

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: P199441

Luminaire Tested: **S123-DIW-U1-2-30-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P199441
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P27889 P27889)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123-DIW-U1-2-30-0048-1D-UDD-1-NA-W
Description: DEFINE 3-INCH DIRECT/INDIRECT WALL LED LUMINAIRE
UPLIGHT LL1-3000K, NO LENS
DOWNLIGHT LL2-3000K, SATIN WHITE DIFFUSER
Light Source: -
757G
Ballast/Driver: ELECTRONIC DRIVERS

Summary

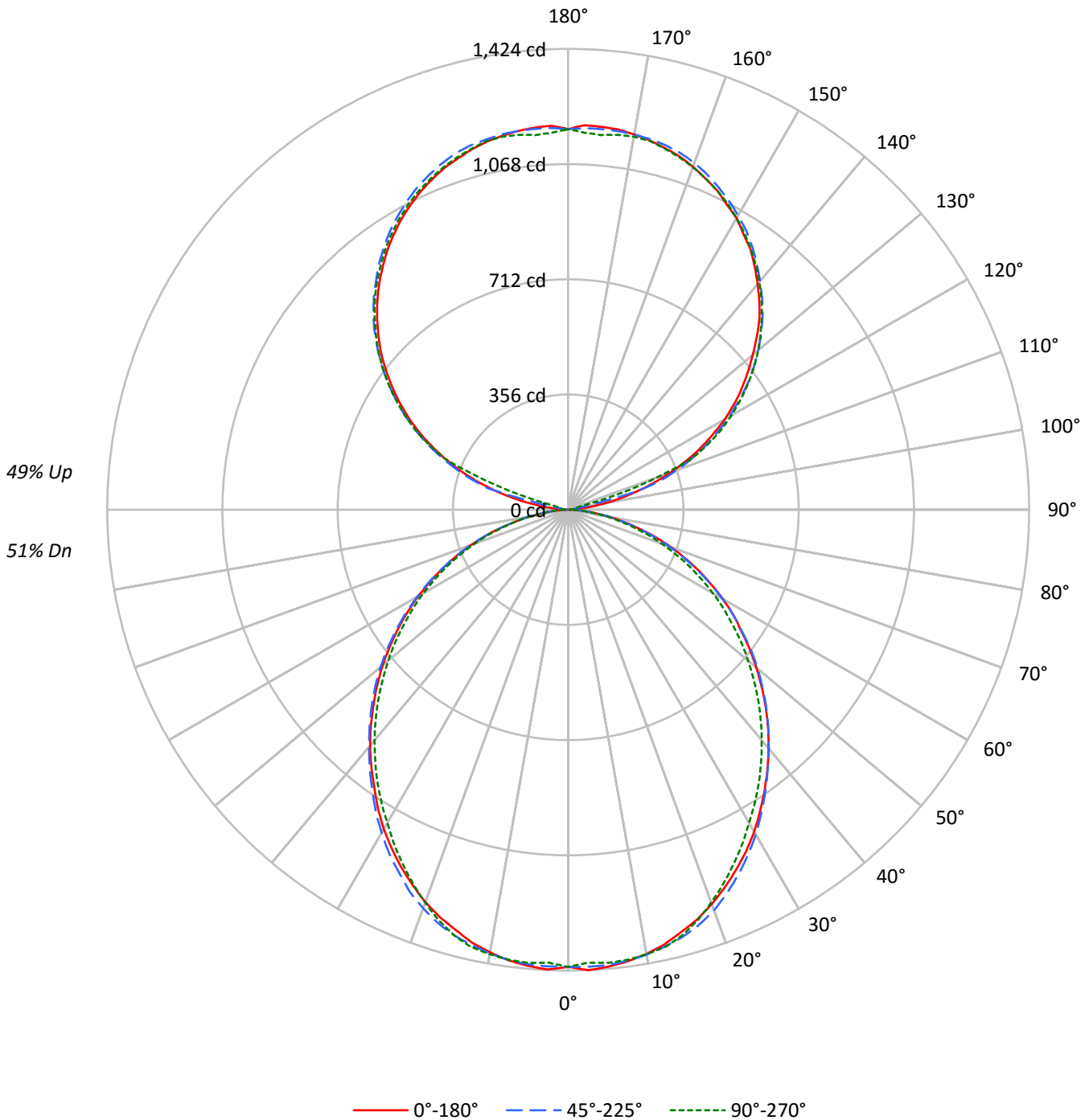
Lumens per Lamp: N/A
Luminaire Lumens: 7189.9 lumens
Efficiency: N/A
Efficacy: 107.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.32
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4.08' x H: 0.38')
CIE Type: General Diffuse

Input Watts (W): 67
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: P199441

CATALOG NUMBER: S123-DIW-U1-2-30-0048-1D-UDD-1-NA-W

Luminous Intensity Polar Plot





TEST NUMBER: P199441

CATALOG NUMBER: S123-DIW-U1-2-30-0048-1D-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 | 107 | 107 | 107 | 107 | 99 | 99 | 99 | 99 | 84 | 84 | 84 | 70 | 70 | 70 | 57 | 57 | 57 | 51 |
| 1 | 98 | 94 | 90 | 86 | 91 | 87 | 84 | 80 | 74 | 71 | 69 | 62 | 60 | 59 | 51 | 50 | 49 | 43 |
| 2 | 89 | 82 | 76 | 71 | 82 | 76 | 71 | 66 | 65 | 61 | 57 | 54 | 51 | 49 | 45 | 43 | 41 | 36 |
| 3 | 82 | 72 | 65 | 59 | 75 | 67 | 60 | 55 | 57 | 52 | 48 | 48 | 44 | 41 | 40 | 37 | 35 | 31 |
| 4 | 75 | 64 | 56 | 50 | 69 | 59 | 52 | 47 | 51 | 45 | 41 | 43 | 39 | 35 | 35 | 32 | 30 | 26 |
| 5 | 68 | 57 | 49 | 43 | 63 | 53 | 46 | 40 | 45 | 40 | 35 | 38 | 34 | 31 | 32 | 29 | 26 | 23 |
| 6 | 63 | 51 | 43 | 37 | 58 | 47 | 40 | 35 | 41 | 35 | 31 | 35 | 30 | 27 | 29 | 26 | 23 | 20 |
| 7 | 58 | 46 | 38 | 32 | 54 | 43 | 36 | 31 | 37 | 31 | 27 | 32 | 27 | 24 | 26 | 23 | 20 | 18 |
| 8 | 54 | 42 | 34 | 29 | 50 | 39 | 32 | 27 | 34 | 28 | 24 | 29 | 24 | 21 | 24 | 21 | 18 | 16 |
| 9 | 50 | 38 | 31 | 26 | 47 | 36 | 29 | 24 | 31 | 25 | 22 | 27 | 22 | 19 | 22 | 19 | 17 | 14 |
| 10 | 47 | 35 | 28 | 23 | 44 | 33 | 26 | 22 | 29 | 23 | 19 | 25 | 20 | 17 | 21 | 17 | 15 | 13 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 14894 | 14894 | 14894 |
| 5° | 14883 | 13152 | 14862 |
| 10° | 14687 | 11811 | 14635 |
| 15° | 14391 | 10601 | 14318 |
| 20° | 14081 | 9377 | 14007 |
| 25° | 13691 | 8274 | 13604 |
| 30° | 13283 | 7291 | 13170 |
| 35° | 12792 | 6450 | 12637 |
| 40° | 12302 | 5669 | 12164 |
| 45° | 11781 | 4947 | 11608 |
| 50° | 11218 | 4269 | 11058 |
| 55° | 10595 | 3624 | 10419 |
| 60° | 10023 | 3028 | 9719 |
| 65° | 9255 | 2430 | 8888 |
| 70° | 8301 | 1853 | 7868 |
| 75° | 6960 | 1277 | 6453 |
| 80° | 5206 | 764 | 4655 |
| 85° | 2951 | 327 | 2603 |



TEST NUMBER: P199441

CATALOG NUMBER: S123-DIW-U1-2-30-0048-1D-UDD-1-NA-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 133.9 | 1.9 |
| 10°-20° | 382.3 | 5.3 |
| 20°-30° | 565.0 | 7.9 |
| 30°-40° | 657.6 | 9.1 |
| 40°-50° | 659.9 | 9.2 |
| 50°-60° | 577.6 | 8.0 |
| 60°-70° | 426.6 | 5.9 |
| 70°-80° | 233.0 | 3.2 |
| 80°-90° | 60.2 | 0.8 |
| 90°-100° | 27.6 | 0.4 |
| 100°-110° | 193.6 | 2.7 |
| 110°-120° | 463.3 | 6.4 |
| 120°-130° | 599.7 | 8.3 |
| 130°-140° | 650.9 | 9.1 |
| 140°-150° | 616.2 | 8.6 |
| 150°-160° | 503.3 | 7.0 |
| 160°-170° | 327.0 | 4.5 |
| 170°-180° | 112.2 | 1.6 |
| 0°-30° | 1081.2 | 15.0 |
| 0°-40° | 1738.9 | 24.2 |
| 0°-60° | 2976.4 | 41.4 |
| 0°-90° | 3696.3 | 51.4 |
| 90°-120° | 684.5 | 9.5 |
| 90°-150° | 2551.2 | 35.5 |
| 90°-180° | 3494.0 | 48.6 |
| 0°-180° | 7189.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|------|------|------|------|------|------|
| 0° | 1412 | 1412 | 1412 | 1412 | 1412 | |
| 5° | 1417 | 1412 | 1406 | 1410 | 1415 | 135 |
| 15° | 1351 | 1366 | 1362 | 1362 | 1344 | 381 |
| 25° | 1227 | 1244 | 1209 | 1237 | 1219 | 565 |
| 35° | 1058 | 1062 | 1027 | 1056 | 1045 | 662 |
| 45° | 863 | 866 | 829 | 859 | 850 | 665 |
| 55° | 652 | 655 | 620 | 649 | 641 | 585 |
| 65° | 444 | 439 | 411 | 428 | 426 | 439 |
| 75° | 229 | 224 | 207 | 212 | 213 | 244 |
| 85° | 50 | 54 | 49 | 48 | 44 | 58 |
| 90° | 3 | 6 | 4 | 5 | 2 | 5 |
| 95° | 35 | 15 | 17 | 16 | 42 | 46 |
| 105° | 223 | 218 | 33 | 256 | 241 | 236 |
| 115° | 451 | 468 | 474 | 480 | 466 | 444 |
| 125° | 655 | 675 | 678 | 677 | 664 | 585 |
| 135° | 835 | 850 | 846 | 851 | 835 | 642 |
| 145° | 982 | 991 | 984 | 992 | 976 | 613 |
| 155° | 1089 | 1099 | 1089 | 1100 | 1082 | 501 |
| 165° | 1157 | 1166 | 1155 | 1166 | 1152 | 327 |
| 175° | 1187 | 1181 | 1162 | 1181 | 1185 | 113 |
| 180° | 1176 | 1176 | 1176 | 1176 | 1176 | |



TEST NUMBER: P199441

CATALOG NUMBER: S123-DIW-U1-2-30-0048-1D-UDD-1-NA-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1412.5 | 1412.5 | 1412.5 | 1412.5 | 1412.5 | 1412.5 | 1412.5 | 1412.5 | 1412.5 |
| 2.5° | 1424.3 | 1409.6 | 1413.5 | 1411.5 | 1400.7 | 1411.5 | 1412.5 | 1408.6 | 1422.3 |
| 5° | 1417.4 | 1404.7 | 1412.5 | 1409.6 | 1405.6 | 1409.6 | 1410.5 | 1402.7 | 1415.4 |
| 7.5° | 1407.6 | 1396.8 | 1405.6 | 1404.7 | 1402.7 | 1404.7 | 1403.7 | 1392.9 | 1404.7 |
| 10° | 1393.9 | 1384.1 | 1395.8 | 1397.8 | 1394.9 | 1396.8 | 1391.9 | 1381.1 | 1389.0 |
| 12.5° | 1375.3 | 1367.4 | 1382.1 | 1386.0 | 1384.1 | 1385.1 | 1378.2 | 1362.5 | 1370.4 |
| 15° | 1350.8 | 1346.8 | 1366.4 | 1369.4 | 1361.5 | 1366.4 | 1361.5 | 1341.9 | 1343.9 |
| 17.5° | 1327.2 | 1323.3 | 1344.9 | 1340.9 | 1330.2 | 1338.0 | 1339.0 | 1317.4 | 1319.4 |
| 20° | 1296.8 | 1294.9 | 1317.4 | 1305.7 | 1291.9 | 1301.7 | 1310.6 | 1289.0 | 1290.0 |
| 22.5° | 1263.5 | 1265.5 | 1282.1 | 1265.5 | 1251.7 | 1261.6 | 1278.2 | 1257.6 | 1255.7 |
| 25° | 1227.2 | 1233.1 | 1243.9 | 1224.3 | 1208.6 | 1219.4 | 1237.0 | 1225.3 | 1219.4 |
| 27.5° | 1190.0 | 1198.8 | 1202.7 | 1180.2 | 1164.5 | 1175.3 | 1197.8 | 1190.0 | 1180.2 |
| 30° | 1148.8 | 1159.6 | 1158.6 | 1135.1 | 1117.5 | 1129.2 | 1152.7 | 1151.8 | 1139.0 |
| 32.5° | 1103.7 | 1118.4 | 1110.6 | 1088.1 | 1073.3 | 1082.2 | 1105.7 | 1108.6 | 1093.9 |
| 35° | 1057.7 | 1073.3 | 1061.6 | 1040.0 | 1027.3 | 1036.1 | 1055.7 | 1064.5 | 1044.9 |
| 37.5° | 1010.6 | 1026.3 | 1012.6 | 992.0 | 979.2 | 988.1 | 1006.7 | 1017.5 | 998.9 |
| 40° | 962.6 | 977.3 | 963.6 | 945.9 | 930.2 | 940.0 | 956.7 | 968.5 | 951.8 |
| 42.5° | 913.6 | 929.3 | 914.6 | 896.9 | 880.2 | 893.0 | 907.7 | 919.5 | 901.8 |
| 45° | 862.6 | 879.3 | 865.5 | 845.0 | 829.3 | 842.0 | 858.7 | 868.5 | 849.9 |
| 47.5° | 810.6 | 830.3 | 814.6 | 793.0 | 777.3 | 790.1 | 807.7 | 817.5 | 799.9 |
| 50° | 758.7 | 775.4 | 763.6 | 741.1 | 725.4 | 737.1 | 756.7 | 764.6 | 747.9 |
| 52.5° | 705.8 | 725.4 | 711.6 | 689.1 | 674.4 | 684.2 | 702.8 | 711.6 | 694.0 |
| 55° | 651.9 | 667.5 | 654.8 | 636.2 | 619.5 | 631.3 | 648.9 | 654.8 | 641.1 |
| 57.5° | 604.8 | 616.6 | 604.8 | 584.2 | 568.5 | 577.4 | 594.0 | 601.9 | 588.1 |
| 60° | 550.9 | 561.7 | 549.9 | 530.3 | 516.6 | 524.4 | 538.1 | 547.9 | 534.2 |
| 62.5° | 497.0 | 507.8 | 494.0 | 476.4 | 463.6 | 472.5 | 484.2 | 493.1 | 480.3 |
| 65° | 444.0 | 453.8 | 439.1 | 423.5 | 410.7 | 419.5 | 428.4 | 438.2 | 426.4 |
| 67.5° | 390.1 | 399.0 | 385.2 | 369.5 | 358.8 | 365.6 | 373.5 | 383.3 | 373.5 |
| 70° | 337.2 | 344.1 | 332.3 | 317.6 | 307.8 | 313.7 | 320.5 | 328.4 | 319.6 |
| 72.5° | 284.3 | 293.1 | 278.4 | 266.6 | 257.8 | 259.8 | 267.6 | 273.5 | 266.6 |
| 75° | 229.4 | 235.3 | 224.5 | 214.7 | 206.8 | 208.8 | 211.7 | 220.6 | 212.7 |
| 77.5° | 178.4 | 185.3 | 176.4 | 167.6 | 161.7 | 163.7 | 164.7 | 170.6 | 162.7 |
| 80° | 130.4 | 136.3 | 130.4 | 123.5 | 119.6 | 120.6 | 120.6 | 124.5 | 116.6 |
| 82.5° | 87.2 | 93.1 | 89.2 | 84.3 | 83.3 | 81.4 | 81.4 | 84.3 | 76.5 |
| 85° | 50.0 | 56.9 | 53.9 | 50.0 | 49.0 | 48.0 | 48.0 | 50.0 | 44.1 |
| 87.5° | 22.5 | 27.4 | 24.5 | 21.6 | 19.6 | 18.6 | 18.6 | 21.6 | 16.7 |
| 90° | 2.9 | 6.9 | 5.9 | 3.9 | 3.9 | 3.9 | 4.9 | 5.9 | 2.0 |
| 92.5° | 7.5 | 8.9 | 8.9 | 8.9 | 8.9 | 10.2 | 10.9 | 10.9 | 12.9 |
| 95° | 34.7 | 12.9 | 15.0 | 16.3 | 17.0 | 17.0 | 16.3 | 14.3 | 42.2 |
| 97.5° | 72.2 | 57.2 | 18.4 | 20.4 | 21.8 | 21.1 | 19.7 | 72.8 | 81.7 |
| 100° | 117.1 | 132.8 | 20.4 | 23.1 | 24.5 | 23.8 | 22.5 | 149.1 | 129.4 |
| 102.5° | 166.8 | 185.2 | 73.5 | 25.9 | 26.6 | 25.9 | 112.3 | 200.8 | 184.5 |
| 105° | 222.6 | 238.3 | 218.5 | 43.6 | 33.4 | 53.1 | 256.0 | 254.0 | 241.0 |
| 107.5° | 279.1 | 294.8 | 298.2 | 193.4 | 175.0 | 202.9 | 313.2 | 309.1 | 299.6 |
| 110° | 337.0 | 348.6 | 356.1 | 359.5 | 293.4 | 364.2 | 369.0 | 363.6 | 355.4 |



TEST NUMBER: P199441

CATALOG NUMBER: S123-DIW-U1-2-30-0048-1D-UDD-1-NA-W

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 394.9 | 407.1 | 413.9 | 418.7 | 413.3 | 422.1 | 423.5 | 418.0 | 410.5 |
| 115° | 450.7 | 461.6 | 468.4 | 475.9 | 473.9 | 477.3 | 480.0 | 472.5 | 465.7 |
| 117.5° | 503.1 | 516.8 | 520.8 | 528.3 | 531.0 | 528.3 | 531.0 | 524.9 | 518.8 |
| 120° | 558.3 | 569.2 | 571.9 | 578.7 | 582.1 | 578.0 | 581.4 | 576.0 | 569.2 |
| 122.5° | 608.0 | 617.5 | 624.3 | 627.0 | 630.4 | 625.7 | 629.8 | 623.6 | 617.5 |
| 125° | 655.0 | 665.2 | 675.4 | 674.7 | 678.1 | 672.7 | 677.4 | 669.9 | 664.5 |
| 127.5° | 699.9 | 710.1 | 722.4 | 720.3 | 723.0 | 717.6 | 723.7 | 714.9 | 710.1 |
| 130° | 743.5 | 755.7 | 766.6 | 763.9 | 766.6 | 761.9 | 767.3 | 759.1 | 754.4 |
| 132.5° | 790.4 | 802.0 | 808.8 | 806.1 | 806.1 | 803.4 | 810.9 | 802.0 | 795.2 |
| 135° | 835.4 | 842.9 | 849.7 | 845.6 | 845.6 | 842.9 | 851.0 | 842.9 | 834.7 |
| 137.5° | 873.5 | 881.7 | 886.4 | 883.7 | 883.7 | 880.3 | 888.5 | 881.0 | 872.8 |
| 140° | 910.3 | 917.8 | 921.8 | 918.4 | 918.4 | 915.7 | 923.9 | 917.8 | 908.9 |
| 142.5° | 946.4 | 953.2 | 957.2 | 951.8 | 951.8 | 949.1 | 959.3 | 952.5 | 942.3 |
| 145° | 981.8 | 986.5 | 991.3 | 983.1 | 983.8 | 979.7 | 992.0 | 985.2 | 975.6 |
| 147.5° | 1008.3 | 1017.2 | 1022.6 | 1013.1 | 1013.1 | 1009.7 | 1022.6 | 1015.8 | 1004.9 |
| 150° | 1040.3 | 1043.7 | 1049.8 | 1041.7 | 1041.0 | 1038.3 | 1050.5 | 1043.0 | 1033.5 |
| 152.5° | 1062.1 | 1070.3 | 1075.7 | 1066.9 | 1066.2 | 1062.8 | 1076.4 | 1068.2 | 1058.7 |
| 155° | 1088.6 | 1092.1 | 1098.9 | 1090.7 | 1088.6 | 1087.3 | 1100.2 | 1090.0 | 1082.5 |
| 157.5° | 1107.7 | 1111.8 | 1121.3 | 1113.8 | 1108.4 | 1110.4 | 1120.6 | 1109.1 | 1102.9 |
| 160° | 1127.5 | 1128.8 | 1139.7 | 1132.2 | 1126.1 | 1128.8 | 1139.0 | 1124.7 | 1122.7 |
| 162.5° | 1144.5 | 1145.2 | 1155.4 | 1146.5 | 1141.8 | 1142.4 | 1154.7 | 1140.4 | 1137.0 |
| 165° | 1156.7 | 1155.4 | 1165.6 | 1158.1 | 1154.7 | 1154.7 | 1165.6 | 1152.6 | 1152.0 |
| 167.5° | 1168.3 | 1167.6 | 1172.4 | 1167.6 | 1166.9 | 1163.5 | 1171.7 | 1162.9 | 1164.9 |
| 170° | 1177.2 | 1174.4 | 1177.2 | 1170.3 | 1170.3 | 1166.9 | 1177.8 | 1170.3 | 1173.1 |
| 172.5° | 1185.3 | 1179.9 | 1179.9 | 1170.3 | 1168.3 | 1167.6 | 1180.6 | 1176.5 | 1180.6 |
| 175° | 1187.4 | 1182.6 | 1180.6 | 1170.3 | 1162.2 | 1168.3 | 1181.2 | 1178.5 | 1185.3 |
| 177.5° | 1189.4 | 1181.9 | 1179.9 | 1167.6 | 1165.6 | 1166.3 | 1180.6 | 1179.2 | 1187.4 |
| 180° | 1175.8 | 1175.8 | 1175.8 | 1175.8 | 1175.8 | 1175.8 | 1175.8 | 1175.8 | 1175.8 |

(END OF REPORT)