

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931248

Luminaire Tested: DFN2DS-TR2F0-030DS835-RLL

Issue Date: 11/20/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P931248  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-TR2F0-030DS835-RLL  
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

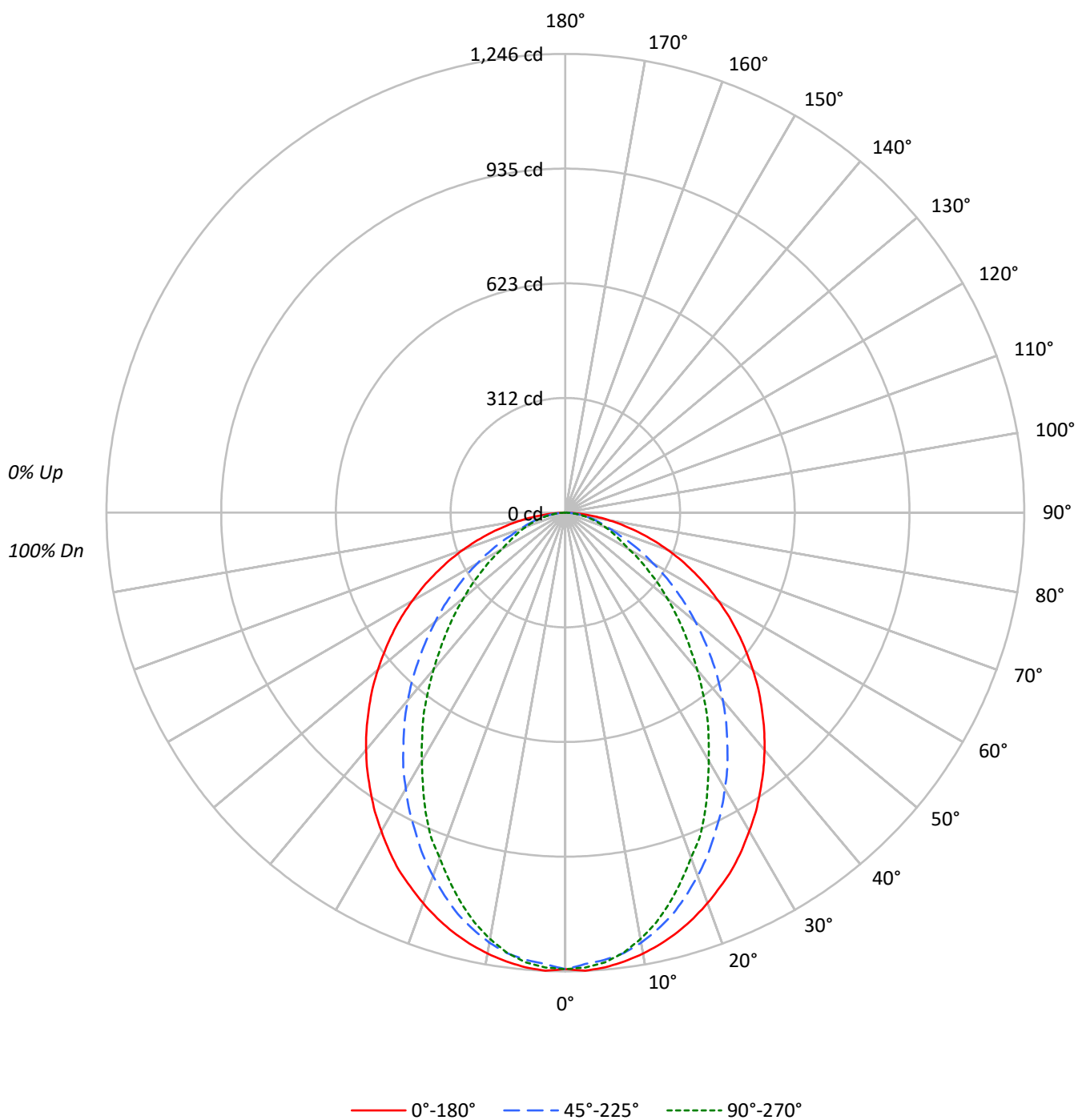
Lumens per Lamp: N/A  
Luminaire Lumens: 2550.0 lumens  
Efficiency: N/A  
Efficacy: 92.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 2.36' x L: 2.04' x H: 0')  
CIE Type: Direct

Input Watts (W): 27.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9951  
Total Harmonic Distortion (THDi): 0.07  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P931248

CATALOG NUMBER: DFN2DS-TR2F0-030DS835-RLL

### Luminous Intensity Polar Plot



TEST NUMBER: P931248

CATALOG NUMBER: DFN2DS-TR2F0-030DS835-RLL

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |  | 20  |     |     |  | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |  | 30  |     |     |  | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  |  | 95  | 93  | 91  |  | 92  |
| 2   | 101 | 94  | 87  | 82  | 98  | 92  | 86  | 81  | 88  | 83  | 79  |  | 85  | 81  | 78  |  | 82  |
| 3   | 93  | 83  | 76  | 70  | 90  | 82  | 75  | 69  | 79  | 73  | 68  |  | 76  | 71  | 67  |  | 74  |
| 4   | 86  | 75  | 66  | 60  | 83  | 73  | 66  | 60  | 71  | 64  | 59  |  | 69  | 63  | 58  |  | 66  |
| 5   | 79  | 67  | 59  | 53  | 77  | 66  | 58  | 52  | 64  | 57  | 52  |  | 62  | 56  | 51  |  | 60  |
| 6   | 74  | 61  | 53  | 47  | 72  | 60  | 52  | 46  | 58  | 51  | 46  |  | 57  | 50  | 46  |  | 55  |
| 7   | 68  | 56  | 47  | 42  | 67  | 55  | 47  | 42  | 53  | 46  | 41  |  | 52  | 46  | 41  |  | 51  |
| 8   | 64  | 51  | 43  | 38  | 62  | 51  | 43  | 37  | 49  | 42  | 37  |  | 48  | 42  | 37  |  | 47  |
| 9   | 60  | 47  | 39  | 34  | 59  | 47  | 39  | 34  | 46  | 39  | 34  |  | 44  | 38  | 34  |  | 44  |
| 10  | 56  | 44  | 36  | 31  | 55  | 43  | 36  | 31  | 42  | 36  | 31  |  | 41  | 35  | 31  |  | 41  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2766 | 2766 | 2766 |
| 5°  | 2776 | 2731 | 2746 |
| 10° | 2755 | 2686 | 2663 |
| 15° | 2723 | 2607 | 2531 |
| 20° | 2679 | 2493 | 2368 |
| 25° | 2635 | 2364 | 2209 |
| 30° | 2572 | 2231 | 2006 |
| 35° | 2512 | 2087 | 1827 |
| 40° | 2450 | 1937 | 1621 |
| 45° | 2379 | 1770 | 1433 |
| 50° | 2305 | 1600 | 1250 |
| 55° | 2229 | 1418 | 1074 |
| 60° | 2142 | 1226 | 891  |
| 65° | 2043 | 1030 | 811  |
| 70° | 1924 | 848  | 746  |
| 75° | 1779 | 774  | 696  |
| 80° | 1571 | 691  | 635  |
| 85° | 1234 | 545  | 545  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
Vertical Angle: 45°  
Luminance: 2379 cd/sqm

TEST NUMBER: P931248

CATALOG NUMBER: DFN2DS-TR2F0-030DS835-RLL

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 116.2  | 4.6       |
| 10°-20°   | 319.0  | 12.5      |
| 20°-30°   | 447.9  | 17.6      |
| 30°-40°   | 488.2  | 19.1      |
| 40°-50°   | 448.7  | 17.6      |
| 50°-60°   | 352.4  | 13.8      |
| 60°-70°   | 229.4  | 9.0       |
| 70°-80°   | 118.1  | 4.6       |
| 80°-90°   | 30.1   | 1.2       |
| 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°    | 883.1  | 34.6      |
| 0°-40°    | 1371.3 | 53.8      |
| 0°-60°    | 2172.4 | 85.2      |
| 0°-90°    | 2550.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2550.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1240 | 1240  | 1240 | 1240  | 1240 |      |
| 5°  | 1240 | 1234  | 1220 | 1230  | 1226 | 118  |
| 15° | 1179 | 1167  | 1129 | 1108  | 1096 | 332  |
| 25° | 1070 | 1034  | 960  | 914   | 898  | 492  |
| 35° | 922  | 865   | 766  | 696   | 671  | 577  |
| 45° | 754  | 679   | 561  | 481   | 454  | 582  |
| 55° | 573  | 486   | 365  | 297   | 276  | 512  |
| 65° | 387  | 296   | 195  | 157   | 154  | 384  |
| 75° | 206  | 128   | 90   | 82    | 81   | 218  |
| 85° | 48   | 25    | 21   | 21    | 21   | 58   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

TEST NUMBER: P931248

CATALOG NUMBER: DFN2DS-TR2F0-030DS835-RLL

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1239.9 | 1239.9 | 1239.9 | 1239.9 | 1239.9 |
| 2.5°  | 1245.5 | 1239.9 | 1227.5 | 1238.8 | 1236.6 |
| 5°    | 1239.9 | 1234.3 | 1219.7 | 1229.8 | 1226.4 |
| 7.5°  | 1229.8 | 1223.1 | 1207.4 | 1211.8 | 1206.2 |
| 10°   | 1216.3 | 1208.5 | 1186.1 | 1182.6 | 1176.0 |
| 12.5° | 1199.5 | 1189.4 | 1159.1 | 1152.4 | 1140.0 |
| 15°   | 1179.3 | 1166.9 | 1128.8 | 1107.5 | 1096.3 |
| 17.5° | 1155.7 | 1137.8 | 1090.6 | 1066.0 | 1048.0 |
| 20°   | 1128.8 | 1106.3 | 1050.2 | 1022.3 | 997.5  |
| 22.5° | 1099.7 | 1073.8 | 1008.7 | 970.6  | 953.8  |
| 25°   | 1070.5 | 1034.5 | 960.5  | 914.5  | 897.6  |
| 27.5° | 1035.7 | 997.5  | 915.6  | 862.9  | 837.0  |
| 30°   | 998.7  | 956.0  | 866.2  | 809.1  | 778.7  |
| 32.5° | 962.7  | 911.1  | 819.2  | 751.8  | 723.7  |
| 35°   | 922.4  | 865.1  | 766.4  | 695.7  | 671.0  |
| 37.5° | 883.1  | 821.3  | 717.0  | 639.5  | 611.6  |
| 40°   | 841.6  | 774.3  | 665.4  | 585.7  | 556.6  |
| 42.5° | 798.9  | 727.2  | 613.8  | 530.7  | 502.7  |
| 45°   | 754.1  | 678.8  | 561.1  | 481.3  | 454.4  |
| 47.5° | 711.4  | 631.8  | 510.6  | 430.8  | 406.2  |
| 50°   | 664.3  | 584.6  | 461.2  | 383.7  | 360.2  |
| 52.5° | 618.2  | 534.1  | 414.1  | 340.0  | 318.7  |
| 55°   | 573.3  | 485.8  | 364.6  | 297.4  | 276.1  |
| 57.5° | 527.4  | 437.6  | 321.0  | 258.1  | 240.1  |
| 60°   | 480.2  | 390.5  | 274.9  | 217.7  | 199.8  |
| 62.5° | 434.3  | 344.5  | 235.6  | 181.8  | 172.9  |
| 65°   | 387.1  | 296.2  | 195.2  | 157.1  | 153.7  |
| 67.5° | 342.3  | 251.3  | 157.1  | 138.0  | 134.6  |
| 70°   | 295.1  | 207.6  | 130.1  | 118.9  | 114.4  |
| 72.5° | 250.2  | 167.1  | 108.8  | 99.9   | 97.6   |
| 75°   | 206.4  | 127.9  | 89.8   | 81.9   | 80.8   |
| 77.5° | 162.7  | 90.8   | 70.7   | 66.2   | 63.9   |
| 80°   | 122.3  | 65.1   | 53.8   | 49.4   | 49.4   |
| 82.5° | 85.2   | 43.8   | 37.0   | 34.8   | 34.8   |
| 85°   | 48.2   | 24.6   | 21.3   | 21.3   | 21.3   |
| 87.5° | 18.0   | 8.9    | 8.9    | 7.9    | 7.9    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P931248

CATALOG NUMBER: DFN2DS-TR2F0-030DS835-RLL

**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 | 14.77            | 16.29 | 15.13 | 16.60 | 16.92 | 10.73          | 12.25 | 11.09 | 12.56 | 12.88 |
|                 | 3H   | 16.53            | 17.90 | 16.91 | 18.23 | 18.59 | 11.99          | 13.36 | 12.37 | 13.69 | 14.05 |
|                 | 4H   | 17.20            | 18.48 | 17.60 | 18.83 | 19.21 | 12.50          | 13.78 | 12.90 | 14.13 | 14.50 |
|                 | 6H   | 17.69            | 18.87 | 18.10 | 19.24 | 19.63 | 12.88          | 14.06 | 13.29 | 14.43 | 14.82 |
|                 | 8H   | 17.85            | 18.98 | 18.28 | 19.37 | 19.77 | 13.00          | 14.13 | 13.43 | 14.52 | 14.92 |
|                 | 12H  | 17.96            | 19.04 | 18.39 | 19.42 | 19.85 | 13.08          | 14.16 | 13.51 | 14.54 | 14.97 |
| 4H              | 2H   | 14.87            | 16.15 | 15.27 | 16.50 | 16.88 | 11.42          | 12.71 | 11.82 | 13.05 | 13.43 |
|                 | 3H   | 16.81            | 17.87 | 17.22 | 18.27 | 18.67 | 12.87          | 13.93 | 13.28 | 14.33 | 14.73 |
|                 | 4H   | 17.56            | 18.51 | 17.99 | 18.93 | 19.37 | 13.47          | 14.42 | 13.90 | 14.84 | 15.28 |
|                 | 6H   | 18.15            | 18.98 | 18.60 | 19.42 | 19.88 | 13.96          | 14.79 | 14.41 | 15.23 | 15.69 |
|                 | 8H   | 18.36            | 19.14 | 18.82 | 19.58 | 20.05 | 14.12          | 14.89 | 14.58 | 15.34 | 15.81 |
|                 | 12H  | 18.51            | 19.21 | 19.00 | 19.69 | 20.16 | 14.23          | 14.93 | 14.72 | 15.41 | 15.88 |
| 8H              | 4H   | 17.58            | 18.36 | 18.04 | 18.80 | 19.27 | 13.82          | 14.60 | 14.28 | 15.04 | 15.51 |
|                 | 6H   | 18.22            | 18.86 | 18.71 | 19.35 | 19.83 | 14.41          | 15.05 | 14.90 | 15.54 | 16.02 |
|                 | 8H   | 18.47            | 19.04 | 18.98 | 19.55 | 20.04 | 14.63          | 15.21 | 15.14 | 15.72 | 16.20 |
|                 | 12H  | 18.67            | 19.18 | 19.18 | 19.67 | 20.24 | 14.81          | 15.32 | 15.32 | 15.81 | 16.37 |
| 12H             | 4H   | 17.56            | 18.26 | 18.05 | 18.74 | 19.21 | 13.86          | 14.56 | 14.35 | 15.04 | 15.51 |
|                 | 6H   | 18.20            | 18.78 | 18.71 | 19.29 | 19.77 | 14.47          | 15.05 | 14.98 | 15.56 | 16.05 |
|                 | 8H   | 18.48            | 18.99 | 18.99 | 19.48 | 20.05 | 14.74          | 15.25 | 15.25 | 15.75 | 16.31 |