

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: P188568

Luminaire Tested: **24SR-LD2-39-C-UNV-L835-CD1-PL-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188568
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24637)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24SR-LD2-39-C-UNV-L835-CD1-PL-U
Description: METALUX 2X4 SKYRIDGE LED FIXTURE WITH PEARL SKYTRIM.

Light Source: EATON LED 3500K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3843.0 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.98 / 1.87
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

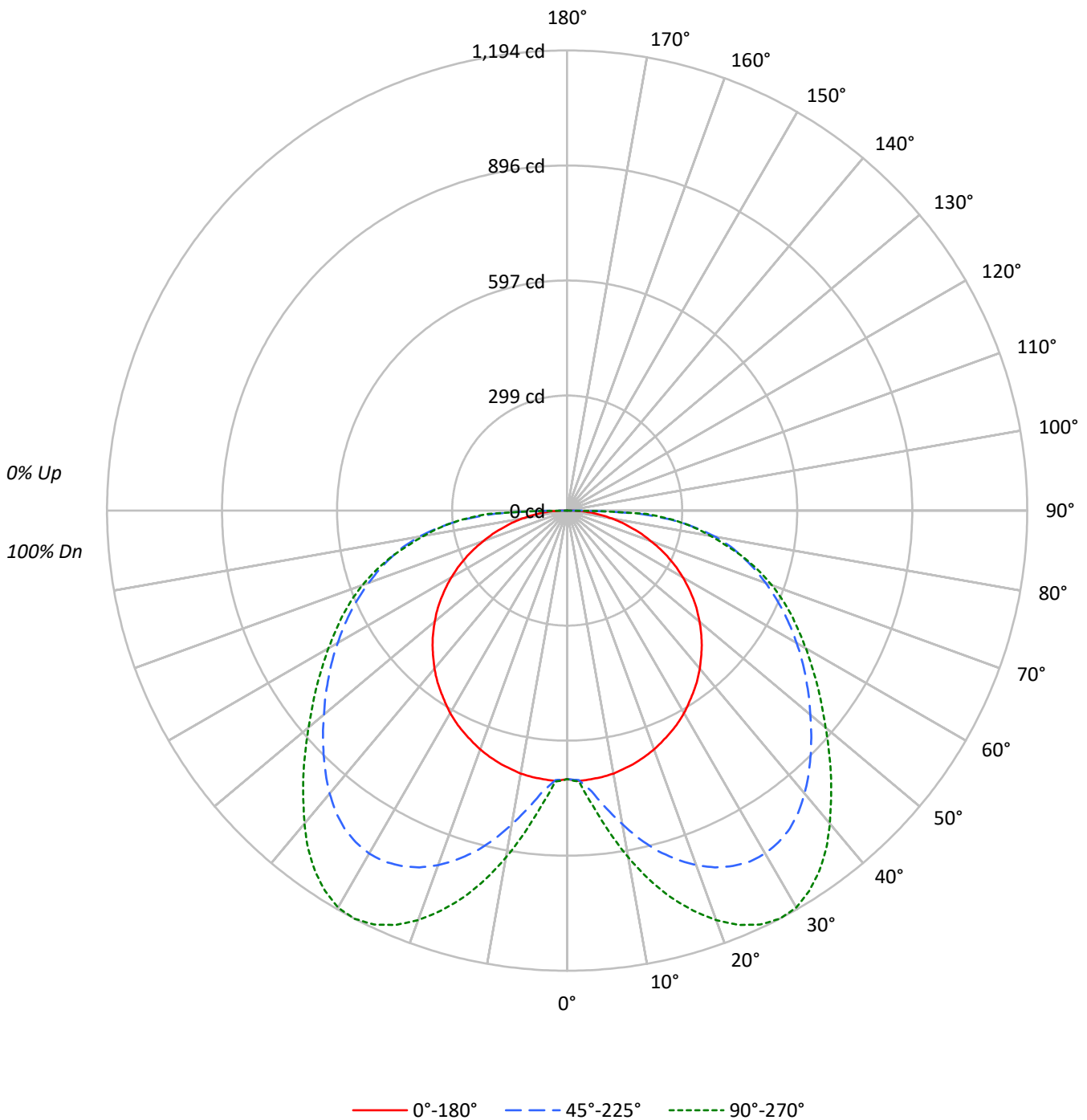
Input Watts (W): 31.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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 | 106 | 100 | 95 | 90 | 103 | 98 | 93 | 88 | 93 | 89 | 85 | 89 | 86 | 83 | 86 | 83 | 80 | 78 |
| 2 | 95 | 85 | 77 | 70 | 92 | 83 | 76 | 70 | 80 | 73 | 68 | 76 | 71 | 66 | 73 | 69 | 65 | 62 |
| 3 | 86 | 74 | 64 | 57 | 83 | 72 | 63 | 56 | 69 | 61 | 55 | 66 | 60 | 54 | 63 | 58 | 53 | 51 |
| 4 | 78 | 64 | 55 | 47 | 75 | 63 | 54 | 47 | 60 | 52 | 46 | 58 | 51 | 45 | 56 | 50 | 45 | 42 |
| 5 | 71 | 57 | 47 | 40 | 69 | 56 | 47 | 40 | 54 | 45 | 39 | 52 | 44 | 39 | 50 | 43 | 38 | 36 |
| 6 | 65 | 51 | 41 | 34 | 63 | 50 | 41 | 34 | 48 | 40 | 34 | 46 | 39 | 33 | 45 | 38 | 33 | 31 |
| 7 | 60 | 46 | 36 | 30 | 59 | 45 | 36 | 30 | 43 | 35 | 29 | 42 | 35 | 29 | 40 | 34 | 29 | 27 |
| 8 | 56 | 42 | 32 | 26 | 54 | 41 | 32 | 26 | 39 | 32 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 23 |
| 9 | 52 | 38 | 29 | 23 | 51 | 37 | 29 | 23 | 36 | 28 | 23 | 35 | 28 | 23 | 34 | 27 | 23 | 21 |
| 10 | 49 | 35 | 26 | 21 | 48 | 34 | 26 | 21 | 33 | 26 | 21 | 32 | 25 | 21 | 31 | 25 | 20 | 19 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-----|------|------|
| 0° | 938 | 938 | 938 |
| 5° | 945 | 988 | 1039 |
| 10° | 947 | 1130 | 1249 |
| 15° | 945 | 1275 | 1447 |
| 20° | 944 | 1402 | 1620 |
| 25° | 943 | 1511 | 1759 |
| 30° | 943 | 1597 | 1847 |
| 35° | 940 | 1655 | 1875 |
| 40° | 941 | 1684 | 1862 |
| 45° | 940 | 1701 | 1842 |
| 50° | 939 | 1724 | 1833 |
| 55° | 938 | 1773 | 1861 |
| 60° | 934 | 1851 | 1925 |
| 65° | 927 | 1970 | 2045 |
| 70° | 910 | 2155 | 2223 |
| 75° | 897 | 2463 | 2479 |
| 80° | 904 | 3019 | 2924 |
| 85° | 986 | 4182 | 4259 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 72.5 | 1.9 |
| 10°-20° | 251.7 | 6.5 |
| 20°-30° | 446.1 | 11.6 |
| 30°-40° | 587.1 | 15.3 |
| 40°-50° | 636.7 | 16.6 |
| 50°-60° | 619.7 | 16.1 |
| 60°-70° | 556.9 | 14.5 |
| 70°-80° | 441.1 | 11.5 |
| 80°-90° | 231.2 | 6.0 |
| 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° | 770.3 | 20.0 |
| 0°-40° | 1357.5 | 35.3 |
| 0°-60° | 2613.9 | 68.0 |
| 0°-90° | 3843.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3843.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|------|-------|------|------|
| 0° | 697 | 697 | 697 | 697 | 697 | |
| 5° | 700 | 700 | 732 | 759 | 769 | 67 |
| 15° | 679 | 767 | 915 | 1007 | 1039 | 192 |
| 25° | 635 | 809 | 1018 | 1141 | 1185 | 293 |
| 35° | 572 | 788 | 1007 | 1110 | 1141 | 358 |
| 45° | 494 | 715 | 894 | 953 | 968 | 381 |
| 55° | 400 | 621 | 756 | 782 | 793 | 357 |
| 65° | 291 | 521 | 619 | 630 | 642 | 288 |
| 75° | 172 | 392 | 474 | 474 | 477 | 184 |
| 85° | 64 | 208 | 271 | 271 | 276 | 68 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P188568

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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 0° | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 |
| 2.5° | 702.0 | 701.0 | 700.0 | 699.0 | 698.0 | 697.0 | 697.0 | 697.0 | 698.0 | 700.0 | 703.1 |
| 5° | 700.0 | 699.0 | 698.0 | 698.0 | 699.0 | 701.0 | 707.1 | 714.2 | 721.3 | 731.5 | 742.6 |
| 7.5° | 697.0 | 696.0 | 696.0 | 698.0 | 706.1 | 718.3 | 732.5 | 747.7 | 762.9 | 779.1 | 794.4 |
| 10° | 692.9 | 691.9 | 692.9 | 702.0 | 720.3 | 740.6 | 761.9 | 783.2 | 803.5 | 826.8 | 848.1 |
| 12.5° | 685.8 | 685.8 | 690.9 | 709.1 | 735.5 | 762.9 | 790.3 | 818.7 | 845.1 | 873.5 | 897.8 |
| 15° | 678.7 | 678.7 | 689.9 | 717.3 | 750.7 | 783.2 | 817.7 | 851.2 | 882.6 | 915.1 | 943.5 |
| 17.5° | 669.6 | 669.6 | 688.9 | 723.3 | 761.9 | 801.5 | 841.0 | 878.6 | 914.1 | 949.6 | 980.0 |
| 20° | 659.4 | 661.5 | 686.8 | 728.4 | 772.0 | 816.7 | 859.3 | 900.9 | 940.5 | 979.0 | 1012.5 |
| 22.5° | 647.3 | 651.3 | 683.8 | 730.4 | 780.2 | 826.8 | 873.5 | 918.1 | 959.7 | 1002.3 | 1035.8 |
| 25° | 635.1 | 641.2 | 679.7 | 730.4 | 783.2 | 833.9 | 882.6 | 929.3 | 973.9 | 1017.6 | 1054.1 |
| 27.5° | 621.9 | 630.0 | 673.6 | 727.4 | 784.2 | 836.0 | 886.7 | 935.4 | 982.0 | 1026.7 | 1064.2 |
| 30° | 606.7 | 616.8 | 664.5 | 721.3 | 780.2 | 832.9 | 885.7 | 936.4 | 983.1 | 1027.7 | 1064.2 |
| 32.5° | 589.4 | 602.6 | 653.3 | 712.2 | 772.0 | 825.8 | 878.6 | 929.3 | 977.0 | 1020.6 | 1055.1 |
| 35° | 572.2 | 588.4 | 641.2 | 701.0 | 760.9 | 814.7 | 867.4 | 919.1 | 965.8 | 1007.4 | 1037.8 |
| 37.5° | 554.9 | 572.2 | 626.0 | 685.8 | 745.7 | 799.4 | 853.2 | 902.9 | 947.6 | 986.1 | 1013.5 |
| 40° | 535.7 | 554.9 | 608.7 | 669.6 | 728.4 | 782.2 | 834.9 | 882.6 | 923.2 | 958.7 | 984.1 |
| 42.5° | 514.4 | 535.7 | 590.4 | 651.3 | 709.1 | 761.9 | 812.6 | 857.3 | 895.8 | 927.3 | 948.6 |
| 45° | 494.1 | 516.4 | 571.2 | 632.0 | 688.9 | 740.6 | 789.3 | 830.9 | 865.4 | 893.8 | 912.0 |
| 47.5° | 471.7 | 495.1 | 551.9 | 610.7 | 666.5 | 717.3 | 763.9 | 801.5 | 834.9 | 859.3 | 875.5 |
| 50° | 448.4 | 473.8 | 530.6 | 589.4 | 644.2 | 693.9 | 738.6 | 773.1 | 803.5 | 823.8 | 839.0 |
| 52.5° | 425.1 | 451.5 | 508.3 | 567.1 | 621.9 | 669.6 | 712.2 | 745.7 | 772.0 | 790.3 | 803.5 |
| 55° | 399.7 | 429.1 | 486.0 | 544.8 | 597.5 | 645.2 | 685.8 | 716.2 | 740.6 | 755.8 | 768.0 |
| 57.5° | 373.3 | 404.8 | 463.6 | 522.5 | 575.2 | 620.9 | 659.4 | 687.8 | 709.1 | 722.3 | 731.5 |
| 60° | 347.0 | 380.4 | 439.3 | 498.1 | 549.9 | 595.5 | 632.0 | 658.4 | 677.7 | 687.8 | 694.9 |
| 62.5° | 319.6 | 355.1 | 414.9 | 473.8 | 526.5 | 569.1 | 603.6 | 628.0 | 645.2 | 653.3 | 660.4 |
| 65° | 291.2 | 328.7 | 389.6 | 448.4 | 501.2 | 540.7 | 574.2 | 596.5 | 611.8 | 618.9 | 622.9 |
| 67.5° | 261.7 | 301.3 | 363.2 | 422.0 | 472.8 | 511.3 | 542.8 | 565.1 | 577.3 | 583.3 | 586.4 |
| 70° | 231.3 | 272.9 | 334.8 | 393.6 | 442.3 | 478.9 | 509.3 | 529.6 | 541.8 | 547.8 | 548.9 |
| 72.5° | 202.9 | 243.5 | 306.4 | 363.2 | 409.9 | 445.4 | 473.8 | 495.1 | 507.3 | 512.3 | 512.3 |
| 75° | 172.5 | 213.0 | 274.9 | 329.7 | 374.4 | 408.8 | 437.3 | 457.5 | 468.7 | 473.8 | 473.8 |
| 77.5° | 146.1 | 183.6 | 241.5 | 294.2 | 335.8 | 369.3 | 396.7 | 418.0 | 430.2 | 435.2 | 435.2 |
| 80° | 116.7 | 153.2 | 207.0 | 255.7 | 294.2 | 324.6 | 353.1 | 375.4 | 387.5 | 389.6 | 386.5 |
| 82.5° | 90.3 | 123.8 | 169.4 | 213.0 | 248.6 | 277.0 | 305.4 | 323.6 | 332.8 | 334.8 | 333.8 |
| 85° | 63.9 | 91.3 | 129.9 | 165.4 | 194.8 | 221.2 | 241.5 | 258.7 | 267.8 | 270.9 | 272.9 |
| 87.5° | 37.5 | 52.8 | 77.1 | 104.5 | 126.8 | 144.1 | 156.2 | 171.5 | 180.6 | 186.7 | 192.8 |
| 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: P188568

CATALOG NUMBER: 24SR-LD2-39-C-UNV-L835-CD1-PL-U

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 | 697.0 |
| 2.5° | 702.0 | 703.1 | 704.1 | 704.1 | 704.1 | 705.1 | 704.1 | 704.1 |
| 5° | 746.7 | 752.8 | 757.8 | 760.9 | 763.9 | 769.0 | 768.0 | 769.0 |
| 7.5° | 802.5 | 812.6 | 823.8 | 829.9 | 833.9 | 840.0 | 842.0 | 842.0 |
| 10° | 860.3 | 874.5 | 887.7 | 896.8 | 902.9 | 912.0 | 913.1 | 914.1 |
| 12.5° | 915.1 | 932.3 | 947.6 | 957.7 | 966.8 | 974.9 | 979.0 | 980.0 |
| 15° | 961.8 | 983.1 | 1000.3 | 1013.5 | 1022.6 | 1031.8 | 1036.8 | 1038.9 |
| 17.5° | 1003.4 | 1025.7 | 1044.9 | 1060.2 | 1071.3 | 1080.5 | 1086.5 | 1088.6 |
| 20° | 1035.8 | 1060.2 | 1081.5 | 1097.7 | 1110.9 | 1121.0 | 1129.2 | 1131.2 |
| 22.5° | 1062.2 | 1087.6 | 1109.9 | 1128.1 | 1141.3 | 1153.5 | 1160.6 | 1163.6 |
| 25° | 1081.5 | 1108.9 | 1132.2 | 1149.4 | 1163.6 | 1174.8 | 1181.9 | 1185.0 |
| 27.5° | 1092.6 | 1120.0 | 1142.3 | 1159.6 | 1173.8 | 1183.9 | 1191.0 | 1194.1 |
| 30° | 1092.6 | 1119.0 | 1141.3 | 1157.6 | 1170.7 | 1180.9 | 1186.0 | 1189.0 |
| 32.5° | 1081.5 | 1106.8 | 1127.1 | 1141.3 | 1153.5 | 1163.6 | 1167.7 | 1169.7 |
| 35° | 1063.2 | 1085.5 | 1103.8 | 1116.0 | 1126.1 | 1135.2 | 1139.3 | 1141.3 |
| 37.5° | 1036.8 | 1057.1 | 1071.3 | 1082.5 | 1090.6 | 1099.7 | 1102.8 | 1104.8 |
| 40° | 1003.4 | 1022.6 | 1032.8 | 1042.9 | 1050.0 | 1058.1 | 1060.2 | 1060.2 |
| 42.5° | 966.8 | 983.1 | 993.2 | 1000.3 | 1005.4 | 1010.5 | 1013.5 | 1013.5 |
| 45° | 928.3 | 942.5 | 949.6 | 955.7 | 960.7 | 964.8 | 967.8 | 967.8 |
| 47.5° | 889.7 | 900.9 | 907.0 | 911.0 | 915.1 | 919.1 | 921.2 | 921.2 |
| 50° | 851.2 | 859.3 | 864.4 | 867.4 | 871.5 | 874.5 | 876.5 | 875.5 |
| 52.5° | 812.6 | 818.7 | 822.8 | 825.8 | 827.8 | 830.9 | 831.9 | 832.9 |
| 55° | 774.1 | 778.1 | 781.2 | 783.2 | 787.3 | 790.3 | 791.3 | 793.3 |
| 57.5° | 736.5 | 738.6 | 742.6 | 743.6 | 747.7 | 750.7 | 751.8 | 752.8 |
| 60° | 698.0 | 700.0 | 703.1 | 705.1 | 710.2 | 712.2 | 713.2 | 715.2 |
| 62.5° | 660.4 | 661.5 | 665.5 | 669.6 | 673.6 | 675.7 | 676.7 | 677.7 |
| 65° | 622.9 | 626.0 | 629.0 | 632.0 | 636.1 | 639.1 | 640.2 | 642.2 |
| 67.5° | 586.4 | 588.4 | 592.5 | 595.5 | 598.6 | 601.6 | 603.6 | 604.7 |
| 70° | 548.9 | 550.9 | 553.9 | 556.0 | 559.0 | 562.0 | 565.1 | 565.1 |
| 72.5° | 512.3 | 512.3 | 514.4 | 516.4 | 519.4 | 521.5 | 522.5 | 522.5 |
| 75° | 472.8 | 471.7 | 473.8 | 474.8 | 474.8 | 474.8 | 475.8 | 476.8 |
| 77.5° | 430.2 | 426.1 | 424.1 | 424.1 | 425.1 | 423.1 | 424.1 | 425.1 |
| 80° | 381.5 | 377.4 | 376.4 | 376.4 | 377.4 | 376.4 | 377.4 | 377.4 |
| 82.5° | 329.7 | 329.7 | 326.7 | 327.7 | 328.7 | 326.7 | 328.7 | 330.7 |
| 85° | 269.9 | 270.9 | 269.9 | 272.9 | 272.9 | 272.9 | 273.9 | 275.9 |
| 87.5° | 193.8 | 199.9 | 197.8 | 201.9 | 200.9 | 201.9 | 202.9 | 205.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)