

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: P1031773

Luminaire Tested: S123DIW-B560D1535UB40-4F0-XX-W2A-F1

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1031773  
REPORT IS A COMBINATION OF REPORTS P991696 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIW-B560D1535UB40-4F0-XX-W2A-F1  
Description: Define 3 Direct/Indirect Wall Mount with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

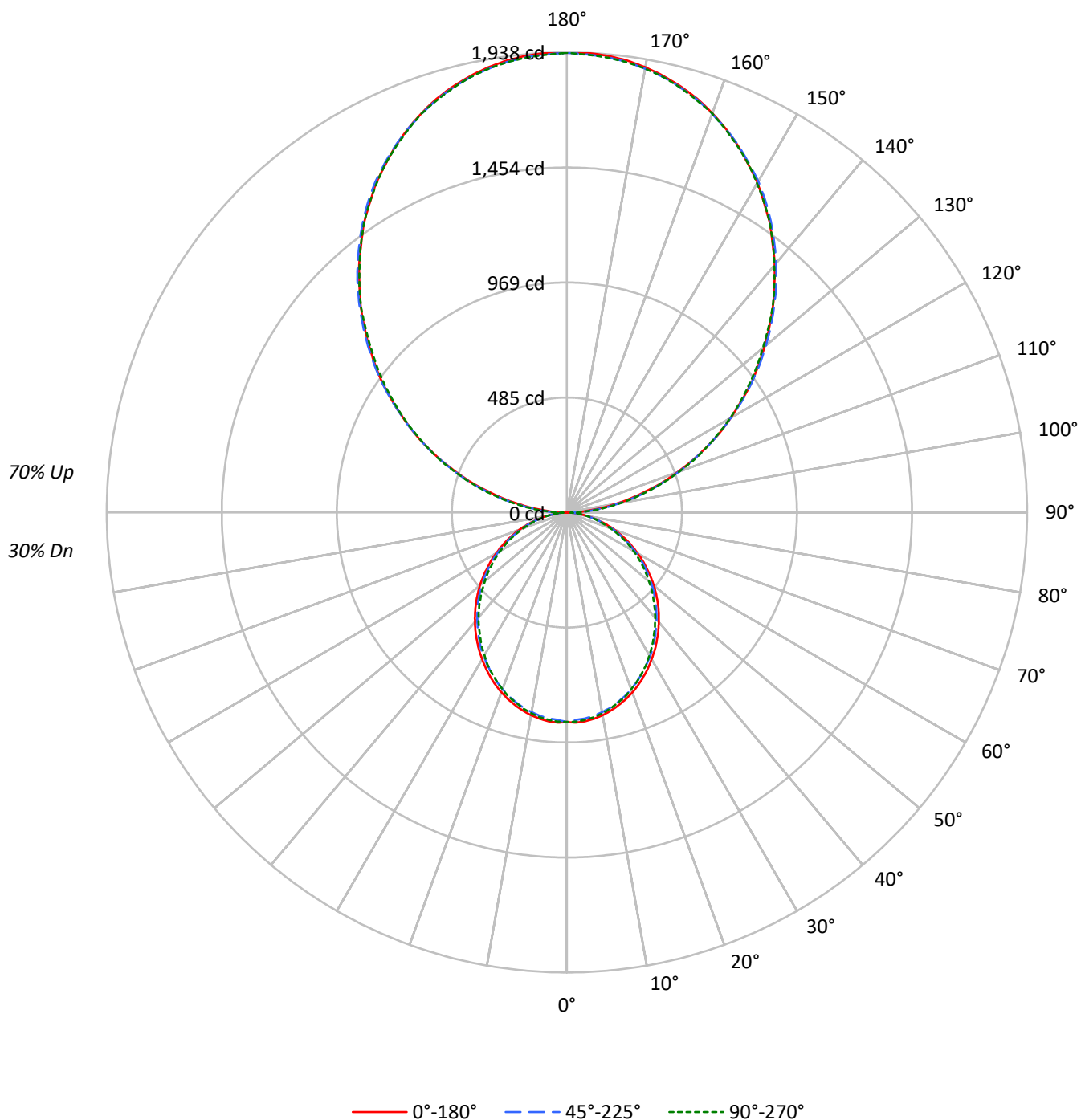
Lumens per Lamp: N/A  
Luminaire Lumens: 7666.0 lumens  
Efficiency: N/A  
Efficacy: 100.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 76.2  
Input Voltage (V):  
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: 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 | 30 | 10 |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 102 | 102 | 102 | 102 | 92 | 92 | 92 | 92 | 72 | 72 | 72 | 54 | 54 | 54 | 38 | 38 | 38 |
| 1   | 93  | 89  | 85  | 82  | 84 | 80 | 77 | 74 | 63 | 61 | 59 | 48 | 46 | 45 | 33 | 32 | 32 |
| 2   | 85  | 78  | 72  | 67  | 76 | 70 | 65 | 61 | 55 | 52 | 49 | 42 | 39 | 37 | 29 | 28 | 27 |
| 3   | 77  | 68  | 61  | 55  | 69 | 61 | 55 | 51 | 49 | 44 | 41 | 37 | 34 | 32 | 26 | 24 | 23 |
| 4   | 71  | 60  | 53  | 47  | 63 | 54 | 48 | 43 | 43 | 38 | 35 | 33 | 30 | 27 | 23 | 21 | 19 |
| 5   | 65  | 54  | 46  | 40  | 58 | 48 | 42 | 36 | 38 | 34 | 30 | 29 | 26 | 23 | 21 | 19 | 17 |
| 6   | 60  | 48  | 40  | 34  | 53 | 43 | 36 | 32 | 35 | 30 | 26 | 26 | 23 | 20 | 19 | 17 | 15 |
| 7   | 55  | 43  | 35  | 30  | 49 | 39 | 32 | 28 | 31 | 26 | 23 | 24 | 20 | 18 | 17 | 15 | 13 |
| 8   | 51  | 39  | 31  | 26  | 46 | 35 | 29 | 24 | 28 | 24 | 20 | 22 | 18 | 16 | 16 | 13 | 12 |
| 9   | 47  | 35  | 28  | 23  | 42 | 32 | 26 | 21 | 26 | 21 | 18 | 20 | 17 | 14 | 14 | 12 | 11 |
| 10  | 44  | 32  | 25  | 21  | 40 | 29 | 23 | 19 | 24 | 19 | 16 | 18 | 15 | 13 | 13 | 11 | 10 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 9496 | 9496 | 9496 |
| 5°  | 9520 | 9168 | 9155 |
| 10° | 9435 | 8858 | 8767 |
| 15° | 9304 | 8535 | 8345 |
| 20° | 9154 | 8177 | 7926 |
| 25° | 8959 | 7799 | 7479 |
| 30° | 8746 | 7408 | 7008 |
| 35° | 8523 | 7008 | 6541 |
| 40° | 8289 | 6588 | 6081 |
| 45° | 8033 | 6180 | 5601 |
| 50° | 7771 | 5723 | 5118 |
| 55° | 7436 | 5250 | 4629 |
| 60° | 7090 | 4726 | 4109 |
| 65° | 6766 | 4159 | 3567 |
| 70° | 6299 | 3530 | 2934 |
| 75° | 5626 | 2795 | 2277 |
| 80° | 4859 | 1964 | 1612 |
| 85° | 3785 | 1055 | 807  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8033 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 83.2   | 1.1       |
| 10°-20°   | 234.8  | 3.1       |
| 20°-30°   | 346.8  | 4.5       |
| 30°-40°   | 405.1  | 5.3       |
| 40°-50°   | 407.2  | 5.3       |
| 50°-60°   | 357.7  | 4.7       |
| 60°-70°   | 266.4  | 3.5       |
| 70°-80°   | 151.6  | 2.0       |
| 80°-90°   | 47.2   | 0.6       |
| 90°-100°  | 124.7  | 1.6       |
| 100°-110° | 377.3  | 4.9       |
| 110°-120° | 642.3  | 8.4       |
| 120°-130° | 845.1  | 11.0      |
| 130°-140° | 949.9  | 12.4      |
| 140°-150° | 933.8  | 12.2      |
| 150°-160° | 786.2  | 10.3      |
| 160°-170° | 523.4  | 6.8       |
| 170°-180° | 183.3  | 2.4       |
| 0°-30°    | 664.8  | 8.7       |
| 0°-40°    | 1069.9 | 14.0      |
| 0°-60°    | 1834.9 | 23.9      |
| 0°-90°    | 2300.1 | 30.0      |
| 90°-120°  | 1144.3 | 14.9      |
| 90°-150°  | 3873.1 | 50.5      |
| 90°-180°  | 5366.0 | 70.0      |
| 0°-180°   | 7666.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 882  | 882   | 882  | 882   | 882  |      |
| 5°   | 883  | 879   | 871  | 878   | 877  | 84   |
| 15°  | 840  | 838   | 828  | 834   | 829  | 237  |
| 25°  | 763  | 759   | 749  | 750   | 747  | 352  |
| 35°  | 660  | 655   | 646  | 641   | 637  | 413  |
| 45°  | 541  | 538   | 528  | 519   | 515  | 418  |
| 55°  | 410  | 410   | 400  | 391   | 388  | 368  |
| 65°  | 280  | 276   | 268  | 262   | 260  | 276  |
| 75°  | 148  | 145   | 143  | 139   | 136  | 158  |
| 85°  | 39   | 38    | 38   | 36    | 36   | 42   |
| 90°  | 2    | 17    | 36   | 43    | 46   | 9    |
| 95°  | 90   | 100   | 113  | 119   | 119  | 99   |
| 105° | 342  | 345   | 359  | 359   | 362  | 366  |
| 115° | 646  | 651   | 648  | 650   | 648  | 640  |
| 125° | 946  | 951   | 948  | 942   | 936  | 844  |
| 135° | 1228 | 1237  | 1235 | 1229  | 1226 | 946  |
| 145° | 1489 | 1492  | 1497 | 1495  | 1489 | 930  |
| 155° | 1705 | 1705  | 1707 | 1713  | 1702 | 785  |
| 165° | 1858 | 1853  | 1853 | 1862  | 1851 | 524  |
| 175° | 1932 | 1926  | 1926 | 1935  | 1924 | 184  |
| 180° | 1937 | 1937  | 1937 | 1937  | 1937 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 882.2 | 882.2 | 882.2 | 882.2 | 882.2 |
| 2.5°   | 886.0 | 883.0 | 874.6 | 882.2 | 881.5 |
| 5°     | 883.0 | 879.2 | 870.8 | 878.4 | 876.9 |
| 7.5°   | 876.1 | 872.3 | 864.0 | 870.8 | 870.1 |
| 10°    | 867.0 | 863.2 | 853.4 | 860.2 | 858.7 |
| 12.5°  | 854.9 | 851.9 | 842.8 | 847.3 | 846.6 |
| 15°    | 840.5 | 837.5 | 827.6 | 833.7 | 829.1 |
| 17.5°  | 824.6 | 820.8 | 810.9 | 815.5 | 813.9 |
| 20°    | 806.4 | 801.8 | 791.9 | 795.0 | 792.7 |
| 22.5°  | 785.9 | 781.3 | 771.5 | 773.7 | 770.7 |
| 25°    | 763.1 | 758.6 | 748.7 | 749.5 | 747.2 |
| 27.5°  | 739.6 | 735.0 | 724.4 | 725.2 | 722.9 |
| 30°    | 713.8 | 710.0 | 699.4 | 699.4 | 694.1 |
| 32.5°  | 688.0 | 682.7 | 675.1 | 669.8 | 667.5 |
| 35°    | 660.0 | 655.4 | 645.5 | 641.0 | 637.2 |
| 37.5°  | 631.9 | 625.8 | 616.0 | 610.6 | 608.4 |
| 40°    | 602.3 | 597.7 | 587.1 | 581.1 | 578.0 |
| 42.5°  | 572.7 | 567.4 | 556.8 | 550.7 | 547.7 |
| 45°    | 540.9 | 537.8 | 528.0 | 518.9 | 515.1 |
| 47.5°  | 509.8 | 505.2 | 496.1 | 487.0 | 484.0 |
| 50°    | 477.9 | 474.1 | 464.2 | 455.9 | 451.3 |
| 52.5°  | 444.5 | 442.2 | 431.6 | 424.8 | 420.2 |
| 55°    | 410.4 | 409.6 | 399.8 | 391.4 | 387.6 |
| 57.5°  | 378.5 | 375.5 | 367.9 | 360.3 | 355.8 |
| 60°    | 343.6 | 342.9 | 333.8 | 326.9 | 323.1 |
| 62.5°  | 312.5 | 310.3 | 301.1 | 294.3 | 292.0 |
| 65°    | 279.9 | 276.1 | 268.5 | 262.5 | 260.2 |
| 67.5°  | 245.0 | 242.0 | 235.9 | 230.6 | 227.6 |
| 70°    | 213.9 | 209.4 | 204.8 | 199.5 | 195.7 |
| 72.5°  | 181.3 | 178.3 | 173.0 | 168.4 | 166.9 |
| 75°    | 147.9 | 144.9 | 142.6 | 138.8 | 136.5 |
| 77.5°  | 118.3 | 116.8 | 113.8 | 110.8 | 110.8 |
| 80°    | 89.5  | 87.2  | 85.7  | 85.0  | 85.0  |
| 82.5°  | 61.4  | 61.4  | 61.4  | 59.9  | 59.2  |
| 85°    | 39.4  | 37.9  | 37.9  | 36.4  | 36.4  |
| 87.5°  | 19.7  | 17.4  | 16.7  | 15.9  | 15.9  |
| 90°    | 1.5   | 16.7  | 36.5  | 42.6  | 45.6  |
| 92.5°  | 45.6  | 54.8  | 63.9  | 68.5  | 65.4  |
| 95°    | 89.8  | 100.4 | 112.6 | 118.7 | 118.7 |
| 97.5°  | 147.6 | 155.2 | 164.3 | 171.9 | 170.4 |
| 100°   | 206.9 | 216.0 | 223.6 | 228.2 | 231.2 |
| 102.5° | 275.4 | 279.9 | 290.6 | 295.1 | 293.6 |
| 105°   | 342.3 | 345.3 | 359.0 | 359.0 | 362.1 |
| 107.5° | 421.4 | 422.9 | 429.0 | 433.6 | 432.0 |
| 110°   | 494.4 | 497.5 | 500.5 | 506.6 | 503.5 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 570.5  | 572.0  | 572.0  | 579.6  | 579.6  |
| 115°   | 646.5  | 651.1  | 648.1  | 649.6  | 648.1  |
| 117.5° | 724.1  | 725.6  | 722.6  | 722.6  | 718.0  |
| 120°   | 795.6  | 804.8  | 797.1  | 795.6  | 792.6  |
| 122.5° | 870.2  | 876.3  | 873.2  | 868.6  | 864.1  |
| 125°   | 946.2  | 950.8  | 947.8  | 941.7  | 935.6  |
| 127.5° | 1016.2 | 1025.3 | 1022.3 | 1013.2 | 1007.1 |
| 130°   | 1086.2 | 1098.4 | 1093.8 | 1087.7 | 1077.1 |
| 132.5° | 1156.2 | 1168.3 | 1165.3 | 1157.7 | 1150.1 |
| 135°   | 1227.7 | 1236.8 | 1235.3 | 1229.2 | 1226.1 |
| 137.5° | 1293.1 | 1300.7 | 1305.3 | 1297.6 | 1293.1 |
| 140°   | 1361.5 | 1369.1 | 1370.7 | 1369.1 | 1358.5 |
| 142.5° | 1423.9 | 1431.5 | 1434.6 | 1433.0 | 1425.4 |
| 145°   | 1489.3 | 1492.4 | 1496.9 | 1495.4 | 1489.3 |
| 147.5° | 1545.6 | 1551.7 | 1556.3 | 1556.3 | 1547.1 |
| 150°   | 1604.9 | 1608.0 | 1611.0 | 1611.0 | 1601.9 |
| 152.5° | 1653.6 | 1658.2 | 1659.7 | 1662.7 | 1655.1 |
| 155°   | 1705.3 | 1705.3 | 1706.9 | 1713.0 | 1702.3 |
| 157.5° | 1749.5 | 1747.9 | 1749.5 | 1755.5 | 1746.4 |
| 160°   | 1790.5 | 1787.5 | 1787.5 | 1795.1 | 1789.0 |
| 162.5° | 1827.0 | 1822.5 | 1824.0 | 1831.6 | 1821.0 |
| 165°   | 1857.5 | 1852.9 | 1852.9 | 1862.0 | 1851.4 |
| 167.5° | 1883.3 | 1877.2 | 1878.8 | 1887.9 | 1878.8 |
| 170°   | 1904.6 | 1898.5 | 1898.5 | 1909.2 | 1898.5 |
| 172.5° | 1921.4 | 1915.3 | 1915.3 | 1924.4 | 1913.8 |
| 175°   | 1932.0 | 1925.9 | 1925.9 | 1935.1 | 1924.4 |
| 177.5° | 1938.1 | 1932.0 | 1932.0 | 1941.1 | 1930.5 |
| 180°   | 1936.6 | 1936.6 | 1936.6 | 1936.6 | 1936.6 |

(END OF REPORT)