

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: P130667

Luminaire Tested: **TBLED-LD1-11-M-UNV-L840-CD1-CMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P130667
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25346)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: TBLED-LD1-11-M-UNV-L840-CD1-CMS
Description: METALUX TOP BAY LED LOW-BAY LUMINAIRE.
MEDIUM DISTRIBUTION WITH MINI SENSOR.
Light Source: (160) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10288.8 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.34 / 1.33
Luminous Opening: Circular (Dia: 1.12' x H: 0')
CIE Type: Direct

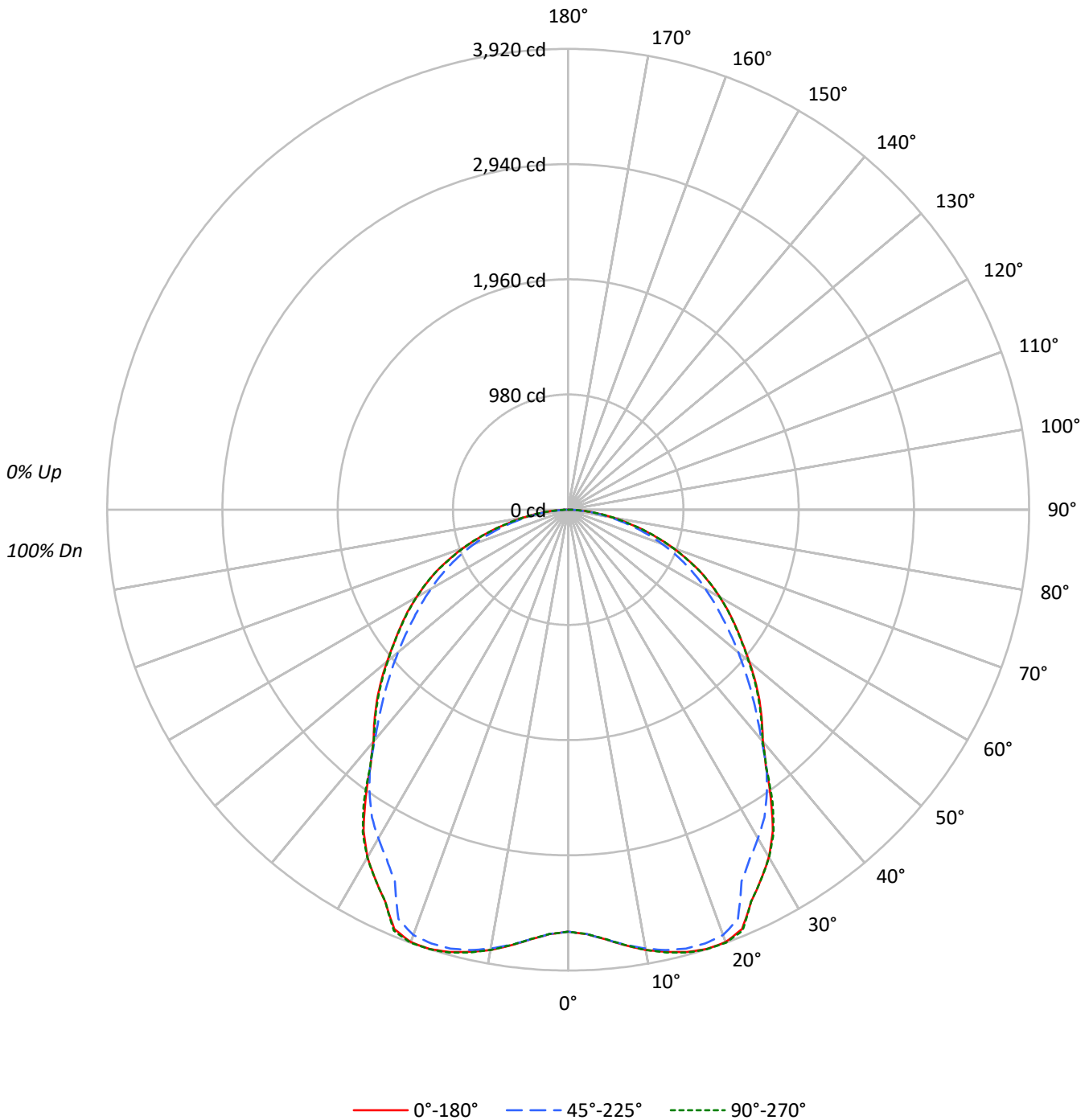
Input Watts (W): 108
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P130667

CATALOG NUMBER: TBLED-LD1-11-M-UNV-L840-CD1-CMS

Luminous Intensity Polar Plot





TEST NUMBER: P130667

CATALOG NUMBER: TBLED-LD1-11-M-UNV-L840-CD1-CMS

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 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 85 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 74 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 70 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 72 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 55 | 48 | 61 | 54 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 49 | 43 | 55 | 48 | 42 | 53 | 47 | 42 | 52 | 46 | 41 | 39 |
| 7 | 66 | 53 | 44 | 38 | 64 | 52 | 44 | 38 | 50 | 43 | 38 | 49 | 42 | 37 | 48 | 42 | 37 | 35 |
| 8 | 61 | 48 | 40 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 9 | 58 | 44 | 36 | 31 | 56 | 44 | 36 | 31 | 43 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 53 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 28 | 38 | 32 | 27 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 38865 | 38865 | 38865 |
| 5° | 39880 | 39880 | 39866 |
| 10° | 41816 | 41676 | 41816 |
| 15° | 43668 | 43328 | 43725 |
| 20° | 45106 | 44378 | 45165 |
| 25° | 43986 | 41674 | 43940 |
| 30° | 42678 | 40369 | 42726 |
| 35° | 39736 | 38932 | 40020 |
| 40° | 36393 | 36124 | 36339 |
| 45° | 35221 | 33769 | 35106 |
| 50° | 33865 | 31820 | 33737 |
| 55° | 32865 | 30212 | 32793 |
| 60° | 32276 | 29153 | 32276 |
| 65° | 31606 | 28267 | 31508 |
| 70° | 30002 | 26877 | 29961 |
| 75° | 27312 | 24718 | 27417 |
| 80° | 23903 | 21695 | 23984 |
| 85° | 20749 | 18078 | 20749 |



TEST NUMBER: P130667

CATALOG NUMBER: TBLED-LD1-11-M-UNV-L840-CD1-CMS

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 354.4 | 3.4 |
| 10°-20° | 1098.5 | 10.7 |
| 20°-30° | 1661.1 | 16.1 |
| 30°-40° | 1813.3 | 17.6 |
| 40°-50° | 1780.1 | 17.3 |
| 50°-60° | 1558.3 | 15.1 |
| 60°-70° | 1171.0 | 11.4 |
| 70°-80° | 669.5 | 6.5 |
| 80°-90° | 182.6 | 1.8 |
| 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° | 3114.0 | 30.3 |
| 0°-40° | 4927.3 | 47.9 |
| 0°-60° | 8265.7 | 80.3 |
| 0°-90° | 10288.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 10288.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 3589 | 3589 | 3589 | 3589 | 3589 | |
| 5° | 3669 | 3669 | 3669 | 3669 | 3668 | 355 |
| 15° | 3895 | 3892 | 3865 | 3894 | 3900 | 1102 |
| 25° | 3681 | 3686 | 3488 | 3686 | 3678 | 1700 |
| 35° | 3006 | 2858 | 2945 | 2847 | 3027 | 1874 |
| 45° | 2300 | 2347 | 2205 | 2332 | 2292 | 1773 |
| 55° | 1741 | 1768 | 1600 | 1762 | 1737 | 1561 |
| 65° | 1234 | 1185 | 1103 | 1185 | 1230 | 1213 |
| 75° | 653 | 628 | 591 | 628 | 655 | 693 |
| 85° | 167 | 157 | 146 | 158 | 167 | 187 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P130667

CATALOG NUMBER: TBLED-LD1-11-M-UNV-L840-CD1-CMS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 |
| 2.5° | 3613.1 | 3610.6 | 3611.9 | 3610.6 | 3613.1 | 3613.1 | 3611.9 | 3613.1 | 3611.9 | 3611.9 | 3611.9 |
| 5° | 3668.8 | 3666.3 | 3667.5 | 3665.0 | 3668.8 | 3670.0 | 3668.8 | 3670.0 | 3670.0 | 3668.8 | 3668.8 |
| 7.5° | 3738.4 | 3733.3 | 3734.6 | 3732.0 | 3735.8 | 3735.8 | 3734.6 | 3734.6 | 3733.3 | 3732.0 | 3733.3 |
| 10° | 3802.9 | 3800.4 | 3800.4 | 3799.1 | 3801.6 | 3800.4 | 3797.8 | 3796.6 | 3791.5 | 3790.2 | 3792.8 |
| 12.5° | 3852.2 | 3854.8 | 3858.5 | 3858.5 | 3857.3 | 3856.0 | 3849.7 | 3845.9 | 3838.3 | 3837.0 | 3839.6 |
| 15° | 3895.2 | 3896.5 | 3900.3 | 3899.0 | 3895.2 | 3888.9 | 3882.6 | 3875.0 | 3868.7 | 3864.9 | 3868.7 |
| 17.5° | 3918.0 | 3918.0 | 3916.7 | 3912.9 | 3905.4 | 3897.8 | 3888.9 | 3881.3 | 3875.0 | 3869.9 | 3875.0 |
| 20° | 3914.2 | 3914.2 | 3907.9 | 3900.3 | 3887.6 | 3876.3 | 3867.4 | 3859.8 | 3853.5 | 3851.0 | 3854.8 |
| 22.5° | 3861.1 | 3864.9 | 3859.8 | 3858.5 | 3848.4 | 3833.2 | 3815.5 | 3796.6 | 3776.3 | 3770.0 | 3778.8 |
| 25° | 3681.4 | 3678.9 | 3681.4 | 3705.5 | 3711.8 | 3661.2 | 3596.7 | 3537.2 | 3501.8 | 3487.9 | 3506.8 |
| 27.5° | 3548.6 | 3546.1 | 3514.4 | 3463.8 | 3394.3 | 3361.4 | 3366.4 | 3361.4 | 3352.5 | 3346.2 | 3355.0 |
| 30° | 3413.2 | 3394.3 | 3308.2 | 3215.9 | 3148.8 | 3138.7 | 3167.8 | 3204.5 | 3227.3 | 3228.5 | 3224.7 |
| 32.5° | 3238.6 | 3200.7 | 3089.4 | 3018.5 | 2990.7 | 2985.6 | 2994.5 | 3032.4 | 3084.3 | 3104.5 | 3078.0 |
| 35° | 3005.9 | 2984.4 | 2916.0 | 2870.5 | 2861.6 | 2855.3 | 2840.1 | 2859.1 | 2923.6 | 2945.1 | 2921.1 |
| 37.5° | 2764.2 | 2784.5 | 2755.4 | 2738.9 | 2737.7 | 2725.0 | 2703.5 | 2706.0 | 2740.2 | 2770.6 | 2736.4 |
| 40° | 2574.5 | 2594.7 | 2613.7 | 2612.4 | 2607.4 | 2588.4 | 2571.9 | 2563.1 | 2560.6 | 2555.5 | 2563.1 |
| 42.5° | 2439.1 | 2431.5 | 2468.2 | 2488.4 | 2475.8 | 2463.1 | 2449.2 | 2442.9 | 2396.1 | 2374.6 | 2402.4 |
| 45° | 2299.9 | 2297.4 | 2322.7 | 2365.7 | 2355.6 | 2337.9 | 2334.1 | 2308.8 | 2229.1 | 2205.1 | 2235.4 |
| 47.5° | 2157.0 | 2167.1 | 2189.9 | 2225.3 | 2231.6 | 2216.5 | 2205.1 | 2153.2 | 2072.2 | 2043.1 | 2071.0 |
| 50° | 2010.2 | 2033.0 | 2064.6 | 2078.6 | 2084.9 | 2076.0 | 2068.4 | 2001.4 | 1919.2 | 1888.8 | 1920.4 |
| 52.5° | 1869.8 | 1901.4 | 1943.2 | 1931.8 | 1926.7 | 1930.5 | 1917.9 | 1857.2 | 1777.5 | 1740.8 | 1778.7 |
| 55° | 1740.8 | 1771.1 | 1807.8 | 1785.1 | 1761.0 | 1774.9 | 1763.5 | 1715.5 | 1645.9 | 1600.3 | 1643.4 |
| 57.5° | 1619.3 | 1638.3 | 1667.4 | 1637.0 | 1609.2 | 1625.6 | 1614.3 | 1576.3 | 1511.8 | 1472.6 | 1514.3 |
| 60° | 1490.3 | 1505.5 | 1521.9 | 1492.8 | 1463.7 | 1472.6 | 1467.5 | 1433.4 | 1380.2 | 1346.1 | 1377.7 |
| 62.5° | 1361.2 | 1368.8 | 1380.2 | 1348.6 | 1324.6 | 1324.6 | 1322.0 | 1289.1 | 1247.4 | 1228.4 | 1246.1 |
| 65° | 1233.5 | 1232.2 | 1236.0 | 1204.4 | 1186.7 | 1184.1 | 1179.1 | 1148.7 | 1115.8 | 1103.2 | 1117.1 |
| 67.5° | 1089.2 | 1091.8 | 1093.0 | 1063.9 | 1050.0 | 1043.7 | 1039.9 | 1012.1 | 985.5 | 976.7 | 986.8 |
| 70° | 947.6 | 948.8 | 948.8 | 922.3 | 912.1 | 902.0 | 898.2 | 876.7 | 855.2 | 848.9 | 857.7 |
| 72.5° | 798.3 | 807.1 | 803.3 | 781.8 | 774.2 | 761.6 | 759.1 | 745.1 | 728.7 | 719.8 | 728.7 |
| 75° | 652.8 | 665.4 | 661.6 | 642.7 | 633.8 | 621.2 | 622.4 | 614.8 | 597.1 | 590.8 | 599.7 |
| 77.5° | 512.4 | 520.0 | 521.2 | 511.1 | 497.2 | 488.3 | 492.1 | 490.9 | 478.2 | 463.0 | 474.4 |
| 80° | 383.3 | 392.2 | 393.4 | 384.6 | 373.2 | 365.6 | 370.7 | 370.7 | 360.6 | 347.9 | 358.0 |
| 82.5° | 266.9 | 273.3 | 273.3 | 268.2 | 263.1 | 255.5 | 258.1 | 259.3 | 253.0 | 240.4 | 249.2 |
| 85° | 167.0 | 168.3 | 165.7 | 161.9 | 158.1 | 155.6 | 155.6 | 158.1 | 153.1 | 145.5 | 151.8 |
| 87.5° | 62.0 | 63.3 | 62.0 | 65.8 | 62.0 | 60.7 | 62.0 | 65.8 | 60.7 | 60.7 | 62.0 |
| 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: P130667

CATALOG NUMBER: TBLED-LD1-11-M-UNV-L840-CD1-CMS

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 | 3589.1 |
| 2.5° | 3611.9 | 3613.1 | 3613.1 | 3611.9 | 3611.9 | 3611.9 | 3610.6 | 3611.9 |
| 5° | 3668.8 | 3670.0 | 3670.0 | 3667.5 | 3668.8 | 3667.5 | 3666.3 | 3667.5 |
| 7.5° | 3734.6 | 3737.1 | 3735.8 | 3737.1 | 3738.4 | 3735.8 | 3735.8 | 3735.8 |
| 10° | 3795.3 | 3799.1 | 3801.6 | 3804.1 | 3805.4 | 3802.9 | 3804.1 | 3802.9 |
| 12.5° | 3844.6 | 3852.2 | 3857.3 | 3859.8 | 3862.3 | 3862.3 | 3859.8 | 3857.3 |
| 15° | 3875.0 | 3883.8 | 3890.2 | 3897.8 | 3902.8 | 3904.1 | 3901.6 | 3900.3 |
| 17.5° | 3882.6 | 3890.2 | 3899.0 | 3906.6 | 3914.2 | 3919.3 | 3921.8 | 3920.5 |
| 20° | 3861.1 | 3867.4 | 3877.5 | 3888.9 | 3899.0 | 3909.2 | 3916.7 | 3919.3 |
| 22.5° | 3799.1 | 3816.8 | 3835.8 | 3849.7 | 3858.5 | 3863.6 | 3867.4 | 3876.3 |
| 25° | 3544.8 | 3591.6 | 3659.9 | 3711.8 | 3702.9 | 3678.9 | 3670.0 | 3677.6 |
| 27.5° | 3363.9 | 3358.8 | 3351.2 | 3391.7 | 3455.0 | 3510.6 | 3537.2 | 3549.9 |
| 30° | 3202.0 | 3164.0 | 3128.6 | 3142.5 | 3207.0 | 3303.2 | 3384.1 | 3417.0 |
| 32.5° | 3032.4 | 2980.6 | 2975.5 | 2984.4 | 3014.7 | 3079.2 | 3189.3 | 3251.3 |
| 35° | 2854.1 | 2826.2 | 2841.4 | 2852.8 | 2862.9 | 2895.8 | 2971.7 | 3027.4 |
| 37.5° | 2694.7 | 2689.6 | 2709.8 | 2723.8 | 2728.8 | 2745.3 | 2774.4 | 2766.8 |
| 40° | 2554.2 | 2558.0 | 2575.7 | 2590.9 | 2601.0 | 2602.3 | 2584.6 | 2570.7 |
| 42.5° | 2427.7 | 2444.2 | 2444.2 | 2463.1 | 2480.9 | 2456.8 | 2420.1 | 2430.3 |
| 45° | 2298.7 | 2325.2 | 2324.0 | 2340.4 | 2356.9 | 2315.1 | 2284.8 | 2292.4 |
| 47.5° | 2146.9 | 2197.5 | 2205.1 | 2222.8 | 2222.8 | 2179.8 | 2155.7 | 2146.9 |
| 50° | 1992.5 | 2058.3 | 2067.2 | 2077.3 | 2072.2 | 2055.8 | 2024.2 | 2002.6 |
| 52.5° | 1849.6 | 1911.6 | 1920.4 | 1916.6 | 1926.7 | 1934.3 | 1891.3 | 1864.8 |
| 55° | 1709.1 | 1757.2 | 1768.6 | 1756.0 | 1780.0 | 1801.5 | 1761.0 | 1737.0 |
| 57.5° | 1570.0 | 1606.7 | 1616.8 | 1606.7 | 1633.2 | 1657.3 | 1630.7 | 1614.3 |
| 60° | 1429.6 | 1462.5 | 1468.8 | 1459.9 | 1491.5 | 1513.1 | 1500.4 | 1490.3 |
| 62.5° | 1291.7 | 1314.4 | 1320.8 | 1324.6 | 1343.5 | 1368.8 | 1366.3 | 1365.0 |
| 65° | 1152.5 | 1176.5 | 1179.1 | 1190.5 | 1203.1 | 1236.0 | 1229.7 | 1229.7 |
| 67.5° | 1017.1 | 1033.6 | 1037.4 | 1055.1 | 1060.2 | 1091.8 | 1088.0 | 1082.9 |
| 70° | 876.7 | 893.2 | 898.2 | 915.9 | 923.5 | 948.8 | 950.1 | 946.3 |
| 72.5° | 747.7 | 754.0 | 759.1 | 775.5 | 781.8 | 805.9 | 805.9 | 800.8 |
| 75° | 616.1 | 614.8 | 619.9 | 636.3 | 642.7 | 662.9 | 661.6 | 655.3 |
| 77.5° | 492.1 | 485.8 | 489.6 | 501.0 | 508.6 | 523.8 | 518.7 | 513.6 |
| 80° | 375.7 | 365.6 | 366.9 | 378.3 | 383.3 | 393.4 | 388.4 | 384.6 |
| 82.5° | 265.7 | 256.8 | 254.3 | 263.1 | 270.7 | 272.0 | 270.7 | 268.2 |
| 85° | 161.9 | 154.3 | 155.6 | 159.4 | 164.5 | 164.5 | 167.0 | 167.0 |
| 87.5° | 63.3 | 59.5 | 59.5 | 63.3 | 63.3 | 64.5 | 63.3 | 60.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)