

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: P188161

Luminaire Tested: **24SR-LD2-34-UNV-EL14W-L850-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188161
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-LD2-34-UNV-EL14W-L850-CD1-U
Description: METALUX SKYRIDGE 2X4 TROFFER

Light Source: EATON LED 5000K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1338.7 lumens
Efficiency: N/A
Efficacy: 104.6 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

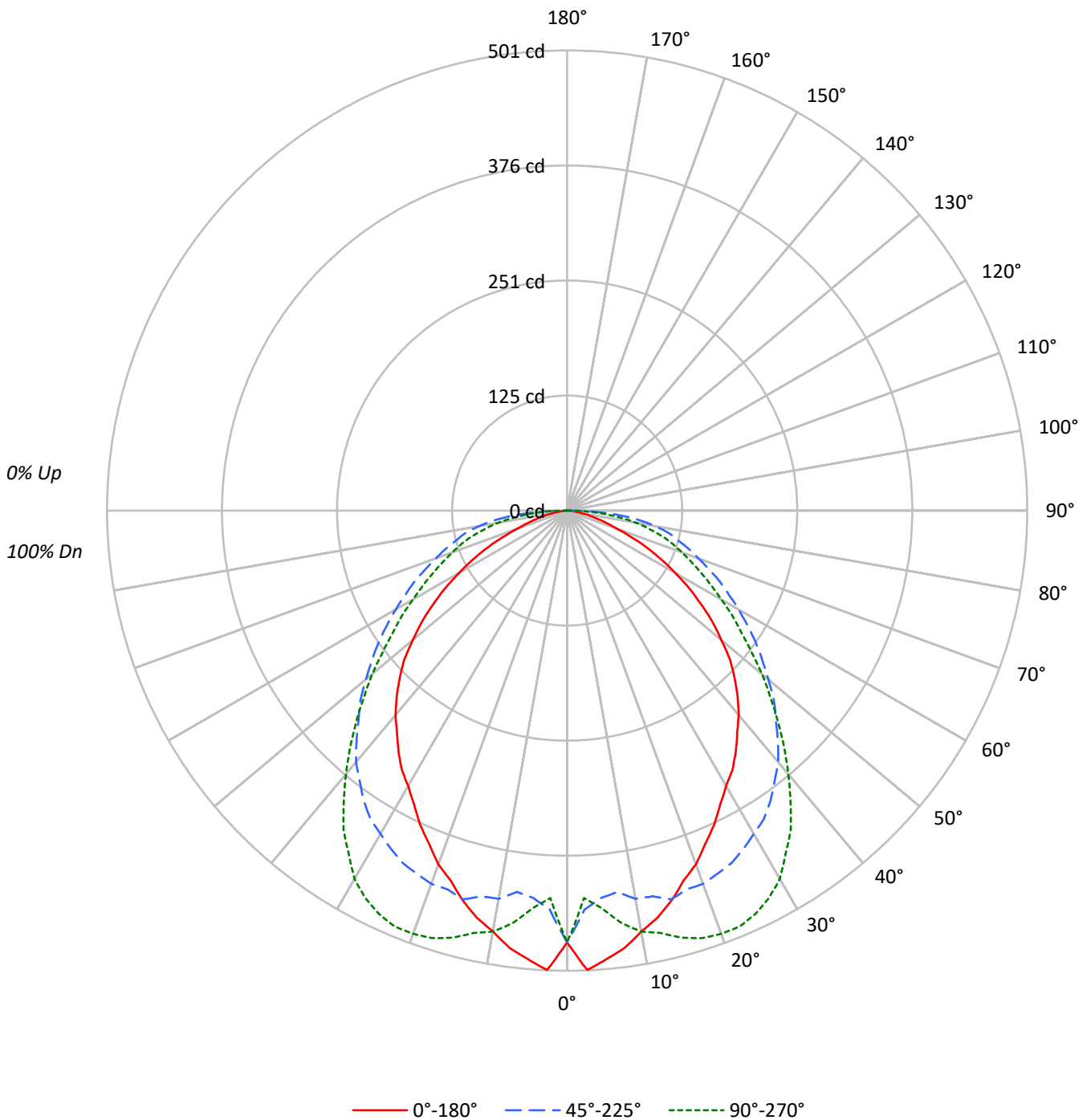
Input Watts (W): 12.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P188161

CATALOG NUMBER: 24SR-LD2-34-UNV-EL14W-L850-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P188161

CATALOG NUMBER: 24SR-LD2-34-UNV-EL14W-L850-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° | 632 | 632 | 632 |
| 5° | 654 | 564 | 583 |
| 10° | 620 | 571 | 628 |
| 15° | 589 | 586 | 658 |
| 20° | 557 | 586 | 684 |
| 25° | 525 | 586 | 696 |
| 30° | 496 | 580 | 690 |
| 35° | 477 | 572 | 663 |
| 40° | 455 | 556 | 620 |
| 45° | 428 | 529 | 576 |
| 50° | 391 | 505 | 533 |
| 55° | 346 | 482 | 492 |
| 60° | 293 | 458 | 464 |
| 65° | 234 | 440 | 444 |
| 70° | 163 | 420 | 435 |
| 75° | 111 | 412 | 436 |
| 80° | 63 | 403 | 417 |
| 85° | 26 | 317 | 334 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 41.8 | 3.1 |
| 10°-20° | 122.8 | 9.2 |
| 20°-30° | 191.4 | 14.3 |
| 30°-40° | 230.1 | 17.2 |
| 40°-50° | 230.8 | 17.2 |
| 50°-60° | 202.8 | 15.2 |
| 60°-70° | 159.3 | 11.9 |
| 70°-80° | 111.5 | 8.3 |
| 80°-90° | 48.1 | 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° | 356.0 | 26.6 |
| 0°-40° | 586.1 | 43.8 |
| 0°-60° | 1019.7 | 76.2 |
| 0°-90° | 1338.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1338.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 470 | 470 | 470 | 470 | 470 | |
| 5° | 490 | 423 | 423 | 440 | 435 | 46 |
| 15° | 439 | 386 | 438 | 473 | 481 | 123 |
| 25° | 378 | 360 | 423 | 473 | 485 | 174 |
| 35° | 320 | 320 | 386 | 420 | 424 | 200 |
| 45° | 258 | 270 | 321 | 329 | 325 | 198 |
| 55° | 178 | 216 | 251 | 241 | 232 | 159 |
| 65° | 96 | 161 | 184 | 167 | 161 | 95 |
| 75° | 33 | 110 | 125 | 110 | 107 | 36 |
| 85° | 4 | 59 | 57 | 44 | 40 | 7 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P188161

CATALOG NUMBER: 24SR-LD2-34-UNV-EL14W-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 22.5° | 25° | 30° | 35° | 40° | 45° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 |
| 2.5° | 500.6 | 498.3 | 492.6 | 488.1 | 482.4 | 477.9 | 474.5 | 464.2 | 455.2 | 447.2 | 434.7 |
| 5° | 490.3 | 483.5 | 467.6 | 451.8 | 431.3 | 423.4 | 418.8 | 413.2 | 414.3 | 418.8 | 423.4 |
| 7.5° | 480.1 | 466.5 | 435.9 | 410.9 | 401.8 | 404.1 | 409.8 | 421.1 | 425.6 | 423.4 | 418.8 |
| 10° | 465.4 | 446.1 | 406.4 | 390.5 | 402.9 | 409.8 | 415.4 | 413.2 | 410.9 | 418.8 | 429.1 |
| 12.5° | 454.0 | 424.5 | 380.2 | 387.1 | 401.8 | 400.7 | 398.4 | 405.2 | 420.0 | 427.9 | 430.2 |
| 15° | 439.3 | 400.7 | 365.5 | 384.8 | 384.8 | 385.9 | 392.7 | 412.0 | 416.6 | 426.8 | 438.1 |
| 17.5° | 422.2 | 375.7 | 355.3 | 371.2 | 371.2 | 383.7 | 393.9 | 402.9 | 416.6 | 427.9 | 432.5 |
| 20° | 409.8 | 353.0 | 348.5 | 354.1 | 368.9 | 380.2 | 384.8 | 400.7 | 412.0 | 421.1 | 432.5 |
| 22.5° | 392.7 | 333.7 | 339.4 | 340.5 | 363.2 | 367.8 | 378.0 | 395.0 | 404.1 | 417.7 | 427.9 |
| 25° | 378.0 | 315.5 | 325.8 | 333.7 | 349.6 | 359.8 | 371.2 | 383.7 | 398.4 | 409.8 | 423.4 |
| 27.5° | 360.9 | 300.8 | 309.9 | 325.8 | 340.5 | 353.0 | 359.8 | 375.7 | 388.2 | 401.8 | 415.4 |
| 30° | 346.2 | 288.3 | 295.1 | 315.5 | 333.7 | 341.7 | 349.6 | 365.5 | 381.4 | 392.7 | 406.4 |
| 32.5° | 334.8 | 277.0 | 282.6 | 303.1 | 323.5 | 330.3 | 339.4 | 356.4 | 370.0 | 383.7 | 398.4 |
| 35° | 320.1 | 267.9 | 273.5 | 292.8 | 311.0 | 320.1 | 328.0 | 345.1 | 359.8 | 373.4 | 385.9 |
| 37.5° | 304.2 | 256.5 | 263.3 | 281.5 | 298.5 | 306.5 | 315.5 | 332.6 | 345.1 | 359.8 | 371.2 |
| 40° | 290.6 | 247.4 | 254.3 | 271.3 | 287.2 | 295.1 | 304.2 | 319.0 | 332.6 | 345.1 | 357.5 |
| 42.5° | 274.7 | 235.0 | 242.9 | 258.8 | 273.5 | 283.8 | 290.6 | 305.3 | 317.8 | 329.2 | 339.4 |
| 45° | 257.7 | 221.3 | 229.3 | 244.0 | 261.1 | 270.1 | 277.0 | 292.8 | 303.1 | 313.3 | 321.2 |
| 47.5° | 240.6 | 208.9 | 215.7 | 231.6 | 248.6 | 255.4 | 263.3 | 277.0 | 288.3 | 298.5 | 305.3 |
| 50° | 219.1 | 194.1 | 202.0 | 219.1 | 235.0 | 242.9 | 250.8 | 264.5 | 273.5 | 280.4 | 286.0 |
| 52.5° | 199.8 | 177.1 | 189.6 | 205.4 | 221.3 | 230.4 | 237.2 | 249.7 | 258.8 | 264.5 | 267.9 |
| 55° | 178.2 | 163.4 | 174.8 | 191.8 | 207.7 | 215.7 | 223.6 | 235.0 | 242.9 | 248.6 | 250.8 |
| 57.5° | 157.8 | 146.4 | 162.3 | 178.2 | 195.2 | 202.0 | 208.9 | 221.3 | 227.0 | 231.6 | 232.7 |
| 60° | 136.2 | 129.4 | 146.4 | 164.6 | 180.5 | 188.4 | 195.2 | 204.3 | 210.0 | 215.7 | 215.7 |
| 62.5° | 115.8 | 114.6 | 132.8 | 152.1 | 168.0 | 174.8 | 181.6 | 190.7 | 196.4 | 198.6 | 198.6 |
| 65° | 96.5 | 101.0 | 120.3 | 139.6 | 154.4 | 161.2 | 166.9 | 175.9 | 181.6 | 183.9 | 183.9 |
| 67.5° | 76.0 | 86.3 | 106.7 | 126.0 | 141.9 | 148.7 | 154.4 | 162.3 | 165.7 | 168.0 | 166.9 |
| 70° | 57.9 | 72.6 | 94.2 | 114.6 | 129.4 | 135.1 | 140.7 | 148.7 | 152.1 | 154.4 | 152.1 |
| 72.5° | 45.4 | 60.2 | 82.9 | 103.3 | 116.9 | 122.6 | 127.1 | 133.9 | 138.5 | 139.6 | 138.5 |
| 75° | 32.9 | 49.9 | 73.8 | 91.9 | 105.6 | 110.1 | 114.6 | 121.5 | 126.0 | 127.1 | 124.9 |
| 77.5° | 23.8 | 42.0 | 63.6 | 82.9 | 95.3 | 99.9 | 104.4 | 111.2 | 113.5 | 114.6 | 113.5 |
| 80° | 14.8 | 32.9 | 53.3 | 71.5 | 81.7 | 87.4 | 90.8 | 96.5 | 99.9 | 101.0 | 97.6 |
| 82.5° | 9.1 | 26.1 | 44.3 | 60.2 | 70.4 | 73.8 | 77.2 | 82.9 | 84.0 | 82.9 | 78.3 |
| 85° | 4.5 | 20.4 | 35.2 | 47.7 | 56.8 | 59.0 | 61.3 | 63.6 | 63.6 | 62.4 | 56.8 |
| 87.5° | 3.4 | 12.5 | 22.7 | 30.6 | 36.3 | 35.2 | 35.2 | 38.6 | 37.5 | 34.1 | 30.6 |
| 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: P188161

CATALOG NUMBER: 24SR-LD2-34-UNV-EL14W-L850-CD1-U

CANDELA DISTRIBUTION (continued):

| | 50° | 55° | 60° | 65° | 67.5° | 70° | 75° | 80° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 | 469.9 |
| 2.5° | 429.1 | 429.1 | 427.9 | 426.8 | 425.6 | 424.5 | 425.6 | 424.5 | 423.4 | 422.2 |
| 5° | 429.1 | 435.9 | 438.1 | 440.4 | 440.4 | 440.4 | 439.3 | 438.1 | 437.0 | 434.7 |
| 7.5° | 418.8 | 426.8 | 433.6 | 440.4 | 443.8 | 444.9 | 448.3 | 452.9 | 452.9 | 452.9 |
| 10° | 437.0 | 444.9 | 447.2 | 451.8 | 454.0 | 456.3 | 459.7 | 464.2 | 464.2 | 465.4 |
| 12.5° | 439.3 | 452.9 | 460.8 | 465.4 | 466.5 | 467.6 | 469.9 | 472.2 | 472.2 | 471.0 |
| 15° | 446.1 | 452.9 | 463.1 | 471.0 | 473.3 | 475.6 | 480.1 | 482.4 | 481.3 | 481.3 |
| 17.5° | 446.1 | 456.3 | 463.1 | 472.2 | 475.6 | 479.0 | 484.7 | 486.9 | 488.1 | 488.1 |
| 20° | 442.7 | 456.3 | 466.5 | 473.3 | 476.7 | 479.0 | 484.7 | 489.2 | 489.2 | 490.3 |
| 22.5° | 442.7 | 454.0 | 464.2 | 474.5 | 476.7 | 480.1 | 485.8 | 489.2 | 490.3 | 490.3 |
| 25° | 437.0 | 449.5 | 458.6 | 469.9 | 473.3 | 477.9 | 482.4 | 484.7 | 484.7 | 484.7 |
| 27.5° | 431.3 | 443.8 | 454.0 | 460.8 | 464.2 | 466.5 | 472.2 | 474.5 | 475.6 | 475.6 |
| 30° | 423.4 | 433.6 | 442.7 | 450.6 | 452.9 | 455.2 | 459.7 | 462.0 | 463.1 | 463.1 |
| 32.5° | 412.0 | 422.2 | 430.2 | 437.0 | 438.1 | 440.4 | 442.7 | 443.8 | 443.8 | 442.7 |
| 35° | 399.5 | 407.5 | 415.4 | 417.7 | 420.0 | 421.1 | 423.4 | 424.5 | 423.4 | 424.5 |
| 37.5° | 382.5 | 388.2 | 393.9 | 397.3 | 398.4 | 399.5 | 402.9 | 400.7 | 399.5 | 399.5 |
| 40° | 364.4 | 371.2 | 373.4 | 375.7 | 375.7 | 375.7 | 378.0 | 376.8 | 374.6 | 374.6 |
| 42.5° | 346.2 | 349.6 | 353.0 | 353.0 | 353.0 | 351.9 | 351.9 | 351.9 | 351.9 | 349.6 |
| 45° | 326.9 | 329.2 | 329.2 | 329.2 | 329.2 | 329.2 | 326.9 | 326.9 | 324.6 | 324.6 |
| 47.5° | 308.7 | 308.7 | 308.7 | 307.6 | 306.5 | 305.3 | 305.3 | 301.9 | 301.9 | 299.7 |
| 50° | 287.2 | 288.3 | 287.2 | 284.9 | 283.8 | 281.5 | 280.4 | 278.1 | 277.0 | 277.0 |
| 52.5° | 269.0 | 269.0 | 265.6 | 264.5 | 261.1 | 261.1 | 258.8 | 256.5 | 254.3 | 253.1 |
| 55° | 250.8 | 249.7 | 246.3 | 242.9 | 240.6 | 240.6 | 237.2 | 233.8 | 233.8 | 231.6 |
| 57.5° | 233.8 | 231.6 | 227.0 | 222.5 | 220.2 | 220.2 | 216.8 | 214.5 | 213.4 | 213.4 |
| 60° | 214.5 | 210.0 | 206.6 | 203.2 | 202.0 | 199.8 | 198.6 | 195.2 | 194.1 | 194.1 |
| 62.5° | 196.4 | 194.1 | 189.6 | 185.0 | 183.9 | 182.7 | 180.5 | 179.3 | 177.1 | 177.1 |
| 65° | 180.5 | 175.9 | 172.5 | 169.1 | 166.9 | 165.7 | 164.6 | 162.3 | 161.2 | 161.2 |
| 67.5° | 164.6 | 160.0 | 156.6 | 153.2 | 152.1 | 149.8 | 148.7 | 148.7 | 147.6 | 146.4 |
| 70° | 149.8 | 145.3 | 140.7 | 138.5 | 136.2 | 135.1 | 133.9 | 133.9 | 133.9 | 132.8 |
| 72.5° | 133.9 | 130.5 | 127.1 | 124.9 | 123.7 | 122.6 | 121.5 | 121.5 | 120.3 | 120.3 |
| 75° | 122.6 | 118.0 | 114.6 | 111.2 | 110.1 | 110.1 | 107.8 | 107.8 | 106.7 | 106.7 |
| 77.5° | 109.0 | 104.4 | 101.0 | 97.6 | 95.3 | 95.3 | 94.2 | 91.9 | 90.8 | 90.8 |
| 80° | 91.9 | 87.4 | 84.0 | 80.6 | 79.5 | 78.3 | 76.0 | 76.0 | 76.0 | 76.0 |
| 82.5° | 72.6 | 69.2 | 64.7 | 62.4 | 61.3 | 60.2 | 59.0 | 59.0 | 59.0 | 57.9 |
| 85° | 53.3 | 48.8 | 46.5 | 44.3 | 44.3 | 42.0 | 42.0 | 42.0 | 42.0 | 39.7 |
| 87.5° | 27.2 | 25.0 | 23.8 | 22.7 | 22.7 | 22.7 | 21.6 | 20.4 | 21.6 | 20.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)