

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: METALUX

Report Number: P188401

Luminaire Tested: **22SR-LD2-20-C-UNV-L840-CD1-ST-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188401
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24794)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22SR-LD2-20-C-UNV-L840-CD1-ST-U
Description: METALUX 2X2 SKYRIDGE LED FIXTURE WITH STRAW SKYTRIM.

Light Source: EATON LED 4000K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1894.0 lumens
Efficiency: N/A
Efficacy: 123.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.62 / 1.55
Luminous Opening: Rectangular (W 1.92' x L: 1.92' x H: 0')
CIE Type: Direct

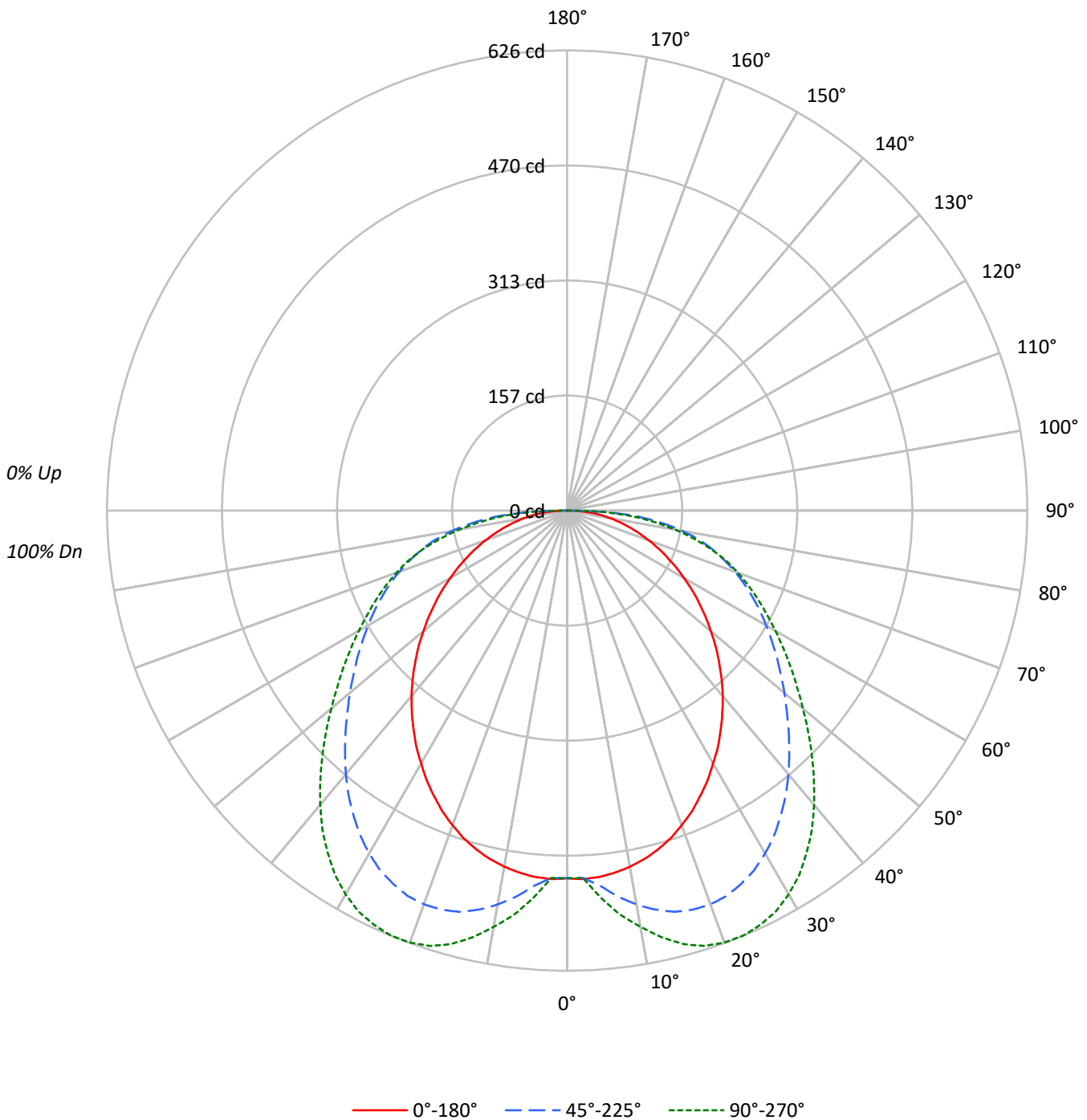
Input Watts (W): 15.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P188401

CATALOG NUMBER: 22SR-LD2-20-C-UNV-L840-CD1-ST-U

Luminous Intensity Polar Plot





TEST NUMBER: P188401

CATALOG NUMBER: 22SR-LD2-20-C-UNV-L840-CD1-ST-U

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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 107 | 102 | 97 | 92 | 104 | 99 | 95 | 91 | 95 | 91 | 88 | 91 | 88 | 85 | 87 | 85 | 83 | 80 |
| 2 | 97 | 87 | 80 | 74 | 94 | 86 | 79 | 73 | 82 | 76 | 71 | 79 | 74 | 69 | 75 | 71 | 68 | 65 |
| 3 | 88 | 76 | 67 | 60 | 85 | 75 | 66 | 60 | 72 | 64 | 59 | 69 | 63 | 58 | 66 | 61 | 57 | 54 |
| 4 | 80 | 67 | 58 | 51 | 78 | 66 | 57 | 50 | 63 | 56 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 46 |
| 5 | 73 | 60 | 50 | 43 | 71 | 59 | 50 | 43 | 56 | 49 | 42 | 54 | 47 | 42 | 52 | 46 | 42 | 39 |
| 6 | 68 | 54 | 44 | 38 | 66 | 53 | 44 | 37 | 51 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 36 | 34 |
| 7 | 63 | 49 | 39 | 33 | 61 | 48 | 39 | 33 | 46 | 38 | 33 | 45 | 38 | 32 | 43 | 37 | 32 | 30 |
| 8 | 58 | 44 | 35 | 29 | 57 | 43 | 35 | 29 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 27 |
| 9 | 54 | 40 | 32 | 26 | 53 | 40 | 32 | 26 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 24 |
| 10 | 51 | 37 | 29 | 24 | 50 | 37 | 29 | 24 | 36 | 29 | 24 | 35 | 28 | 23 | 34 | 28 | 23 | 21 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1466 | 1466 | 1466 |
| 5° | 1472 | 1506 | 1556 |
| 10° | 1464 | 1619 | 1710 |
| 15° | 1448 | 1714 | 1852 |
| 20° | 1421 | 1777 | 1949 |
| 25° | 1385 | 1811 | 2010 |
| 30° | 1343 | 1822 | 2039 |
| 35° | 1303 | 1812 | 2032 |
| 40° | 1260 | 1791 | 1999 |
| 45° | 1211 | 1766 | 1952 |
| 50° | 1164 | 1759 | 1908 |
| 55° | 1119 | 1779 | 1896 |
| 60° | 1075 | 1832 | 1917 |
| 65° | 1040 | 1930 | 1988 |
| 70° | 1010 | 2080 | 2116 |
| 75° | 995 | 2322 | 2298 |
| 80° | 1001 | 2685 | 2519 |
| 85° | 1056 | 3308 | 2979 |



TEST NUMBER: P188401

CATALOG NUMBER: 22SR-LD2-20-C-UNV-L840-CD1-ST-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 49.7 | 2.6 |
| 10°-20° | 156.5 | 8.3 |
| 20°-30° | 250.9 | 13.2 |
| 30°-40° | 306.4 | 16.2 |
| 40°-50° | 315.5 | 16.7 |
| 50°-60° | 292.5 | 15.4 |
| 60°-70° | 250.7 | 13.2 |
| 70°-80° | 188.6 | 10.0 |
| 80°-90° | 83.3 | 4.4 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 457.2 | 24.1 |
| 0°-40° | 763.5 | 40.3 |
| 0°-60° | 1371.5 | 72.4 |
| 0°-90° | 1894.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1894.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 500 | 500 | 500 | 500 | 500 | |
| 5° | 500 | 500 | 512 | 524 | 529 | 47 |
| 15° | 477 | 512 | 565 | 598 | 610 | 134 |
| 25° | 428 | 491 | 560 | 605 | 622 | 197 |
| 35° | 364 | 436 | 507 | 552 | 568 | 228 |
| 45° | 292 | 364 | 426 | 460 | 471 | 226 |
| 55° | 219 | 292 | 348 | 367 | 371 | 196 |
| 65° | 150 | 227 | 278 | 285 | 287 | 149 |
| 75° | 88 | 161 | 205 | 204 | 203 | 93 |
| 85° | 31 | 74 | 98 | 91 | 89 | 34 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P188401

CATALOG NUMBER: 22SR-LD2-20-C-UNV-L840-CD1-ST-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 |
| 2.5° | 501.7 | 501.0 | 500.3 | 501.0 | 500.3 | 500.3 | 499.6 | 498.9 | 500.3 | 500.3 | 500.3 |
| 5° | 500.3 | 499.6 | 498.9 | 499.6 | 499.6 | 501.0 | 501.7 | 505.2 | 509.3 | 512.1 | 516.3 |
| 7.5° | 496.8 | 496.1 | 495.4 | 497.5 | 500.3 | 505.2 | 510.7 | 517.7 | 524.0 | 529.6 | 534.5 |
| 10° | 491.9 | 491.2 | 491.2 | 496.1 | 503.1 | 512.1 | 519.8 | 528.2 | 536.6 | 544.2 | 551.2 |
| 12.5° | 485.6 | 485.6 | 486.3 | 495.4 | 505.9 | 517.0 | 526.1 | 536.6 | 547.0 | 556.1 | 564.5 |
| 15° | 477.2 | 476.5 | 480.0 | 492.6 | 505.9 | 518.4 | 530.3 | 542.1 | 554.7 | 565.2 | 574.2 |
| 17.5° | 467.5 | 466.8 | 473.8 | 489.1 | 503.1 | 517.7 | 531.7 | 544.9 | 558.2 | 569.3 | 579.8 |
| 20° | 455.6 | 455.6 | 465.4 | 483.5 | 498.9 | 514.9 | 529.6 | 543.5 | 558.2 | 570.0 | 581.2 |
| 22.5° | 443.1 | 443.8 | 456.3 | 475.2 | 491.9 | 508.6 | 524.0 | 539.3 | 554.0 | 567.3 | 578.4 |
| 25° | 428.4 | 429.8 | 444.5 | 464.0 | 482.1 | 499.6 | 515.6 | 531.7 | 547.0 | 560.3 | 572.1 |
| 27.5° | 413.8 | 415.1 | 432.6 | 452.1 | 471.0 | 488.4 | 505.2 | 521.9 | 537.9 | 551.2 | 563.1 |
| 30° | 397.0 | 400.5 | 417.9 | 438.2 | 457.7 | 475.2 | 492.6 | 509.3 | 524.7 | 538.6 | 551.2 |
| 32.5° | 381.7 | 384.4 | 404.0 | 423.5 | 443.8 | 461.2 | 478.6 | 494.7 | 510.0 | 524.0 | 535.9 |
| 35° | 364.2 | 368.4 | 387.9 | 407.5 | 427.0 | 444.5 | 461.9 | 477.9 | 493.3 | 506.6 | 518.4 |
| 37.5° | 346.8 | 352.4 | 371.2 | 391.4 | 410.3 | 427.7 | 445.2 | 460.5 | 475.9 | 488.4 | 499.6 |
| 40° | 329.3 | 334.2 | 353.7 | 373.3 | 392.8 | 409.6 | 426.3 | 441.0 | 455.6 | 468.2 | 478.6 |
| 42.5° | 311.2 | 316.8 | 336.3 | 355.1 | 374.0 | 390.7 | 407.5 | 422.1 | 436.1 | 447.2 | 457.0 |
| 45° | 292.3 | 299.3 | 318.2 | 337.0 | 355.8 | 372.6 | 388.6 | 402.6 | 415.1 | 426.3 | 435.4 |
| 47.5° | 274.2 | 281.9 | 300.7 | 319.6 | 337.7 | 353.7 | 369.8 | 383.8 | 395.6 | 405.4 | 413.8 |
| 50° | 255.4 | 264.4 | 282.6 | 300.7 | 319.6 | 335.6 | 351.0 | 363.5 | 376.1 | 385.8 | 392.8 |
| 52.5° | 237.2 | 246.3 | 265.1 | 283.3 | 301.4 | 317.5 | 332.8 | 346.1 | 357.2 | 366.3 | 374.0 |
| 55° | 219.1 | 228.9 | 247.7 | 265.8 | 284.0 | 300.0 | 315.4 | 327.9 | 339.1 | 348.2 | 354.4 |
| 57.5° | 201.6 | 212.1 | 230.3 | 249.1 | 267.2 | 283.3 | 298.6 | 311.2 | 321.7 | 330.0 | 336.3 |
| 60° | 183.5 | 195.4 | 213.5 | 231.6 | 250.5 | 267.2 | 281.9 | 294.4 | 304.9 | 312.6 | 318.2 |
| 62.5° | 166.8 | 178.6 | 196.8 | 215.6 | 234.4 | 251.2 | 265.8 | 278.4 | 288.2 | 295.8 | 300.0 |
| 65° | 150.0 | 162.6 | 180.7 | 199.6 | 218.4 | 235.1 | 249.8 | 262.3 | 271.4 | 278.4 | 282.6 |
| 67.5° | 134.0 | 146.5 | 164.7 | 183.5 | 202.3 | 219.1 | 233.7 | 245.6 | 254.7 | 261.0 | 263.7 |
| 70° | 117.9 | 130.5 | 148.6 | 167.5 | 185.6 | 203.0 | 217.7 | 228.9 | 237.9 | 242.8 | 244.9 |
| 72.5° | 102.6 | 115.8 | 133.3 | 150.7 | 169.5 | 186.3 | 200.9 | 212.8 | 219.8 | 224.0 | 227.5 |
| 75° | 87.9 | 100.5 | 117.2 | 134.7 | 152.1 | 169.5 | 183.5 | 194.0 | 200.9 | 205.1 | 206.5 |
| 77.5° | 73.3 | 85.8 | 101.9 | 117.9 | 135.4 | 151.4 | 165.4 | 175.1 | 180.7 | 184.2 | 186.3 |
| 80° | 59.3 | 70.5 | 85.1 | 100.5 | 116.5 | 131.2 | 143.7 | 152.8 | 157.7 | 159.1 | 159.1 |
| 82.5° | 46.1 | 55.1 | 67.7 | 80.9 | 94.9 | 108.1 | 119.3 | 126.3 | 129.8 | 130.5 | 129.8 |
| 85° | 31.4 | 37.7 | 47.4 | 57.9 | 68.4 | 80.2 | 90.0 | 94.9 | 97.0 | 98.4 | 97.0 |
| 87.5° | 16.7 | 18.8 | 24.4 | 30.7 | 38.4 | 46.1 | 52.3 | 55.8 | 57.9 | 57.9 | 58.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P188401

CATALOG NUMBER: 22SR-LD2-20-C-UNV-L840-CD1-ST-U

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 | 500.3 |
| 2.5° | 500.3 | 500.3 | 501.0 | 500.3 | 500.3 | 501.0 | 500.3 | 500.3 |
| 5° | 518.4 | 519.8 | 523.3 | 524.7 | 525.4 | 527.5 | 527.5 | 528.9 |
| 7.5° | 537.9 | 541.4 | 544.9 | 547.7 | 549.8 | 552.6 | 553.3 | 554.7 |
| 10° | 556.1 | 560.3 | 564.5 | 568.6 | 571.4 | 572.8 | 574.2 | 574.9 |
| 12.5° | 570.7 | 576.3 | 581.9 | 586.1 | 589.6 | 591.7 | 593.8 | 594.5 |
| 15° | 581.2 | 588.9 | 595.2 | 600.7 | 604.2 | 607.0 | 609.1 | 610.5 |
| 17.5° | 588.2 | 596.6 | 603.5 | 609.8 | 614.0 | 616.8 | 619.6 | 621.0 |
| 20° | 590.3 | 598.7 | 607.0 | 613.3 | 618.2 | 621.7 | 623.8 | 625.2 |
| 22.5° | 588.2 | 597.3 | 605.6 | 612.6 | 617.5 | 621.7 | 623.8 | 625.9 |
| 25° | 582.6 | 592.4 | 601.4 | 608.4 | 614.0 | 618.2 | 620.3 | 621.7 |
| 27.5° | 574.2 | 584.7 | 593.8 | 600.7 | 606.3 | 610.5 | 613.3 | 614.7 |
| 30° | 562.4 | 572.1 | 581.9 | 588.9 | 594.5 | 598.7 | 601.4 | 602.8 |
| 32.5° | 547.7 | 557.5 | 566.6 | 573.5 | 579.8 | 583.3 | 586.1 | 587.5 |
| 35° | 529.6 | 539.3 | 548.4 | 554.7 | 561.0 | 564.5 | 567.3 | 568.0 |
| 37.5° | 510.0 | 519.8 | 528.2 | 533.8 | 540.0 | 542.8 | 546.3 | 547.0 |
| 40° | 488.4 | 497.5 | 505.2 | 510.7 | 516.3 | 519.1 | 521.2 | 522.6 |
| 42.5° | 466.1 | 474.5 | 482.1 | 487.0 | 491.2 | 494.0 | 496.8 | 496.8 |
| 45° | 444.5 | 450.7 | 457.7 | 461.9 | 466.1 | 468.2 | 470.3 | 471.0 |
| 47.5° | 422.1 | 428.4 | 434.0 | 436.8 | 441.0 | 442.4 | 443.8 | 444.5 |
| 50° | 400.5 | 406.1 | 410.3 | 413.1 | 415.8 | 417.2 | 418.6 | 418.6 |
| 52.5° | 379.6 | 384.4 | 387.9 | 389.3 | 392.1 | 392.8 | 393.5 | 394.2 |
| 55° | 360.0 | 363.5 | 366.3 | 367.0 | 369.1 | 369.1 | 370.5 | 371.2 |
| 57.5° | 341.2 | 343.3 | 345.4 | 345.4 | 346.8 | 346.8 | 348.2 | 348.9 |
| 60° | 322.4 | 323.7 | 324.4 | 324.4 | 325.8 | 325.1 | 326.5 | 327.2 |
| 62.5° | 303.5 | 304.2 | 304.2 | 304.2 | 304.9 | 304.9 | 305.6 | 306.3 |
| 65° | 284.7 | 284.7 | 284.7 | 284.7 | 285.4 | 284.7 | 286.1 | 286.8 |
| 67.5° | 265.8 | 265.1 | 265.1 | 264.4 | 265.8 | 265.1 | 266.5 | 267.2 |
| 70° | 246.3 | 246.3 | 244.9 | 244.9 | 245.6 | 246.3 | 247.0 | 247.0 |
| 72.5° | 226.8 | 225.4 | 225.4 | 224.7 | 225.4 | 226.1 | 227.5 | 226.8 |
| 75° | 206.5 | 205.8 | 204.4 | 203.7 | 203.7 | 203.0 | 203.7 | 203.0 |
| 77.5° | 182.8 | 180.7 | 177.9 | 177.2 | 175.8 | 175.1 | 175.8 | 176.5 |
| 80° | 154.9 | 152.8 | 150.7 | 150.0 | 148.6 | 148.6 | 148.6 | 149.3 |
| 82.5° | 125.6 | 124.2 | 122.1 | 122.1 | 120.7 | 120.7 | 120.7 | 120.0 |
| 85° | 92.8 | 92.1 | 90.7 | 90.7 | 89.3 | 89.3 | 89.3 | 88.6 |
| 87.5° | 54.4 | 54.4 | 53.0 | 53.7 | 51.6 | 51.6 | 51.6 | 52.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)