

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P243589

Luminaire Tested: **S124RDR-H1020D940-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243589
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-H1020D940-X4F0-XX-UDD-F-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3430.7 lumens
Efficiency: N/A
Efficacy: 108.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

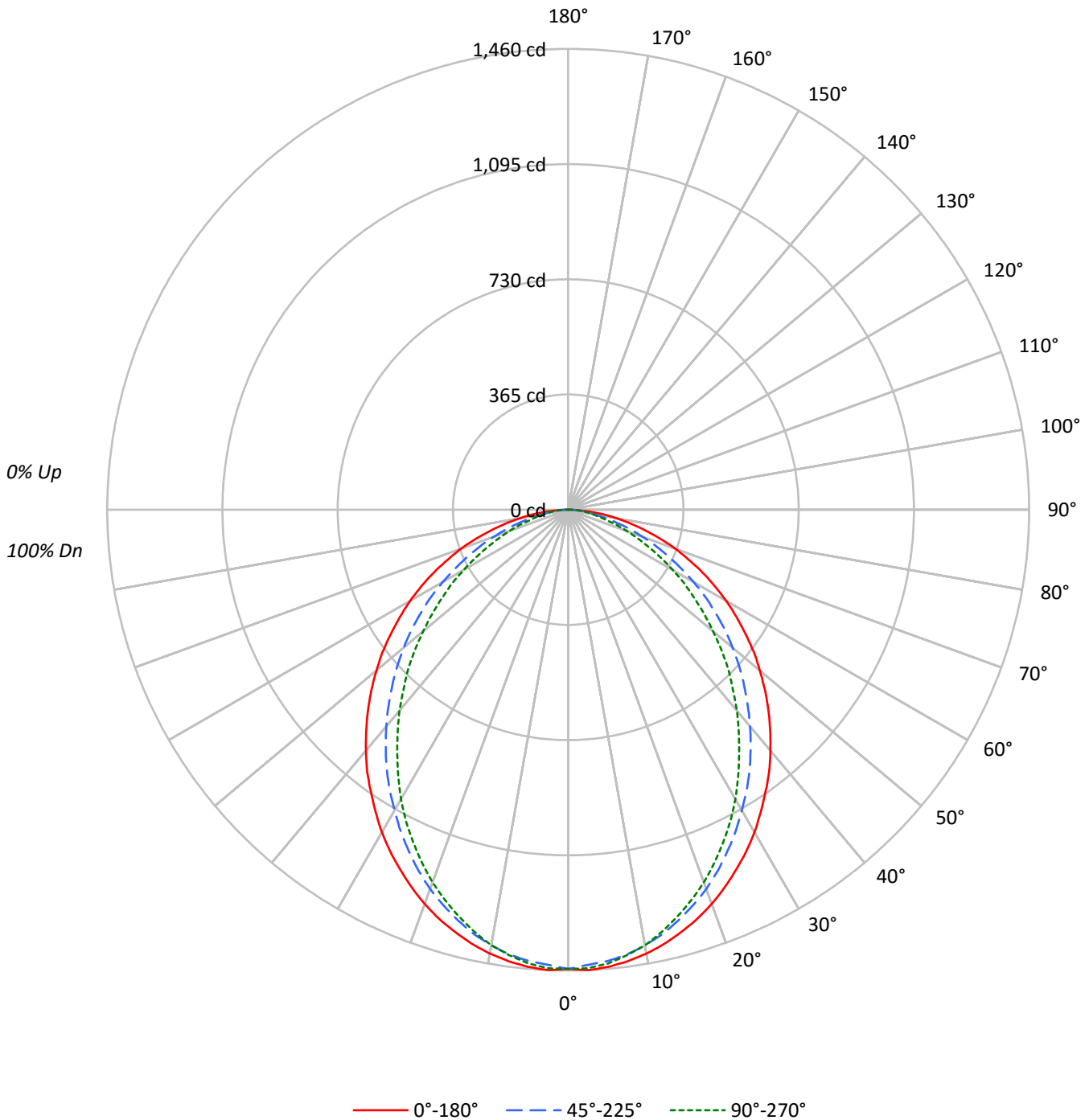
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243589

CATALOG NUMBER: S124RDR-H1020D940-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P243589

CATALOG NUMBER: S124RDR-H1020D940-X4F0-XX-UDD-F-W

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 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 95 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 86 | 80 | 97 | 90 | 84 | 79 | 87 | 82 | 78 | 84 | 79 | 76 | 81 | 77 | 74 | 72 |
| 3 | 92 | 82 | 74 | 68 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 74 | 69 | 65 | 72 | 67 | 64 | 61 |
| 4 | 84 | 73 | 64 | 58 | 82 | 71 | 64 | 57 | 69 | 62 | 57 | 67 | 61 | 56 | 64 | 59 | 55 | 53 |
| 5 | 78 | 65 | 57 | 50 | 76 | 64 | 56 | 50 | 62 | 55 | 49 | 60 | 54 | 49 | 58 | 53 | 48 | 46 |
| 6 | 72 | 59 | 50 | 44 | 70 | 58 | 50 | 44 | 56 | 49 | 44 | 55 | 48 | 43 | 53 | 47 | 43 | 41 |
| 7 | 67 | 54 | 45 | 39 | 65 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 36 |
| 8 | 62 | 49 | 41 | 35 | 61 | 49 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 34 | 33 |
| 9 | 58 | 45 | 37 | 32 | 57 | 45 | 37 | 32 | 44 | 37 | 32 | 42 | 36 | 31 | 41 | 36 | 31 | 30 |
| 10 | 55 | 42 | 34 | 29 | 54 | 41 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 39 | 33 | 29 | 27 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12932 | 12932 | 12932 |
| 5° | 12972 | 12809 | 12877 |
| 10° | 12889 | 12647 | 12647 |
| 15° | 12746 | 12400 | 12282 |
| 20° | 12574 | 12097 | 11883 |
| 25° | 12342 | 11711 | 11395 |
| 30° | 12112 | 11285 | 10867 |
| 35° | 11826 | 10871 | 10242 |
| 40° | 11562 | 10403 | 9643 |
| 45° | 11270 | 9907 | 9016 |
| 50° | 10958 | 9399 | 8285 |
| 55° | 10616 | 8820 | 7555 |
| 60° | 10288 | 8151 | 6795 |
| 65° | 9846 | 7362 | 5940 |
| 70° | 9377 | 6503 | 5162 |
| 75° | 8665 | 5420 | 4204 |
| 80° | 7914 | 4233 | 3849 |
| 85° | 7007 | 4049 | 3835 |



TEST NUMBER: P243589

CATALOG NUMBER: S124RDR-H1020D940-X4F0-XX-UDD-F-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 136.8 | 4.0 |
| 10°-20° | 382.1 | 11.1 |
| 20°-30° | 554.1 | 16.2 |
| 30°-40° | 631.6 | 18.4 |
| 40°-50° | 614.5 | 17.9 |
| 50°-60° | 516.2 | 15.0 |
| 60°-70° | 359.6 | 10.5 |
| 70°-80° | 185.7 | 5.4 |
| 80°-90° | 50.2 | 1.5 |
| 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° | 1073.0 | 31.3 |
| 0°-40° | 1704.6 | 49.7 |
| 0°-60° | 2835.2 | 82.6 |
| 0°-90° | 3430.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3430.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1455 | 1455 | 1455 | 1455 | 1455 | |
| 5° | 1454 | 1450 | 1436 | 1446 | 1443 | 138 |
| 15° | 1385 | 1374 | 1348 | 1345 | 1335 | 391 |
| 25° | 1258 | 1235 | 1194 | 1177 | 1162 | 580 |
| 35° | 1090 | 1056 | 1002 | 964 | 944 | 682 |
| 45° | 896 | 854 | 788 | 738 | 717 | 692 |
| 55° | 685 | 641 | 569 | 511 | 488 | 613 |
| 65° | 468 | 423 | 350 | 300 | 282 | 463 |
| 75° | 252 | 214 | 158 | 132 | 122 | 269 |
| 85° | 69 | 44 | 40 | 38 | 38 | 79 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P243589

CATALOG NUMBER: S124RDR-H1020D940-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1454.9 | 1454.9 | 1454.9 | 1454.9 | 1454.9 |
| 2.5° | 1460.2 | 1455.9 | 1443.1 | 1454.9 | 1453.8 |
| 5° | 1453.8 | 1449.5 | 1435.5 | 1446.3 | 1443.1 |
| 7.5° | 1443.1 | 1437.7 | 1421.6 | 1429.1 | 1423.7 |
| 10° | 1428.0 | 1422.7 | 1401.2 | 1406.6 | 1401.2 |
| 12.5° | 1408.7 | 1401.2 | 1377.6 | 1378.6 | 1370.1 |
| 15° | 1385.1 | 1374.3 | 1347.5 | 1345.4 | 1334.6 |
| 17.5° | 1359.3 | 1345.4 | 1314.2 | 1308.8 | 1297.0 |
| 20° | 1329.3 | 1312.1 | 1278.8 | 1267.0 | 1256.2 |
| 22.5° | 1294.9 | 1274.5 | 1238.0 | 1224.0 | 1210.1 |
| 25° | 1258.4 | 1234.8 | 1194.0 | 1176.8 | 1161.8 |
| 27.5° | 1220.8 | 1192.9 | 1148.9 | 1127.4 | 1112.4 |
| 30° | 1180.0 | 1147.8 | 1099.5 | 1074.8 | 1058.7 |
| 32.5° | 1134.9 | 1102.7 | 1052.2 | 1022.2 | 1001.8 |
| 35° | 1089.8 | 1056.5 | 1001.8 | 964.2 | 943.8 |
| 37.5° | 1045.8 | 1008.2 | 949.2 | 910.5 | 886.9 |
| 40° | 996.4 | 956.7 | 896.5 | 852.5 | 831.0 |
| 42.5° | 947.0 | 906.2 | 841.8 | 795.6 | 772.0 |
| 45° | 896.5 | 853.6 | 788.1 | 737.6 | 717.2 |
| 47.5° | 845.0 | 802.1 | 734.4 | 681.8 | 658.2 |
| 50° | 792.4 | 749.4 | 679.7 | 621.7 | 599.1 |
| 52.5° | 740.9 | 695.8 | 626.0 | 566.9 | 543.3 |
| 55° | 685.0 | 641.0 | 569.1 | 511.1 | 487.5 |
| 57.5° | 631.3 | 585.2 | 515.4 | 456.3 | 437.0 |
| 60° | 578.7 | 532.6 | 458.5 | 401.6 | 382.2 |
| 62.5° | 522.9 | 476.7 | 403.7 | 349.0 | 331.8 |
| 65° | 468.1 | 423.0 | 350.0 | 299.6 | 282.4 |
| 67.5° | 412.3 | 371.5 | 300.6 | 252.3 | 238.4 |
| 70° | 360.8 | 314.6 | 250.2 | 208.3 | 198.6 |
| 72.5° | 306.0 | 265.2 | 202.9 | 168.6 | 161.1 |
| 75° | 252.3 | 213.7 | 157.8 | 132.1 | 122.4 |
| 77.5° | 202.9 | 165.4 | 119.2 | 97.7 | 97.7 |
| 80° | 154.6 | 121.3 | 82.7 | 77.3 | 75.2 |
| 82.5° | 109.5 | 78.4 | 61.2 | 56.9 | 55.8 |
| 85° | 68.7 | 44.0 | 39.7 | 37.6 | 37.6 |
| 87.5° | 33.3 | 20.4 | 20.4 | 19.3 | 19.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)