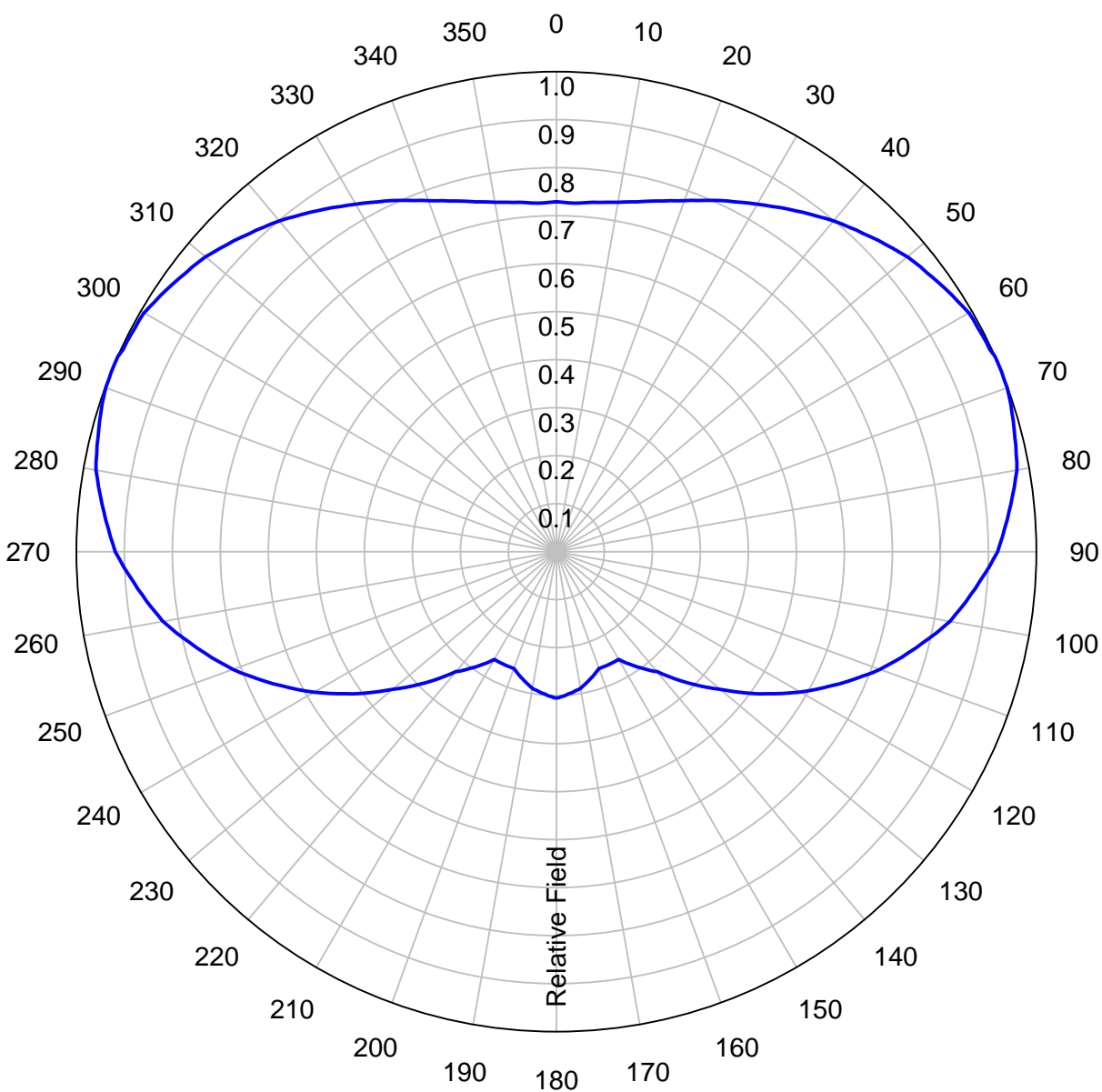


**AZIMUTH PATTERN****Type:****ALP-P****Channel:****53****Directivity:****Numeric****dBd****1.88****2.74****Peak(s) at:****Location:****Polarization:****Horizontal**

Note: Pattern shape and directivity may vary with channel and mouting configuration.



## TABULATED DATA FOR AZIMUTH PATTERN

Type: ALP-P

PolarizationHorizontal

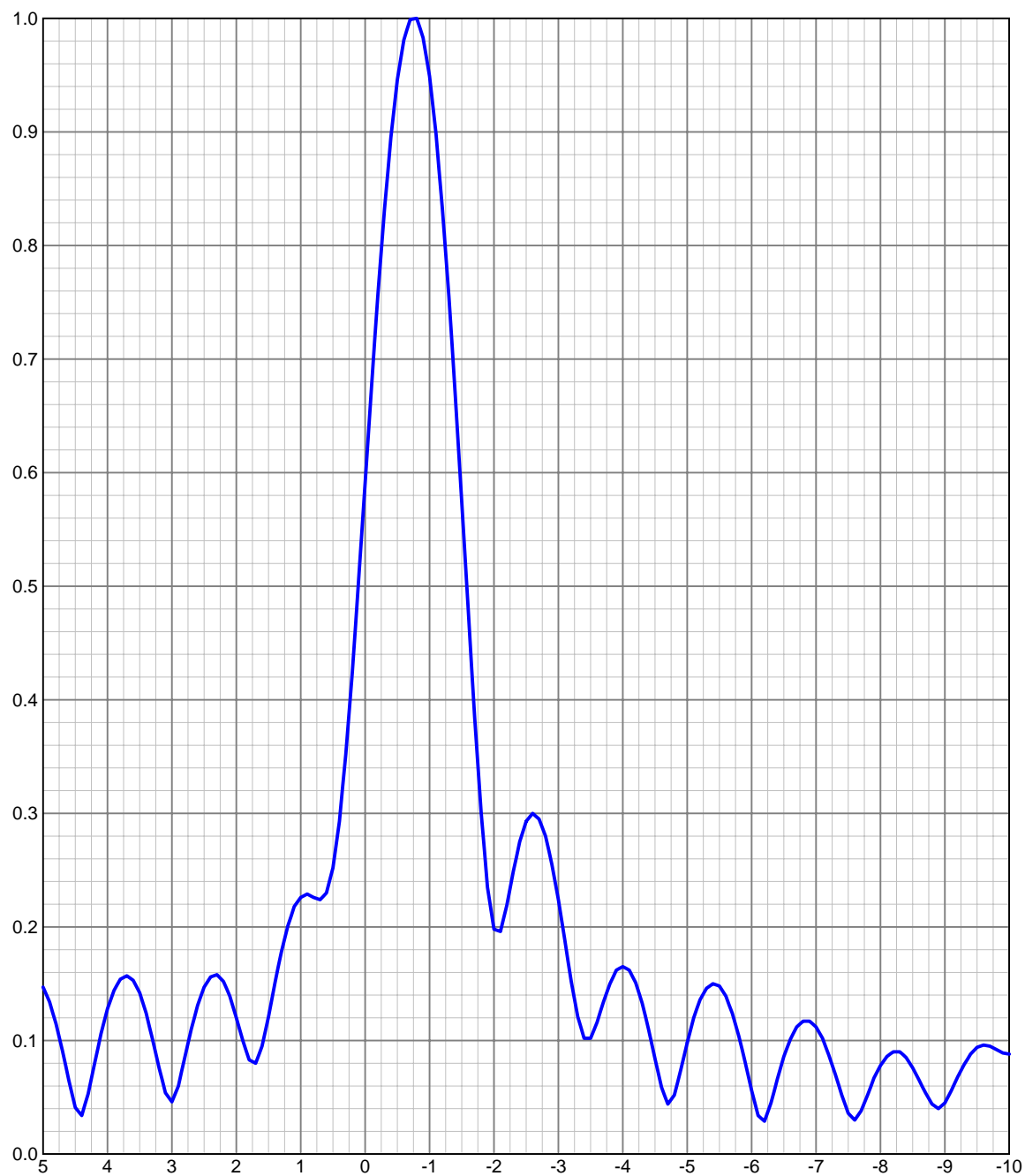
| ANGLE | FIELD | dB    | ANGLE | FIELD | dB     | ANGLE | FIELD | dB     | ANGLE | FIELD | dB    |
|-------|-------|-------|-------|-------|--------|-------|-------|--------|-------|-------|-------|
| 0     | 0.729 | -2.75 | 92    | 0.902 | -0.90  | 184   | 0.299 | -10.49 | 276   | 0.952 | -0.43 |
| 2     | 0.727 | -2.77 | 94    | 0.884 | -1.07  | 186   | 0.296 | -10.57 | 278   | 0.963 | -0.33 |
| 4     | 0.728 | -2.76 | 96    | 0.867 | -1.24  | 188   | 0.292 | -10.69 | 280   | 0.974 | -0.23 |
| 6     | 0.732 | -2.71 | 98    | 0.850 | -1.41  | 190   | 0.289 | -10.78 | 282   | 0.979 | -0.18 |
| 8     | 0.735 | -2.67 | 100   | 0.833 | -1.59  | 192   | 0.283 | -10.96 | 284   | 0.984 | -0.14 |
| 10    | 0.739 | -2.63 | 102   | 0.810 | -1.83  | 194   | 0.277 | -11.15 | 286   | 0.990 | -0.09 |
| 12    | 0.745 | -2.56 | 104   | 0.786 | -2.09  | 196   | 0.271 | -11.34 | 288   | 0.995 | -0.04 |
| 14    | 0.752 | -2.48 | 106   | 0.763 | -2.35  | 198   | 0.265 | -11.54 | 290   | 0.999 | -0.01 |
| 16    | 0.760 | -2.38 | 108   | 0.740 | -2.62  | 200   | 0.259 | -11.73 | 292   | 1.000 | 0.00  |
| 18    | 0.769 | -2.28 | 110   | 0.717 | -2.89  | 202   | 0.259 | -11.73 | 294   | 1.000 | 0.00  |
| 20    | 0.778 | -2.18 | 112   | 0.690 | -3.22  | 204   | 0.259 | -11.73 | 296   | 0.996 | -0.03 |
| 22    | 0.789 | -2.06 | 114   | 0.664 | -3.56  | 206   | 0.259 | -11.73 | 298   | 0.994 | -0.05 |
| 24    | 0.801 | -1.93 | 116   | 0.637 | -3.92  | 208   | 0.259 | -11.73 | 300   | 0.993 | -0.06 |
| 26    | 0.813 | -1.80 | 118   | 0.611 | -4.28  | 210   | 0.259 | -11.73 | 302   | 0.985 | -0.13 |
| 28    | 0.824 | -1.68 | 120   | 0.585 | -4.66  | 212   | 0.273 | -11.28 | 304   | 0.978 | -0.19 |
| 30    | 0.836 | -1.56 | 122   | 0.557 | -5.08  | 214   | 0.286 | -10.87 | 306   | 0.970 | -0.26 |
| 32    | 0.848 | -1.43 | 124   | 0.529 | -5.53  | 216   | 0.299 | -10.49 | 308   | 0.963 | -0.33 |
| 34    | 0.861 | -1.30 | 126   | 0.502 | -5.99  | 218   | 0.313 | -10.09 | 310   | 0.955 | -0.40 |
| 36    | 0.874 | -1.17 | 128   | 0.474 | -6.48  | 220   | 0.326 | -9.74  | 312   | 0.944 | -0.50 |
| 38    | 0.886 | -1.05 | 130   | 0.446 | -7.01  | 222   | 0.350 | -9.12  | 314   | 0.933 | -0.60 |
| 40    | 0.899 | -0.92 | 132   | 0.422 | -7.49  | 224   | 0.374 | -8.54  | 316   | 0.921 | -0.71 |
| 42    | 0.910 | -0.82 | 134   | 0.398 | -8.00  | 226   | 0.398 | -8.00  | 318   | 0.910 | -0.82 |
| 44    | 0.921 | -0.71 | 136   | 0.374 | -8.54  | 228   | 0.422 | -7.49  | 320   | 0.899 | -0.92 |
| 46    | 0.933 | -0.60 | 138   | 0.350 | -9.12  | 230   | 0.446 | -7.01  | 322   | 0.886 | -1.05 |
| 48    | 0.944 | -0.50 | 140   | 0.326 | -9.74  | 232   | 0.474 | -6.48  | 324   | 0.874 | -1.17 |
| 50    | 0.955 | -0.40 | 142   | 0.313 | -10.09 | 234   | 0.502 | -5.99  | 326   | 0.861 | -1.30 |
| 52    | 0.963 | -0.33 | 144   | 0.299 | -10.49 | 236   | 0.529 | -5.53  | 328   | 0.848 | -1.43 |
| 54    | 0.970 | -0.26 | 146   | 0.286 | -10.87 | 238   | 0.557 | -5.08  | 330   | 0.836 | -1.56 |
| 56    | 0.978 | -0.19 | 148   | 0.273 | -11.28 | 240   | 0.585 | -4.66  | 332   | 0.824 | -1.68 |
| 58    | 0.985 | -0.13 | 150   | 0.259 | -11.73 | 242   | 0.611 | -4.28  | 334   | 0.813 | -1.80 |
| 60    | 0.993 | -0.06 | 152   | 0.259 | -11.73 | 244   | 0.637 | -3.92  | 336   | 0.801 | -1.93 |
| 62    | 0.994 | -0.05 | 154   | 0.259 | -11.73 | 246   | 0.664 | -3.56  | 338   | 0.789 | -2.06 |
| 64    | 0.996 | -0.03 | 156   | 0.259 | -11.73 | 248   | 0.690 | -3.22  | 340   | 0.778 | -2.18 |
| 66    | 1.000 | 0.00  | 158   | 0.259 | -11.73 | 250   | 0.717 | -2.89  | 342   | 0.769 | -2.28 |
| 68    | 1.000 | 0.00  | 160   | 0.259 | -11.73 | 252   | 0.740 | -2.62  | 344   | 0.760 | -2.38 |
| 70    | 0.999 | -0.01 | 162   | 0.265 | -11.54 | 254   | 0.763 | -2.35  | 346   | 0.752 | -2.48 |
| 72    | 0.995 | -0.04 | 164   | 0.271 | -11.34 | 256   | 0.786 | -2.09  | 348   | 0.745 | -2.56 |
| 74    | 0.990 | -0.09 | 166   | 0.277 | -11.15 | 258   | 0.810 | -1.83  | 350   | 0.739 | -2.63 |
| 76    | 0.984 | -0.14 | 168   | 0.283 | -10.96 | 260   | 0.833 | -1.59  | 352   | 0.735 | -2.67 |
| 78    | 0.979 | -0.18 | 170   | 0.289 | -10.78 | 262   | 0.850 | -1.41  | 354   | 0.732 | -2.71 |
| 80    | 0.974 | -0.23 | 172   | 0.292 | -10.69 | 264   | 0.867 | -1.24  | 356   | 0.728 | -2.76 |
| 82    | 0.963 | -0.33 | 174   | 0.296 | -10.57 | 266   | 0.884 | -1.07  | 358   | 0.727 | -2.77 |
| 84    | 0.952 | -0.43 | 176   | 0.299 | -10.49 | 268   | 0.902 | -0.90  | 360   | 0.729 | -2.75 |
| 86    | 0.941 | -0.53 | 178   | 0.302 | -10.40 | 270   | 0.919 | -0.73  |       |       |       |
| 88    | 0.930 | -0.63 | 180   | 0.305 | -10.31 | 272   | 0.930 | -0.63  |       |       |       |
| 90    | 0.919 | -0.73 | 182   | 0.302 | -10.40 | 274   | 0.941 | -0.53  |       |       |       |

## **TABULATED DATA FOR AZIMUTH PATTERN FCC FILING FORMAT**

Type: ALP-P

PolarizationHorizontal

| <b>ANGLE</b> | <b>FIELD</b> | <b>ERP (kW)</b> | <b>ERP (dBk)</b> |
|--------------|--------------|-----------------|------------------|
| 0            | 0.729        | 13.286          | 11.234           |
| 10           | 0.739        | 13.653          | 11.352           |
| 20           | 0.778        | 15.132          | 11.799           |
| 30           | 0.836        | 17.472          | 12.424           |
| 40           | 0.899        | 20.205          | 13.055           |
| 50           | 0.955        | 22.801          | 13.579           |
| 60           | 0.993        | 24.651          | 13.918           |
| 70           | 0.999        | 24.950          | 13.971           |
| 80           | 0.974        | 23.717          | 13.751           |
| 90           | 0.919        | 21.114          | 13.246           |
| 100          | 0.833        | 17.347          | 12.392           |
| 110          | 0.717        | 12.852          | 11.090           |
| 120          | 0.585        | 8.556           | 9.323            |
| 130          | 0.446        | 4.973           | 6.966            |
| 140          | 0.326        | 2.657           | 4.244            |
| 150          | 0.259        | 1.677           | 2.245            |
| 160          | 0.259        | 1.677           | 2.245            |
| 170          | 0.289        | 2.088           | 3.197            |
| 180          | 0.305        | 2.326           | 3.665            |
| 190          | 0.289        | 2.088           | 3.197            |
| 200          | 0.259        | 1.677           | 2.245            |
| 210          | 0.259        | 1.677           | 2.245            |
| 220          | 0.326        | 2.657           | 4.244            |
| 230          | 0.446        | 4.973           | 6.966            |
| 240          | 0.585        | 8.556           | 9.323            |
| 250          | 0.717        | 12.852          | 11.090           |
| 260          | 0.833        | 17.347          | 12.392           |
| 270          | 0.919        | 21.114          | 13.246           |
| 280          | 0.974        | 23.717          | 13.751           |
| 290          | 0.999        | 24.950          | 13.971           |
| 300          | 0.993        | 24.651          | 13.918           |
| 310          | 0.955        | 22.801          | 13.579           |
| 320          | 0.899        | 20.205          | 13.055           |
| 330          | 0.836        | 17.472          | 12.424           |
| 340          | 0.778        | 15.132          | 11.799           |
| 350          | 0.739        | 13.653          | 11.352           |

**ELEVATION PATTERN****Type:****ALP32M3****Channel:****53****Directivity:****Numeric****dBd****Location:****Main Lobe:****31.93****15.04****Beam Tilt:****-0.75****Horizontal:****11.15****10.47****Polarization:****Horizontal****Relative Field**

## TABULATED DATA FOR ELEVATION PATTERN

Type: ALP32M3

PolarizationHorizontal

| ANGLEFIELD | dB    | ANGLEFIELD | dB     | ANGLEFIELD | dB     | ANGLEFIELD | dB    | ANGLEFIELD | dB     |
|------------|-------|------------|--------|------------|--------|------------|-------|------------|--------|
| 5.00       | 0.147 | -16.65     | -6.75  | 0.115      | -18.82 | -27.00     | 0.009 | -40.92     | -50.50 |
| 4.75       | 0.103 | -19.74     | -7.00  | 0.112      | -19.02 | -27.50     | 0.018 | -34.89     | -51.00 |
| 4.50       | 0.041 | -27.74     | -7.25  | 0.079      | -22.10 | -28.00     | 0.012 | -38.42     | -51.50 |
| 4.25       | 0.067 | -23.54     | -7.50  | 0.036      | -28.87 | -28.50     | 0.002 | -53.98     | -52.00 |
| 4.00       | 0.128 | -17.86     | -7.75  | 0.045      | -26.94 | -29.00     | 0.006 | -44.44     | -52.50 |
| 3.75       | 0.155 | -16.17     | -8.00  | 0.078      | -22.16 | -29.50     | 0.003 | -50.46     | -53.00 |
| 3.50       | 0.142 | -16.95     | -8.25  | 0.090      | -20.92 | -30.00     | 0.000 | -40.00     | -53.50 |
| 3.25       | 0.088 | -21.06     | -8.50  | 0.076      | -22.38 | -30.50     | 0.002 | -53.98     | -54.00 |
| 3.00       | 0.046 | -26.74     | -8.75  | 0.049      | -26.20 | -31.00     | 0.006 | -44.44     | -54.50 |
| 2.75       | 0.098 | -20.22     | -9.00  | 0.045      | -26.94 | -31.50     | 0.005 | -46.02     | -55.00 |
| 2.50       | 0.147 | -16.65     | -9.25  | 0.074      | -22.67 | -32.00     | 0.012 | -38.42     | -55.50 |
| 2.25       | 0.155 | -16.19     | -9.50  | 0.094      | -20.54 | -32.50     | 0.021 | -33.56     | -56.00 |
| 2.00       | 0.120 | -18.42     | -9.75  | 0.093      | -20.58 | -33.00     | 0.026 | -31.70     | -56.50 |
| 1.75       | 0.082 | -21.78     | -10.00 | 0.088      | -21.11 | -33.50     | 0.059 | -24.58     | -57.00 |
| 1.50       | 0.121 | -18.34     | -10.50 | 0.161      | -15.86 | -34.00     | 0.111 | -19.09     | -57.50 |
| 1.25       | 0.190 | -14.45     | -11.00 | 0.254      | -11.90 | -34.50     | 0.145 | -16.77     | -58.00 |
| 1.00       | 0.226 | -12.92     | -11.50 | 0.246      | -12.18 | -35.00     | 0.138 | -17.20     | -58.50 |
| 0.75       | 0.225 | -12.96     | -12.00 | 0.148      | -16.59 | -35.50     | 0.091 | -20.82     | -59.00 |
| 0.50       | 0.252 | -11.97     | -12.50 | 0.046      | -26.74 | -36.00     | 0.038 | -28.40     | -59.50 |
| 0.25       | 0.388 | -8.22      | -13.00 | 0.030      | -30.46 | -36.50     | 0.049 | -26.20     | -60.00 |
| 0.00       | 0.591 | -4.57      | -13.50 | 0.022      | -33.15 | -37.00     | 0.057 | -24.88     | -60.50 |
| -0.25      | 0.795 | -1.99      | -14.00 | 0.005      | -46.02 | -37.50     | 0.035 | -29.12     | -61.00 |
| -0.50      | 0.946 | -0.48      | -14.50 | 0.000      | -40.00 | -38.00     | 0.022 | -33.15     | -61.50 |
| -0.75      | 1.000 | 0.00       | -15.00 | 0.006      | -44.44 | -38.50     | 0.036 | -28.87     | -62.00 |
| -1.00      | 0.949 | -0.45      | -15.50 | 0.004      | -47.96 | -39.00     | 0.029 | -30.75     | -62.50 |
| -1.25      | 0.793 | -2.01      | -16.00 | 0.017      | -35.39 | -39.50     | 0.010 | -40.00     | -63.00 |
| -1.50      | 0.574 | -4.82      | -16.50 | 0.020      | -33.98 | -40.00     | 0.028 | -31.06     | -63.50 |
| -1.75      | 0.343 | -9.29      | -17.00 | 0.006      | -44.44 | -40.50     | 0.035 | -29.12     | -64.00 |
| -2.00      | 0.198 | -14.07     | -17.50 | 0.027      | -31.37 | -41.00     | 0.021 | -33.56     | -64.50 |
| -2.25      | 0.234 | -12.62     | -18.00 | 0.028      | -31.06 | -41.50     | 0.008 | -41.94     | -65.00 |
| -2.50      | 0.293 | -10.66     | -18.50 | 0.010      | -40.00 | -42.00     | 0.025 | -32.04     | -65.50 |
| -2.75      | 0.287 | -10.83     | -19.00 | 0.034      | -29.37 | -42.50     | 0.027 | -31.37     | -66.00 |
| -3.00      | 0.224 | -13.00     | -19.50 | 0.030      | -30.46 | -43.00     | 0.014 | -37.08     | -66.50 |
| -3.25      | 0.137 | -17.30     | -20.00 | 0.025      | -32.04 | -43.50     | 0.010 | -40.00     | -67.00 |
| -3.50      | 0.102 | -19.83     | -20.50 | 0.054      | -25.35 | -44.00     | 0.019 | -34.42     | -67.50 |
| -3.75      | 0.142 | -16.95     | -21.00 | 0.056      | -25.04 | -44.50     | 0.017 | -35.39     | -68.00 |
| -4.00      | 0.165 | -15.65     | -21.50 | 0.112      | -19.02 | -45.00     | 0.009 | -40.92     | -68.50 |
| -4.25      | 0.142 | -16.95     | -22.00 | 0.203      | -13.85 | -45.50     | 0.012 | -38.42     | -69.00 |
| -4.50      | 0.084 | -21.51     | -22.50 | 0.240      | -12.40 | -46.00     | 0.016 | -35.92     | -69.50 |
| -4.75      | 0.048 | -26.38     | -23.00 | 0.190      | -14.42 | -46.50     | 0.014 | -37.08     | -70.00 |
| -5.00      | 0.098 | -20.18     | -23.50 | 0.090      | -20.92 | -47.00     | 0.013 | -37.72     | -70.50 |
| -5.25      | 0.141 | -17.02     | -24.00 | 0.045      | -26.94 | -47.50     | 0.017 | -35.39     | -71.00 |
| -5.50      | 0.148 | -16.59     | -24.50 | 0.063      | -24.01 | -48.00     | 0.014 | -37.08     | -71.50 |
| -5.75      | 0.114 | -18.86     | -25.00 | 0.040      | -27.96 | -48.50     | 0.003 | -50.46     | -72.00 |
| -6.00      | 0.056 | -25.04     | -25.50 | 0.019      | -34.42 | -49.00     | 0.012 | -38.42     | -72.50 |
| -6.25      | 0.037 | -28.64     | -26.00 | 0.029      | -30.75 | -49.50     | 0.022 | -33.15     | -73.00 |
| -6.50      | 0.086 | -21.31     | -26.50 | 0.017      | -35.39 | -50.00     | 0.021 | -33.56     | -73.50 |