

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: P199418

Luminaire Tested: **S122-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P199418
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P27883 P27883)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W
Description: DEFINE 2-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE
UPLIGHT LL2-4000K, SATIN WHITE DIFFUSER
DOWNLIGHT LLO-4000K, SATIN WHITE DIFFUSER
Light Source: -
757G
Ballast/Driver: ELECTRONIC DRIVERS

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5560.2 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.17 / 1.31
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4.08' x H: 0.38')
CIE Type: Semi-Indirect

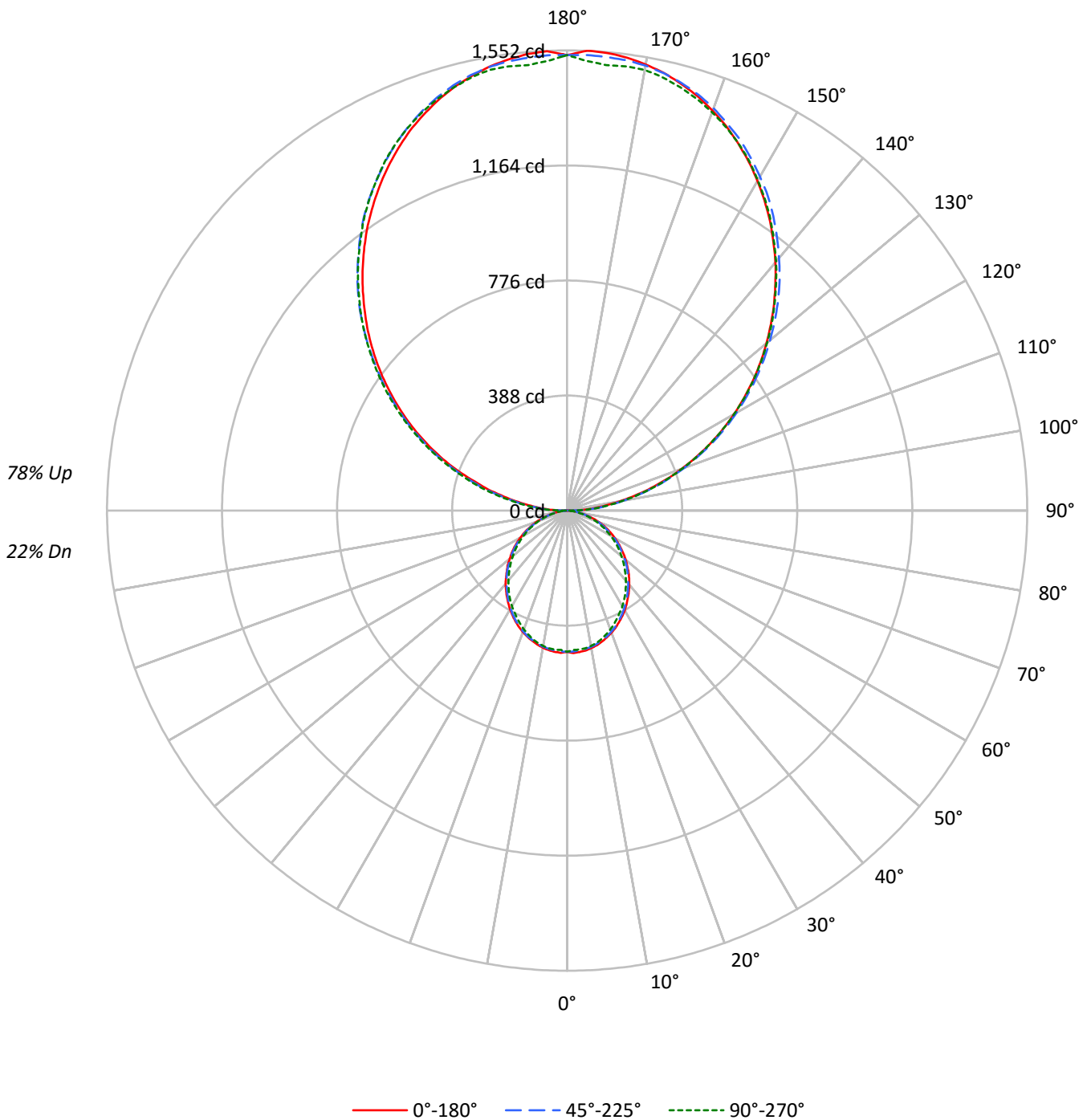
Input Watts (W): 52.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P199418

CATALOG NUMBER: S122-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W

Luminous Intensity Polar Plot





TEST NUMBER: P199418

CATALOG NUMBER: S122-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-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 | 100 | 100 | 100 | 100 | 89 | 89 | 89 | 89 | 68 | 68 | 68 | 48 | 48 | 48 | 30 | 30 | 30 | 22 |
| 1 | 92 | 87 | 84 | 80 | 81 | 78 | 75 | 72 | 59 | 57 | 55 | 42 | 41 | 40 | 27 | 26 | 26 | 19 |
| 2 | 83 | 76 | 70 | 66 | 74 | 68 | 63 | 59 | 52 | 49 | 46 | 37 | 35 | 33 | 24 | 23 | 22 | 16 |
| 3 | 76 | 67 | 60 | 54 | 67 | 60 | 54 | 49 | 46 | 42 | 38 | 33 | 30 | 28 | 21 | 20 | 18 | 13 |
| 4 | 69 | 59 | 52 | 46 | 61 | 53 | 46 | 41 | 41 | 36 | 33 | 29 | 26 | 24 | 19 | 17 | 16 | 11 |
| 5 | 64 | 52 | 45 | 39 | 56 | 47 | 40 | 35 | 36 | 31 | 28 | 26 | 23 | 21 | 17 | 15 | 14 | 10 |
| 6 | 58 | 47 | 39 | 34 | 52 | 42 | 35 | 30 | 32 | 28 | 24 | 24 | 20 | 18 | 15 | 13 | 12 | 9 |
| 7 | 54 | 42 | 35 | 29 | 48 | 38 | 31 | 27 | 29 | 25 | 21 | 21 | 18 | 16 | 14 | 12 | 11 | 8 |
| 8 | 50 | 38 | 31 | 26 | 44 | 34 | 28 | 23 | 27 | 22 | 19 | 19 | 16 | 14 | 13 | 11 | 10 | 7 |
| 9 | 46 | 35 | 27 | 23 | 41 | 31 | 25 | 21 | 24 | 20 | 17 | 18 | 15 | 13 | 12 | 10 | 9 | 6 |
| 10 | 43 | 32 | 25 | 20 | 38 | 28 | 22 | 18 | 22 | 18 | 15 | 16 | 13 | 11 | 11 | 9 | 8 | 6 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|------|------|------|
| 0° | 7535 | 7535 | 7535 |
| 5° | 7543 | 6241 | 7532 |
| 10° | 7441 | 5329 | 7423 |
| 15° | 7300 | 4584 | 7271 |
| 20° | 7135 | 3945 | 7098 |
| 25° | 6936 | 3404 | 6900 |
| 30° | 6734 | 2959 | 6677 |
| 35° | 6489 | 2560 | 6429 |
| 40° | 6251 | 2202 | 6194 |
| 45° | 6000 | 1884 | 5894 |
| 50° | 5720 | 1598 | 5598 |
| 55° | 5407 | 1338 | 5317 |
| 60° | 5087 | 1097 | 4956 |
| 65° | 4699 | 862 | 4540 |
| 70° | 4217 | 648 | 4014 |
| 75° | 3523 | 436 | 3286 |
| 80° | 2623 | 254 | 2384 |
| 85° | 1629 | 100 | 1372 |



TEST NUMBER: P199418

CATALOG NUMBER: S122-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 44.9 | 0.8 |
| 10°-20° | 127.1 | 2.3 |
| 20°-30° | 187.5 | 3.4 |
| 30°-40° | 218.7 | 3.9 |
| 40°-50° | 219.1 | 3.9 |
| 50°-60° | 191.7 | 3.4 |
| 60°-70° | 141.0 | 2.5 |
| 70°-80° | 76.5 | 1.4 |
| 80°-90° | 19.6 | 0.4 |
| 90°-100° | 106.1 | 1.9 |
| 100°-110° | 312.6 | 5.6 |
| 110°-120° | 525.7 | 9.5 |
| 120°-130° | 685.6 | 12.3 |
| 130°-140° | 764.4 | 13.7 |
| 140°-150° | 747.5 | 13.4 |
| 150°-160° | 628.8 | 11.3 |
| 160°-170° | 418.0 | 7.5 |
| 170°-180° | 145.6 | 2.6 |
| 0°-30° | 359.6 | 6.5 |
| 0°-40° | 578.3 | 10.4 |
| 0°-60° | 989.1 | 17.8 |
| 0°-90° | 1226.2 | 22.1 |
| 90°-120° | 944.3 | 17.0 |
| 90°-150° | 3141.8 | 56.5 |
| 90°-180° | 4334.0 | 77.9 |
| 0°-180° | 5560.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|------|------|------|------|------|------|
| 0° | 476 | 476 | 476 | 476 | 476 | |
| 5° | 479 | 473 | 470 | 473 | 478 | 45 |
| 15° | 457 | 453 | 449 | 452 | 455 | 129 |
| 25° | 414 | 410 | 400 | 409 | 412 | 191 |
| 35° | 358 | 353 | 342 | 350 | 354 | 224 |
| 45° | 293 | 288 | 274 | 285 | 288 | 226 |
| 55° | 222 | 218 | 204 | 214 | 218 | 199 |
| 65° | 150 | 144 | 134 | 140 | 145 | 149 |
| 75° | 77 | 74 | 67 | 69 | 72 | 82 |
| 85° | 18 | 17 | 15 | 15 | 16 | 21 |
| 90° | 1 | 2 | 3 | 2 | 0 | 9 |
| 95° | 89 | 102 | 101 | 96 | 84 | 92 |
| 105° | 293 | 306 | 301 | 291 | 276 | 309 |
| 115° | 532 | 540 | 532 | 524 | 513 | 525 |
| 125° | 765 | 777 | 767 | 762 | 747 | 684 |
| 135° | 987 | 1006 | 990 | 994 | 967 | 761 |
| 145° | 1192 | 1212 | 1196 | 1198 | 1173 | 746 |
| 155° | 1366 | 1380 | 1367 | 1366 | 1348 | 629 |
| 165° | 1490 | 1493 | 1477 | 1484 | 1477 | 420 |
| 175° | 1550 | 1535 | 1508 | 1533 | 1545 | 147 |
| 180° | 1536 | 1536 | 1536 | 1536 | 1536 | |



TEST NUMBER: P199418

CATALOG NUMBER: S122-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 476.4 | 476.4 | 476.4 | 476.4 | 476.4 | 476.4 | 476.4 | 476.4 | 476.4 |
| 2.5° | 481.2 | 474.5 | 475.6 | 474.2 | 470.5 | 473.8 | 475.3 | 474.2 | 480.4 |
| 5° | 478.9 | 472.3 | 473.4 | 471.6 | 470.5 | 471.6 | 473.1 | 471.6 | 478.2 |
| 7.5° | 476.0 | 468.6 | 470.8 | 469.7 | 468.6 | 469.4 | 470.5 | 467.9 | 474.9 |
| 10° | 470.8 | 463.5 | 466.8 | 464.6 | 463.5 | 464.2 | 466.1 | 462.4 | 469.7 |
| 12.5° | 464.9 | 457.6 | 460.9 | 458.3 | 457.2 | 457.2 | 460.5 | 456.5 | 463.1 |
| 15° | 456.8 | 450.9 | 453.2 | 450.6 | 448.7 | 449.8 | 452.4 | 449.5 | 455.0 |
| 17.5° | 447.6 | 442.5 | 445.1 | 441.0 | 437.7 | 440.3 | 443.9 | 440.6 | 446.2 |
| 20° | 438.1 | 432.2 | 434.7 | 429.2 | 426.3 | 428.5 | 433.3 | 430.7 | 435.8 |
| 22.5° | 427.4 | 421.8 | 424.1 | 416.7 | 413.7 | 415.6 | 422.6 | 420.0 | 424.8 |
| 25° | 414.5 | 410.1 | 410.4 | 403.1 | 399.7 | 401.9 | 409.3 | 407.8 | 412.3 |
| 27.5° | 401.9 | 397.5 | 397.9 | 389.4 | 385.7 | 388.7 | 396.1 | 394.9 | 399.0 |
| 30° | 388.3 | 384.3 | 383.9 | 375.4 | 372.5 | 374.3 | 381.7 | 381.7 | 385.0 |
| 32.5° | 373.2 | 369.9 | 368.1 | 360.3 | 357.4 | 359.6 | 365.8 | 366.9 | 369.5 |
| 35° | 357.7 | 355.5 | 352.9 | 345.6 | 341.5 | 344.5 | 350.4 | 351.8 | 354.4 |
| 37.5° | 342.3 | 339.7 | 336.7 | 329.4 | 324.9 | 328.6 | 333.8 | 336.4 | 338.2 |
| 40° | 326.1 | 324.2 | 320.9 | 313.5 | 308.0 | 311.7 | 317.6 | 320.5 | 323.1 |
| 42.5° | 309.5 | 308.4 | 304.3 | 296.6 | 291.1 | 295.1 | 301.4 | 303.9 | 305.1 |
| 45° | 292.9 | 291.4 | 287.7 | 279.6 | 273.7 | 278.2 | 284.8 | 287.4 | 287.7 |
| 47.5° | 274.5 | 274.8 | 270.4 | 262.3 | 256.4 | 260.8 | 266.7 | 270.4 | 271.9 |
| 50° | 257.9 | 258.3 | 253.1 | 245.0 | 239.1 | 242.4 | 249.4 | 253.1 | 252.4 |
| 52.5° | 240.2 | 241.3 | 235.8 | 227.7 | 221.8 | 225.1 | 232.1 | 236.2 | 236.5 |
| 55° | 221.8 | 223.6 | 217.7 | 209.6 | 204.5 | 207.8 | 213.7 | 218.5 | 218.1 |
| 57.5° | 204.1 | 205.6 | 199.7 | 192.3 | 187.2 | 190.1 | 195.3 | 201.5 | 200.1 |
| 60° | 186.4 | 187.9 | 181.6 | 174.3 | 169.8 | 171.3 | 177.2 | 182.4 | 181.6 |
| 62.5° | 168.4 | 169.8 | 163.2 | 156.6 | 151.4 | 153.6 | 158.8 | 165.1 | 163.2 |
| 65° | 150.3 | 151.4 | 144.4 | 138.5 | 134.1 | 136.3 | 140.0 | 146.6 | 145.2 |
| 67.5° | 132.3 | 133.0 | 126.7 | 121.2 | 117.5 | 118.6 | 121.9 | 127.5 | 126.7 |
| 70° | 114.2 | 114.9 | 109.1 | 103.9 | 100.6 | 101.7 | 104.3 | 109.4 | 108.7 |
| 72.5° | 95.8 | 96.9 | 91.0 | 86.2 | 82.9 | 84.0 | 85.8 | 90.6 | 89.5 |
| 75° | 77.4 | 78.1 | 73.7 | 70.0 | 67.1 | 67.4 | 68.9 | 72.6 | 72.2 |
| 77.5° | 60.4 | 62.3 | 57.5 | 54.2 | 51.9 | 52.3 | 54.2 | 56.0 | 55.3 |
| 80° | 43.8 | 46.1 | 42.7 | 40.2 | 38.3 | 37.9 | 39.4 | 40.9 | 39.8 |
| 82.5° | 30.9 | 31.3 | 29.1 | 27.3 | 25.4 | 25.4 | 26.5 | 27.6 | 26.5 |
| 85° | 18.4 | 19.2 | 17.3 | 15.8 | 14.7 | 14.4 | 15.1 | 16.2 | 15.5 |
| 87.5° | 8.8 | 9.2 | 7.4 | 6.6 | 5.5 | 5.2 | 5.5 | 6.3 | 6.3 |
| 90° | 0.7 | 1.8 | 1.8 | 2.2 | 2.6 | 2.6 | 2.2 | 2.2 | 0.4 |
| 92.5° | 55.7 | 61.9 | 65.0 | 63.0 | 61.9 | 58.8 | 58.8 | 55.7 | 49.5 |
| 95° | 88.8 | 98.1 | 102.2 | 101.2 | 101.2 | 97.0 | 96.0 | 92.9 | 83.6 |
| 97.5° | 131.1 | 141.4 | 144.5 | 145.6 | 144.5 | 139.4 | 136.3 | 133.2 | 122.8 |
| 100° | 179.6 | 189.9 | 193.0 | 193.0 | 192.0 | 186.8 | 182.7 | 178.6 | 167.2 |
| 102.5° | 233.3 | 243.6 | 246.7 | 244.7 | 244.7 | 237.4 | 233.3 | 230.2 | 217.8 |
| 105° | 293.2 | 303.5 | 305.6 | 302.5 | 301.4 | 294.2 | 291.1 | 287.0 | 275.6 |
| 107.5° | 351.0 | 361.3 | 360.3 | 359.2 | 355.1 | 349.9 | 347.9 | 341.7 | 327.2 |
| 110° | 410.8 | 424.3 | 419.1 | 417.0 | 412.9 | 407.8 | 405.7 | 403.6 | 392.3 |



TEST NUMBER: P199418

CATALOG NUMBER: S122-DIP-U2-LO-40-X-X0048-1D-UDD-1-5-W

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 470.7 | 485.2 | 479.0 | 476.9 | 471.8 | 465.6 | 465.6 | 464.5 | 453.2 |
| 115° | 531.6 | 546.1 | 539.9 | 535.8 | 531.6 | 525.4 | 524.4 | 525.4 | 513.0 |
| 117.5° | 590.5 | 607.0 | 599.8 | 594.6 | 590.5 | 583.2 | 584.3 | 586.3 | 572.9 |
| 120° | 649.3 | 667.9 | 659.6 | 653.4 | 650.3 | 642.1 | 643.1 | 647.2 | 631.8 |
| 122.5° | 707.1 | 725.7 | 718.5 | 712.3 | 709.2 | 699.9 | 701.9 | 704.0 | 689.6 |
| 125° | 764.9 | 783.5 | 777.3 | 770.1 | 767.0 | 760.8 | 761.8 | 761.8 | 747.4 |
| 127.5° | 821.7 | 840.3 | 836.1 | 827.9 | 823.8 | 815.5 | 819.6 | 816.5 | 804.1 |
| 130° | 877.4 | 895.0 | 892.9 | 883.6 | 880.5 | 875.4 | 878.5 | 869.2 | 859.9 |
| 132.5° | 932.1 | 949.7 | 950.7 | 940.4 | 936.3 | 931.1 | 937.3 | 927.0 | 914.6 |
| 135° | 986.9 | 1002.3 | 1006.5 | 995.1 | 990.0 | 985.8 | 994.1 | 977.6 | 967.2 |
| 137.5° | 1039.5 | 1051.9 | 1061.2 | 1047.8 | 1043.6 | 1036.4 | 1046.7 | 1030.2 | 1020.9 |
| 140° | 1093.2 | 1103.5 | 1111.8 | 1101.4 | 1096.3 | 1090.1 | 1098.3 | 1081.8 | 1072.5 |
| 142.5° | 1142.7 | 1154.1 | 1162.3 | 1152.0 | 1145.8 | 1140.7 | 1148.9 | 1131.4 | 1123.1 |
| 145° | 1192.3 | 1201.6 | 1211.9 | 1202.6 | 1196.4 | 1191.2 | 1198.5 | 1180.9 | 1172.7 |
| 147.5° | 1238.7 | 1247.0 | 1259.4 | 1249.1 | 1242.9 | 1238.7 | 1243.9 | 1226.3 | 1219.1 |
| 150° | 1284.2 | 1288.3 | 1300.7 | 1294.5 | 1286.2 | 1282.1 | 1286.2 | 1270.7 | 1264.5 |
| 152.5° | 1326.5 | 1329.6 | 1340.9 | 1333.7 | 1329.6 | 1322.3 | 1327.5 | 1312.0 | 1307.9 |
| 155° | 1365.7 | 1366.7 | 1380.2 | 1371.9 | 1366.7 | 1361.6 | 1365.7 | 1353.3 | 1348.2 |
| 157.5° | 1402.9 | 1402.9 | 1412.2 | 1408.0 | 1399.8 | 1397.7 | 1400.8 | 1387.4 | 1386.4 |
| 160° | 1434.9 | 1432.8 | 1444.2 | 1436.9 | 1429.7 | 1427.6 | 1432.8 | 1420.4 | 1419.4 |
| 162.5° | 1464.8 | 1460.7 | 1471.0 | 1461.7 | 1455.5 | 1453.4 | 1460.7 | 1449.3 | 1450.4 |
| 165° | 1489.6 | 1484.4 | 1492.7 | 1483.4 | 1477.2 | 1476.2 | 1484.4 | 1473.1 | 1477.2 |
| 167.5° | 1511.3 | 1503.0 | 1510.2 | 1500.9 | 1495.8 | 1494.7 | 1504.0 | 1493.7 | 1499.9 |
| 170° | 1527.8 | 1517.5 | 1523.6 | 1511.3 | 1509.2 | 1507.1 | 1518.5 | 1509.2 | 1519.5 |
| 172.5° | 1541.2 | 1529.8 | 1531.9 | 1518.5 | 1511.3 | 1515.4 | 1527.8 | 1522.6 | 1534.0 |
| 175° | 1549.5 | 1537.1 | 1535.0 | 1520.5 | 1508.2 | 1517.5 | 1532.9 | 1531.9 | 1545.3 |
| 177.5° | 1552.5 | 1541.2 | 1538.1 | 1521.6 | 1517.5 | 1519.5 | 1537.1 | 1538.1 | 1550.5 |
| 180° | 1536.0 | 1536.0 | 1536.0 | 1536.0 | 1536.0 | 1536.0 | 1536.0 | 1536.0 | 1536.0 |

(END OF REPORT)