

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: P#

Luminaire Tested: **4ILED-LD5-16-W-ASY-UNV-L835-CD2-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P34179)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4ILED-LD5-16-W-ASY-UNV-L835-CD2-U
Description: Metalux 4' ILED WITH ASYMMETRIC DIRECTIONAL LOUVER DISTRIBUTION

Light Source: (1) 3500 CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

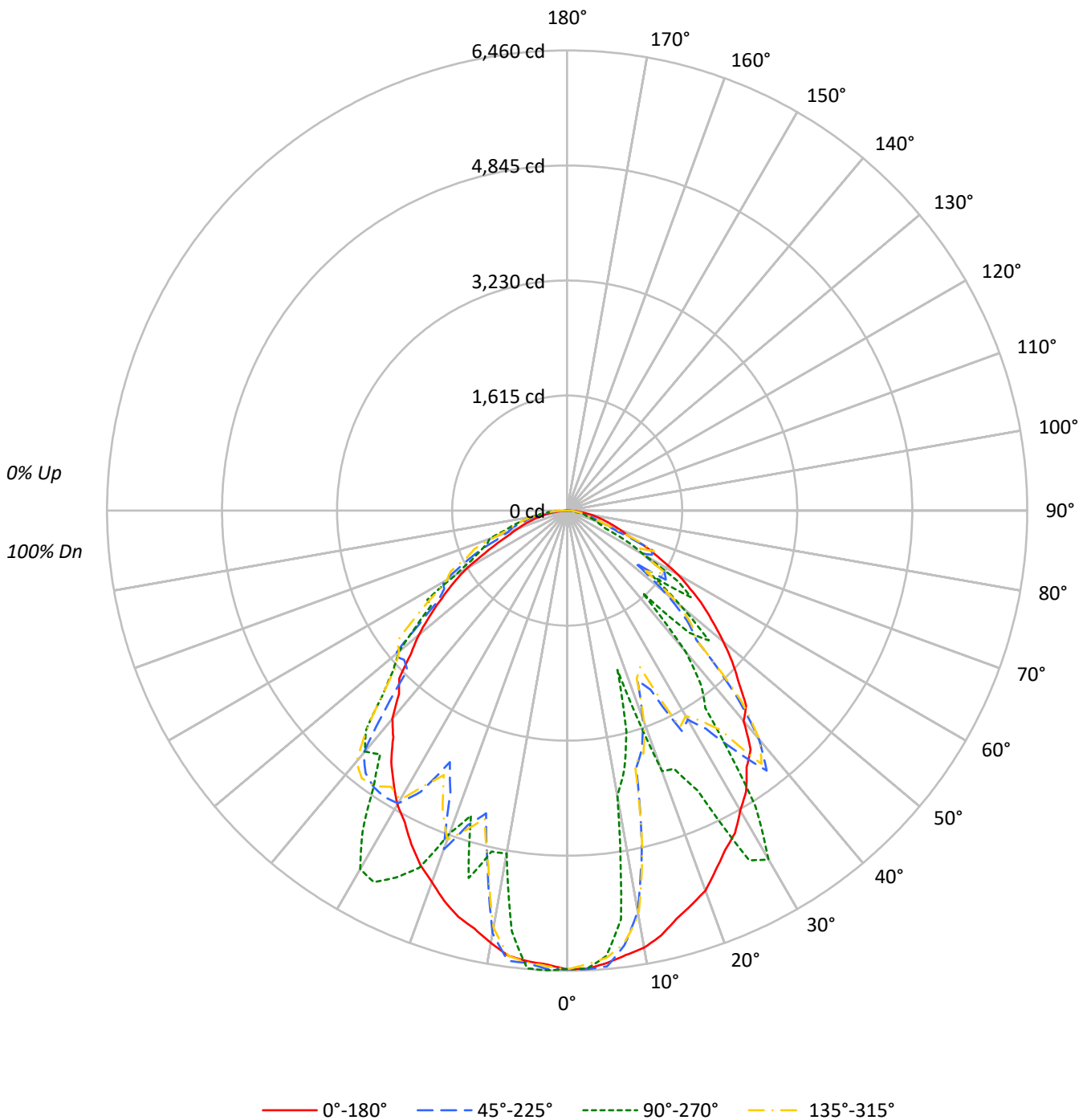
Lumens per Lamp: N/A
Luminaire Lumens: 12682.0 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.25 / 1.27
Luminous Opening: Rectangular w/ Sides (W: 0.92' x L: 4' x H: 0.1')
CIE Type: Direct

Input Watts (W): 126.6
Input Voltage (V):
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: P#
CATALOG NUMBER: 4ILED-LD5-16-W-ASY-UNV-L835-CD2-U

Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: 4ILED-LD5-16-W-ASY-UNV-L835-CD2-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 | 110 | 105 | 101 | 98 | 107 | 103 | 100 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 90 | 88 | 86 | | | | | 86 | | | |
| 2 | 101 | 93 | 87 | 81 | 98 | 91 | 85 | 80 | 88 | 83 | 79 | 84 | 80 | 77 | 81 | 78 | 75 | 73 | | | | | 73 | | | |
| 3 | 92 | 82 | 75 | 69 | 90 | 81 | 74 | 68 | 78 | 72 | 67 | 75 | 70 | 66 | 73 | 68 | 65 | 63 | | | | | 63 | | | |
| 4 | 85 | 74 | 65 | 59 | 83 | 72 | 65 | 59 | 70 | 63 | 58 | 68 | 62 | 57 | 65 | 60 | 56 | 54 | | | | | 54 | | | |
| 5 | 78 | 66 | 58 | 51 | 76 | 65 | 57 | 51 | 63 | 56 | 51 | 61 | 55 | 50 | 59 | 54 | 50 | 47 | | | | | 47 | | | |
| 6 | 73 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 45 | 56 | 49 | 44 | 54 | 48 | 44 | 42 | | | | | 42 | | | |
| 7 | 68 | 55 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 37 | | | | | 37 | | | |
| 8 | 63 | 50 | 42 | 36 | 61 | 49 | 41 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 34 | | | | | 34 | | | |
| 9 | 59 | 46 | 38 | 33 | 58 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 | | | | | 30 | | | |
| 10 | 55 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 29 | 39 | 34 | 29 | 28 | | | | | 28 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|-----|-------|-------|-------|-------|
| 0° | 18905 | 18905 | 18905 | 18905 |
| 5° | 18748 | 18330 | 18677 | 18829 |
| 10° | 18493 | 11891 | 18292 | 14304 |
| 15° | 17911 | 9472 | 17818 | 15770 |
| 20° | 17573 | 11696 | 17179 | 14471 |
| 25° | 16818 | 13364 | 16558 | 17516 |
| 30° | 16247 | 18031 | 15925 | 18528 |
| 35° | 15479 | 11264 | 15162 | 15764 |
| 40° | 14470 | 9067 | 14322 | 15506 |
| 45° | 13793 | 9067 | 13490 | 13699 |
| 50° | 12689 | 8442 | 12066 | 12450 |
| 55° | 11526 | 9395 | 10615 | 10338 |
| 60° | 10113 | 6176 | 9186 | 8928 |
| 65° | 8173 | 3360 | 7088 | 7547 |
| 70° | 6379 | 2941 | 5885 | 7636 |
| 75° | 5645 | 2176 | 5167 | 6225 |
| 80° | 5068 | 1512 | 4255 | 5087 |
| 85° | 4254 | 1118 | 2759 | 4178 |



TEST NUMBER: P#

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 586.0 | 4.6 |
| 10°-20° | 1361.0 | 10.7 |
| 20°-30° | 2025.8 | 16.0 |
| 30°-40° | 2555.0 | 20.1 |
| 40°-50° | 2314.0 | 18.2 |
| 50°-60° | 1923.9 | 15.2 |
| 60°-70° | 1162.3 | 9.2 |
| 70°-80° | 576.4 | 4.5 |
| 80°-90° | 177.4 | 1.4 |
| 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° | 3972.9 | 31.3 |
| 0°-40° | 6527.8 | 51.5 |
| 0°-60° | 10765.8 | 84.9 |
| 0°-90° | 12682.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 12682.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 6440 | 6440 | 6440 | 6440 | 6440 | |
| 5° | 6376 | 6280 | 6352 | 6451 | 6376 | 604 |
| 15° | 5933 | 3208 | 5902 | 5340 | 5933 | 1678 |
| 25° | 5253 | 4336 | 5172 | 5683 | 5253 | 2429 |
| 35° | 4395 | 3383 | 4305 | 4735 | 4395 | 2761 |
| 45° | 3405 | 2422 | 3331 | 3660 | 3405 | 2627 |
| 55° | 2332 | 2122 | 2148 | 2335 | 2332 | 2076 |
| 65° | 1240 | 597 | 1075 | 1341 | 1240 | 1218 |
| 75° | 544 | 270 | 498 | 772 | 544 | 584 |
| 85° | 162 | 75 | 105 | 279 | 162 | 180 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P#

CATALOG NUMBER: 4ILED-LD5-16-W-ASY-UNV-L835-CD2-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 |
| 2.5° | 6437.6 | 6474.9 | 6444.2 | 6437.6 | 6435.4 | 6442.0 | 6376.1 | 6356.4 | 6378.3 | 6444.2 | 6442.0 |
| 5° | 6376.1 | 6431.0 | 6422.2 | 6330.1 | 6279.6 | 6334.5 | 6303.7 | 6308.1 | 6352.0 | 6398.1 | 6376.1 |
| 7.5° | 6295.0 | 6363.0 | 6156.7 | 5895.6 | 5788.1 | 5924.2 | 6126.0 | 6284.0 | 6303.7 | 6378.3 | 6374.0 |
| 10° | 6231.3 | 6292.8 | 5709.1 | 4820.5 | 4065.7 | 4662.5 | 5770.6 | 6156.7 | 6163.3 | 6266.4 | 6025.1 |
| 12.5° | 6106.3 | 6018.5 | 4846.8 | 3778.3 | 3714.7 | 3815.6 | 4879.7 | 5873.7 | 6011.9 | 6082.1 | 5151.8 |
| 15° | 5932.9 | 5671.8 | 3743.2 | 3302.2 | 3207.8 | 3315.3 | 3677.4 | 5627.9 | 5902.2 | 5968.0 | 4399.2 |
| 17.5° | 5803.5 | 5309.8 | 3495.3 | 2924.8 | 2345.5 | 2790.9 | 3569.9 | 5419.5 | 5744.2 | 5638.9 | 4629.6 |
| 20° | 5676.2 | 4945.6 | 3104.7 | 3181.5 | 3892.4 | 3166.1 | 3153.0 | 5015.8 | 5549.0 | 4921.4 | 5059.7 |
| 22.5° | 5456.8 | 4166.7 | 2573.7 | 3793.7 | 3923.1 | 3756.4 | 2554.0 | 4307.1 | 5384.4 | 4443.1 | 4280.7 |
| 25° | 5252.7 | 3453.6 | 2773.4 | 3938.5 | 4335.6 | 3883.6 | 2422.3 | 3414.1 | 5171.6 | 3973.6 | 3894.6 |
| 27.5° | 5101.4 | 3258.3 | 3490.9 | 4528.7 | 5535.8 | 4217.1 | 3429.4 | 3153.0 | 4934.6 | 3758.5 | 4449.7 |
| 30° | 4862.2 | 2986.2 | 3387.7 | 5529.2 | 5654.3 | 5430.5 | 3328.5 | 3032.3 | 4765.7 | 3978.0 | 4745.9 |
| 32.5° | 4673.5 | 2652.7 | 3631.3 | 5215.4 | 4919.2 | 5189.1 | 3495.3 | 2828.2 | 4535.3 | 4186.4 | 4770.0 |
| 35° | 4394.8 | 2514.5 | 4109.6 | 4561.6 | 3383.3 | 4416.8 | 3760.7 | 2597.9 | 4304.9 | 3868.3 | 4737.1 |
| 37.5° | 4230.3 | 2069.1 | 4601.1 | 3093.7 | 3091.5 | 3098.1 | 4482.6 | 2290.7 | 4010.9 | 3284.6 | 4647.2 |
| 40° | 3855.1 | 2238.0 | 4190.8 | 2828.2 | 2582.5 | 2887.5 | 4201.8 | 1869.4 | 3815.6 | 2902.8 | 4445.3 |
| 42.5° | 3719.1 | 2512.3 | 3488.7 | 2323.6 | 1566.6 | 2466.2 | 3613.7 | 2369.7 | 3495.3 | 3032.3 | 3771.7 |
| 45° | 3405.3 | 2446.5 | 2564.9 | 1470.1 | 2422.3 | 1568.8 | 2554.0 | 2343.3 | 3330.7 | 3196.8 | 3170.5 |
| 47.5° | 3142.0 | 2295.1 | 2284.1 | 2257.8 | 2698.8 | 2191.9 | 2367.5 | 2200.7 | 2973.0 | 3109.1 | 3102.5 |
| 50° | 2861.1 | 2374.0 | 1821.1 | 2374.0 | 2088.8 | 2407.0 | 2025.2 | 2071.3 | 2720.7 | 2916.0 | 3168.3 |
| 52.5° | 2582.5 | 2483.8 | 1195.8 | 1775.1 | 1514.0 | 1836.5 | 1391.1 | 2044.9 | 2431.1 | 2740.5 | 2617.6 |
| 55° | 2332.4 | 2468.4 | 1689.5 | 1524.9 | 2121.7 | 1452.5 | 1524.9 | 2266.5 | 2148.1 | 2466.2 | 2205.1 |
| 57.5° | 2051.5 | 2084.4 | 1625.9 | 1860.6 | 1836.5 | 1952.8 | 1634.6 | 2009.8 | 1897.9 | 2194.1 | 2047.1 |
| 60° | 1797.0 | 1551.3 | 1195.8 | 1454.7 | 1250.7 | 1617.1 | 1217.7 | 1656.6 | 1632.4 | 1724.6 | 2009.8 |
| 62.5° | 1472.3 | 1255.0 | 1342.8 | 1064.2 | 980.8 | 1048.8 | 1151.9 | 1200.2 | 1305.5 | 1461.3 | 1667.5 |
| 65° | 1239.7 | 991.7 | 1323.1 | 678.0 | 596.8 | 794.3 | 1347.2 | 1059.8 | 1075.1 | 1323.1 | 1388.9 |
| 67.5° | 928.1 | 730.6 | 759.2 | 544.1 | 491.5 | 533.2 | 947.9 | 820.6 | 862.3 | 978.6 | 1070.7 |
| 70° | 794.3 | 649.5 | 550.7 | 447.6 | 445.4 | 449.8 | 594.6 | 612.2 | 732.8 | 825.0 | 886.4 |
| 72.5° | 662.6 | 535.4 | 438.8 | 368.6 | 333.5 | 405.9 | 434.4 | 504.7 | 620.9 | 980.8 | 809.6 |
| 75° | 544.1 | 618.7 | 355.4 | 302.8 | 269.9 | 296.2 | 348.9 | 458.6 | 498.1 | 610.0 | 662.6 |
| 77.5° | 438.8 | 359.8 | 278.7 | 252.3 | 241.4 | 261.1 | 269.9 | 478.3 | 390.6 | 471.7 | 559.5 |
| 80° | 342.3 | 267.7 | 217.2 | 168.9 | 144.8 | 164.6 | 215.0 | 243.5 | 287.4 | 351.1 | 416.9 |
| 82.5° | 245.7 | 204.1 | 151.4 | 122.9 | 105.3 | 120.7 | 142.6 | 171.1 | 195.3 | 241.4 | 291.8 |
| 85° | 162.4 | 133.8 | 107.5 | 87.8 | 74.6 | 85.6 | 96.5 | 107.5 | 105.3 | 144.8 | 186.5 |
| 87.5° | 81.2 | 72.4 | 72.4 | 63.6 | 52.7 | 59.2 | 65.8 | 57.0 | 30.7 | 63.6 | 114.1 |
| 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: P#

CATALOG NUMBER: 4ILED-LD5-16-W-ASY-UNV-L835-CD2-U

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 0° | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 | 6439.8 |
| 2.5° | 6442.0 | 6459.5 | 6455.1 | 6400.3 | 6404.7 | 6437.6 |
| 5° | 6395.9 | 6450.7 | 6437.6 | 6367.4 | 6363.0 | 6376.1 |
| 7.5° | 6174.3 | 5954.9 | 6277.4 | 6305.9 | 6281.8 | 6295.0 |
| 10° | 5037.7 | 4890.7 | 5263.7 | 5948.3 | 6233.5 | 6231.3 |
| 12.5° | 4522.1 | 4903.9 | 4596.7 | 5114.5 | 6097.5 | 6106.3 |
| 15° | 5156.2 | 5340.5 | 5228.6 | 4476.0 | 5943.9 | 5932.9 |
| 17.5° | 4827.1 | 4489.2 | 4871.0 | 4695.4 | 5748.6 | 5803.5 |
| 20° | 4304.9 | 4816.1 | 4355.4 | 4914.9 | 5064.1 | 5676.2 |
| 22.5° | 5224.2 | 5426.1 | 5020.2 | 4561.6 | 4583.5 | 5456.8 |
| 25° | 5353.7 | 5682.8 | 5252.7 | 4096.4 | 4175.4 | 5252.7 |
| 27.5° | 5505.1 | 5880.3 | 5472.2 | 4353.2 | 3929.7 | 5101.4 |
| 30° | 5568.7 | 5810.1 | 5669.6 | 4686.7 | 4006.5 | 4862.2 |
| 32.5° | 5445.8 | 5349.3 | 5570.9 | 4598.9 | 3953.8 | 4673.5 |
| 35° | 4807.3 | 4734.9 | 5072.8 | 4719.6 | 3905.6 | 4394.8 |
| 37.5° | 4078.9 | 4311.5 | 4454.1 | 4737.1 | 3563.3 | 4230.3 |
| 40° | 4017.5 | 4416.8 | 4114.0 | 4598.9 | 3262.7 | 3855.1 |
| 42.5° | 4111.8 | 4179.8 | 4030.6 | 4162.3 | 3014.7 | 3719.1 |
| 45° | 3657.6 | 3659.8 | 3901.2 | 3664.2 | 3041.1 | 3405.3 |
| 47.5° | 3183.7 | 3306.6 | 3418.5 | 3264.9 | 3019.1 | 3142.0 |
| 50° | 2795.3 | 3080.6 | 3065.2 | 3082.8 | 2812.9 | 2861.1 |
| 52.5° | 2795.3 | 2676.8 | 2707.6 | 2999.4 | 2683.4 | 2582.5 |
| 55° | 2378.4 | 2334.6 | 2534.2 | 2582.5 | 2578.1 | 2332.4 |
| 57.5° | 2110.8 | 2328.0 | 2181.0 | 2222.7 | 2317.0 | 2051.5 |
| 60° | 1873.8 | 1808.0 | 2088.8 | 1948.4 | 2053.7 | 1797.0 |
| 62.5° | 1463.5 | 1520.5 | 1619.3 | 1840.9 | 1715.8 | 1472.3 |
| 65° | 1252.8 | 1340.6 | 1402.0 | 1540.3 | 1388.9 | 1239.7 |
| 67.5° | 1180.4 | 1217.7 | 1200.2 | 1410.8 | 1193.6 | 928.1 |
| 70° | 1037.8 | 1156.3 | 1077.3 | 1057.6 | 985.2 | 794.3 |
| 72.5° | 864.5 | 901.8 | 985.2 | 842.5 | 761.4 | 662.6 |
| 75° | 737.2 | 772.3 | 778.9 | 728.5 | 748.2 | 544.1 |
| 77.5° | 585.8 | 623.1 | 618.7 | 620.9 | 618.7 | 438.8 |
| 80° | 460.8 | 487.1 | 487.1 | 476.1 | 416.9 | 342.3 |
| 82.5° | 346.7 | 373.0 | 379.6 | 344.5 | 309.4 | 245.7 |
| 85° | 247.9 | 278.7 | 276.5 | 245.7 | 204.1 | 162.4 |
| 87.5° | 160.2 | 195.3 | 199.7 | 158.0 | 120.7 | 81.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)