

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: P199462

Luminaire Tested: **S123-DIP-ULO-LO-30-X-X0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P199462
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-DIP-ULO-LO-30-X-X0048-1D-UDD-1-NA-W
Description: DEFINE 3-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE
UPLIGHT LLO-3000K, NO LENS
DOWNLIGHT LLO-3000K, SATIN WHITE DIFFUSER
Light Source: -
757G
Ballast/Driver: ELECTRONIC DRIVERS

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3114.2 lumens
Efficiency: N/A
Efficacy: 115.8 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

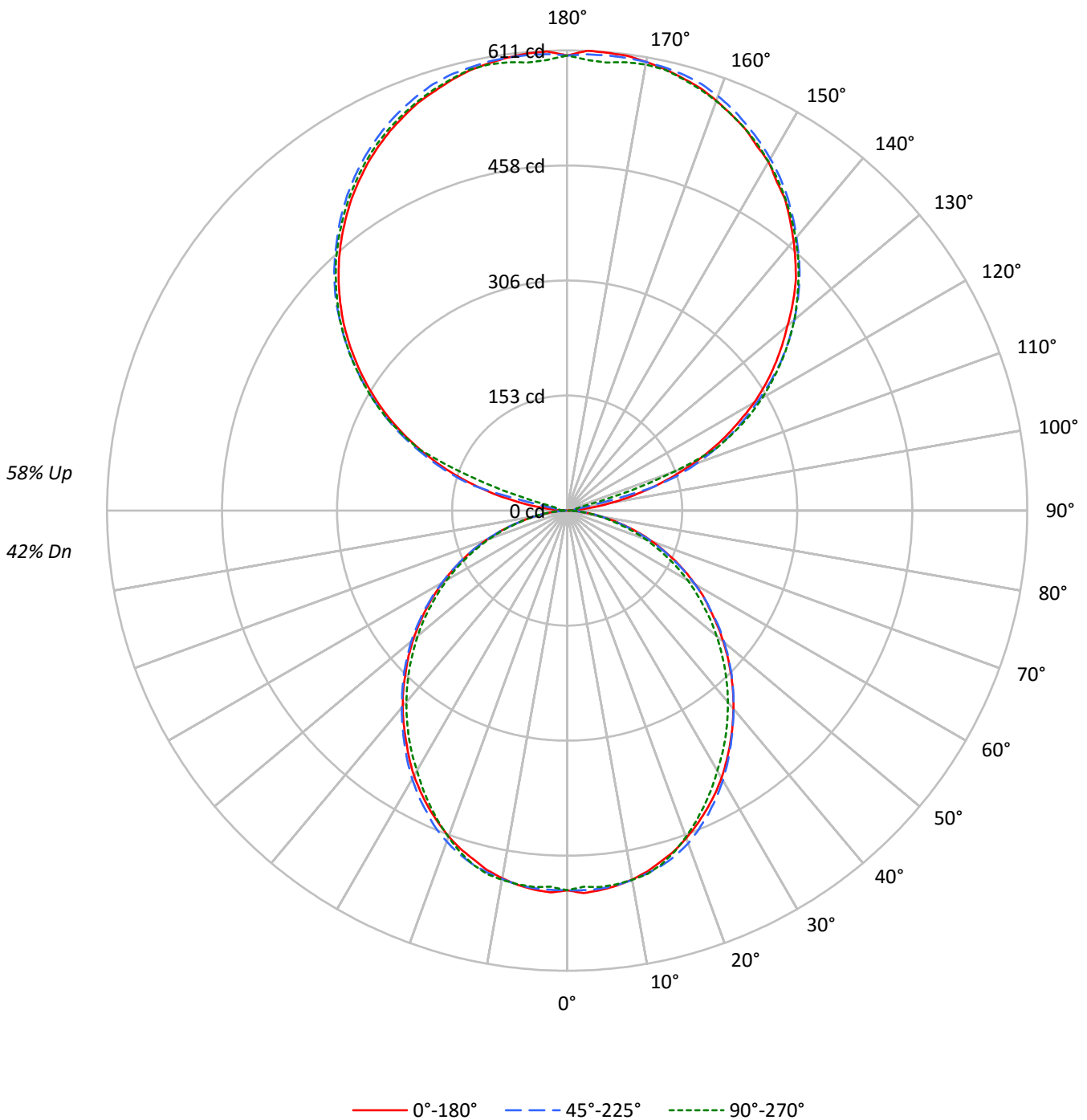
Input Watts (W): 26.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P199462

CATALOG NUMBER: S123-DIP-ULO-LO-30-X-X0048-1D-UDD-1-NA-W

Luminous Intensity Polar Plot





TEST NUMBER: P199462

CATALOG NUMBER: S123-DIP-ULO-LO-30-X-X0048-1D-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 | 105 | 105 | 105 | 105 | 96 | 96 | 96 | 96 | 79 | 79 | 79 | 63 | 63 | 63 | 49 | 49 | 49 | 42 |
| 1 | 96 | 92 | 88 | 85 | 88 | 84 | 81 | 78 | 69 | 67 | 65 | 56 | 54 | 53 | 43 | 42 | 42 | 36 |
| 2 | 87 | 80 | 74 | 69 | 80 | 73 | 68 | 64 | 61 | 57 | 54 | 49 | 46 | 44 | 38 | 36 | 35 | 30 |
| 3 | 80 | 70 | 63 | 57 | 73 | 65 | 58 | 53 | 54 | 49 | 45 | 43 | 40 | 37 | 34 | 32 | 30 | 25 |
| 4 | 73 | 62 | 55 | 49 | 66 | 57 | 50 | 45 | 48 | 42 | 38 | 39 | 35 | 32 | 30 | 28 | 26 | 22 |
| 5 | 67 | 55 | 47 | 42 | 61 | 51 | 44 | 39 | 42 | 37 | 33 | 35 | 31 | 28 | 27 | 24 | 22 | 19 |
| 6 | 62 | 50 | 42 | 36 | 56 | 46 | 39 | 34 | 38 | 33 | 29 | 31 | 27 | 24 | 25 | 22 | 20 | 17 |
| 7 | 57 | 45 | 37 | 31 | 52 | 41 | 34 | 29 | 35 | 29 | 25 | 28 | 24 | 21 | 23 | 20 | 17 | 15 |
| 8 | 53 | 41 | 33 | 28 | 48 | 37 | 31 | 26 | 32 | 26 | 22 | 26 | 22 | 19 | 21 | 18 | 16 | 13 |
| 9 | 49 | 37 | 30 | 25 | 45 | 34 | 28 | 23 | 29 | 24 | 20 | 24 | 20 | 17 | 19 | 16 | 14 | 12 |
| 10 | 46 | 34 | 27 | 22 | 42 | 31 | 25 | 21 | 27 | 22 | 18 | 22 | 18 | 15 | 18 | 15 | 13 | 11 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|------|------|------|
| 0° | 5315 | 5315 | 5315 |
| 5° | 5312 | 4694 | 5305 |
| 10° | 5242 | 4215 | 5223 |
| 15° | 5136 | 3784 | 5110 |
| 20° | 5025 | 3347 | 4999 |
| 25° | 4887 | 2953 | 4855 |
| 30° | 4741 | 2602 | 4700 |
| 35° | 4566 | 2302 | 4510 |
| 40° | 4390 | 2023 | 4341 |
| 45° | 4205 | 1766 | 4142 |
| 50° | 4004 | 1524 | 3946 |
| 55° | 3780 | 1294 | 3718 |
| 60° | 3577 | 1081 | 3470 |
| 65° | 3304 | 867 | 3173 |
| 70° | 2962 | 662 | 2806 |
| 75° | 2485 | 456 | 2303 |
| 80° | 1857 | 273 | 1661 |
| 85° | 1051 | 117 | 927 |



TEST NUMBER: P199462

CATALOG NUMBER: S123-DIP-ULO-LO-30-X-X0048-1D-UDD-1-NA-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 47.8 | 1.5 |
| 10°-20° | 136.4 | 4.4 |
| 20°-30° | 201.6 | 6.5 |
| 30°-40° | 234.7 | 7.5 |
| 40°-50° | 235.5 | 7.6 |
| 50°-60° | 206.1 | 6.6 |
| 60°-70° | 152.3 | 4.9 |
| 70°-80° | 83.2 | 2.7 |
| 80°-90° | 21.5 | 0.7 |
| 90°-100° | 14.1 | 0.5 |
| 100°-110° | 99.5 | 3.2 |
| 110°-120° | 238.1 | 7.6 |
| 120°-130° | 308.1 | 9.9 |
| 130°-140° | 334.4 | 10.7 |
| 140°-150° | 316.6 | 10.2 |
| 150°-160° | 258.6 | 8.3 |
| 160°-170° | 168.0 | 5.4 |
| 170°-180° | 57.6 | 1.9 |
| 0°-30° | 385.9 | 12.4 |
| 0°-40° | 620.6 | 19.9 |
| 0°-60° | 1062.3 | 34.1 |
| 0°-90° | 1319.2 | 42.4 |
| 90°-120° | 351.6 | 11.3 |
| 90°-150° | 1310.8 | 42.1 |
| 90°-180° | 1795.0 | 57.6 |
| 0°-180° | 3114.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|-----|-----|-----|------|------|------|
| 0° | 504 | 504 | 504 | 504 | 504 | |
| 5° | 506 | 504 | 502 | 503 | 505 | 48 |
| 15° | 482 | 488 | 486 | 486 | 480 | 136 |
| 25° | 438 | 444 | 431 | 442 | 435 | 202 |
| 35° | 378 | 379 | 367 | 377 | 373 | 236 |
| 45° | 308 | 309 | 296 | 306 | 303 | 237 |
| 55° | 233 | 234 | 221 | 232 | 229 | 209 |
| 65° | 158 | 157 | 147 | 153 | 152 | 157 |
| 75° | 82 | 80 | 74 | 76 | 76 | 87 |
| 85° | 18 | 19 | 18 | 17 | 16 | 21 |
| 90° | 1 | 2 | 1 | 2 | 1 | 2 |
| 95° | 18 | 8 | 9 | 8 | 22 | 24 |
| 105° | 114 | 112 | 17 | 132 | 124 | 121 |
| 115° | 232 | 241 | 244 | 247 | 239 | 228 |
| 125° | 336 | 347 | 348 | 348 | 341 | 300 |
| 135° | 429 | 437 | 434 | 437 | 429 | 330 |
| 145° | 504 | 509 | 506 | 510 | 501 | 315 |
| 155° | 559 | 565 | 559 | 565 | 556 | 258 |
| 165° | 594 | 599 | 593 | 599 | 592 | 168 |
| 175° | 610 | 607 | 597 | 607 | 609 | 58 |
| 180° | 604 | 604 | 604 | 604 | 604 | |



TEST NUMBER: P199462

CATALOG NUMBER: S123-DIP-ULO-LO-30-X-X0048-1D-UDD-1-NA-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 504.1 | 504.1 | 504.1 | 504.1 | 504.1 | 504.1 | 504.1 | 504.1 | 504.1 |
| 2.5° | 508.3 | 503.1 | 504.5 | 503.8 | 499.9 | 503.8 | 504.1 | 502.7 | 507.6 |
| 5° | 505.9 | 501.3 | 504.1 | 503.1 | 501.7 | 503.1 | 503.4 | 500.6 | 505.2 |
| 7.5° | 502.4 | 498.5 | 501.7 | 501.3 | 500.6 | 501.3 | 501.0 | 497.1 | 501.3 |
| 10° | 497.5 | 494.0 | 498.2 | 498.9 | 497.8 | 498.5 | 496.8 | 492.9 | 495.7 |
| 12.5° | 490.8 | 488.0 | 493.3 | 494.7 | 494.0 | 494.3 | 491.9 | 486.3 | 489.1 |
| 15° | 482.1 | 480.7 | 487.7 | 488.7 | 485.9 | 487.7 | 485.9 | 478.9 | 479.6 |
| 17.5° | 473.7 | 472.3 | 480.0 | 478.6 | 474.7 | 477.5 | 477.9 | 470.2 | 470.9 |
| 20° | 462.8 | 462.1 | 470.2 | 466.0 | 461.1 | 464.6 | 467.7 | 460.0 | 460.4 |
| 22.5° | 450.9 | 451.6 | 457.6 | 451.6 | 446.7 | 450.2 | 456.2 | 448.8 | 448.1 |
| 25° | 438.0 | 440.1 | 444.0 | 437.0 | 431.4 | 435.2 | 441.5 | 437.3 | 435.2 |
| 27.5° | 424.7 | 427.9 | 429.3 | 421.2 | 415.6 | 419.5 | 427.5 | 424.7 | 421.2 |
| 30° | 410.0 | 413.9 | 413.5 | 405.1 | 398.8 | 403.0 | 411.4 | 411.1 | 406.5 |
| 32.5° | 393.9 | 399.2 | 396.4 | 388.3 | 383.1 | 386.2 | 394.6 | 395.7 | 390.4 |
| 35° | 377.5 | 383.1 | 378.9 | 371.2 | 366.6 | 369.8 | 376.8 | 379.9 | 372.9 |
| 37.5° | 360.7 | 366.3 | 361.4 | 354.0 | 349.5 | 352.6 | 359.3 | 363.1 | 356.5 |
| 40° | 343.5 | 348.8 | 343.9 | 337.6 | 332.0 | 335.5 | 341.4 | 345.6 | 339.7 |
| 42.5° | 326.1 | 331.7 | 326.4 | 320.1 | 314.2 | 318.7 | 324.0 | 328.2 | 321.9 |
| 45° | 307.9 | 313.8 | 308.9 | 301.6 | 296.0 | 300.5 | 306.5 | 310.0 | 303.3 |
| 47.5° | 289.3 | 296.3 | 290.7 | 283.0 | 277.4 | 282.0 | 288.3 | 291.8 | 285.5 |
| 50° | 270.8 | 276.7 | 272.5 | 264.5 | 258.9 | 263.1 | 270.1 | 272.9 | 266.9 |
| 52.5° | 251.9 | 258.9 | 254.0 | 245.9 | 240.7 | 244.2 | 250.8 | 254.0 | 247.7 |
| 55° | 232.6 | 238.2 | 233.7 | 227.0 | 221.1 | 225.3 | 231.6 | 233.7 | 228.8 |
| 57.5° | 215.9 | 220.1 | 215.9 | 208.5 | 202.9 | 206.1 | 212.0 | 214.8 | 209.9 |
| 60° | 196.6 | 200.5 | 196.3 | 189.3 | 184.4 | 187.2 | 192.1 | 195.6 | 190.7 |
| 62.5° | 177.4 | 181.2 | 176.3 | 170.0 | 165.5 | 168.6 | 172.8 | 176.0 | 171.4 |
| 65° | 158.5 | 162.0 | 156.7 | 151.1 | 146.6 | 149.7 | 152.9 | 156.4 | 152.2 |
| 67.5° | 139.2 | 142.4 | 137.5 | 131.9 | 128.0 | 130.5 | 133.3 | 136.8 | 133.3 |
| 70° | 120.3 | 122.8 | 118.6 | 113.3 | 109.9 | 111.9 | 114.4 | 117.2 | 114.0 |
| 72.5° | 101.5 | 104.6 | 99.4 | 95.2 | 92.0 | 92.7 | 95.5 | 97.6 | 95.2 |
| 75° | 81.9 | 84.0 | 80.1 | 76.6 | 73.8 | 74.5 | 75.6 | 78.7 | 75.9 |
| 77.5° | 63.7 | 66.1 | 63.0 | 59.8 | 57.7 | 58.4 | 58.8 | 60.9 | 58.1 |
| 80° | 46.5 | 48.6 | 46.5 | 44.1 | 42.7 | 43.0 | 43.0 | 44.4 | 41.6 |
| 82.5° | 31.1 | 33.2 | 31.8 | 30.1 | 29.7 | 29.0 | 29.0 | 30.1 | 27.3 |
| 85° | 17.8 | 20.3 | 19.2 | 17.8 | 17.5 | 17.1 | 17.1 | 17.8 | 15.7 |
| 87.5° | 8.0 | 9.8 | 8.7 | 7.7 | 7.0 | 6.6 | 6.6 | 7.7 | 5.9 |
| 90° | 1.0 | 2.4 | 2.1 | 1.4 | 1.4 | 1.4 | 1.7 | 2.1 | 0.7 |
| 92.5° | 3.8 | 4.5 | 4.5 | 4.5 | 4.5 | 5.2 | 5.6 | 5.6 | 6.6 |
| 95° | 17.8 | 6.6 | 7.7 | 8.4 | 8.7 | 8.7 | 8.4 | 7.3 | 21.7 |
| 97.5° | 37.1 | 29.4 | 9.4 | 10.5 | 11.2 | 10.8 | 10.1 | 37.4 | 42.0 |
| 100° | 60.2 | 68.2 | 10.5 | 11.9 | 12.6 | 12.2 | 11.5 | 76.6 | 66.5 |
| 102.5° | 85.7 | 95.2 | 37.8 | 13.3 | 13.6 | 13.3 | 57.7 | 103.2 | 94.8 |
| 105° | 114.4 | 122.4 | 112.3 | 22.4 | 17.1 | 27.3 | 131.5 | 130.5 | 123.8 |
| 107.5° | 143.4 | 151.5 | 153.2 | 99.4 | 89.9 | 104.3 | 160.9 | 158.8 | 153.9 |
| 110° | 173.2 | 179.1 | 183.0 | 184.7 | 150.8 | 187.2 | 189.6 | 186.8 | 182.6 |



TEST NUMBER: P199462

CATALOG NUMBER: S123-DIP-ULO-LO-30-X-X0048-1D-UDD-1-NA-W

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 112.5° | 202.9 | 209.2 | 212.7 | 215.2 | 212.4 | 216.9 | 217.6 | 214.8 | 211.0 |
| 115° | 231.6 | 237.2 | 240.7 | 244.5 | 243.5 | 245.2 | 246.6 | 242.8 | 239.3 |
| 117.5° | 258.5 | 265.5 | 267.6 | 271.5 | 272.9 | 271.5 | 272.9 | 269.7 | 266.6 |
| 120° | 286.9 | 292.5 | 293.9 | 297.4 | 299.1 | 297.0 | 298.8 | 296.0 | 292.5 |
| 122.5° | 312.4 | 317.3 | 320.8 | 322.2 | 324.0 | 321.5 | 323.6 | 320.5 | 317.3 |
| 125° | 336.5 | 341.8 | 347.0 | 346.7 | 348.4 | 345.6 | 348.1 | 344.2 | 341.4 |
| 127.5° | 359.6 | 364.9 | 371.2 | 370.1 | 371.5 | 368.7 | 371.9 | 367.3 | 364.9 |
| 130° | 382.0 | 388.3 | 393.9 | 392.5 | 393.9 | 391.5 | 394.3 | 390.1 | 387.6 |
| 132.5° | 406.2 | 412.1 | 415.6 | 414.2 | 414.2 | 412.8 | 416.7 | 412.1 | 408.6 |
| 135° | 429.3 | 433.1 | 436.6 | 434.5 | 434.5 | 433.1 | 437.3 | 433.1 | 428.9 |
| 137.5° | 448.8 | 453.0 | 455.5 | 454.1 | 454.1 | 452.3 | 456.5 | 452.7 | 448.5 |
| 140° | 467.7 | 471.6 | 473.7 | 471.9 | 471.9 | 470.5 | 474.7 | 471.6 | 467.0 |
| 142.5° | 486.3 | 489.8 | 491.9 | 489.1 | 489.1 | 487.7 | 492.9 | 489.4 | 484.2 |
| 145° | 504.5 | 506.9 | 509.4 | 505.2 | 505.5 | 503.4 | 509.7 | 506.2 | 501.3 |
| 147.5° | 518.1 | 522.7 | 525.5 | 520.6 | 520.6 | 518.8 | 525.5 | 522.0 | 516.4 |
| 150° | 534.6 | 536.3 | 539.5 | 535.3 | 534.9 | 533.5 | 539.8 | 536.0 | 531.1 |
| 152.5° | 545.8 | 550.0 | 552.8 | 548.2 | 547.9 | 546.1 | 553.1 | 548.9 | 544.0 |
| 155° | 559.4 | 561.1 | 564.6 | 560.4 | 559.4 | 558.7 | 565.3 | 560.1 | 556.2 |
| 157.5° | 569.2 | 571.3 | 576.2 | 572.3 | 569.5 | 570.6 | 575.8 | 569.9 | 566.7 |
| 160° | 579.3 | 580.0 | 585.6 | 581.8 | 578.6 | 580.0 | 585.3 | 577.9 | 576.9 |
| 162.5° | 588.1 | 588.4 | 593.7 | 589.1 | 586.7 | 587.0 | 593.3 | 586.0 | 584.2 |
| 165° | 594.4 | 593.7 | 598.9 | 595.1 | 593.3 | 593.3 | 598.9 | 592.3 | 591.9 |
| 167.5° | 600.3 | 600.0 | 602.4 | 600.0 | 599.6 | 597.9 | 602.1 | 597.5 | 598.6 |
| 170° | 604.9 | 603.5 | 604.9 | 601.4 | 601.4 | 599.6 | 605.2 | 601.4 | 602.8 |
| 172.5° | 609.1 | 606.3 | 606.3 | 601.4 | 600.3 | 600.0 | 606.6 | 604.5 | 606.6 |
| 175° | 610.1 | 607.7 | 606.6 | 601.4 | 597.2 | 600.3 | 607.0 | 605.6 | 609.1 |
| 177.5° | 611.2 | 607.3 | 606.3 | 600.0 | 598.9 | 599.3 | 606.6 | 605.9 | 610.1 |
| 180° | 604.2 | 604.2 | 604.2 | 604.2 | 604.2 | 604.2 | 604.2 | 604.2 | 604.2 |

(END OF REPORT)