

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: P199517

Luminaire Tested: **S124-DIW-ULO-LO-40-0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P199517
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P28062 P28062)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124-DIW-ULO-LO-40-0048-1D-UDD-1-5-W
Description: DEFINE 4-INCH DIRECT/INDIRECT WALL LED LUMINAIRE
UPLIGHT LLO-4000K, SATIN WHITE DIFFUSER
DOWNLIGHT LLO-4000K, SATIN WHITE DIFFUSER
Light Source: -
757G
Ballast/Driver: ELECTRONIC DRIVERS

Summary

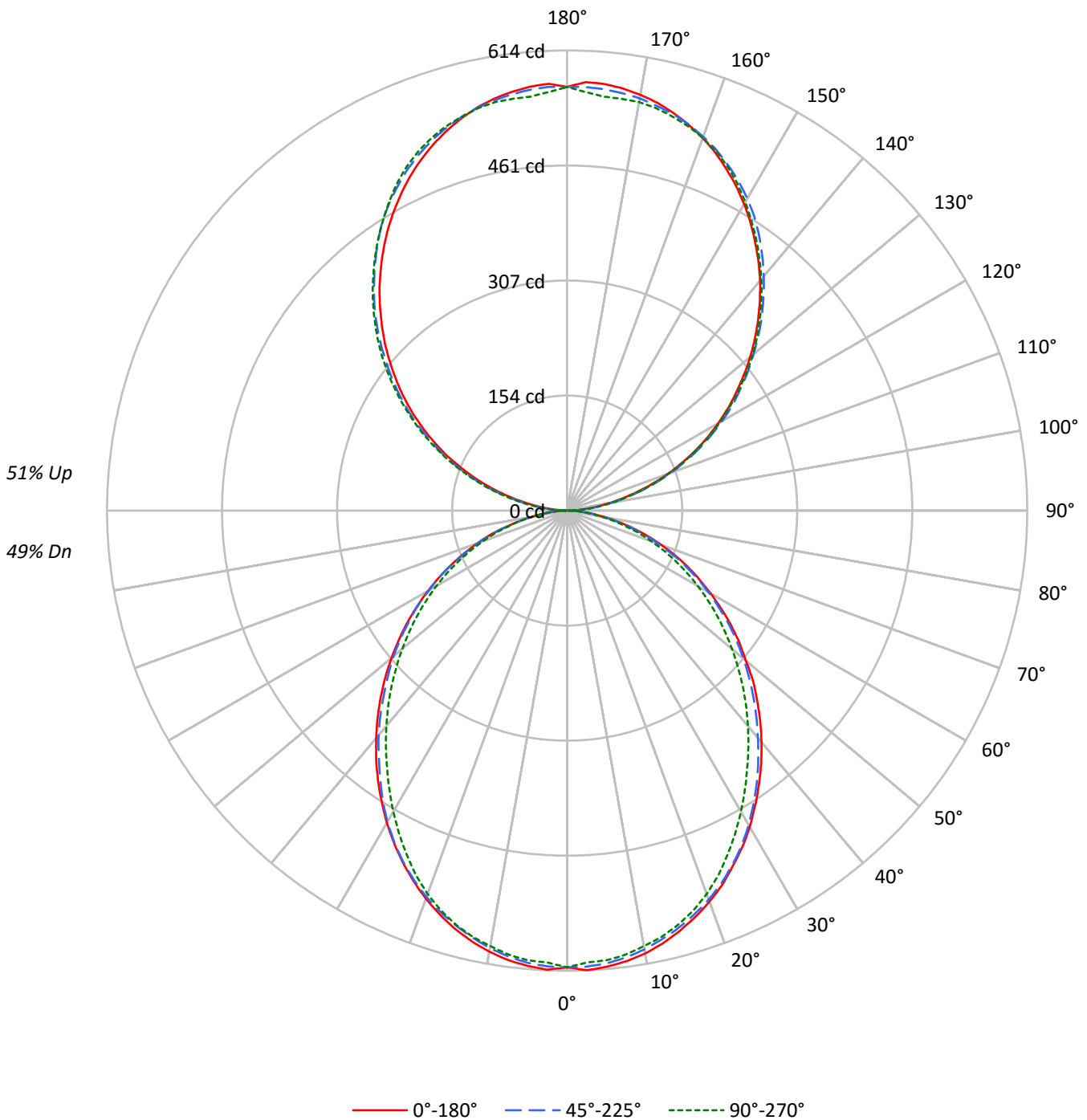
Lumens per Lamp: N/A
Luminaire Lumens: 3070.6 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')
CIE Type: General Diffuse

Input Watts (W): 26.9
Input Voltage (V): NR
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: 25 FT

TEST NUMBER: P199517

CATALOG NUMBER: S124-DIW-ULO-LO-40-0048-1D-UDD-1-5-W

Luminous Intensity Polar Plot





TEST NUMBER: P199517

CATALOG NUMBER: S124-DIW-ULO-LO-40-0048-1D-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 | 107 | 107 | 107 | 107 | 99 | 99 | 99 | 99 | 83 | 83 | 83 | 69 | 69 | 69 | 55 | 55 | 55 | 49 |
| 1 | 98 | 93 | 90 | 86 | 90 | 86 | 83 | 80 | 73 | 70 | 68 | 60 | 59 | 57 | 49 | 48 | 47 | 42 |
| 2 | 89 | 82 | 76 | 70 | 82 | 75 | 70 | 66 | 64 | 60 | 57 | 53 | 50 | 48 | 43 | 41 | 40 | 35 |
| 3 | 81 | 72 | 65 | 59 | 75 | 66 | 60 | 55 | 56 | 52 | 48 | 47 | 44 | 41 | 38 | 36 | 34 | 30 |
| 4 | 74 | 64 | 56 | 50 | 68 | 59 | 52 | 47 | 50 | 45 | 41 | 42 | 38 | 35 | 34 | 32 | 29 | 26 |
| 5 | 68 | 57 | 49 | 43 | 63 | 53 | 45 | 40 | 45 | 39 | 35 | 38 | 34 | 30 | 31 | 28 | 26 | 22 |
| 6 | 63 | 51 | 43 | 37 | 58 | 47 | 40 | 35 | 40 | 35 | 31 | 34 | 30 | 27 | 28 | 25 | 23 | 20 |
| 7 | 58 | 46 | 38 | 32 | 54 | 43 | 36 | 31 | 37 | 31 | 27 | 31 | 27 | 24 | 26 | 23 | 20 | 17 |
| 8 | 54 | 42 | 34 | 29 | 50 | 39 | 32 | 27 | 34 | 28 | 24 | 28 | 24 | 21 | 24 | 20 | 18 | 16 |
| 9 | 50 | 38 | 31 | 26 | 46 | 36 | 29 | 24 | 31 | 25 | 22 | 26 | 22 | 19 | 22 | 19 | 16 | 14 |
| 10 | 47 | 35 | 28 | 23 | 43 | 33 | 26 | 22 | 28 | 23 | 19 | 24 | 20 | 17 | 20 | 17 | 15 | 13 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|------|------|------|
| 0° | 4819 | 4819 | 4819 |
| 5° | 4810 | 4354 | 4802 |
| 10° | 4743 | 3955 | 4722 |
| 15° | 4639 | 3600 | 4616 |
| 20° | 4521 | 3251 | 4489 |
| 25° | 4378 | 2899 | 4338 |
| 30° | 4227 | 2568 | 4173 |
| 35° | 4047 | 2262 | 3990 |
| 40° | 3867 | 1992 | 3799 |
| 45° | 3672 | 1743 | 3601 |
| 50° | 3452 | 1508 | 3391 |
| 55° | 3256 | 1290 | 3170 |
| 60° | 3012 | 1081 | 2926 |
| 65° | 2770 | 877 | 2661 |
| 70° | 2463 | 675 | 2347 |
| 75° | 2071 | 474 | 1921 |
| 80° | 1554 | 289 | 1455 |
| 85° | 912 | 128 | 863 |



TEST NUMBER: P199517

CATALOG NUMBER: S124-DIW-ULO-LO-40-0048-1D-UDD-1-5-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 57.4 | 1.9 |
| 10°-20° | 161.7 | 5.3 |
| 20°-30° | 236.9 | 7.7 |
| 30°-40° | 271.6 | 8.8 |
| 40°-50° | 267.7 | 8.7 |
| 50°-60° | 230.8 | 7.5 |
| 60°-70° | 168.3 | 5.5 |
| 70°-80° | 91.8 | 3.0 |
| 80°-90° | 24.1 | 0.8 |
| 90°-100° | 29.1 | 0.9 |
| 100°-110° | 105.4 | 3.4 |
| 110°-120° | 186.5 | 6.1 |
| 120°-130° | 248.0 | 8.1 |
| 130°-140° | 278.9 | 9.1 |
| 140°-150° | 274.2 | 8.9 |
| 150°-160° | 231.4 | 7.5 |
| 160°-170° | 153.5 | 5.0 |
| 170°-180° | 53.5 | 1.7 |
| 0°-30° | 456.0 | 14.9 |
| 0°-40° | 727.6 | 23.7 |
| 0°-60° | 1226.1 | 39.9 |
| 0°-90° | 1510.2 | 49.2 |
| 90°-120° | 321.0 | 10.5 |
| 90°-150° | 1122.0 | 36.5 |
| 90°-180° | 1560.0 | 50.8 |
| 0°-180° | 3070.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|-----|-----|-----|------|------|------|
| 0° | 609 | 609 | 609 | 609 | 609 | |
| 5° | 611 | 606 | 602 | 606 | 610 | 58 |
| 15° | 581 | 576 | 572 | 573 | 578 | 164 |
| 25° | 523 | 522 | 507 | 517 | 518 | 241 |
| 35° | 446 | 441 | 419 | 435 | 440 | 279 |
| 45° | 358 | 351 | 331 | 345 | 352 | 277 |
| 55° | 267 | 263 | 244 | 257 | 260 | 238 |
| 65° | 177 | 173 | 160 | 169 | 170 | 175 |
| 75° | 91 | 88 | 81 | 84 | 84 | 97 |
| 85° | 21 | 21 | 20 | 20 | 20 | 23 |
| 90° | 1 | 2 | 1 | 2 | 1 | 3 |
| 95° | 24 | 27 | 26 | 25 | 19 | 27 |
| 105° | 98 | 102 | 101 | 99 | 91 | 104 |
| 115° | 188 | 193 | 190 | 187 | 180 | 186 |
| 125° | 276 | 282 | 279 | 275 | 267 | 247 |
| 135° | 360 | 367 | 364 | 361 | 350 | 278 |
| 145° | 437 | 447 | 440 | 440 | 427 | 274 |
| 155° | 503 | 508 | 507 | 503 | 494 | 232 |
| 165° | 549 | 548 | 544 | 544 | 542 | 155 |
| 175° | 571 | 564 | 554 | 564 | 568 | 54 |
| 180° | 565 | 565 | 565 | 565 | 565 | |



TEST NUMBER: P199517

CATALOG NUMBER: S124-DIW-ULO-LO-40-0048-1D-UDD-1-5-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 609.4 | 609.4 | 609.4 | 609.4 | 609.4 | 609.4 | 609.4 | 609.4 | 609.4 |
| 2.5° | 613.8 | 606.8 | 609.0 | 607.5 | 603.5 | 607.5 | 608.6 | 606.4 | 613.1 |
| 5° | 610.8 | 604.2 | 606.4 | 604.2 | 602.4 | 603.8 | 605.7 | 603.1 | 609.7 |
| 7.5° | 606.4 | 599.4 | 601.3 | 599.4 | 597.6 | 599.1 | 600.2 | 597.9 | 604.9 |
| 10° | 600.2 | 592.8 | 594.6 | 592.4 | 590.2 | 591.7 | 592.8 | 590.6 | 597.6 |
| 12.5° | 591.3 | 584.3 | 585.8 | 584.3 | 582.5 | 582.8 | 583.6 | 581.4 | 588.7 |
| 15° | 580.6 | 573.6 | 576.2 | 574.7 | 572.2 | 573.6 | 573.3 | 570.7 | 577.7 |
| 17.5° | 568.5 | 561.8 | 564.8 | 563.3 | 559.6 | 561.8 | 561.8 | 557.8 | 565.2 |
| 20° | 555.2 | 548.2 | 552.3 | 548.6 | 544.5 | 546.7 | 548.6 | 543.8 | 551.2 |
| 22.5° | 540.5 | 533.1 | 537.9 | 531.3 | 526.8 | 529.4 | 533.8 | 528.7 | 535.3 |
| 25° | 523.2 | 517.3 | 521.7 | 512.5 | 506.6 | 510.3 | 517.3 | 512.1 | 518.4 |
| 27.5° | 506.2 | 500.3 | 504.0 | 493.7 | 485.6 | 490.4 | 499.2 | 494.8 | 500.3 |
| 30° | 487.4 | 482.6 | 484.5 | 472.3 | 463.8 | 469.0 | 479.3 | 476.7 | 481.2 |
| 32.5° | 466.8 | 463.1 | 463.1 | 450.2 | 441.4 | 447.3 | 458.3 | 457.6 | 460.5 |
| 35° | 446.2 | 443.9 | 441.4 | 427.4 | 418.9 | 424.4 | 435.1 | 438.1 | 439.9 |
| 37.5° | 425.2 | 423.7 | 418.9 | 405.3 | 397.2 | 403.1 | 413.0 | 417.4 | 418.5 |
| 40° | 403.4 | 402.7 | 396.1 | 383.2 | 375.1 | 380.9 | 391.3 | 396.8 | 396.4 |
| 42.5° | 381.3 | 382.1 | 373.9 | 361.4 | 353.3 | 359.2 | 368.8 | 376.2 | 374.3 |
| 45° | 358.5 | 360.7 | 351.1 | 339.7 | 331.2 | 337.5 | 345.2 | 354.4 | 351.5 |
| 47.5° | 336.4 | 338.9 | 329.0 | 317.2 | 309.1 | 315.7 | 323.5 | 333.4 | 329.0 |
| 50° | 311.3 | 316.5 | 306.9 | 295.1 | 287.0 | 293.3 | 302.5 | 310.9 | 305.8 |
| 52.5° | 289.6 | 293.3 | 284.8 | 273.4 | 265.6 | 270.8 | 280.0 | 288.5 | 282.9 |
| 55° | 267.1 | 271.2 | 262.7 | 251.3 | 243.9 | 249.1 | 257.2 | 265.6 | 260.1 |
| 57.5° | 243.5 | 247.6 | 239.8 | 229.5 | 222.5 | 228.1 | 236.5 | 242.4 | 237.3 |
| 60° | 220.7 | 225.8 | 217.4 | 207.4 | 201.5 | 205.9 | 212.6 | 219.6 | 214.4 |
| 62.5° | 198.6 | 203.4 | 195.3 | 186.1 | 180.5 | 184.6 | 191.6 | 197.1 | 192.3 |
| 65° | 177.2 | 180.2 | 173.2 | 164.7 | 159.9 | 162.5 | 168.7 | 175.0 | 170.2 |
| 67.5° | 155.5 | 158.4 | 151.4 | 144.1 | 139.3 | 141.8 | 147.0 | 152.9 | 148.5 |
| 70° | 133.4 | 135.9 | 130.1 | 123.4 | 119.4 | 121.9 | 126.7 | 131.2 | 127.1 |
| 72.5° | 112.4 | 114.2 | 108.7 | 103.5 | 100.6 | 102.4 | 105.7 | 109.8 | 107.9 |
| 75° | 91.0 | 93.2 | 87.7 | 83.3 | 80.7 | 81.4 | 84.0 | 87.3 | 84.4 |
| 77.5° | 70.7 | 72.9 | 68.5 | 65.2 | 63.7 | 64.1 | 65.9 | 68.5 | 64.8 |
| 80° | 51.9 | 53.8 | 51.2 | 48.3 | 46.8 | 47.5 | 48.6 | 50.1 | 48.6 |
| 82.5° | 35.0 | 36.8 | 35.0 | 33.2 | 32.1 | 32.8 | 33.2 | 33.9 | 32.8 |
| 85° | 20.6 | 22.1 | 21.0 | 19.9 | 19.5 | 19.5 | 19.9 | 20.6 | 19.5 |
| 87.5° | 9.2 | 10.3 | 9.6 | 8.8 | 7.7 | 8.1 | 8.5 | 9.2 | 8.5 |
| 90° | 0.7 | 1.8 | 1.5 | 1.1 | 1.1 | 1.1 | 1.5 | 1.8 | 0.7 |
| 92.5° | 11.1 | 12.5 | 12.9 | 11.8 | 11.8 | 11.4 | 10.7 | 10.3 | 6.6 |
| 95° | 24.3 | 26.5 | 26.9 | 26.9 | 26.2 | 25.4 | 24.7 | 22.8 | 18.8 |
| 97.5° | 39.4 | 42.0 | 42.7 | 42.0 | 42.4 | 41.6 | 39.8 | 37.9 | 33.9 |
| 100° | 56.7 | 60.1 | 60.8 | 60.1 | 60.4 | 58.6 | 57.8 | 56.0 | 51.2 |
| 102.5° | 75.9 | 79.9 | 80.3 | 79.6 | 79.6 | 78.1 | 77.4 | 75.2 | 70.4 |
| 105° | 97.6 | 102.1 | 102.4 | 100.9 | 100.9 | 99.5 | 98.7 | 96.5 | 91.0 |
| 107.5° | 119.7 | 124.2 | 124.2 | 122.7 | 122.7 | 121.6 | 120.1 | 118.6 | 113.1 |
| 110° | 142.6 | 146.3 | 147.0 | 145.2 | 144.8 | 143.7 | 142.2 | 140.0 | 135.2 |



TEST NUMBER: P199517

CATALOG NUMBER: S124-DIW-ULO-LO-40-0048-1D-UDD-1-5-W

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 112.5° | 165.4 | 169.1 | 169.8 | 167.6 | 167.3 | 165.1 | 164.7 | 162.1 | 157.3 |
| 115° | 188.3 | 191.9 | 193.1 | 190.5 | 189.7 | 187.2 | 187.2 | 184.6 | 180.2 |
| 117.5° | 210.4 | 214.8 | 215.9 | 212.9 | 212.6 | 210.4 | 208.9 | 206.7 | 201.9 |
| 120° | 232.5 | 238.0 | 238.7 | 235.4 | 235.1 | 232.5 | 231.7 | 228.8 | 224.0 |
| 122.5° | 254.6 | 260.1 | 261.2 | 258.3 | 257.2 | 253.8 | 253.5 | 250.9 | 245.7 |
| 125° | 275.6 | 281.8 | 281.8 | 280.4 | 279.3 | 276.7 | 275.2 | 272.3 | 267.1 |
| 127.5° | 297.3 | 303.9 | 303.6 | 302.5 | 301.4 | 297.7 | 296.6 | 293.6 | 288.1 |
| 130° | 318.7 | 324.6 | 324.6 | 323.8 | 323.1 | 319.8 | 317.9 | 315.0 | 308.7 |
| 132.5° | 339.7 | 345.6 | 346.3 | 344.5 | 343.7 | 339.3 | 339.7 | 336.0 | 329.7 |
| 135° | 360.3 | 365.5 | 367.3 | 364.4 | 364.0 | 359.2 | 360.7 | 355.9 | 349.6 |
| 137.5° | 380.6 | 384.6 | 387.9 | 384.3 | 383.9 | 379.1 | 381.3 | 375.1 | 369.5 |
| 140° | 400.5 | 403.8 | 408.2 | 403.8 | 403.1 | 398.6 | 400.8 | 394.2 | 389.4 |
| 142.5° | 419.3 | 422.2 | 427.7 | 422.9 | 421.8 | 417.8 | 420.4 | 412.6 | 408.2 |
| 145° | 437.3 | 439.5 | 446.9 | 441.7 | 440.3 | 436.6 | 439.9 | 430.3 | 427.0 |
| 147.5° | 455.4 | 456.5 | 464.9 | 460.2 | 457.9 | 455.0 | 458.3 | 447.6 | 445.1 |
| 150° | 472.3 | 472.3 | 480.8 | 477.1 | 475.3 | 471.9 | 474.2 | 463.8 | 462.0 |
| 152.5° | 488.2 | 487.4 | 495.2 | 492.9 | 491.8 | 488.2 | 488.9 | 479.3 | 478.2 |
| 155° | 502.9 | 501.4 | 508.4 | 507.3 | 506.6 | 502.9 | 502.9 | 493.3 | 493.7 |
| 157.5° | 516.9 | 513.9 | 520.6 | 520.2 | 518.7 | 515.8 | 515.1 | 506.6 | 507.7 |
| 160° | 529.1 | 526.5 | 530.9 | 530.2 | 529.1 | 526.1 | 526.1 | 518.7 | 520.6 |
| 162.5° | 539.7 | 536.4 | 540.1 | 537.9 | 537.5 | 534.2 | 535.7 | 529.4 | 532.0 |
| 165° | 548.9 | 545.6 | 547.5 | 544.5 | 544.2 | 541.2 | 543.8 | 539.4 | 542.3 |
| 167.5° | 557.1 | 553.4 | 553.0 | 550.4 | 549.7 | 547.5 | 550.4 | 547.8 | 551.2 |
| 170° | 563.3 | 559.6 | 558.5 | 554.1 | 553.4 | 551.5 | 555.9 | 555.2 | 558.2 |
| 172.5° | 568.1 | 564.4 | 561.8 | 556.7 | 554.1 | 554.5 | 560.4 | 560.4 | 563.7 |
| 175° | 571.4 | 567.4 | 564.4 | 559.3 | 554.5 | 557.4 | 563.7 | 564.1 | 567.7 |
| 177.5° | 572.2 | 568.1 | 565.5 | 560.7 | 558.9 | 559.3 | 565.9 | 565.9 | 569.9 |
| 180° | 565.2 | 565.2 | 565.2 | 565.2 | 565.2 | 565.2 | 565.2 | 565.2 | 565.2 |

(END OF REPORT)