

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: P243054

Luminaire Tested: **S121RDR-H1025D835-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243054
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-62)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121RDR-H1025D835-X4F0-XX-UDD-F-W
Description: DEFINE 1 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3086.8 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 0.92 / 1.09
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')
CIE Type: Direct

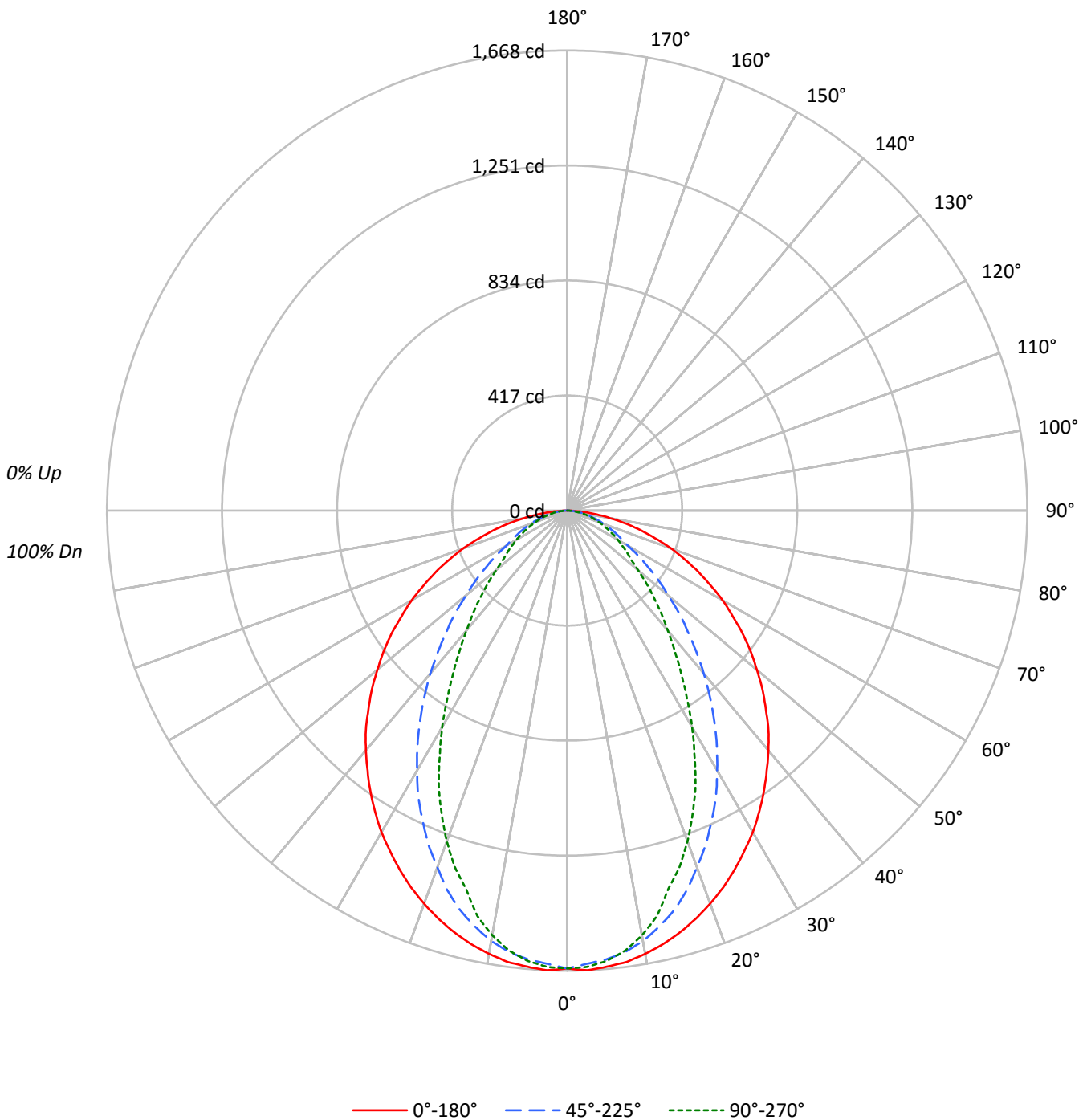
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 106 | 102 | 99 | 108 | 104 | 100 | 97 | 100 | 97 | 94 | 96 | 94 | 91 | 92 | 90 | 89 | 87 |
| 2 | 102 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 79 | 83 | 80 | 77 | 75 |
| 3 | 94 | 84 | 77 | 71 | 91 | 83 | 76 | 71 | 80 | 74 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 |
| 4 | 87 | 76 | 68 | 62 | 84 | 74 | 67 | 61 | 72 | 66 | 61 | 70 | 64 | 60 | 68 | 63 | 59 | 57 |
| 5 | 80 | 69 | 60 | 54 | 78 | 67 | 60 | 54 | 65 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 52 | 50 |
| 6 | 75 | 62 | 54 | 48 | 73 | 62 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | 45 |
| 7 | 70 | 57 | 49 | 43 | 68 | 56 | 49 | 43 | 55 | 48 | 43 | 54 | 47 | 43 | 52 | 47 | 42 | 41 |
| 8 | 65 | 53 | 45 | 39 | 64 | 52 | 44 | 39 | 51 | 44 | 39 | 50 | 43 | 39 | 48 | 43 | 39 | 37 |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | 34 |
| 10 | 58 | 45 | 38 | 33 | 56 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 33 | 42 | 36 | 32 | 31 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 49179 | 49179 | 49179 |
| 5° | 49367 | 48573 | 48740 |
| 10° | 49093 | 47654 | 47020 |
| 15° | 48540 | 45997 | 43494 |
| 20° | 47811 | 43378 | 40228 |
| 25° | 46953 | 40513 | 36008 |
| 30° | 46055 | 37200 | 30994 |
| 35° | 44979 | 33632 | 26050 |
| 40° | 43904 | 29814 | 21927 |
| 45° | 42674 | 25875 | 18567 |
| 50° | 41366 | 22048 | 15433 |
| 55° | 40112 | 18602 | 13736 |
| 60° | 38596 | 15087 | 12587 |
| 65° | 36688 | 13510 | 11540 |
| 70° | 34731 | 12189 | 10604 |
| 75° | 31723 | 10956 | 9662 |
| 80° | 27113 | 9607 | 8634 |
| 85° | 21044 | 8125 | 7173 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 155.4 | 5.0 |
| 10°-20° | 422.4 | 13.7 |
| 20°-30° | 576.3 | 18.7 |
| 30°-40° | 597.4 | 19.4 |
| 40°-50° | 521.3 | 16.9 |
| 50°-60° | 392.3 | 12.7 |
| 60°-70° | 257.2 | 8.3 |
| 70°-80° | 131.1 | 4.2 |
| 80°-90° | 33.3 | 1.1 |
| 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° | 1154.1 | 37.4 |
| 0°-40° | 1751.5 | 56.7 |
| 0°-60° | 2665.1 | 86.3 |
| 0°-90° | 3086.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3086.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1660 | 1660 | 1660 | 1660 | 1660 | |
| 5° | 1660 | 1651 | 1633 | 1643 | 1639 | 158 |
| 15° | 1582 | 1560 | 1500 | 1457 | 1418 | 446 |
| 25° | 1436 | 1377 | 1239 | 1135 | 1101 | 662 |
| 35° | 1244 | 1136 | 930 | 774 | 720 | 778 |
| 45° | 1018 | 871 | 618 | 480 | 443 | 787 |
| 55° | 776 | 591 | 360 | 273 | 266 | 693 |
| 65° | 523 | 326 | 193 | 170 | 165 | 519 |
| 75° | 277 | 127 | 96 | 87 | 84 | 292 |
| 85° | 62 | 25 | 24 | 21 | 21 | 74 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P243054

CATALOG NUMBER: S121RDR-H1025D835-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1659.8 | 1659.8 | 1659.8 | 1659.8 | 1659.8 |
| 2.5° | 1668.2 | 1661.2 | 1644.3 | 1658.4 | 1655.6 |
| 5° | 1659.8 | 1651.4 | 1633.1 | 1642.9 | 1638.7 |
| 7.5° | 1650.0 | 1638.7 | 1613.4 | 1617.6 | 1609.2 |
| 10° | 1631.7 | 1617.6 | 1583.9 | 1575.4 | 1562.8 |
| 12.5° | 1609.2 | 1593.7 | 1544.5 | 1524.8 | 1505.1 |
| 15° | 1582.4 | 1559.9 | 1499.5 | 1457.3 | 1417.9 |
| 17.5° | 1551.5 | 1523.4 | 1443.2 | 1384.1 | 1354.6 |
| 20° | 1516.3 | 1479.8 | 1375.7 | 1306.7 | 1275.8 |
| 22.5° | 1478.4 | 1431.9 | 1312.4 | 1225.2 | 1188.6 |
| 25° | 1436.2 | 1377.1 | 1239.2 | 1135.1 | 1101.4 |
| 27.5° | 1391.1 | 1323.6 | 1168.9 | 1049.3 | 1000.1 |
| 30° | 1346.1 | 1261.7 | 1087.3 | 953.7 | 905.9 |
| 32.5° | 1295.5 | 1199.8 | 1010.0 | 862.3 | 808.8 |
| 35° | 1243.5 | 1136.5 | 929.8 | 773.6 | 720.2 |
| 37.5° | 1188.6 | 1073.2 | 849.6 | 692.1 | 640.0 |
| 40° | 1135.1 | 1004.3 | 770.8 | 613.3 | 566.9 |
| 42.5° | 1080.3 | 935.4 | 692.1 | 544.4 | 505.0 |
| 45° | 1018.4 | 870.7 | 617.5 | 479.7 | 443.1 |
| 47.5° | 960.7 | 800.4 | 550.0 | 422.0 | 388.2 |
| 50° | 897.4 | 731.4 | 478.3 | 368.5 | 334.8 |
| 52.5° | 838.3 | 661.1 | 419.2 | 312.3 | 291.2 |
| 55° | 776.5 | 590.8 | 360.1 | 272.9 | 265.9 |
| 57.5° | 710.3 | 521.9 | 308.0 | 244.8 | 236.3 |
| 60° | 651.3 | 455.7 | 254.6 | 219.4 | 212.4 |
| 62.5° | 585.2 | 389.6 | 220.8 | 195.5 | 188.5 |
| 65° | 523.3 | 326.3 | 192.7 | 170.2 | 164.6 |
| 67.5° | 461.4 | 268.7 | 166.0 | 147.7 | 142.1 |
| 70° | 400.9 | 213.8 | 140.7 | 126.6 | 122.4 |
| 72.5° | 334.8 | 161.8 | 118.2 | 106.9 | 104.1 |
| 75° | 277.1 | 126.6 | 95.7 | 87.2 | 84.4 |
| 77.5° | 216.6 | 95.7 | 74.6 | 68.9 | 67.5 |
| 80° | 158.9 | 68.9 | 56.3 | 52.0 | 50.6 |
| 82.5° | 108.3 | 46.4 | 39.4 | 36.6 | 35.2 |
| 85° | 61.9 | 25.3 | 23.9 | 21.1 | 21.1 |
| 87.5° | 23.9 | 9.8 | 8.4 | 8.4 | 8.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)