

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: P334158

Luminaire Tested: **SA4XXDP-C1020D940-4F0-1E-UDD-D**

Issue Date: 10/11/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P334158  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-16)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 10/11/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDP-C1020D940-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT LED LUMINAIRE, DROP SATIN WHITE DIFFUSER  
PENDANT/SURFACE/WALL MOUNT, 1020 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

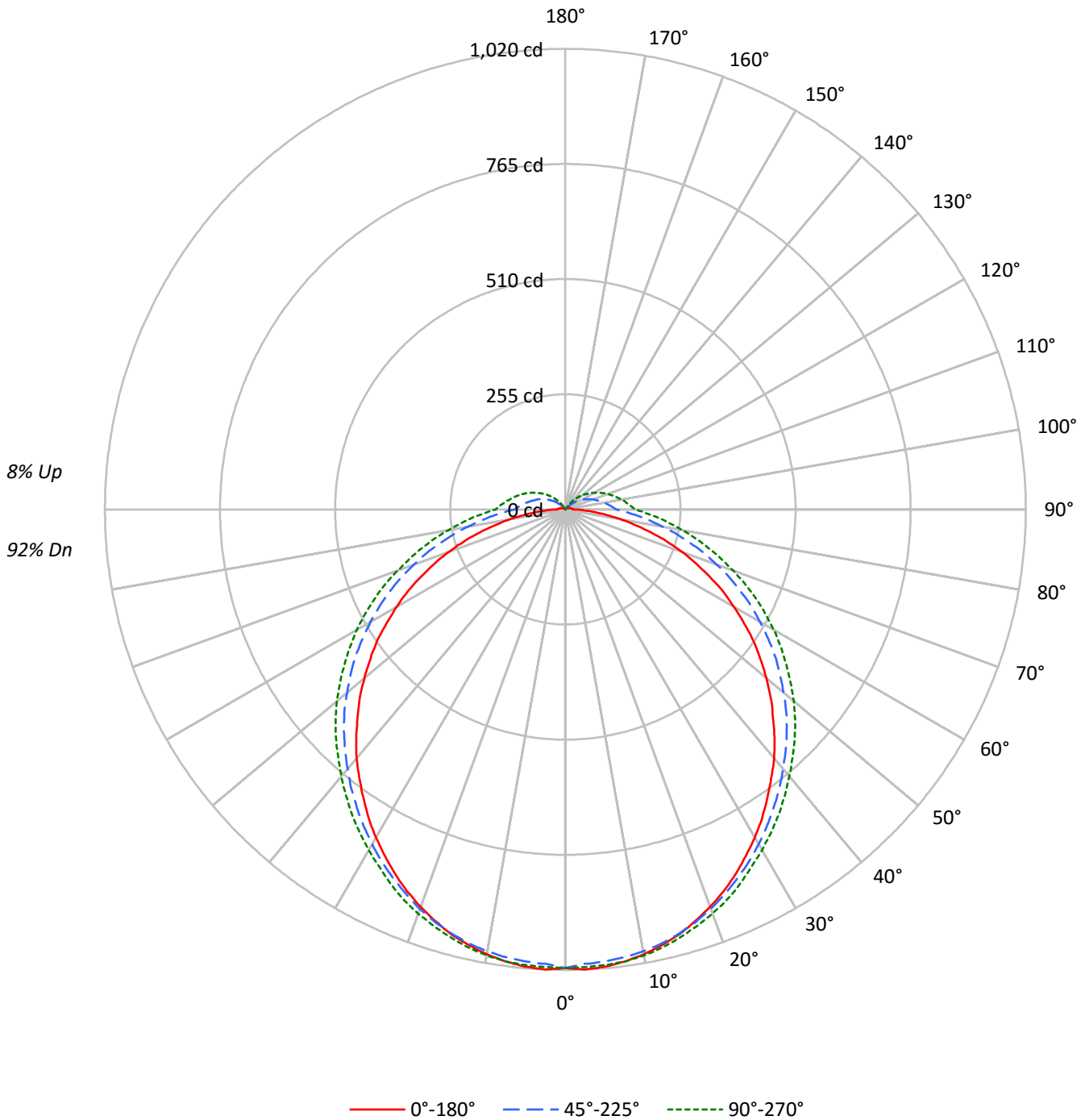
Lumens per Lamp: N/A  
Luminaire Lumens: 3462.2 lumens  
Efficiency: N/A  
Efficacy: 99.5 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.8  
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: P334158  
CATALOG NUMBER: SA4XXDP-C1020D940-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P334158

CATALOG NUMBER: SA4XXDP-C1020D940-4F0-1E-UDD-D

**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 | 50 | 30 | 10 | 0  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |   |
| 0   | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 95 | 95 | 95 | 92 |    |    |    |   |
| 1   | 105 | 100 | 95  | 91  | 102 | 97  | 93  | 89  | 91  | 88  | 84  | 86  | 83  | 80  | 81 | 79 | 77 | 74 |    |    |    |   |
| 2   | 95  | 86  | 79  | 73  | 92  | 84  | 77  | 71  | 79  | 73  | 68  | 74  | 70  | 66  | 70 | 67 | 63 | 60 |    |    |    |   |
| 3   | 87  | 75  | 67  | 60  | 83  | 73  | 65  | 59  | 69  | 62  | 57  | 65  | 60  | 55  | 62 | 57 | 53 | 50 |    |    |    |   |
| 4   | 79  | 66  | 57  | 50  | 76  | 65  | 56  | 49  | 61  | 54  | 48  | 58  | 52  | 47  | 55 | 49 | 45 | 43 |    |    |    |   |
| 5   | 73  | 59  | 50  | 43  | 70  | 58  | 49  | 42  | 55  | 47  | 41  | 52  | 45  | 40  | 49 | 44 | 39 | 37 |    |    |    |   |
| 6   | 67  | 53  | 44  | 37  | 64  | 52  | 43  | 37  | 49  | 42  | 36  | 47  | 40  | 35  | 45 | 39 | 34 | 32 |    |    |    |   |
| 7   | 62  | 48  | 39  | 33  | 60  | 47  | 38  | 32  | 45  | 37  | 32  | 43  | 36  | 31  | 41 | 35 | 30 | 28 |    |    |    |   |
| 8   | 58  | 44  | 35  | 29  | 56  | 43  | 35  | 29  | 41  | 33  | 28  | 39  | 32  | 28  | 37 | 31 | 27 | 25 |    |    |    |   |
| 9   | 54  | 40  | 32  | 26  | 52  | 39  | 31  | 26  | 38  | 30  | 25  | 36  | 29  | 25  | 34 | 29 | 24 | 22 |    |    |    |   |
| 10  | 50  | 37  | 29  | 24  | 49  | 36  | 29  | 23  | 35  | 28  | 23  | 33  | 27  | 23  | 32 | 26 | 22 | 20 |    |    |    |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°   | 90°   |
|-----|------|-------|-------|
| 0°  | 8198 | 8198  | 8198  |
| 5°  | 8238 | 8146  | 8211  |
| 10° | 8203 | 8147  | 8222  |
| 15° | 8145 | 8126  | 8202  |
| 20° | 8050 | 8089  | 8186  |
| 25° | 7941 | 8033  | 8154  |
| 30° | 7823 | 7982  | 8120  |
| 35° | 7688 | 7934  | 8125  |
| 40° | 7586 | 7909  | 8137  |
| 45° | 7426 | 7920  | 8205  |
| 50° | 7298 | 7926  | 8298  |
| 55° | 7170 | 7986  | 8403  |
| 60° | 6959 | 8042  | 8611  |
| 65° | 6734 | 8168  | 8884  |
| 70° | 6470 | 8401  | 9314  |
| 75° | 6101 | 8902  | 10215 |
| 80° | 5760 | 10205 | 12213 |
| 85° | 5585 | 14746 | 18961 |



TEST NUMBER: P334158

CATALOG NUMBER: SA4XXDP-C1020D940-4F0-1E-UDD-D

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 96.2   | 2.8       |
| 10°-20°   | 275.7  | 8.0       |
| 20°-30°   | 416.8  | 12.0      |
| 30°-40°   | 504.3  | 14.6      |
| 40°-50°   | 533.1  | 15.4      |
| 50°-60°   | 501.7  | 14.5      |
| 60°-70°   | 416.3  | 12.0      |
| 70°-80°   | 292.2  | 8.4       |
| 80°-90°   | 164.7  | 4.8       |
| 90°-100°  | 98.1   | 2.8       |
| 100°-110° | 72.6   | 2.1       |
| 110°-120° | 48.7   | 1.4       |
| 120°-130° | 27.4   | 0.8       |
| 130°-140° | 11.9   | 0.3       |
| 140°-150° | 2.3    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 788.7  | 22.8      |
| 0°-40°    | 1293.0 | 37.3      |
| 0°-60°    | 2327.9 | 67.2      |
| 0°-90°    | 3201.1 | 92.5      |
| 90°-120°  | 219.4  | 6.3       |
| 90°-150°  | 261.1  | 7.5       |
| 90°-180°  | 261.0  | 7.5       |
| 0°-180°   | 3462.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1016 | 1016  | 1016 | 1016  | 1016 |      |
| 5°   | 1017 | 1013  | 1005 | 1014  | 1013 | 97   |
| 15°  | 974  | 976   | 972  | 982   | 981  | 275  |
| 25°  | 892  | 898   | 902  | 914   | 915  | 411  |
| 35°  | 780  | 794   | 805  | 821   | 824  | 488  |
| 45°  | 650  | 672   | 694  | 713   | 719  | 503  |
| 55°  | 509  | 533   | 567  | 590   | 597  | 454  |
| 65°  | 352  | 389   | 428  | 456   | 465  | 350  |
| 75°  | 196  | 238   | 285  | 317   | 328  | 208  |
| 85°  | 60   | 108   | 159  | 193   | 205  | 63   |
| 90°  | 18   | 64    | 113  | 146   | 155  | 12   |
| 95°  | 15   | 52    | 99   | 130   | 140  | 12   |
| 105° | 10   | 33    | 75   | 104   | 113  | 12   |
| 115° | 7    | 17    | 53   | 78    | 86   | 7    |
| 125° | 4    | 3     | 32   | 53    | 60   | 4    |
| 135° | 2    | 2     | 10   | 28    | 35   | 2    |
| 145° | 1    | 0     | 0    | 7     | 11   | 1    |
| 155° | 0    | 0     | 0    | 0     | 0    | 0    |
| 165° | 0    | 0     | 0    | 0     | 0    | 0    |
| 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 180° | 0    | 0     | 0    | 0     | 0    | 0    |



TEST NUMBER: P334158

CATALOG NUMBER: SA4XXDP-C1020D940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1015.5 | 1015.5 | 1015.5 | 1015.5 | 1015.5 |
| 2.5°   | 1020.0 | 1016.6 | 1007.5 | 1015.5 | 1014.3 |
| 5°     | 1016.6 | 1013.2 | 1005.2 | 1014.3 | 1013.2 |
| 7.5°   | 1009.8 | 1007.5 | 1000.7 | 1010.9 | 1009.8 |
| 10°    | 1000.7 | 999.6  | 993.9  | 1004.1 | 1003.0 |
| 12.5°  | 988.2  | 988.2  | 984.8  | 993.9  | 993.9  |
| 15°    | 974.5  | 975.7  | 972.3  | 982.5  | 981.4  |
| 17.5°  | 956.3  | 959.8  | 958.6  | 968.9  | 967.7  |
| 20°    | 937.0  | 940.4  | 941.6  | 952.9  | 952.9  |
| 22.5°  | 915.4  | 920.0  | 922.2  | 933.6  | 935.9  |
| 25°    | 891.5  | 898.3  | 901.8  | 914.3  | 915.4  |
| 27.5°  | 865.4  | 875.6  | 880.2  | 891.5  | 892.7  |
| 30°    | 839.2  | 848.3  | 856.3  | 868.8  | 871.1  |
| 32.5°  | 810.8  | 822.2  | 831.3  | 846.0  | 848.3  |
| 35°    | 780.1  | 793.7  | 805.1  | 821.0  | 824.4  |
| 37.5°  | 749.4  | 765.3  | 778.9  | 794.9  | 798.3  |
| 40°    | 719.8  | 734.6  | 750.5  | 767.6  | 772.1  |
| 42.5°  | 685.7  | 702.8  | 722.1  | 741.4  | 744.8  |
| 45°    | 650.4  | 672.1  | 693.7  | 713.0  | 718.7  |
| 47.5°  | 617.5  | 639.1  | 664.1  | 683.4  | 690.2  |
| 50°    | 581.1  | 606.1  | 631.1  | 653.9  | 660.7  |
| 52.5°  | 544.7  | 569.7  | 599.3  | 622.0  | 628.8  |
| 55°    | 509.4  | 533.3  | 567.4  | 590.2  | 597.0  |
| 57.5°  | 469.6  | 499.2  | 532.2  | 559.5  | 565.2  |
| 60°    | 431.0  | 460.5  | 498.1  | 524.2  | 533.3  |
| 62.5°  | 393.5  | 426.4  | 464.0  | 490.1  | 499.2  |
| 65°    | 352.5  | 388.9  | 427.6  | 456.0  | 465.1  |
| 67.5°  | 313.9  | 352.5  | 393.5  | 421.9  | 431.0  |
| 70°    | 274.1  | 312.7  | 355.9  | 386.6  | 394.6  |
| 72.5°  | 235.4  | 275.2  | 321.8  | 351.4  | 360.5  |
| 75°    | 195.6  | 237.7  | 285.4  | 317.3  | 327.5  |
| 77.5°  | 158.1  | 202.4  | 252.4  | 284.3  | 295.7  |
| 80°    | 123.9  | 169.4  | 219.5  | 253.6  | 262.7  |
| 82.5°  | 89.8   | 137.6  | 187.6  | 222.9  | 233.1  |
| 85°    | 60.3   | 108.0  | 159.2  | 193.3  | 204.7  |
| 87.5°  | 37.5   | 84.1   | 134.2  | 167.2  | 177.4  |
| 90°    | 18.2   | 63.7   | 112.6  | 145.6  | 154.7  |
| 92.5°  | 17.1   | 56.9   | 105.8  | 137.6  | 146.7  |
| 95°    | 14.8   | 52.3   | 98.9   | 129.6  | 139.9  |
| 97.5°  | 13.6   | 46.6   | 93.2   | 122.8  | 133.0  |
| 100°   | 12.5   | 42.1   | 86.4   | 117.1  | 125.1  |
| 102.5° | 12.5   | 37.5   | 80.7   | 110.3  | 119.4  |
| 105°   | 10.2   | 33.0   | 75.1   | 103.5  | 112.6  |
| 107.5° | 10.2   | 29.6   | 69.4   | 97.8   | 105.8  |
| 110°   | 9.1    | 25.0   | 64.8   | 91.0   | 100.1  |



TEST NUMBER: P334158

CATALOG NUMBER: SA4XXDP-C1020D940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°  |
|--------|-----|-------|------|-------|------|
| 112.5° | 8.0 | 21.6  | 59.1 | 84.1  | 93.2 |
| 115°   | 6.8 | 17.1  | 53.4 | 78.5  | 86.4 |
| 117.5° | 6.8 | 13.6  | 47.8 | 71.6  | 80.7 |
| 120°   | 5.7 | 9.1   | 42.1 | 64.8  | 73.9 |
| 122.5° | 5.7 | 5.7   | 36.4 | 59.1  | 67.1 |
| 125°   | 4.5 | 3.4   | 31.8 | 53.4  | 60.3 |
| 127.5° | 4.5 | 3.4   | 26.2 | 46.6  | 54.6 |
| 130°   | 3.4 | 2.3   | 20.5 | 40.9  | 47.8 |
| 132.5° | 3.4 | 2.3   | 15.9 | 35.3  | 42.1 |
| 135°   | 2.3 | 2.3   | 10.2 | 28.4  | 35.3 |
| 137.5° | 2.3 | 1.1   | 5.7  | 22.7  | 28.4 |
| 140°   | 2.3 | 1.1   | 2.3  | 17.1  | 22.7 |
| 142.5° | 1.1 | 1.1   | 0.0  | 12.5  | 17.1 |
| 145°   | 1.1 | 0.0   | 0.0  | 6.8   | 11.4 |
| 147.5° | 1.1 | 0.0   | 0.0  | 1.1   | 5.7  |
| 150°   | 1.1 | 0.0   | 0.0  | 0.0   | 0.0  |
| 152.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 155°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 157.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 160°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 162.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 165°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 167.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 170°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 172.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 175°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 177.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 180°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |

(END OF REPORT)