

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: P199484

Luminaire Tested: **S124-DIW-U2-1-30-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P199484
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P28062 P28061)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124-DIW-U2-1-30-0048-1D-UDD-1-NA-W
Description: DEFINE 4-INCH DIRECT/INDIRECT WALL LED LUMINAIRE
UPLIGHT LL2-3000K, NO LENS
DOWNLIGHT LL1-3000K, SATIN WHITE DIFFUSER
Light Source: -
757G
Ballast/Driver: ELECTRONIC DRIVERS

Summary

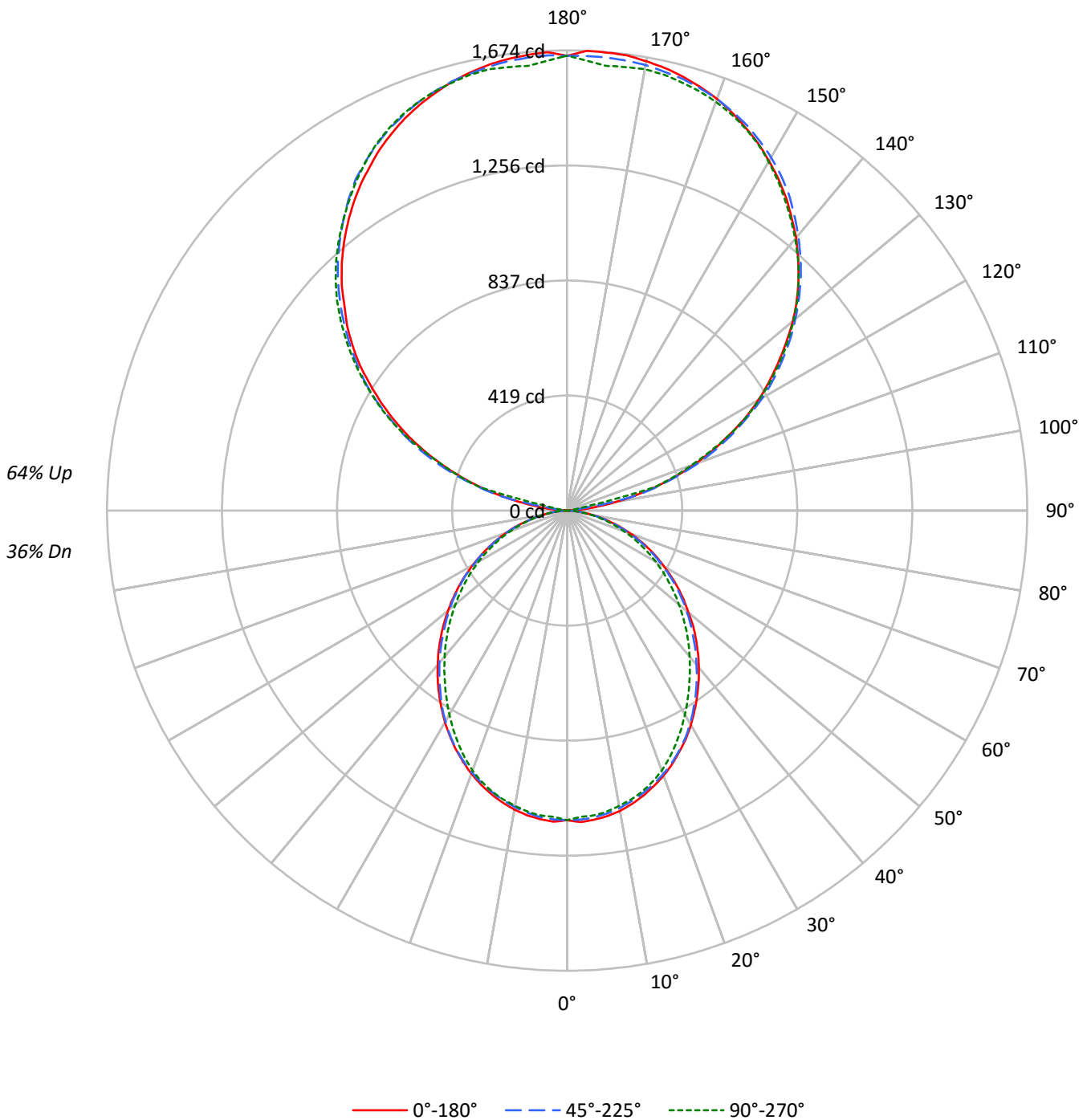
Lumens per Lamp: N/A
Luminaire Lumens: 7753.1 lumens
Efficiency: N/A
Efficacy: 118.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')
CIE Type: Semi-Indirect

Input Watts (W): 65.5
Input Voltage (V): NR
Input Current (A_{in}): 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: P199484

CATALOG NUMBER: S124-DIW-U2-1-30-0048-1D-UDD-1-NA-W

Luminous Intensity Polar Plot





TEST NUMBER: P199484

CATALOG NUMBER: S124-DIW-U2-1-30-0048-1D-UDD-1-NA-W

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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 104 | 104 | 104 | 104 | 94 | 94 | 94 | 94 | 76 | 76 | 76 | 59 | 59 | 59 | 43 | 43 | 43 | 36 |
| 1 | 95 | 91 | 87 | 83 | 86 | 82 | 79 | 76 | 66 | 64 | 62 | 52 | 50 | 49 | 38 | 37 | 37 | 30 |
| 2 | 86 | 79 | 73 | 68 | 78 | 72 | 67 | 62 | 58 | 55 | 51 | 45 | 43 | 41 | 34 | 32 | 31 | 26 |
| 3 | 79 | 70 | 62 | 57 | 71 | 63 | 57 | 52 | 51 | 47 | 43 | 40 | 37 | 35 | 30 | 28 | 26 | 22 |
| 4 | 72 | 61 | 54 | 48 | 65 | 56 | 49 | 44 | 46 | 41 | 37 | 36 | 32 | 30 | 27 | 25 | 23 | 19 |
| 5 | 66 | 55 | 47 | 41 | 60 | 50 | 43 | 38 | 41 | 36 | 32 | 32 | 29 | 26 | 24 | 22 | 20 | 16 |
| 6 | 61 | 49 | 41 | 35 | 55 | 45 | 38 | 33 | 37 | 31 | 28 | 29 | 25 | 22 | 22 | 19 | 17 | 14 |
| 7 | 56 | 44 | 36 | 31 | 51 | 40 | 34 | 29 | 33 | 28 | 24 | 26 | 23 | 20 | 20 | 17 | 16 | 13 |
| 8 | 52 | 40 | 32 | 27 | 47 | 37 | 30 | 25 | 30 | 25 | 21 | 24 | 20 | 18 | 18 | 16 | 14 | 11 |
| 9 | 48 | 36 | 29 | 24 | 44 | 33 | 27 | 23 | 28 | 23 | 19 | 22 | 18 | 16 | 17 | 14 | 13 | 10 |
| 10 | 45 | 33 | 26 | 22 | 41 | 31 | 24 | 20 | 25 | 21 | 17 | 20 | 17 | 14 | 16 | 13 | 11 | 9 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|------|------|------|
| 0° | 8906 | 8906 | 8906 |
| 5° | 8890 | 8045 | 8874 |
| 10° | 8764 | 7309 | 8727 |
| 15° | 8574 | 6651 | 8530 |
| 20° | 8355 | 6009 | 8294 |
| 25° | 8090 | 5358 | 8015 |
| 30° | 7811 | 4745 | 7711 |
| 35° | 7479 | 4180 | 7374 |
| 40° | 7146 | 3681 | 7022 |
| 45° | 6785 | 3221 | 6653 |
| 50° | 6380 | 2788 | 6267 |
| 55° | 6016 | 2384 | 5859 |
| 60° | 5565 | 1998 | 5407 |
| 65° | 5120 | 1620 | 4917 |
| 70° | 4551 | 1247 | 4337 |
| 75° | 3828 | 876 | 3548 |
| 80° | 2875 | 534 | 2692 |
| 85° | 1687 | 236 | 1598 |



TEST NUMBER: P199484

CATALOG NUMBER: S124-DIW-U2-1-30-0048-1D-UDD-1-NA-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 106.0 | 1.4 |
| 10°-20° | 298.9 | 3.9 |
| 20°-30° | 437.9 | 5.6 |
| 30°-40° | 501.8 | 6.5 |
| 40°-50° | 494.7 | 6.4 |
| 50°-60° | 426.4 | 5.5 |
| 60°-70° | 310.9 | 4.0 |
| 70°-80° | 169.6 | 2.2 |
| 80°-90° | 44.5 | 0.6 |
| 90°-100° | 42.1 | 0.5 |
| 100°-110° | 334.5 | 4.3 |
| 110°-120° | 647.2 | 8.3 |
| 120°-130° | 841.6 | 10.9 |
| 130°-140° | 913.6 | 11.8 |
| 140°-150° | 864.5 | 11.2 |
| 150°-160° | 705.2 | 9.1 |
| 160°-170° | 456.5 | 5.9 |
| 170°-180° | 157.1 | 2.0 |
| 0°-30° | 842.8 | 10.9 |
| 0°-40° | 1344.6 | 17.3 |
| 0°-60° | 2265.8 | 29.2 |
| 0°-90° | 2790.8 | 36.0 |
| 90°-120° | 1023.8 | 13.2 |
| 90°-150° | 3643.5 | 47.0 |
| 90°-180° | 4962.0 | 64.0 |
| 0°-180° | 7753.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|------|------|------|------|------|------|
| 0° | 1126 | 1126 | 1126 | 1126 | 1126 | |
| 5° | 1129 | 1121 | 1113 | 1119 | 1127 | 107 |
| 15° | 1073 | 1065 | 1057 | 1059 | 1068 | 302 |
| 25° | 967 | 964 | 936 | 956 | 958 | 445 |
| 35° | 824 | 816 | 774 | 804 | 813 | 516 |
| 45° | 662 | 649 | 612 | 638 | 650 | 511 |
| 55° | 494 | 485 | 451 | 475 | 481 | 440 |
| 65° | 328 | 320 | 296 | 312 | 314 | 324 |
| 75° | 168 | 162 | 149 | 155 | 156 | 179 |
| 85° | 38 | 39 | 36 | 37 | 36 | 43 |
| 90° | 1 | 3 | 2 | 3 | 1 | 5 |
| 95° | 58 | 15 | 16 | 16 | 52 | 73 |
| 105° | 333 | 342 | 328 | 334 | 324 | 352 |
| 115° | 650 | 667 | 653 | 658 | 633 | 644 |
| 125° | 937 | 957 | 945 | 935 | 920 | 838 |
| 135° | 1190 | 1203 | 1191 | 1179 | 1160 | 917 |
| 145° | 1389 | 1406 | 1381 | 1385 | 1359 | 868 |
| 155° | 1537 | 1547 | 1534 | 1531 | 1512 | 709 |
| 165° | 1633 | 1625 | 1612 | 1616 | 1615 | 461 |
| 175° | 1672 | 1655 | 1624 | 1654 | 1663 | 159 |
| 180° | 1655 | 1655 | 1655 | 1655 | 1655 | |



TEST NUMBER: P199484

CATALOG NUMBER: S124-DIW-U2-1-30-0048-1D-UDD-1-NA-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1126.1 | 1126.1 | 1126.1 | 1126.1 | 1126.1 | 1126.1 | 1126.1 | 1126.1 | 1126.1 |
| 2.5° | 1134.3 | 1121.3 | 1125.4 | 1122.7 | 1115.2 | 1122.7 | 1124.7 | 1120.6 | 1132.9 |
| 5° | 1128.8 | 1116.6 | 1120.6 | 1116.6 | 1113.2 | 1115.9 | 1119.3 | 1114.5 | 1126.8 |
| 7.5° | 1120.6 | 1107.7 | 1111.1 | 1107.7 | 1104.3 | 1107.0 | 1109.1 | 1105.0 | 1117.9 |
| 10° | 1109.1 | 1095.5 | 1098.9 | 1094.8 | 1090.7 | 1093.4 | 1095.5 | 1091.4 | 1104.3 |
| 12.5° | 1092.7 | 1079.8 | 1082.5 | 1079.8 | 1076.4 | 1077.1 | 1078.4 | 1074.4 | 1088.0 |
| 15° | 1073.0 | 1060.1 | 1064.8 | 1062.1 | 1057.3 | 1060.1 | 1059.4 | 1054.6 | 1067.5 |
| 17.5° | 1050.5 | 1038.3 | 1043.7 | 1041.0 | 1034.2 | 1038.3 | 1038.3 | 1030.8 | 1044.4 |
| 20° | 1026.0 | 1013.1 | 1020.6 | 1013.8 | 1006.3 | 1010.4 | 1013.8 | 1004.9 | 1018.5 |
| 22.5° | 998.8 | 985.2 | 994.0 | 981.8 | 973.6 | 978.4 | 986.5 | 977.0 | 989.2 |
| 25° | 966.8 | 955.9 | 964.1 | 947.0 | 936.1 | 943.0 | 955.9 | 946.4 | 957.9 |
| 27.5° | 935.5 | 924.6 | 931.4 | 912.3 | 897.3 | 906.2 | 922.5 | 914.4 | 924.6 |
| 30° | 900.7 | 891.9 | 895.3 | 872.8 | 857.2 | 866.7 | 885.8 | 881.0 | 889.2 |
| 32.5° | 862.6 | 855.8 | 855.8 | 832.0 | 815.6 | 826.5 | 847.0 | 845.6 | 851.0 |
| 35° | 824.5 | 820.4 | 815.6 | 789.8 | 774.1 | 784.3 | 804.1 | 809.5 | 812.9 |
| 37.5° | 785.7 | 783.0 | 774.1 | 748.9 | 733.9 | 744.8 | 763.2 | 771.4 | 773.4 |
| 40° | 745.5 | 744.1 | 731.9 | 708.1 | 693.1 | 704.0 | 723.0 | 733.3 | 732.6 |
| 42.5° | 704.7 | 706.0 | 691.0 | 667.9 | 652.9 | 663.8 | 681.5 | 695.1 | 691.7 |
| 45° | 662.4 | 666.5 | 648.8 | 627.7 | 612.1 | 623.6 | 637.9 | 655.0 | 649.5 |
| 47.5° | 621.6 | 626.4 | 608.0 | 586.2 | 571.2 | 583.5 | 597.8 | 616.2 | 608.0 |
| 50° | 575.3 | 584.8 | 567.1 | 545.3 | 530.4 | 541.9 | 559.0 | 574.6 | 565.1 |
| 52.5° | 535.1 | 541.9 | 526.3 | 505.2 | 490.9 | 500.4 | 517.4 | 533.1 | 522.9 |
| 55° | 493.6 | 501.1 | 485.4 | 464.3 | 450.7 | 460.2 | 475.2 | 490.9 | 480.7 |
| 57.5° | 450.0 | 457.5 | 443.2 | 424.2 | 411.2 | 421.4 | 437.1 | 448.0 | 438.5 |
| 60° | 407.8 | 417.3 | 401.7 | 383.3 | 372.4 | 380.6 | 392.8 | 405.8 | 396.2 |
| 62.5° | 367.0 | 375.8 | 360.8 | 343.8 | 333.6 | 341.1 | 354.0 | 364.2 | 355.4 |
| 65° | 327.5 | 332.9 | 320.0 | 304.3 | 295.5 | 300.2 | 311.8 | 323.4 | 314.5 |
| 67.5° | 287.3 | 292.8 | 279.8 | 266.2 | 257.4 | 262.1 | 271.7 | 282.5 | 274.4 |
| 70° | 246.5 | 251.2 | 240.3 | 228.1 | 220.6 | 225.4 | 234.2 | 242.4 | 234.9 |
| 72.5° | 207.7 | 211.1 | 200.8 | 191.3 | 185.9 | 189.3 | 195.4 | 202.9 | 199.5 |
| 75° | 168.2 | 172.3 | 162.0 | 153.9 | 149.1 | 150.5 | 155.2 | 161.4 | 155.9 |
| 77.5° | 130.7 | 134.8 | 126.6 | 120.5 | 117.8 | 118.5 | 121.9 | 126.6 | 119.8 |
| 80° | 96.0 | 99.4 | 94.6 | 89.2 | 86.5 | 87.8 | 89.9 | 92.6 | 89.9 |
| 82.5° | 64.7 | 68.1 | 64.7 | 61.3 | 59.2 | 60.6 | 61.3 | 62.6 | 60.6 |
| 85° | 38.1 | 40.8 | 38.8 | 36.8 | 36.1 | 36.1 | 36.8 | 38.1 | 36.1 |
| 87.5° | 17.0 | 19.1 | 17.7 | 16.3 | 14.3 | 15.0 | 15.7 | 17.0 | 15.7 |
| 90° | 1.4 | 3.4 | 2.7 | 2.0 | 2.0 | 2.0 | 2.7 | 3.4 | 1.4 |
| 92.5° | 18.6 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 10.8 | 12.7 |
| 95° | 57.8 | 37.2 | 14.7 | 15.7 | 15.7 | 15.7 | 15.7 | 25.5 | 52.0 |
| 97.5° | 112.7 | 131.4 | 28.4 | 18.6 | 18.6 | 18.6 | 28.4 | 124.5 | 104.9 |
| 100° | 178.4 | 196.0 | 143.1 | 45.1 | 33.3 | 42.1 | 125.5 | 185.3 | 169.6 |
| 102.5° | 251.9 | 274.5 | 263.7 | 148.0 | 85.3 | 126.4 | 255.8 | 262.7 | 245.1 |
| 105° | 333.3 | 352.9 | 342.1 | 347.0 | 328.4 | 334.3 | 334.3 | 338.2 | 323.5 |
| 107.5° | 413.7 | 430.3 | 424.4 | 420.5 | 405.8 | 409.7 | 419.5 | 417.6 | 400.9 |
| 110° | 494.0 | 510.7 | 510.7 | 498.0 | 480.3 | 487.2 | 502.9 | 493.1 | 479.3 |



TEST NUMBER: P199484

CATALOG NUMBER: S124-DIW-U2-1-30-0048-1D-UDD-1-NA-W

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 574.4 | 587.2 | 590.1 | 583.2 | 562.6 | 572.5 | 581.3 | 565.6 | 556.8 |
| 115° | 649.9 | 668.5 | 666.6 | 667.5 | 652.8 | 652.8 | 657.7 | 646.0 | 633.2 |
| 117.5° | 731.2 | 745.0 | 742.0 | 743.0 | 733.2 | 729.3 | 728.3 | 720.5 | 706.7 |
| 120° | 802.8 | 818.5 | 820.4 | 813.6 | 806.7 | 798.9 | 803.8 | 793.0 | 778.3 |
| 122.5° | 870.4 | 888.1 | 891.0 | 884.2 | 877.3 | 868.5 | 872.4 | 860.6 | 846.9 |
| 125° | 937.1 | 956.7 | 956.7 | 951.8 | 944.9 | 936.1 | 935.1 | 925.3 | 920.4 |
| 127.5° | 1003.8 | 1026.3 | 1022.4 | 1017.5 | 1011.6 | 1001.8 | 996.9 | 991.0 | 983.2 |
| 130° | 1071.4 | 1087.1 | 1083.2 | 1079.2 | 1075.3 | 1063.5 | 1059.6 | 1053.7 | 1044.9 |
| 132.5° | 1133.1 | 1142.0 | 1143.9 | 1136.1 | 1136.1 | 1121.4 | 1120.4 | 1113.5 | 1097.9 |
| 135° | 1190.0 | 1198.8 | 1202.7 | 1191.0 | 1191.0 | 1176.3 | 1179.2 | 1169.4 | 1159.6 |
| 137.5° | 1243.9 | 1250.8 | 1255.7 | 1241.9 | 1242.9 | 1229.2 | 1234.1 | 1217.4 | 1213.5 |
| 140° | 1295.9 | 1298.8 | 1307.6 | 1292.9 | 1291.0 | 1279.2 | 1286.1 | 1269.4 | 1264.5 |
| 142.5° | 1341.9 | 1345.9 | 1356.6 | 1340.9 | 1336.0 | 1327.2 | 1336.0 | 1315.5 | 1312.5 |
| 145° | 1389.0 | 1390.0 | 1405.6 | 1387.0 | 1381.1 | 1374.3 | 1385.1 | 1360.6 | 1358.6 |
| 147.5° | 1430.2 | 1428.2 | 1446.8 | 1431.1 | 1425.2 | 1418.4 | 1430.2 | 1401.7 | 1401.7 |
| 150° | 1468.4 | 1466.4 | 1484.1 | 1471.3 | 1465.4 | 1459.6 | 1466.4 | 1440.0 | 1440.0 |
| 152.5° | 1505.6 | 1498.8 | 1516.4 | 1505.6 | 1503.7 | 1494.8 | 1500.7 | 1475.2 | 1479.2 |
| 155° | 1537.0 | 1530.1 | 1546.8 | 1538.0 | 1534.1 | 1527.2 | 1531.1 | 1506.6 | 1512.5 |
| 157.5° | 1567.4 | 1556.6 | 1571.3 | 1567.4 | 1560.5 | 1556.6 | 1556.6 | 1537.0 | 1543.9 |
| 160° | 1593.8 | 1581.1 | 1593.8 | 1588.0 | 1582.1 | 1577.2 | 1581.1 | 1561.5 | 1570.3 |
| 162.5° | 1615.4 | 1603.7 | 1610.5 | 1602.7 | 1599.7 | 1591.9 | 1599.7 | 1584.0 | 1593.8 |
| 165° | 1633.1 | 1620.3 | 1625.2 | 1614.4 | 1612.5 | 1606.6 | 1616.4 | 1605.6 | 1615.4 |
| 167.5° | 1648.7 | 1637.0 | 1635.0 | 1624.2 | 1624.2 | 1616.4 | 1628.2 | 1622.3 | 1632.1 |
| 170° | 1659.5 | 1649.7 | 1645.8 | 1630.1 | 1630.1 | 1623.3 | 1639.9 | 1635.0 | 1646.8 |
| 172.5° | 1670.3 | 1657.6 | 1650.7 | 1634.0 | 1627.2 | 1628.2 | 1648.7 | 1644.8 | 1656.6 |
| 175° | 1672.3 | 1662.5 | 1654.6 | 1637.0 | 1624.2 | 1633.1 | 1653.6 | 1654.6 | 1663.4 |
| 177.5° | 1674.2 | 1664.4 | 1654.6 | 1639.9 | 1638.0 | 1636.0 | 1657.6 | 1656.6 | 1669.3 |
| 180° | 1654.6 | 1654.6 | 1654.6 | 1654.6 | 1654.6 | 1654.6 | 1654.6 | 1654.6 | 1654.6 |

(END OF REPORT)