

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: P995736

Luminaire Tested: DTR3-DW-4F0-100D-940-FLL-D

Issue Date: 1/22/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P995736  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2501-325-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/22/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DTR3-DW-4F0-100D-940-FLL-D  
Description: Define Torrent LED Luminaire  
Light Source: -  
Ballast/Driver: -

**Summary**

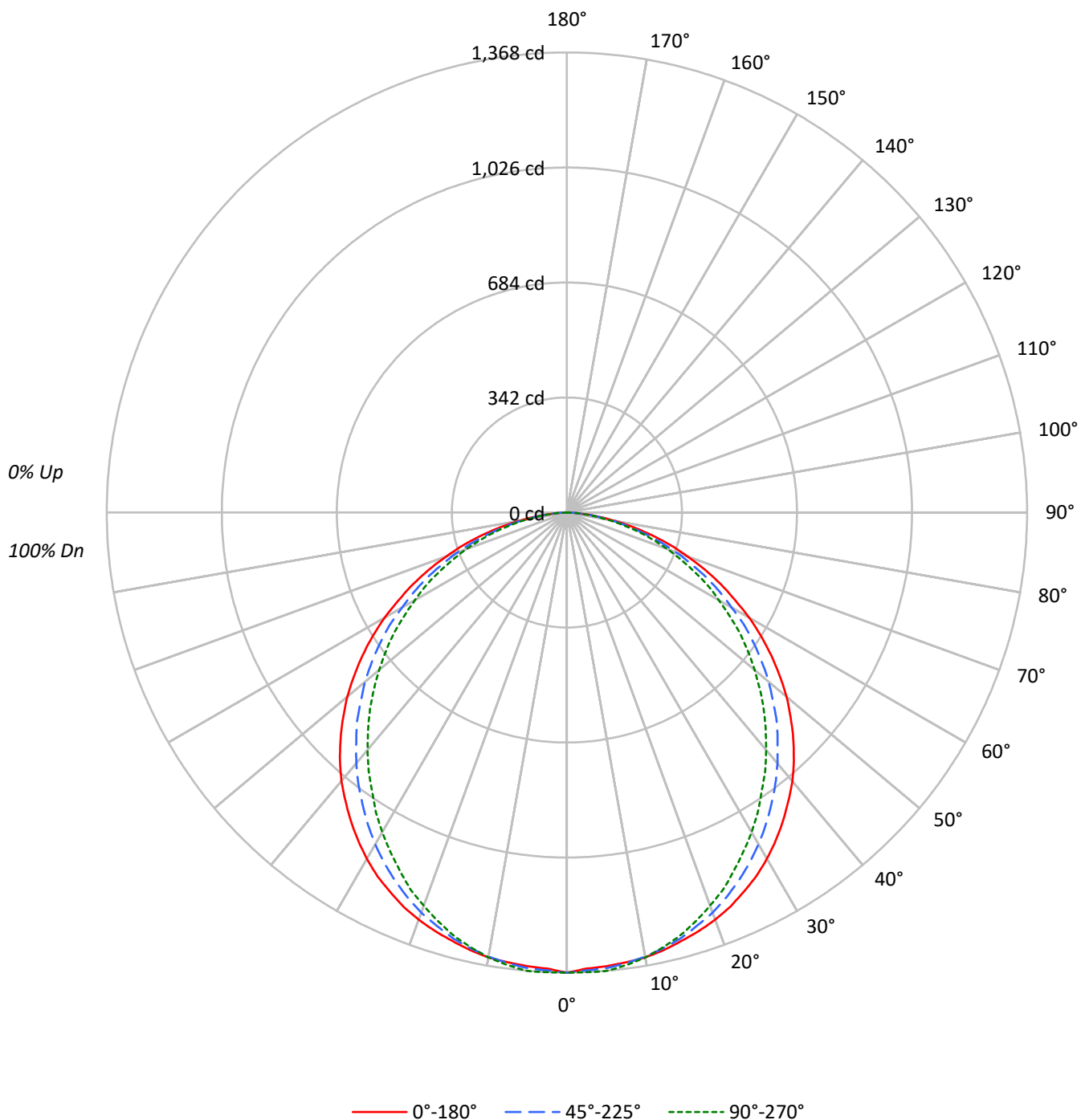
Lumens per Lamp: N/A  
Luminaire Lumens: 3779.9 lumens  
Efficiency: N/A  
Efficacy: 64.4 lumens/watt  
Spacing Criteria (0/90/45): 1.29 / 1.2 / 1.35  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 58.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9935  
Total Harmonic Distortion (THDi): 7.68  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 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  |
| 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   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  |  | 94  | 91  | 89  |  | 90  |
| 2   | 99  | 91  | 84  | 78  | 96  | 89  | 83  | 77  | 85  | 80  | 76  |  | 82  | 78  | 74  |  | 79  |
| 3   | 90  | 80  | 72  | 65  | 88  | 78  | 71  | 65  | 75  | 69  | 64  |  | 73  | 67  | 62  |  | 70  |
| 4   | 83  | 71  | 62  | 55  | 80  | 69  | 61  | 55  | 67  | 60  | 54  |  | 65  | 58  | 53  |  | 62  |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 47  | 60  | 53  | 47  |  | 58  | 52  | 46  |  | 56  |
| 6   | 70  | 57  | 48  | 42  | 68  | 56  | 48  | 41  | 54  | 47  | 41  |  | 53  | 46  | 41  |  | 51  |
| 7   | 65  | 52  | 43  | 37  | 63  | 51  | 43  | 37  | 49  | 42  | 36  |  | 48  | 41  | 36  |  | 47  |
| 8   | 61  | 47  | 39  | 33  | 59  | 46  | 38  | 33  | 45  | 38  | 33  |  | 44  | 37  | 32  |  | 43  |
| 9   | 57  | 43  | 35  | 30  | 55  | 43  | 35  | 29  | 42  | 34  | 29  |  | 40  | 34  | 29  |  | 39  |
| 10  | 53  | 40  | 32  | 27  | 52  | 39  | 32  | 27  | 38  | 31  | 27  |  | 37  | 31  | 26  |  | 37  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 14728 | 14728 | 14728 |
| 5°  | 14635 | 14695 | 14785 |
| 10° | 14683 | 14654 | 14683 |
| 15° | 14695 | 14603 | 14510 |
| 20° | 14757 | 14504 | 14251 |
| 25° | 14776 | 14349 | 13957 |
| 30° | 14777 | 14160 | 13646 |
| 35° | 14717 | 13920 | 13268 |
| 40° | 14651 | 13683 | 12947 |
| 45° | 14487 | 13438 | 12598 |
| 50° | 14274 | 13120 | 12196 |
| 55° | 13925 | 12735 | 11804 |
| 60° | 13481 | 12174 | 11225 |
| 65° | 12857 | 11663 | 10679 |
| 70° | 11981 | 10851 | 9986  |
| 75° | 10900 | 9753  | 9062  |
| 80° | 9062  | 8213  | 7525  |
| 85° | 6126  | 6126  | 5459  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 14487 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 129.5  | 3.4       |
| 10°-20°   | 370.2  | 9.8       |
| 20°-30°   | 557.7  | 14.8      |
| 30°-40°   | 665.4  | 17.6      |
| 40°-50°   | 683.0  | 18.1      |
| 50°-60°   | 608.9  | 16.1      |
| 60°-70°   | 454.5  | 12.0      |
| 70°-80°   | 251.1  | 6.6       |
| 80°-90°   | 59.6   | 1.6       |
| 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°    | 1057.4 | 28.0      |
| 0°-40°    | 1722.8 | 45.6      |
| 0°-60°    | 3014.7 | 79.8      |
| 0°-90°    | 3779.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3779.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1368 | 1368  | 1368 | 1368  | 1368 |      |
| 5°  | 1354 | 1371  | 1360 | 1360  | 1368 | 129  |
| 15° | 1319 | 1330  | 1310 | 1299  | 1302 | 373  |
| 25° | 1244 | 1244  | 1208 | 1178  | 1175 | 574  |
| 35° | 1120 | 1106  | 1059 | 1023  | 1010 | 701  |
| 45° | 952  | 932   | 883  | 841   | 828  | 734  |
| 55° | 742  | 723   | 679  | 643   | 629  | 663  |
| 65° | 505  | 488   | 458  | 430   | 419  | 499  |
| 75° | 262  | 251   | 234  | 224   | 218  | 277  |
| 85° | 50   | 50    | 50   | 47    | 44   | 63   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1368.3 | 1368.3 | 1368.3 | 1368.3 | 1368.3 |
| 2.5°  | 1357.3 | 1373.8 | 1362.7 | 1365.6 | 1368.3 |
| 5°    | 1354.5 | 1371.0 | 1360.0 | 1360.0 | 1368.3 |
| 7.5°  | 1349.0 | 1365.6 | 1351.7 | 1349.0 | 1357.3 |
| 10°   | 1343.4 | 1357.3 | 1340.7 | 1335.2 | 1343.4 |
| 12.5° | 1332.4 | 1343.4 | 1327.0 | 1318.7 | 1324.1 |
| 15°   | 1318.7 | 1329.7 | 1310.4 | 1299.3 | 1302.1 |
| 17.5° | 1304.8 | 1313.1 | 1288.3 | 1274.5 | 1274.5 |
| 20°   | 1288.3 | 1291.1 | 1266.2 | 1246.9 | 1244.1 |
| 22.5° | 1269.0 | 1271.7 | 1238.7 | 1213.8 | 1213.8 |
| 25°   | 1244.1 | 1244.1 | 1208.2 | 1177.9 | 1175.2 |
| 27.5° | 1219.4 | 1213.8 | 1175.2 | 1144.9 | 1136.6 |
| 30°   | 1188.9 | 1180.7 | 1139.3 | 1106.2 | 1097.9 |
| 32.5° | 1155.9 | 1144.9 | 1100.7 | 1064.9 | 1056.6 |
| 35°   | 1120.0 | 1106.2 | 1059.3 | 1023.4 | 1009.7 |
| 37.5° | 1081.4 | 1064.9 | 1018.0 | 979.3  | 968.3  |
| 40°   | 1042.7 | 1023.4 | 973.8  | 935.2  | 921.4  |
| 42.5° | 998.7  | 979.3  | 926.9  | 888.2  | 874.5  |
| 45°   | 951.7  | 932.4  | 882.8  | 841.4  | 827.6  |
| 47.5° | 902.1  | 882.8  | 830.4  | 791.8  | 777.9  |
| 50°   | 852.4  | 830.4  | 783.5  | 742.0  | 728.3  |
| 52.5° | 797.2  | 777.9  | 731.0  | 692.4  | 678.6  |
| 55°   | 742.0  | 722.7  | 678.6  | 642.7  | 629.0  |
| 57.5° | 684.1  | 667.6  | 626.2  | 587.6  | 573.8  |
| 60°   | 626.2  | 606.9  | 565.5  | 535.2  | 521.4  |
| 62.5° | 562.8  | 546.2  | 513.1  | 482.8  | 474.5  |
| 65°   | 504.8  | 488.3  | 457.9  | 430.3  | 419.3  |
| 67.5° | 444.2  | 430.3  | 400.0  | 377.9  | 366.9  |
| 70°   | 380.7  | 369.7  | 344.8  | 325.6  | 317.3  |
| 72.5° | 322.7  | 309.0  | 289.7  | 273.1  | 267.6  |
| 75°   | 262.1  | 251.1  | 234.5  | 223.5  | 217.9  |
| 77.5° | 201.4  | 193.1  | 182.1  | 173.8  | 168.2  |
| 80°   | 146.2  | 137.9  | 132.5  | 126.9  | 121.4  |
| 82.5° | 93.8   | 88.3   | 88.3   | 82.8   | 80.0   |
| 85°   | 49.6   | 49.6   | 49.6   | 46.9   | 44.2   |
| 87.5° | 16.6   | 19.3   | 19.3   | 16.6   | 16.6   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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**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 | 21.45            | 23.08 | 21.82 | 23.39 | 23.71 | 20.50          | 22.13 | 20.87 | 22.45 | 22.76 |
|                 | 3H   | 23.23            | 24.70 | 23.60 | 25.03 | 25.39 | 22.22          | 23.69 | 22.59 | 24.02 | 24.38 |
|                 | 4H   | 23.87            | 25.26 | 24.27 | 25.60 | 25.98 | 22.84          | 24.22 | 23.24 | 24.57 | 24.95 |
|                 | 6H   | 24.30            | 25.58 | 24.71 | 25.94 | 26.33 | 23.25          | 24.54 | 23.66 | 24.90 | 25.29 |
|                 | 8H   | 24.41            | 25.63 | 24.83 | 26.02 | 26.42 | 23.37          | 24.59 | 23.79 | 24.98 | 25.38 |
|                 | 12H  | 24.46            | 25.64 | 24.89 | 26.02 | 26.45 | 23.43          | 24.60 | 23.86 | 24.98 | 25.41 |
| 4H              | 2H   | 21.97            | 23.36 | 22.37 | 23.71 | 24.08 | 21.22          | 22.61 | 21.62 | 22.96 | 23.33 |
|                 | 3H   | 23.97            | 25.13 | 24.38 | 25.53 | 25.93 | 23.14          | 24.30 | 23.55 | 24.70 | 25.10 |
|                 | 4H   | 24.74            | 25.79 | 25.17 | 26.20 | 26.64 | 23.87          | 24.92 | 24.30 | 25.33 | 25.77 |
|                 | 6H   | 25.28            | 26.20 | 25.73 | 26.64 | 27.09 | 24.40          | 25.31 | 24.85 | 25.75 | 26.21 |
|                 | 8H   | 25.43            | 26.29 | 25.89 | 26.73 | 27.19 | 24.54          | 25.40 | 25.00 | 25.84 | 26.31 |
|                 | 12H  | 25.52            | 26.29 | 26.00 | 26.76 | 27.23 | 24.64          | 25.41 | 25.12 | 25.88 | 26.35 |
| 8H              | 4H   | 24.97            | 25.83 | 25.43 | 26.27 | 26.74 | 24.20          | 25.06 | 24.66 | 25.50 | 25.97 |
|                 | 6H   | 25.61            | 26.32 | 26.11 | 26.81 | 27.29 | 24.83          | 25.54 | 25.33 | 26.03 | 26.51 |
|                 | 8H   | 25.82            | 26.45 | 26.33 | 26.96 | 27.45 | 25.04          | 25.67 | 25.55 | 26.18 | 26.67 |
|                 | 12H  | 25.96            | 26.52 | 26.46 | 27.01 | 27.57 | 25.18          | 25.74 | 25.69 | 26.23 | 26.80 |
| 12H             | 4H   | 24.99            | 25.76 | 25.47 | 26.24 | 26.70 | 24.24          | 25.01 | 24.72 | 25.48 | 25.95 |
|                 | 6H   | 25.64            | 26.28 | 26.15 | 26.79 | 27.27 | 24.88          | 25.52 | 25.39 | 26.03 | 26.51 |
|                 | 8H   | 25.89            | 26.45 | 26.40 | 26.95 | 27.51 | 25.14          | 25.70 | 25.64 | 26.19 | 26.75 |