

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: P1031444

Luminaire Tested: S123DIW-B1165D1320UB30-4F0-XX-W2A-D1

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1031444  
REPORT IS A COMBINATION OF REPORTS P990949 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIW-B1165D1320UB30-4F0-XX-W2A-D1  
Description: Define 3 Direct/Indirect Wall Mount with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

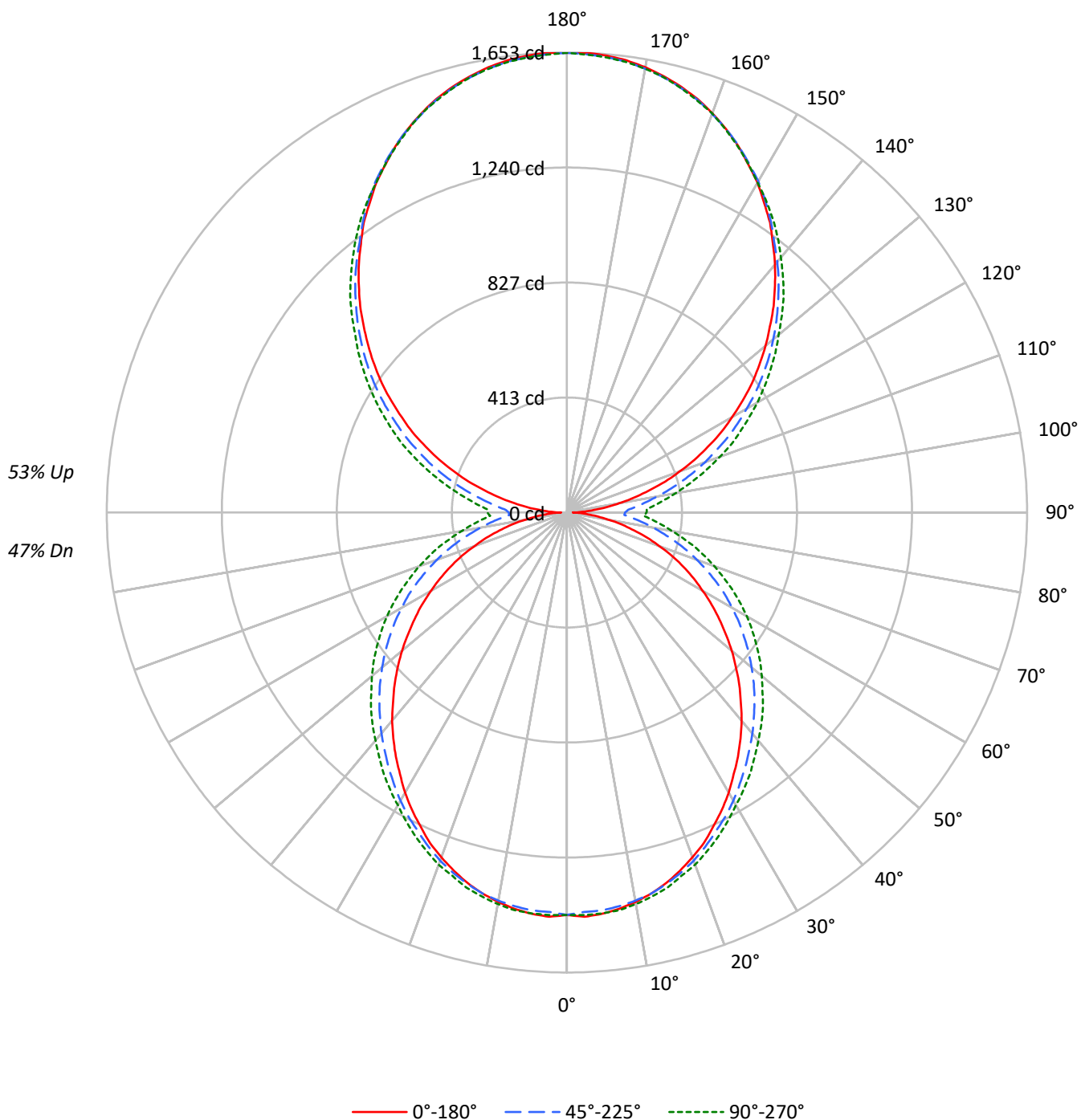
Lumens per Lamp: N/A  
Luminaire Lumens: 9440.0 lumens  
Efficiency: N/A  
Efficacy: 91.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 103.4  
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 | 50 | 30 | 10 |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 106 | 106 | 106 | 106 | 98 | 98 | 98 | 98 | 82 | 82 | 82 | 67 | 67 | 67 | 54 | 54 | 54 | 47 |    |    |
| 1   | 96  | 91  | 87  | 83  | 88 | 84 | 80 | 77 | 70 | 68 | 65 | 57 | 56 | 54 | 46 | 44 | 43 | 38 |    |    |
| 2   | 87  | 79  | 73  | 67  | 80 | 73 | 67 | 62 | 61 | 57 | 53 | 50 | 47 | 44 | 40 | 38 | 36 | 31 |    |    |
| 3   | 79  | 69  | 62  | 56  | 72 | 64 | 57 | 52 | 53 | 48 | 44 | 44 | 40 | 37 | 35 | 32 | 30 | 26 |    |    |
| 4   | 72  | 61  | 53  | 47  | 66 | 56 | 49 | 44 | 47 | 42 | 37 | 39 | 35 | 31 | 31 | 28 | 26 | 22 |    |    |
| 5   | 66  | 54  | 46  | 40  | 61 | 50 | 43 | 37 | 42 | 36 | 32 | 35 | 30 | 27 | 28 | 25 | 22 | 19 |    |    |
| 6   | 61  | 49  | 40  | 34  | 56 | 45 | 38 | 32 | 38 | 32 | 28 | 31 | 27 | 23 | 25 | 22 | 19 | 16 |    |    |
| 7   | 56  | 44  | 36  | 30  | 52 | 41 | 33 | 28 | 34 | 29 | 24 | 28 | 24 | 21 | 23 | 20 | 17 | 14 |    |    |
| 8   | 52  | 40  | 32  | 26  | 48 | 37 | 30 | 25 | 31 | 26 | 22 | 26 | 22 | 18 | 21 | 18 | 15 | 13 |    |    |
| 9   | 49  | 36  | 29  | 23  | 45 | 34 | 27 | 22 | 29 | 23 | 19 | 24 | 20 | 16 | 19 | 16 | 14 | 12 |    |    |
| 10  | 45  | 33  | 26  | 21  | 42 | 31 | 24 | 20 | 26 | 21 | 17 | 22 | 18 | 15 | 18 | 15 | 12 | 10 |    |    |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 15566 | 15566 | 15566 |
| 5°  | 15608 | 15109 | 15097 |
| 10° | 15462 | 14700 | 14588 |
| 15° | 15258 | 14248 | 14048 |
| 20° | 14967 | 13744 | 13467 |
| 25° | 14610 | 13176 | 12866 |
| 30° | 14243 | 12663 | 12263 |
| 35° | 13834 | 12125 | 11772 |
| 40° | 13442 | 11631 | 11252 |
| 45° | 13007 | 11155 | 10825 |
| 50° | 12578 | 10683 | 10361 |
| 55° | 12102 | 10197 | 9933  |
| 60° | 11636 | 9701  | 9496  |
| 65° | 11159 | 9174  | 8984  |
| 70° | 10437 | 8581  | 8455  |
| 75° | 9529  | 7906  | 7911  |
| 80° | 8469  | 7223  | 7290  |
| 85° | 7415  | 6667  | 6844  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 13007 cd/sqm

TEST NUMBER: P1031444

CATALOG NUMBER: S123DIW-B1165D1320UB30-4F0-XX-W2A-D1

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 137.2  | 1.5       |
| 10°-20°   | 391.1  | 4.1       |
| 20°-30°   | 584.8  | 6.2       |
| 30°-40°   | 698.2  | 7.4       |
| 40°-50°   | 730.6  | 7.7       |
| 50°-60°   | 685.6  | 7.3       |
| 60°-70°   | 572.6  | 6.1       |
| 70°-80°   | 409.5  | 4.3       |
| 80°-90°   | 247.1  | 2.6       |
| 90°-100°  | 259.4  | 2.7       |
| 100°-110° | 434.3  | 4.6       |
| 110°-120° | 623.0  | 6.6       |
| 120°-130° | 763.6  | 8.1       |
| 130°-140° | 829.4  | 8.8       |
| 140°-150° | 800.4  | 8.5       |
| 150°-160° | 670.6  | 7.1       |
| 160°-170° | 446.4  | 4.7       |
| 170°-180° | 156.3  | 1.7       |
| 0°-30°    | 1113.0 | 11.8      |
| 0°-40°    | 1811.3 | 19.2      |
| 0°-60°    | 3227.4 | 34.2      |
| 0°-90°    | 4456.6 | 47.2      |
| 90°-120°  | 1316.7 | 13.9      |
| 90°-150°  | 3710.2 | 39.3      |
| 90°-180°  | 4983.0 | 52.8      |
| 0°-180°   | 9440.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1446 | 1446  | 1446 | 1446  | 1446 |      |
| 5°   | 1448 | 1444  | 1435 | 1448  | 1446 | 137  |
| 15°  | 1378 | 1383  | 1382 | 1397  | 1396 | 388  |
| 25°  | 1244 | 1260  | 1265 | 1285  | 1285 | 574  |
| 35°  | 1071 | 1096  | 1117 | 1140  | 1147 | 670  |
| 45°  | 876  | 914   | 953  | 983   | 996  | 675  |
| 55°  | 668  | 720   | 777  | 819   | 832  | 598  |
| 65°  | 462  | 523   | 592  | 640   | 655  | 456  |
| 75°  | 250  | 324   | 403  | 455   | 474  | 268  |
| 85°  | 77   | 156   | 239  | 293   | 309  | 79   |
| 90°  | 22   | 112   | 209  | 268   | 286  | 20   |
| 95°  | 94   | 164   | 252  | 306   | 322  | 98   |
| 105° | 304  | 345   | 424  | 468   | 485  | 325  |
| 115° | 559  | 582   | 636  | 675   | 687  | 554  |
| 125° | 812  | 816   | 859  | 887   | 892  | 725  |
| 135° | 1050 | 1056  | 1072 | 1096  | 1101 | 809  |
| 145° | 1272 | 1273  | 1277 | 1288  | 1289 | 794  |
| 155° | 1454 | 1454  | 1456 | 1461  | 1452 | 670  |
| 165° | 1584 | 1580  | 1580 | 1588  | 1579 | 447  |
| 175° | 1648 | 1643  | 1643 | 1650  | 1641 | 157  |
| 180° | 1652 | 1652  | 1652 | 1652  | 1652 |      |

TEST NUMBER: P1031444

CATALOG NUMBER: S123DIW-B1165D1320UB30-4F0-XX-W2A-D1

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 1446.1 | 1446.1 | 1446.1 | 1446.1 | 1446.1 |
| 2.5°   | 1454.0 | 1449.2 | 1436.6 | 1449.2 | 1447.7 |
| 5°     | 1447.7 | 1444.5 | 1435.1 | 1447.7 | 1446.1 |
| 7.5°   | 1436.6 | 1436.6 | 1427.2 | 1442.9 | 1441.4 |
| 10°    | 1420.9 | 1424.0 | 1416.2 | 1431.9 | 1428.8 |
| 12.5°  | 1402.0 | 1406.7 | 1402.0 | 1416.2 | 1413.0 |
| 15°    | 1378.4 | 1383.1 | 1381.5 | 1397.3 | 1395.7 |
| 17.5°  | 1350.0 | 1359.5 | 1357.9 | 1372.1 | 1368.9 |
| 20°    | 1318.5 | 1327.9 | 1331.1 | 1345.3 | 1346.8 |
| 22.5°  | 1285.4 | 1294.9 | 1299.6 | 1318.5 | 1316.9 |
| 25°    | 1244.5 | 1260.2 | 1264.9 | 1285.4 | 1285.4 |
| 27.5°  | 1205.1 | 1222.4 | 1231.9 | 1249.2 | 1250.8 |
| 30°    | 1162.5 | 1183.0 | 1195.6 | 1214.5 | 1214.5 |
| 32.5°  | 1115.3 | 1138.9 | 1156.2 | 1176.7 | 1181.4 |
| 35°    | 1071.2 | 1096.4 | 1116.9 | 1140.5 | 1146.8 |
| 37.5°  | 1023.9 | 1052.3 | 1075.9 | 1102.7 | 1107.4 |
| 40°    | 976.7  | 1005.0 | 1036.5 | 1063.3 | 1069.6 |
| 42.5°  | 924.7  | 960.9  | 994.0  | 1023.9 | 1033.4 |
| 45°    | 875.8  | 913.7  | 953.0  | 983.0  | 995.6  |
| 47.5°  | 823.9  | 866.4  | 910.5  | 943.6  | 953.0  |
| 50°    | 773.5  | 817.6  | 866.4  | 902.6  | 913.7  |
| 52.5°  | 719.9  | 767.2  | 822.3  | 860.1  | 874.3  |
| 55°    | 667.9  | 719.9  | 776.6  | 819.1  | 831.7  |
| 57.5°  | 617.5  | 671.1  | 732.5  | 775.0  | 789.2  |
| 60°    | 563.9  | 620.7  | 685.2  | 729.3  | 746.7  |
| 62.5°  | 513.5  | 571.8  | 641.1  | 685.2  | 701.0  |
| 65°    | 461.6  | 523.0  | 592.3  | 639.6  | 655.3  |
| 67.5°  | 409.6  | 474.2  | 543.5  | 595.4  | 608.1  |
| 70°    | 354.4  | 422.2  | 497.8  | 548.2  | 563.9  |
| 72.5°  | 304.0  | 371.8  | 450.5  | 502.5  | 518.3  |
| 75°    | 250.5  | 324.5  | 403.3  | 455.3  | 474.2  |
| 77.5°  | 204.8  | 278.8  | 357.6  | 412.7  | 426.9  |
| 80°    | 156.0  | 233.1  | 315.1  | 368.6  | 384.4  |
| 82.5°  | 113.4  | 192.2  | 275.7  | 329.2  | 345.0  |
| 85°    | 77.2   | 156.0  | 239.4  | 293.0  | 308.8  |
| 87.5°  | 47.3   | 126.0  | 206.4  | 259.9  | 275.7  |
| 90°    | 21.8   | 112.0  | 209.1  | 267.9  | 286.2  |
| 92.5°  | 57.8   | 133.3  | 219.9  | 275.8  | 287.4  |
| 95°    | 93.9   | 164.4  | 252.0  | 306.0  | 321.7  |
| 97.5°  | 141.7  | 204.8  | 286.6  | 340.4  | 354.8  |
| 100°   | 190.7  | 248.8  | 327.7  | 377.3  | 395.7  |
| 102.5° | 247.4  | 295.4  | 375.4  | 423.4  | 437.9  |
| 105°   | 304.5  | 344.9  | 424.3  | 468.5  | 485.2  |
| 107.5° | 370.4  | 404.8  | 474.6  | 521.0  | 533.9  |
| 110°   | 431.2  | 462.1  | 527.7  | 573.9  | 583.9  |

TEST NUMBER: P1031444

CATALOG NUMBER: S123DIW-B1165D1320UB30-4F0-XX-W2A-D1

**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 112.5° | 496.1  | 519.3  | 579.2  | 625.0  | 639.2  |
| 115°   | 559.3  | 582.1  | 636.2  | 675.3  | 686.6  |
| 117.5° | 625.5  | 639.4  | 690.3  | 728.1  | 736.8  |
| 120°   | 684.9  | 700.6  | 746.1  | 781.0  | 789.4  |
| 122.5° | 748.5  | 756.8  | 803.0  | 833.8  | 841.0  |
| 125°   | 811.7  | 815.6  | 858.7  | 886.6  | 892.4  |
| 127.5° | 871.4  | 877.7  | 914.4  | 938.1  | 944.0  |
| 130°   | 931.1  | 940.0  | 967.6  | 992.3  | 992.6  |
| 132.5° | 989.3  | 999.7  | 1020.7 | 1042.5 | 1047.1 |
| 135°   | 1050.3 | 1056.4 | 1072.4 | 1095.7 | 1100.9 |
| 137.5° | 1106.1 | 1110.9 | 1125.8 | 1144.5 | 1148.6 |
| 140°   | 1162.8 | 1169.3 | 1175.3 | 1197.6 | 1196.4 |
| 142.5° | 1216.0 | 1220.9 | 1223.5 | 1242.7 | 1244.1 |
| 145°   | 1271.8 | 1272.8 | 1276.7 | 1288.0 | 1289.1 |
| 147.5° | 1318.2 | 1323.4 | 1327.3 | 1332.0 | 1330.5 |
| 150°   | 1368.8 | 1371.4 | 1374.0 | 1374.0 | 1369.4 |
| 152.5° | 1410.4 | 1414.2 | 1415.5 | 1418.1 | 1411.6 |
| 155°   | 1454.5 | 1454.5 | 1455.8 | 1461.0 | 1451.9 |
| 157.5° | 1492.1 | 1490.8 | 1492.1 | 1497.3 | 1489.5 |
| 160°   | 1527.1 | 1524.5 | 1524.5 | 1531.0 | 1525.8 |
| 162.5° | 1558.3 | 1554.4 | 1555.7 | 1562.2 | 1553.1 |
| 165°   | 1584.2 | 1580.3 | 1580.3 | 1588.1 | 1579.0 |
| 167.5° | 1606.3 | 1601.1 | 1602.4 | 1610.2 | 1602.4 |
| 170°   | 1624.4 | 1619.2 | 1619.2 | 1628.3 | 1619.2 |
| 172.5° | 1638.7 | 1633.5 | 1633.5 | 1641.3 | 1632.2 |
| 175°   | 1647.8 | 1642.6 | 1642.6 | 1650.4 | 1641.3 |
| 177.5° | 1653.0 | 1647.8 | 1647.8 | 1655.6 | 1646.5 |
| 180°   | 1651.7 | 1651.7 | 1651.7 | 1651.7 | 1651.7 |

(END OF REPORT)