5 | 544.2 | 533.5 | 527.5 |
| 62.5° | 510.8 | 504.8 | 491.7 | 481.0 | 475.0 |
| 65° | 453.5 | 449.9 | 438.0 | 428.4 | 423.7 |
| 67.5° | 399.8 | 395.0 | 383.1 | 374.7 | 370.0 |
| 70° | 347.3 | 340.1 | 331.8 | 324.6 | 321.0 |
| 72.5° | 294.8 | 288.8 | 281.7 | 276.9 | 272.1 |
| 75° | 242.3 | 237.5 | 232.7 | 227.9 | 225.6 |
| 77.5° | 192.1 | 187.4 | 185.0 | 183.8 | 181.4 |
| 80° | 143.2 | 140.8 | 140.8 | 139.6 | 137.2 |
| 82.5° | 101.4 | 99.1 | 99.1 | 99.1 | 97.9 |
| 85° | 63.3 | 62.1 | 63.3 | 60.9 | 62.1 |
| 87.5° | 29.8 | 29.8 | 31.0 | 29.8 | 31.0 |
| 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 | 20.22 | 21.83 | 20.58 | 22.15 | 22.46 | 19.87 | 21.49 | 20.24 | 21.80 | 22.12 |
| | 3H | 21.97 | 23.43 | 22.35 | 23.76 | 24.12 | 21.58 | 23.04 | 21.96 | 23.37 | 23.73 |
| | 4H | 22.63 | 24.00 | 23.03 | 24.35 | 24.73 | 22.23 | 23.61 | 22.63 | 23.95 | 24.33 |
| | 6H | 23.10 | 24.38 | 23.51 | 24.74 | 25.13 | 22.72 | 23.99 | 23.13 | 24.36 | 24.75 |
| | 8H | 23.26 | 24.47 | 23.68 | 24.86 | 25.26 | 22.88 | 24.10 | 23.31 | 24.49 | 24.89 |
| | 12H | 23.36 | 24.53 | 23.79 | 24.91 | 25.34 | 23.00 | 24.16 | 23.42 | 24.54 | 24.97 |
| 4H | 2H | 20.79 | 22.17 | 21.19 | 22.51 | 22.89 | 20.52 | 21.89 | 20.91 | 22.24 | 22.61 |
| | 3H | 22.77 | 23.92 | 23.18 | 24.31 | 24.71 | 22.45 | 23.60 | 22.86 | 24.00 | 24.40 |
| | 4H | 23.55 | 24.59 | 23.98 | 25.01 | 25.44 | 23.22 | 24.26 | 23.65 | 24.68 | 25.11 |
| | 6H | 24.15 | 25.06 | 24.61 | 25.50 | 25.96 | 23.84 | 24.75 | 24.29 | 25.19 | 25.65 |
| | 8H | 24.35 | 25.20 | 24.81 | 25.65 | 26.11 | 24.05 | 24.90 | 24.51 | 25.34 | 25.81 |
| | 12H | 24.50 | 25.27 | 24.98 | 25.74 | 26.21 | 24.21 | 24.97 | 24.69 | 25.45 | 25.92 |
| 8H | 4H | 23.83 | 24.69 | 24.29 | 25.13 | 25.59 | 23.54 | 24.40 | 24.00 | 24.84 | 25.30 |
| | 6H | 24.55 | 25.26 | 25.05 | 25.75 | 26.23 | 24.29 | 24.99 | 24.78 | 25.48 | 25.96 |
| | 8H | 24.83 | 25.46 | 25.34 | 25.97 | 26.45 | 24.57 | 25.21 | 25.08 | 25.71 | 26.20 |
| | 12H | 25.05 | 25.61 | 25.56 | 26.11 | 26.67 | 24.81 | 25.37 | 25.31 | 25.86 | 26.42 |
| 12H | 4H | 23.86 | 24.63 | 24.34 | 25.10 | 25.57 | 23.58 | 24.34 | 24.06 | 24.82 | 25.29 |
| | 6H | 24.60 | 25.24 | 25.11 | 25.75 | 26.23 | 24.34 | 24.98 | 24.85 | 25.49 | 25.97 |
| | 8H | 24.93 | 25.50 | 25.44 | 25.99 | 26.55 | 24.69 | 25.25 | 25.20 | 25.74 | 26.30 |