

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: P188467

Luminaire Tested: **24SR-LD2-59-C-UNV-L830-CD1-BR-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188467
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24786)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24SR-LD2-59-C-UNV-L830-CD1-BR-U
Description: METALUX 2X4 SKYRIDGE LED FIXTURE WITH BELLADONNA ROSE

Light Source: EATON LED 3000K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3547.0 lumens
Efficiency: N/A
Efficacy: 70.7 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 2.29 / 2.08
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

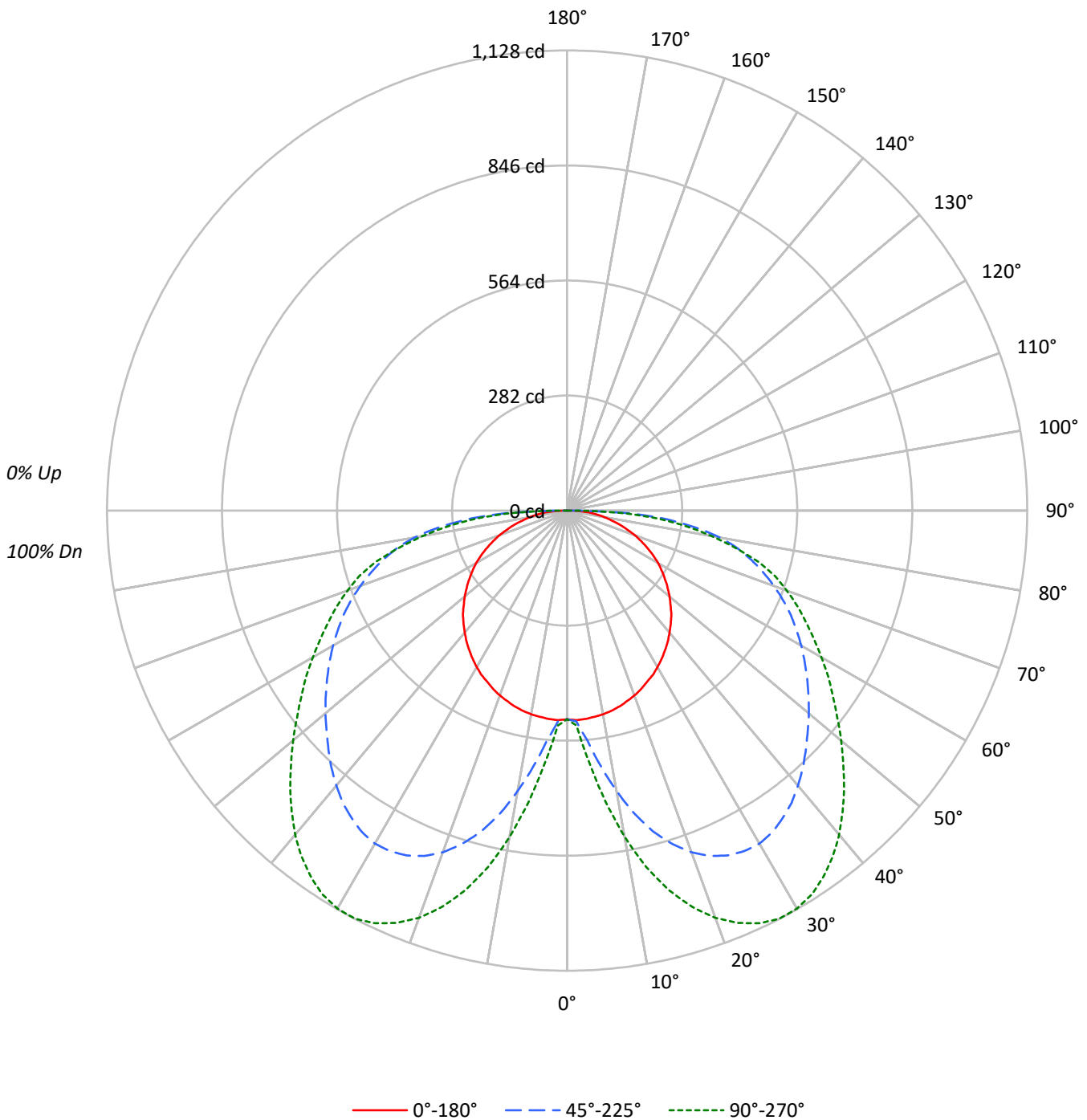
Input Watts (W): 50.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P188467

CATALOG NUMBER: 24SR-LD2-59-C-UNV-L830-CD1-BR-U

Luminous Intensity Polar Plot





TEST NUMBER: P188467

CATALOG NUMBER: 24SR-LD2-59-C-UNV-L830-CD1-BR-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 | 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 | | | | | 100 | | | |
| 1 | 106 | 100 | 94 | 90 | 103 | 97 | 93 | 88 | 93 | 89 | 85 | 89 | 86 | 83 | 85 | 83 | 80 | 78 | | | | | 78 | | | |
| 2 | 95 | 85 | 77 | 70 | 92 | 83 | 75 | 69 | 79 | 73 | 67 | 76 | 70 | 66 | 73 | 68 | 64 | 62 | | | | | 62 | | | |
| 3 | 85 | 73 | 64 | 56 | 83 | 71 | 63 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 57 | 53 | 50 | | | | | 50 | | | |
| 4 | 77 | 64 | 54 | 46 | 75 | 62 | 53 | 46 | 60 | 52 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 41 | | | | | 41 | | | |
| 5 | 71 | 56 | 46 | 39 | 68 | 55 | 46 | 39 | 53 | 45 | 38 | 51 | 44 | 38 | 49 | 42 | 37 | 35 | | | | | 35 | | | |
| 6 | 65 | 50 | 40 | 33 | 63 | 49 | 40 | 33 | 47 | 39 | 33 | 46 | 38 | 33 | 44 | 37 | 32 | 30 | | | | | 30 | | | |
| 7 | 60 | 45 | 36 | 29 | 58 | 44 | 35 | 29 | 43 | 35 | 29 | 41 | 34 | 28 | 40 | 33 | 28 | 26 | | | | | 26 | | | |
| 8 | 56 | 41 | 32 | 25 | 54 | 40 | 31 | 25 | 39 | 31 | 25 | 38 | 30 | 25 | 36 | 30 | 25 | 23 | | | | | 23 | | | |
| 9 | 52 | 37 | 29 | 23 | 50 | 37 | 28 | 22 | 36 | 28 | 22 | 34 | 27 | 22 | 33 | 27 | 22 | 20 | | | | | 20 | | | |
| 10 | 48 | 34 | 26 | 20 | 47 | 34 | 26 | 20 | 33 | 25 | 20 | 32 | 25 | 20 | 31 | 24 | 20 | 18 | | | | | 18 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-----|------|------|
| 0° | 688 | 688 | 688 |
| 5° | 693 | 764 | 836 |
| 10° | 693 | 953 | 1109 |
| 15° | 692 | 1134 | 1341 |
| 20° | 690 | 1277 | 1521 |
| 25° | 688 | 1384 | 1657 |
| 30° | 688 | 1464 | 1750 |
| 35° | 687 | 1512 | 1800 |
| 40° | 686 | 1546 | 1822 |
| 45° | 687 | 1575 | 1827 |
| 50° | 686 | 1619 | 1836 |
| 55° | 687 | 1685 | 1866 |
| 60° | 694 | 1784 | 1937 |
| 65° | 691 | 1925 | 2055 |
| 70° | 694 | 2120 | 2253 |
| 75° | 697 | 2431 | 2522 |
| 80° | 722 | 2946 | 2788 |
| 85° | 832 | 3801 | 3441 |



TEST NUMBER: P188467

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 57.4 | 1.6 |
| 10°-20° | 219.3 | 6.2 |
| 20°-30° | 400.9 | 11.3 |
| 30°-40° | 533.2 | 15.0 |
| 40°-50° | 587.1 | 16.6 |
| 50°-60° | 581.8 | 16.4 |
| 60°-70° | 532.6 | 15.0 |
| 70°-80° | 428.9 | 12.1 |
| 80°-90° | 205.8 | 5.8 |
| 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° | 677.7 | 19.1 |
| 0°-40° | 1210.8 | 34.1 |
| 0°-60° | 2379.7 | 67.1 |
| 0°-90° | 3547.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3547.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|------|------|
| 0° | 511 | 511 | 511 | 511 | 511 | |
| 5° | 513 | 517 | 565 | 604 | 619 | 49 |
| 15° | 497 | 625 | 814 | 923 | 963 | 140 |
| 25° | 463 | 694 | 932 | 1067 | 1116 | 214 |
| 35° | 418 | 683 | 921 | 1050 | 1096 | 262 |
| 45° | 361 | 616 | 828 | 927 | 960 | 278 |
| 55° | 293 | 543 | 718 | 778 | 796 | 262 |
| 65° | 217 | 469 | 605 | 631 | 645 | 215 |
| 75° | 134 | 366 | 468 | 481 | 485 | 141 |
| 85° | 54 | 200 | 246 | 226 | 223 | 56 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P188467

CATALOG NUMBER: 24SR-LD2-59-C-UNV-L830-CD1-BR-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 |
| 2.5° | 514.3 | 514.3 | 512.8 | 512.8 | 512.8 | 512.8 | 512.8 | 512.8 | 514.3 | 517.2 | 518.6 |
| 5° | 512.8 | 512.8 | 512.8 | 512.8 | 514.3 | 520.1 | 527.4 | 539.0 | 550.7 | 565.3 | 578.4 |
| 7.5° | 509.9 | 509.9 | 509.9 | 514.3 | 527.4 | 547.8 | 566.7 | 588.6 | 610.4 | 632.3 | 649.8 |
| 10° | 507.0 | 507.0 | 509.9 | 525.9 | 552.2 | 582.7 | 611.9 | 641.0 | 668.7 | 697.8 | 722.6 |
| 12.5° | 502.6 | 502.6 | 511.4 | 540.5 | 578.4 | 616.3 | 654.1 | 689.1 | 724.1 | 760.5 | 788.2 |
| 15° | 496.8 | 496.8 | 515.7 | 555.1 | 601.7 | 648.3 | 692.0 | 734.3 | 775.1 | 814.4 | 845.0 |
| 17.5° | 489.5 | 492.4 | 520.1 | 569.6 | 622.1 | 676.0 | 724.1 | 772.1 | 815.8 | 856.6 | 893.1 |
| 20° | 482.2 | 486.6 | 524.5 | 581.3 | 639.6 | 699.3 | 751.7 | 801.3 | 847.9 | 891.6 | 929.5 |
| 22.5° | 473.5 | 479.3 | 527.4 | 590.0 | 652.7 | 715.3 | 770.7 | 823.1 | 872.7 | 916.4 | 955.7 |
| 25° | 463.3 | 472.0 | 528.8 | 594.4 | 662.9 | 725.5 | 782.3 | 836.2 | 887.2 | 932.4 | 971.7 |
| 27.5° | 454.5 | 466.2 | 527.4 | 597.3 | 667.2 | 731.4 | 789.6 | 843.5 | 896.0 | 941.1 | 981.9 |
| 30° | 442.9 | 457.5 | 524.5 | 595.9 | 665.8 | 731.4 | 788.2 | 843.5 | 896.0 | 942.6 | 981.9 |
| 32.5° | 431.2 | 448.7 | 517.2 | 590.0 | 661.4 | 724.1 | 782.3 | 837.7 | 888.7 | 935.3 | 973.2 |
| 35° | 418.1 | 438.5 | 508.4 | 581.3 | 651.2 | 713.9 | 770.7 | 824.6 | 877.0 | 920.7 | 958.6 |
| 37.5° | 405.0 | 426.9 | 496.8 | 569.6 | 638.1 | 699.3 | 754.7 | 808.6 | 858.1 | 903.3 | 938.2 |
| 40° | 390.4 | 415.2 | 485.1 | 556.5 | 622.1 | 681.8 | 737.2 | 789.6 | 837.7 | 880.0 | 913.5 |
| 42.5° | 375.9 | 402.1 | 472.0 | 542.0 | 606.1 | 662.9 | 718.2 | 767.8 | 814.4 | 855.2 | 885.8 |
| 45° | 361.3 | 387.5 | 456.0 | 525.9 | 587.1 | 643.9 | 696.4 | 745.9 | 789.6 | 827.5 | 856.6 |
| 47.5° | 343.8 | 373.0 | 441.4 | 508.4 | 568.2 | 625.0 | 676.0 | 722.6 | 766.3 | 799.8 | 827.5 |
| 50° | 327.8 | 358.4 | 425.4 | 491.0 | 549.2 | 606.1 | 655.6 | 700.8 | 741.5 | 773.6 | 798.4 |
| 52.5° | 310.3 | 342.4 | 409.4 | 474.9 | 533.2 | 587.1 | 636.7 | 678.9 | 715.3 | 745.9 | 769.2 |
| 55° | 292.8 | 326.3 | 394.8 | 457.5 | 515.7 | 569.6 | 616.3 | 657.1 | 692.0 | 718.2 | 740.1 |
| 57.5° | 275.3 | 310.3 | 378.8 | 442.9 | 499.7 | 552.2 | 597.3 | 633.7 | 667.2 | 690.6 | 709.5 |
| 60° | 257.9 | 294.3 | 361.3 | 425.4 | 483.7 | 533.2 | 576.9 | 611.9 | 641.0 | 662.9 | 678.9 |
| 62.5° | 237.5 | 276.8 | 345.3 | 407.9 | 464.7 | 512.8 | 555.1 | 587.1 | 614.8 | 633.7 | 646.9 |
| 65° | 217.1 | 259.3 | 327.8 | 390.4 | 445.8 | 492.4 | 531.8 | 562.4 | 587.1 | 604.6 | 613.3 |
| 67.5° | 196.7 | 241.8 | 310.3 | 373.0 | 425.4 | 469.1 | 507.0 | 536.1 | 558.0 | 572.6 | 579.8 |
| 70° | 176.3 | 221.4 | 289.9 | 351.1 | 402.1 | 442.9 | 479.3 | 507.0 | 525.9 | 539.0 | 544.9 |
| 72.5° | 154.4 | 201.0 | 268.1 | 327.8 | 375.9 | 416.7 | 450.2 | 476.4 | 493.9 | 504.1 | 508.4 |
| 75° | 134.0 | 179.2 | 244.8 | 301.6 | 346.7 | 384.6 | 416.7 | 442.9 | 460.4 | 467.7 | 472.0 |
| 77.5° | 112.2 | 157.3 | 220.0 | 272.4 | 314.7 | 349.6 | 380.2 | 405.0 | 421.0 | 428.3 | 432.7 |
| 80° | 93.2 | 134.0 | 190.9 | 238.9 | 278.3 | 311.8 | 339.5 | 365.7 | 378.8 | 380.2 | 375.9 |
| 82.5° | 72.8 | 110.7 | 160.3 | 202.5 | 236.0 | 268.1 | 294.3 | 311.8 | 317.6 | 317.6 | 313.2 |
| 85° | 53.9 | 83.0 | 125.3 | 158.8 | 187.9 | 211.2 | 227.3 | 241.8 | 244.8 | 246.2 | 240.4 |
| 87.5° | 30.6 | 46.6 | 74.3 | 96.2 | 113.6 | 129.7 | 141.3 | 148.6 | 148.6 | 150.1 | 147.1 |
| 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: P188467

CATALOG NUMBER: 24SR-LD2-59-C-UNV-L830-CD1-BR-U

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 | 511.4 |
| 2.5° | 518.6 | 521.6 | 521.6 | 524.5 | 525.9 | 525.9 | 527.4 | 527.4 |
| 5° | 584.2 | 595.9 | 600.2 | 607.5 | 611.9 | 617.7 | 620.6 | 619.2 |
| 7.5° | 662.9 | 680.4 | 689.1 | 699.3 | 711.0 | 713.9 | 718.2 | 718.2 |
| 10° | 741.5 | 761.9 | 775.1 | 786.7 | 799.8 | 805.7 | 811.5 | 811.5 |
| 12.5° | 812.9 | 833.3 | 850.8 | 865.4 | 878.5 | 887.2 | 893.1 | 894.5 |
| 15° | 871.2 | 897.4 | 914.9 | 930.9 | 945.5 | 954.3 | 961.5 | 963.0 |
| 17.5° | 919.3 | 944.1 | 967.4 | 984.8 | 998.0 | 1011.1 | 1015.4 | 1018.4 |
| 20° | 957.2 | 983.4 | 1008.2 | 1025.6 | 1040.2 | 1053.3 | 1059.1 | 1062.1 |
| 22.5° | 984.8 | 1012.5 | 1037.3 | 1056.2 | 1070.8 | 1083.9 | 1091.2 | 1094.1 |
| 25° | 1002.3 | 1031.5 | 1057.7 | 1076.6 | 1092.7 | 1105.8 | 1113.1 | 1116.0 |
| 27.5° | 1014.0 | 1043.1 | 1067.9 | 1086.8 | 1102.9 | 1116.0 | 1123.3 | 1127.6 |
| 30° | 1014.0 | 1043.1 | 1067.9 | 1086.8 | 1102.9 | 1116.0 | 1123.3 | 1126.2 |
| 32.5° | 1005.2 | 1034.4 | 1059.1 | 1076.6 | 1092.7 | 1105.8 | 1113.1 | 1116.0 |
| 35° | 989.2 | 1018.4 | 1041.7 | 1059.1 | 1075.2 | 1086.8 | 1094.1 | 1095.6 |
| 37.5° | 967.4 | 995.0 | 1016.9 | 1034.4 | 1048.9 | 1060.6 | 1067.9 | 1069.3 |
| 40° | 942.6 | 968.8 | 989.2 | 1005.2 | 1018.4 | 1028.6 | 1035.8 | 1037.3 |
| 42.5° | 913.5 | 938.2 | 955.7 | 971.7 | 983.4 | 993.6 | 1000.9 | 999.4 |
| 45° | 882.9 | 906.2 | 920.7 | 933.9 | 947.0 | 954.3 | 960.1 | 960.1 |
| 47.5° | 852.3 | 871.2 | 884.3 | 896.0 | 906.2 | 913.5 | 917.8 | 917.8 |
| 50° | 820.2 | 836.2 | 847.9 | 858.1 | 866.8 | 872.7 | 877.0 | 877.0 |
| 52.5° | 788.2 | 802.7 | 811.5 | 820.2 | 827.5 | 831.9 | 836.2 | 834.8 |
| 55° | 756.1 | 767.8 | 773.6 | 782.3 | 788.2 | 794.0 | 796.9 | 795.5 |
| 57.5° | 724.1 | 731.4 | 737.2 | 744.5 | 750.3 | 756.1 | 757.6 | 759.0 |
| 60° | 689.1 | 696.4 | 700.8 | 708.0 | 713.9 | 718.2 | 721.2 | 719.7 |
| 62.5° | 655.6 | 660.0 | 664.3 | 670.2 | 674.5 | 680.4 | 681.8 | 681.8 |
| 65° | 619.2 | 623.5 | 627.9 | 633.7 | 638.1 | 643.9 | 646.9 | 645.4 |
| 67.5° | 584.2 | 588.6 | 592.9 | 597.3 | 603.1 | 609.0 | 610.4 | 610.4 |
| 70° | 547.8 | 552.2 | 555.1 | 560.9 | 565.3 | 571.1 | 572.6 | 572.6 |
| 72.5° | 512.8 | 515.7 | 518.6 | 524.5 | 527.4 | 531.8 | 534.7 | 534.7 |
| 75° | 473.5 | 476.4 | 479.3 | 482.2 | 483.7 | 485.1 | 486.6 | 485.1 |
| 77.5° | 429.8 | 426.9 | 424.0 | 424.0 | 421.0 | 422.5 | 424.0 | 422.5 |
| 80° | 370.0 | 367.1 | 364.2 | 362.8 | 359.8 | 359.8 | 361.3 | 359.8 |
| 82.5° | 307.4 | 301.6 | 298.7 | 297.2 | 294.3 | 294.3 | 294.3 | 294.3 |
| 85° | 231.6 | 228.7 | 227.3 | 224.4 | 221.4 | 220.0 | 221.4 | 222.9 |
| 87.5° | 144.2 | 141.3 | 138.4 | 135.5 | 134.0 | 132.6 | 135.5 | 131.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)