

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: P188155

Luminaire Tested: **24SR-LD2-59-UNV-EL14W-L840-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188155
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P34279)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24SR-LD2-59-UNV-EL14W-L840-CD1-U
Description: METALUX SKYRIDGE 2X4 TROFFER

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

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1281.3 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.39 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 4' x L: 2' x H: 0.29')
CIE Type: Direct

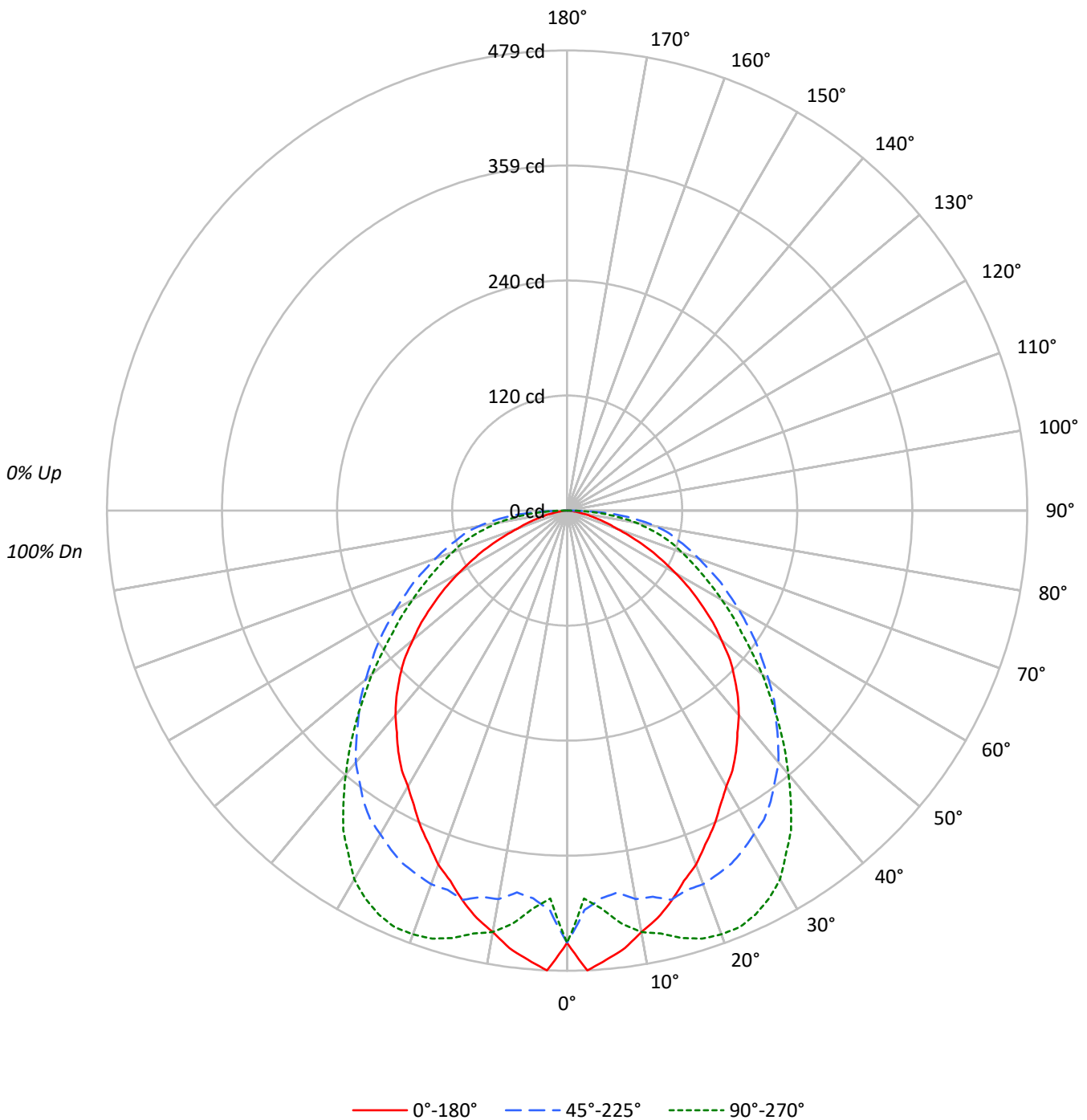
Input Watts (W): 12.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P188155

CATALOG NUMBER: 24SR-LD2-59-UNV-EL14W-L840-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P188155

CATALOG NUMBER: 24SR-LD2-59-UNV-EL14W-L840-CD1-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 | 108 | 103 | 98 | 94 | 105 | 100 | 96 | 92 | 96 | 93 | 89 | 92 | 89 | 87 | 89 | 86 | 84 | 82 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 81 | 75 | 84 | 78 | 73 | 80 | 76 | 72 | 77 | 73 | 70 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 62 | 73 | 67 | 61 | 71 | 65 | 60 | 68 | 63 | 59 | 57 |
| 4 | 81 | 69 | 60 | 53 | 79 | 68 | 59 | 53 | 65 | 58 | 52 | 63 | 57 | 51 | 61 | 55 | 51 | 48 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 58 | 51 | 45 | 56 | 50 | 44 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 46 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 43 | 39 | 37 |
| 7 | 64 | 50 | 41 | 35 | 62 | 50 | 41 | 35 | 48 | 40 | 35 | 47 | 40 | 35 | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 37 | 31 | 58 | 45 | 37 | 31 | 44 | 36 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 36 | 30 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-----|-----|-----|
| 0° | 605 | 605 | 605 |
| 5° | 626 | 540 | 558 |
| 10° | 593 | 546 | 601 |
| 15° | 564 | 561 | 629 |
| 20° | 533 | 561 | 655 |
| 25° | 503 | 561 | 666 |
| 30° | 475 | 555 | 661 |
| 35° | 457 | 547 | 635 |
| 40° | 435 | 532 | 593 |
| 45° | 410 | 507 | 551 |
| 50° | 374 | 484 | 511 |
| 55° | 331 | 461 | 471 |
| 60° | 280 | 438 | 444 |
| 65° | 224 | 421 | 425 |
| 70° | 156 | 402 | 417 |
| 75° | 106 | 394 | 417 |
| 80° | 60 | 386 | 399 |
| 85° | 25 | 303 | 320 |



TEST NUMBER: P188155

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 40.0 | 3.1 |
| 10°-20° | 117.5 | 9.2 |
| 20°-30° | 183.2 | 14.3 |
| 30°-40° | 220.2 | 17.2 |
| 40°-50° | 220.9 | 17.2 |
| 50°-60° | 194.1 | 15.2 |
| 60°-70° | 152.4 | 11.9 |
| 70°-80° | 106.8 | 8.3 |
| 80°-90° | 46.1 | 3.6 |
| 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° | 340.7 | 26.6 |
| 0°-40° | 561.0 | 43.8 |
| 0°-60° | 976.0 | 76.2 |
| 0°-90° | 1281.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1281.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 450 | 450 | 450 | 450 | 450 | |
| 5° | 469 | 405 | 405 | 422 | 416 | 44 |
| 15° | 420 | 369 | 419 | 453 | 461 | 118 |
| 25° | 362 | 344 | 405 | 453 | 464 | 166 |
| 35° | 306 | 306 | 369 | 402 | 406 | 191 |
| 45° | 247 | 259 | 308 | 315 | 311 | 190 |
| 55° | 171 | 206 | 240 | 230 | 222 | 152 |
| 65° | 92 | 154 | 176 | 160 | 154 | 91 |
| 75° | 32 | 105 | 120 | 105 | 102 | 35 |
| 85° | 4 | 56 | 54 | 42 | 38 | 6 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P188155

CATALOG NUMBER: 24SR-LD2-59-UNV-EL14W-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 22.5° | 25° | 30° | 35° | 40° | 45° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 |
| 2.5° | 479.1 | 476.9 | 471.5 | 467.2 | 461.7 | 457.4 | 454.1 | 444.3 | 435.6 | 428.0 | 416.1 |
| 5° | 469.3 | 462.8 | 447.6 | 432.4 | 412.8 | 405.2 | 400.9 | 395.4 | 396.5 | 400.9 | 405.2 |
| 7.5° | 459.5 | 446.5 | 417.2 | 393.3 | 384.6 | 386.8 | 392.2 | 403.1 | 407.4 | 405.2 | 400.9 |
| 10° | 445.4 | 427.0 | 388.9 | 373.7 | 385.7 | 392.2 | 397.6 | 395.4 | 393.3 | 400.9 | 410.7 |
| 12.5° | 434.6 | 406.3 | 363.9 | 370.5 | 384.6 | 383.5 | 381.3 | 387.8 | 402.0 | 409.6 | 411.7 |
| 15° | 420.4 | 383.5 | 349.8 | 368.3 | 368.3 | 369.4 | 375.9 | 394.4 | 398.7 | 408.5 | 419.4 |
| 17.5° | 404.1 | 359.6 | 340.0 | 355.3 | 355.3 | 367.2 | 377.0 | 385.7 | 398.7 | 409.6 | 413.9 |
| 20° | 392.2 | 337.9 | 333.5 | 339.0 | 353.1 | 363.9 | 368.3 | 383.5 | 394.4 | 403.1 | 413.9 |
| 22.5° | 375.9 | 319.4 | 324.8 | 325.9 | 347.6 | 352.0 | 361.8 | 378.1 | 386.8 | 399.8 | 409.6 |
| 25° | 361.8 | 302.0 | 311.8 | 319.4 | 334.6 | 344.4 | 355.3 | 367.2 | 381.3 | 392.2 | 405.2 |
| 27.5° | 345.5 | 287.9 | 296.6 | 311.8 | 325.9 | 337.9 | 344.4 | 359.6 | 371.5 | 384.6 | 397.6 |
| 30° | 331.4 | 275.9 | 282.5 | 302.0 | 319.4 | 327.0 | 334.6 | 349.8 | 365.0 | 375.9 | 388.9 |
| 32.5° | 320.5 | 265.1 | 270.5 | 290.1 | 309.6 | 316.1 | 324.8 | 341.1 | 354.2 | 367.2 | 381.3 |
| 35° | 306.4 | 256.4 | 261.8 | 280.3 | 297.7 | 306.4 | 314.0 | 330.3 | 344.4 | 357.4 | 369.4 |
| 37.5° | 291.2 | 245.5 | 252.0 | 269.4 | 285.7 | 293.3 | 302.0 | 318.3 | 330.3 | 344.4 | 355.3 |
| 40° | 278.1 | 236.8 | 243.4 | 259.6 | 274.9 | 282.5 | 291.2 | 305.3 | 318.3 | 330.3 | 342.2 |
| 42.5° | 262.9 | 224.9 | 232.5 | 247.7 | 261.8 | 271.6 | 278.1 | 292.2 | 304.2 | 315.1 | 324.8 |
| 45° | 246.6 | 211.8 | 219.5 | 233.6 | 249.9 | 258.6 | 265.1 | 280.3 | 290.1 | 299.8 | 307.5 |
| 47.5° | 230.3 | 199.9 | 206.4 | 221.6 | 237.9 | 244.4 | 252.0 | 265.1 | 275.9 | 285.7 | 292.2 |
| 50° | 209.7 | 185.8 | 193.4 | 209.7 | 224.9 | 232.5 | 240.1 | 253.1 | 261.8 | 268.3 | 273.8 |
| 52.5° | 191.2 | 169.5 | 181.4 | 196.6 | 211.8 | 220.5 | 227.1 | 239.0 | 247.7 | 253.1 | 256.4 |
| 55° | 170.6 | 156.4 | 167.3 | 183.6 | 198.8 | 206.4 | 214.0 | 224.9 | 232.5 | 237.9 | 240.1 |
| 57.5° | 151.0 | 140.1 | 155.4 | 170.6 | 186.9 | 193.4 | 199.9 | 211.8 | 217.3 | 221.6 | 222.7 |
| 60° | 130.4 | 123.8 | 140.1 | 157.5 | 172.7 | 180.3 | 186.9 | 195.6 | 201.0 | 206.4 | 206.4 |
| 62.5° | 110.8 | 109.7 | 127.1 | 145.6 | 160.8 | 167.3 | 173.8 | 182.5 | 187.9 | 190.1 | 190.1 |
| 65° | 92.3 | 96.7 | 115.2 | 133.6 | 147.8 | 154.3 | 159.7 | 168.4 | 173.8 | 176.0 | 176.0 |
| 67.5° | 72.8 | 82.6 | 102.1 | 120.6 | 135.8 | 142.3 | 147.8 | 155.4 | 158.6 | 160.8 | 159.7 |
| 70° | 55.4 | 69.5 | 90.2 | 109.7 | 123.8 | 129.3 | 134.7 | 142.3 | 145.6 | 147.8 | 145.6 |
| 72.5° | 43.5 | 57.6 | 79.3 | 98.9 | 111.9 | 117.3 | 121.7 | 128.2 | 132.5 | 133.6 | 132.5 |
| 75° | 31.5 | 47.8 | 70.6 | 88.0 | 101.0 | 105.4 | 109.7 | 116.2 | 120.6 | 121.7 | 119.5 |
| 77.5° | 22.8 | 40.2 | 60.8 | 79.3 | 91.3 | 95.6 | 99.9 | 106.5 | 108.6 | 109.7 | 108.6 |
| 80° | 14.1 | 31.5 | 51.1 | 68.4 | 78.2 | 83.7 | 86.9 | 92.3 | 95.6 | 96.7 | 93.4 |
| 82.5° | 8.7 | 25.0 | 42.4 | 57.6 | 67.4 | 70.6 | 73.9 | 79.3 | 80.4 | 79.3 | 75.0 |
| 85° | 4.3 | 19.6 | 33.7 | 45.6 | 54.3 | 56.5 | 58.7 | 60.8 | 60.8 | 59.8 | 54.3 |
| 87.5° | 3.3 | 12.0 | 21.7 | 29.3 | 34.8 | 33.7 | 33.7 | 36.9 | 35.9 | 32.6 | 29.3 |
| 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: P188155

CATALOG NUMBER: 24SR-LD2-59-UNV-EL14W-L840-CD1-U

CANDELA DISTRIBUTION (continued):

| | 50° | 55° | 60° | 65° | 67.5° | 70° | 75° | 80° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 | 449.8 |
| 2.5° | 410.7 | 410.7 | 409.6 | 408.5 | 407.4 | 406.3 | 407.4 | 406.3 | 405.2 | 404.1 |
| 5° | 410.7 | 417.2 | 419.4 | 421.5 | 421.5 | 421.5 | 420.4 | 419.4 | 418.3 | 416.1 |
| 7.5° | 400.9 | 408.5 | 415.0 | 421.5 | 424.8 | 425.9 | 429.1 | 433.5 | 433.5 | 433.5 |
| 10° | 418.3 | 425.9 | 428.0 | 432.4 | 434.6 | 436.7 | 440.0 | 444.3 | 444.3 | 445.4 |
| 12.5° | 420.4 | 433.5 | 441.1 | 445.4 | 446.5 | 447.6 | 449.8 | 451.9 | 451.9 | 450.9 |
| 15° | 427.0 | 433.5 | 443.3 | 450.9 | 453.0 | 455.2 | 459.5 | 461.7 | 460.6 | 460.6 |
| 17.5° | 427.0 | 436.7 | 443.3 | 451.9 | 455.2 | 458.5 | 463.9 | 466.1 | 467.2 | 467.2 |
| 20° | 423.7 | 436.7 | 446.5 | 453.0 | 456.3 | 458.5 | 463.9 | 468.2 | 468.2 | 469.3 |
| 22.5° | 423.7 | 434.6 | 444.3 | 454.1 | 456.3 | 459.5 | 465.0 | 468.2 | 469.3 | 469.3 |
| 25° | 418.3 | 430.2 | 438.9 | 449.8 | 453.0 | 457.4 | 461.7 | 463.9 | 463.9 | 463.9 |
| 27.5° | 412.8 | 424.8 | 434.6 | 441.1 | 444.3 | 446.5 | 451.9 | 454.1 | 455.2 | 455.2 |
| 30° | 405.2 | 415.0 | 423.7 | 431.3 | 433.5 | 435.6 | 440.0 | 442.2 | 443.3 | 443.3 |
| 32.5° | 394.4 | 404.1 | 411.7 | 418.3 | 419.4 | 421.5 | 423.7 | 424.8 | 424.8 | 423.7 |
| 35° | 382.4 | 390.0 | 397.6 | 399.8 | 402.0 | 403.1 | 405.2 | 406.3 | 405.2 | 406.3 |
| 37.5° | 366.1 | 371.5 | 377.0 | 380.2 | 381.3 | 382.4 | 385.7 | 383.5 | 382.4 | 382.4 |
| 40° | 348.7 | 355.3 | 357.4 | 359.6 | 359.6 | 359.6 | 361.8 | 360.7 | 358.5 | 358.5 |
| 42.5° | 331.4 | 334.6 | 337.9 | 337.9 | 337.9 | 336.8 | 336.8 | 336.8 | 336.8 | 334.6 |
| 45° | 312.9 | 315.1 | 315.1 | 315.1 | 315.1 | 315.1 | 312.9 | 312.9 | 310.7 | 310.7 |
| 47.5° | 295.5 | 295.5 | 295.5 | 294.4 | 293.3 | 292.2 | 292.2 | 289.0 | 289.0 | 286.8 |
| 50° | 274.9 | 275.9 | 274.9 | 272.7 | 271.6 | 269.4 | 268.3 | 266.2 | 265.1 | 265.1 |
| 52.5° | 257.5 | 257.5 | 254.2 | 253.1 | 249.9 | 249.9 | 247.7 | 245.5 | 243.4 | 242.3 |
| 55° | 240.1 | 239.0 | 235.7 | 232.5 | 230.3 | 230.3 | 227.1 | 223.8 | 223.8 | 221.6 |
| 57.5° | 223.8 | 221.6 | 217.3 | 212.9 | 210.8 | 210.8 | 207.5 | 205.3 | 204.2 | 204.2 |
| 60° | 205.3 | 201.0 | 197.7 | 194.5 | 193.4 | 191.2 | 190.1 | 186.9 | 185.8 | 185.8 |
| 62.5° | 187.9 | 185.8 | 181.4 | 177.1 | 176.0 | 174.9 | 172.7 | 171.7 | 169.5 | 169.5 |
| 65° | 172.7 | 168.4 | 165.1 | 161.9 | 159.7 | 158.6 | 157.5 | 155.4 | 154.3 | 154.3 |
| 67.5° | 157.5 | 153.2 | 149.9 | 146.7 | 145.6 | 143.4 | 142.3 | 142.3 | 141.2 | 140.1 |
| 70° | 143.4 | 139.1 | 134.7 | 132.5 | 130.4 | 129.3 | 128.2 | 128.2 | 128.2 | 127.1 |
| 72.5° | 128.2 | 124.9 | 121.7 | 119.5 | 118.4 | 117.3 | 116.2 | 116.2 | 115.2 | 115.2 |
| 75° | 117.3 | 113.0 | 109.7 | 106.5 | 105.4 | 105.4 | 103.2 | 103.2 | 102.1 | 102.1 |
| 77.5° | 104.3 | 99.9 | 96.7 | 93.4 | 91.3 | 91.3 | 90.2 | 88.0 | 86.9 | 86.9 |
| 80° | 88.0 | 83.7 | 80.4 | 77.1 | 76.0 | 75.0 | 72.8 | 72.8 | 72.8 | 72.8 |
| 82.5° | 69.5 | 66.3 | 61.9 | 59.8 | 58.7 | 57.6 | 56.5 | 56.5 | 56.5 | 55.4 |
| 85° | 51.1 | 46.7 | 44.5 | 42.4 | 42.4 | 40.2 | 40.2 | 40.2 | 40.2 | 38.0 |
| 87.5° | 26.1 | 23.9 | 22.8 | 21.7 | 21.7 | 21.7 | 20.6 | 19.6 | 20.6 | 19.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)