

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: P242714

Luminaire Tested: **S124RDR-S1020D840-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242714
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-26)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-S1020D840-X4F0-XX-UDD-F-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3886.2 lumens
Efficiency: N/A
Efficacy: 111.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

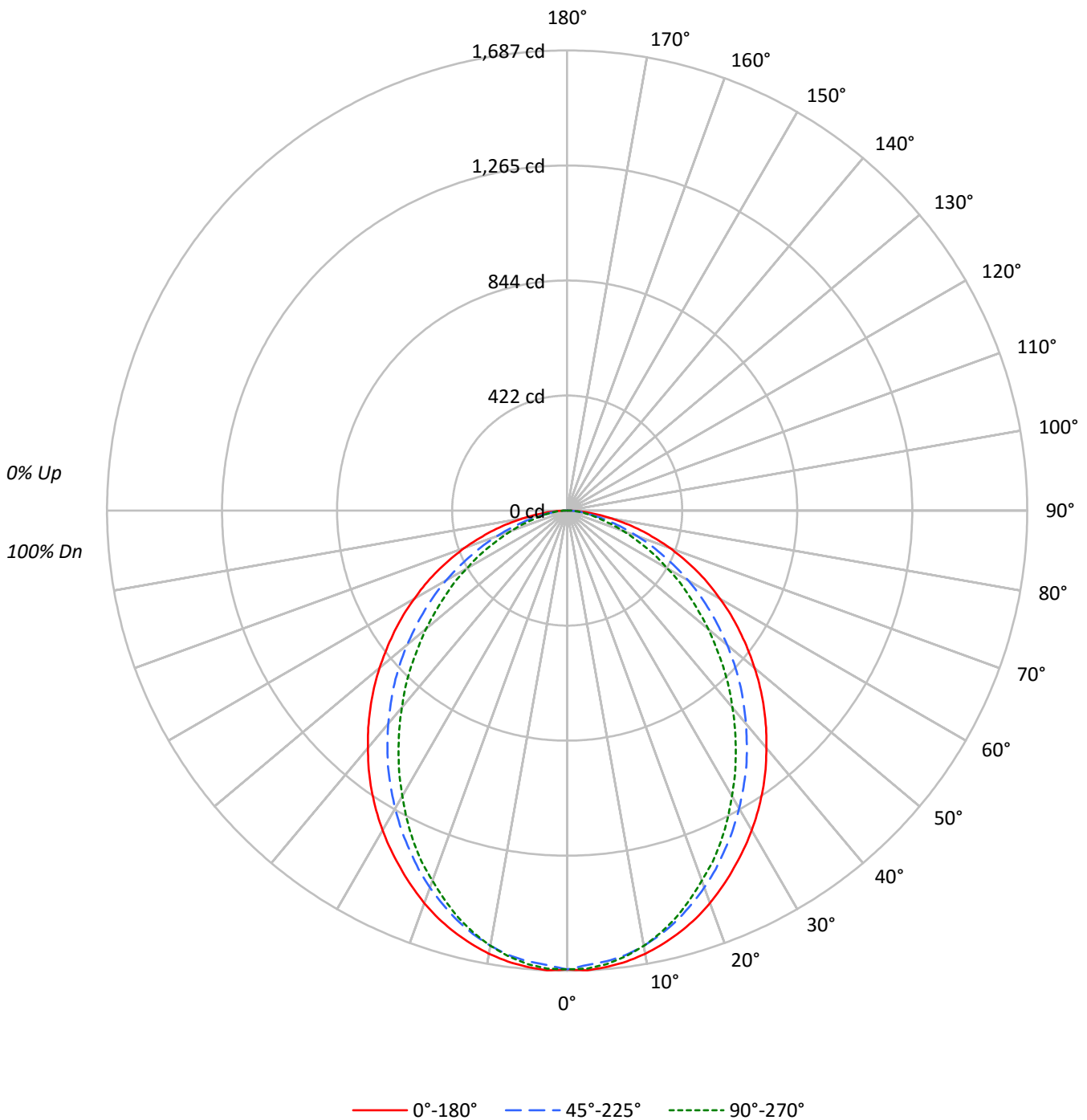
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 93 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 78 | 74 | 72 |
| 3 | 92 | 82 | 74 | 68 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 75 | 69 | 65 | 72 | 68 | 64 | 62 |
| 4 | 84 | 73 | 65 | 58 | 82 | 72 | 64 | 58 | 69 | 62 | 57 | 67 | 61 | 56 | 65 | 60 | 56 | 54 |
| 5 | 78 | 66 | 57 | 51 | 76 | 65 | 56 | 50 | 62 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 47 |
| 6 | 72 | 59 | 51 | 45 | 70 | 58 | 50 | 44 | 57 | 49 | 44 | 55 | 49 | 44 | 53 | 48 | 43 | 41 |
| 7 | 67 | 54 | 46 | 40 | 65 | 53 | 45 | 40 | 52 | 45 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 37 |
| 8 | 63 | 50 | 41 | 36 | 61 | 49 | 41 | 36 | 48 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 33 |
| 9 | 59 | 46 | 38 | 32 | 57 | 45 | 37 | 32 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 30 |
| 10 | 55 | 42 | 35 | 29 | 54 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 14950 | 14950 | 14950 |
| 5° | 14984 | 14800 | 14892 |
| 10° | 14890 | 14623 | 14623 |
| 15° | 14719 | 14316 | 14210 |
| 20° | 14484 | 13912 | 13657 |
| 25° | 14184 | 13439 | 13098 |
| 30° | 13892 | 12941 | 12399 |
| 35° | 13570 | 12424 | 11697 |
| 40° | 13181 | 11836 | 10939 |
| 45° | 12822 | 11251 | 10167 |
| 50° | 12413 | 10579 | 9350 |
| 55° | 11975 | 9880 | 8462 |
| 60° | 11493 | 9113 | 7556 |
| 65° | 11051 | 8152 | 6663 |
| 70° | 10409 | 7095 | 5655 |
| 75° | 9599 | 5883 | 4599 |
| 80° | 8375 | 4484 | 4218 |
| 85° | 7088 | 4069 | 3804 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 158.2 | 4.1 |
| 10°-20° | 441.0 | 11.3 |
| 20°-30° | 636.6 | 16.4 |
| 30°-40° | 721.5 | 18.6 |
| 40°-50° | 696.7 | 17.9 |
| 50°-60° | 579.2 | 14.9 |
| 60°-70° | 399.8 | 10.3 |
| 70°-80° | 202.0 | 5.2 |
| 80°-90° | 51.3 | 1.3 |
| 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° | 1235.8 | 31.8 |
| 0°-40° | 1957.3 | 50.4 |
| 0°-60° | 3233.2 | 83.2 |
| 0°-90° | 3886.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3886.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1682 | 1682 | 1682 | 1682 | 1682 | |
| 5° | 1679 | 1674 | 1659 | 1672 | 1669 | 159 |
| 15° | 1600 | 1588 | 1556 | 1553 | 1544 | 451 |
| 25° | 1446 | 1423 | 1370 | 1348 | 1336 | 666 |
| 35° | 1250 | 1209 | 1145 | 1101 | 1078 | 782 |
| 45° | 1020 | 972 | 895 | 832 | 809 | 787 |
| 55° | 773 | 721 | 638 | 570 | 546 | 691 |
| 65° | 525 | 470 | 388 | 332 | 317 | 519 |
| 75° | 280 | 232 | 171 | 142 | 134 | 295 |
| 85° | 70 | 44 | 40 | 37 | 37 | 80 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P242714

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1681.9 | 1681.9 | 1681.9 | 1681.9 | 1681.9 |
| 2.5° | 1687.1 | 1681.9 | 1667.7 | 1681.9 | 1680.6 |
| 5° | 1679.3 | 1674.2 | 1658.7 | 1671.6 | 1669.0 |
| 7.5° | 1667.7 | 1662.6 | 1643.3 | 1652.3 | 1648.4 |
| 10° | 1649.7 | 1643.3 | 1620.1 | 1625.2 | 1620.1 |
| 12.5° | 1626.5 | 1618.8 | 1590.5 | 1593.0 | 1585.3 |
| 15° | 1599.5 | 1587.9 | 1555.7 | 1553.1 | 1544.1 |
| 17.5° | 1568.6 | 1551.8 | 1514.5 | 1508.0 | 1495.2 |
| 20° | 1531.2 | 1514.5 | 1470.7 | 1460.4 | 1443.7 |
| 22.5° | 1490.0 | 1470.7 | 1423.0 | 1406.3 | 1393.4 |
| 25° | 1446.2 | 1423.0 | 1370.2 | 1348.4 | 1335.5 |
| 27.5° | 1401.2 | 1372.8 | 1317.4 | 1291.7 | 1273.7 |
| 30° | 1353.5 | 1321.3 | 1260.8 | 1228.6 | 1208.0 |
| 32.5° | 1303.3 | 1265.9 | 1202.8 | 1164.2 | 1144.9 |
| 35° | 1250.5 | 1209.3 | 1144.9 | 1101.1 | 1077.9 |
| 37.5° | 1195.1 | 1152.6 | 1081.8 | 1034.1 | 1010.9 |
| 40° | 1135.9 | 1093.4 | 1020.0 | 965.9 | 942.7 |
| 42.5° | 1079.2 | 1034.1 | 956.9 | 901.5 | 877.0 |
| 45° | 1020.0 | 972.3 | 895.0 | 831.9 | 808.8 |
| 47.5° | 959.4 | 910.5 | 830.6 | 765.0 | 739.2 |
| 50° | 897.6 | 847.4 | 765.0 | 700.6 | 676.1 |
| 52.5° | 834.5 | 785.6 | 700.6 | 634.9 | 609.1 |
| 55° | 772.7 | 721.2 | 637.5 | 570.5 | 546.0 |
| 57.5° | 712.2 | 658.1 | 575.7 | 507.4 | 489.4 |
| 60° | 646.5 | 595.0 | 512.6 | 445.6 | 425.0 |
| 62.5° | 587.2 | 533.2 | 448.2 | 387.6 | 372.2 |
| 65° | 525.4 | 470.1 | 387.6 | 332.3 | 316.8 |
| 67.5° | 461.0 | 408.2 | 331.0 | 282.0 | 264.0 |
| 70° | 400.5 | 346.4 | 273.0 | 230.5 | 217.6 |
| 72.5° | 336.1 | 288.5 | 220.2 | 185.4 | 173.9 |
| 75° | 279.5 | 231.8 | 171.3 | 141.7 | 133.9 |
| 77.5° | 220.2 | 179.0 | 127.5 | 106.9 | 104.3 |
| 80° | 163.6 | 126.2 | 87.6 | 83.7 | 82.4 |
| 82.5° | 114.6 | 81.1 | 63.1 | 60.5 | 59.2 |
| 85° | 69.5 | 43.8 | 39.9 | 37.3 | 37.3 |
| 87.5° | 29.6 | 19.3 | 18.0 | 16.7 | 18.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)