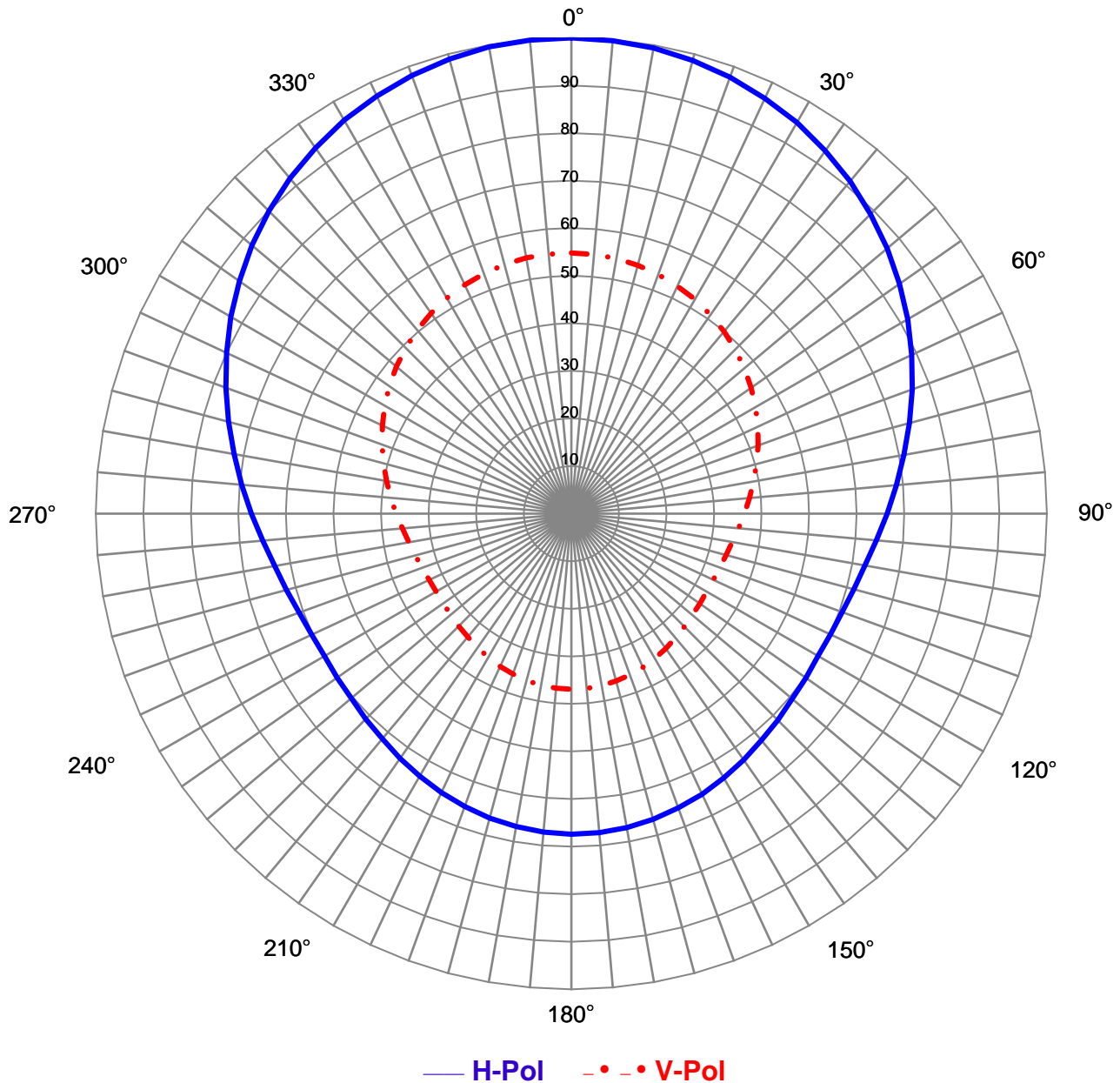




### Relative Field Azimuth Plane Pattern



|                |                         |              |                       |
|----------------|-------------------------|--------------|-----------------------|
| Pattern Type:  | <b>Relative Field</b>   | Type:        | <b>8-Bay UHF Slot</b> |
| Antenna Model: | <b>PSILP8OI-21-EP</b>   | Orientation: | <b>0 Degrees</b>      |
| Polarization:  | <b>Elliptical</b>       | Pattern:     | <b>OI</b>             |
| Gain (h-pol):  | <b>12.16 (10.85 dB)</b> | Reference:   | <b>W21DY</b>          |
| Gain (v-pol):  | <b>3.65 (5.62 dB)</b>   | Date:        | <b>5/2/2019</b>       |



**PROPAGATION SYSTEMS INC.**

Relative Field Tabulation

Antenna Model: PSILP8OI-21-EP

Gain (h-pol): 12.16 (10.85 dBd)

Station: W21DY

| Angle | Relative<br>Field | Power<br>Gain | Gain<br>dB |
|-------|-------------------|---------------|------------|
| 0     | 1.000             | 12.16         | 10.85      |
| 10    | 1.000             | 12.16         | 10.85      |
| 20    | 0.980             | 11.68         | 10.67      |
| 30    | 0.950             | 10.97         | 10.40      |
| 40    | 0.910             | 10.07         | 10.03      |
| 50    | 0.870             | 9.20          | 9.64       |
| 60    | 0.820             | 8.18          | 9.13       |
| 70    | 0.760             | 7.02          | 8.47       |
| 80    | 0.710             | 6.13          | 7.87       |
| 90    | 0.660             | 5.30          | 7.24       |
| 100   | 0.630             | 4.83          | 6.84       |
| 110   | 0.610             | 4.52          | 6.56       |
| 120   | 0.600             | 4.38          | 6.41       |
| 130   | 0.600             | 4.38          | 6.41       |
| 140   | 0.620             | 4.67          | 6.70       |
| 150   | 0.640             | 4.98          | 6.97       |
| 160   | 0.660             | 5.30          | 7.24       |
| 170   | 0.670             | 5.46          | 7.37       |
| 180   | 0.670             | 5.46          | 7.37       |
| 190   | 0.670             | 5.46          | 7.37       |
| 200   | 0.660             | 5.30          | 7.24       |
| 210   | 0.640             | 4.98          | 6.97       |
| 220   | 0.620             | 4.67          | 6.70       |
| 230   | 0.600             | 4.38          | 6.41       |
| 240   | 0.600             | 4.38          | 6.41       |
| 250   | 0.610             | 4.52          | 6.56       |
| 260   | 0.630             | 4.83          | 6.84       |
| 270   | 0.660             | 5.30          | 7.24       |
| 280   | 0.710             | 6.13          | 7.87       |
| 290   | 0.760             | 7.02          | 8.47       |
| 300   | 0.820             | 8.18          | 9.13       |
| 310   | 0.870             | 9.20          | 9.64       |
| 320   | 0.910             | 10.07         | 10.03      |
| 330   | 0.950             | 10.97         | 10.40      |
| 340   | 0.980             | 11.68         | 10.67      |
| 350   | 1.000             | 12.16         | 10.85      |



**PROPAGATION SYSTEMS INC.**

Relative Field Tabulation

Antenna Model: PSILP8OI-21-EP

Gain (v-pol): 3.65 (5.62 dBd)

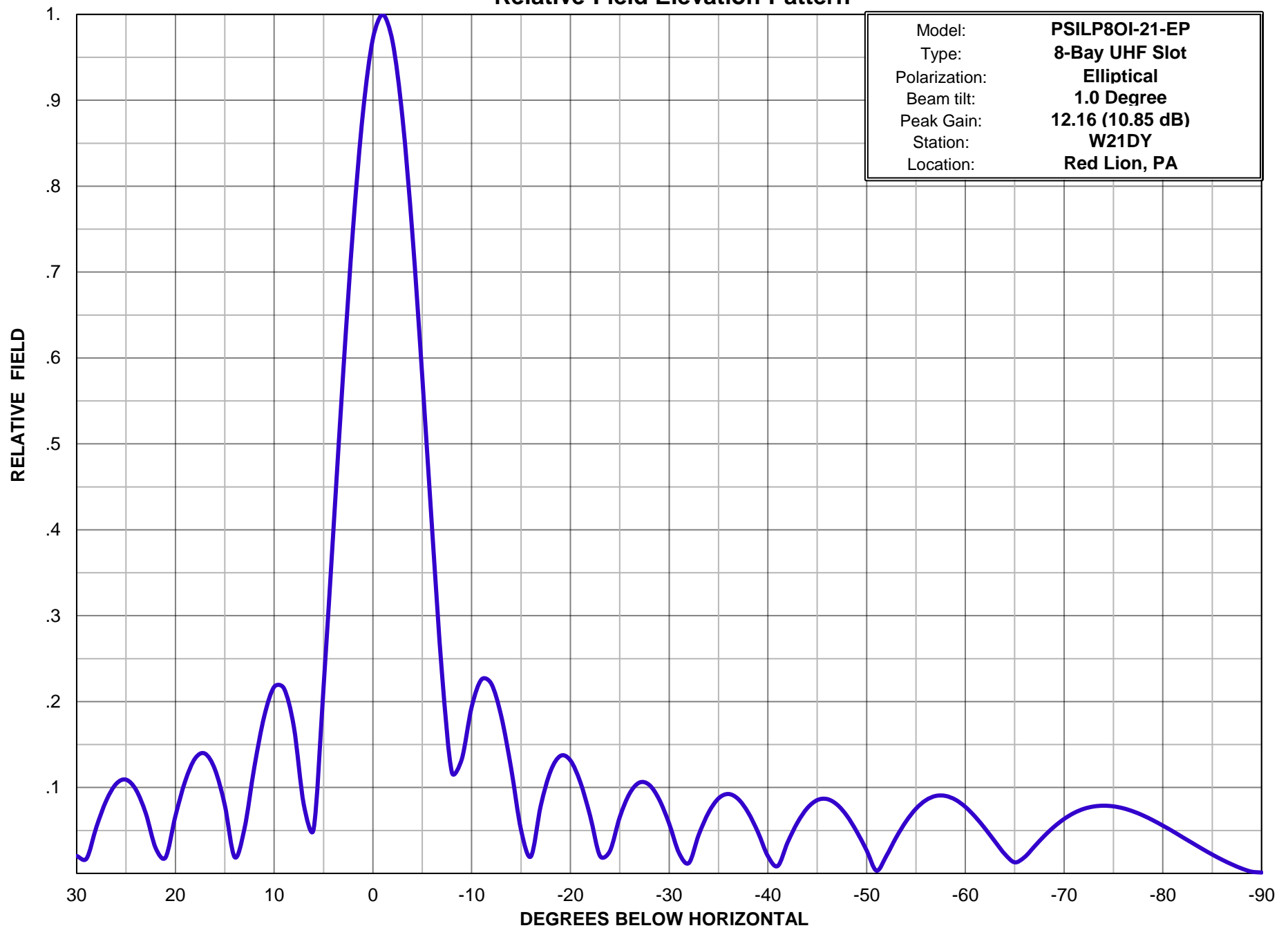
Station: W21DY

| Angle | Relative<br>Field | Power<br>Gain | Gain<br>dB |
|-------|-------------------|---------------|------------|
| 0     | 0.548             | 3.65          | 5.62       |
| 10    | 0.548             | 3.65          | 5.62       |
| 20    | 0.537             | 3.51          | 5.45       |
| 30    | 0.520             | 3.29          | 5.18       |
| 40    | 0.499             | 3.02          | 4.80       |
| 50    | 0.477             | 2.76          | 4.41       |
| 60    | 0.449             | 2.45          | 3.90       |
| 70    | 0.416             | 2.11          | 3.24       |
| 80    | 0.389             | 1.84          | 2.65       |
| 90    | 0.362             | 1.59          | 2.01       |
| 100   | 0.345             | 1.45          | 1.61       |
| 110   | 0.334             | 1.36          | 1.33       |
| 120   | 0.329             | 1.31          | 1.19       |
| 130   | 0.329             | 1.31          | 1.19       |
| 140   | 0.340             | 1.40          | 1.47       |
| 150   | 0.351             | 1.50          | 1.75       |
| 160   | 0.362             | 1.59          | 2.01       |
| 170   | 0.367             | 1.64          | 2.14       |
| 180   | 0.367             | 1.64          | 2.14       |
| 190   | 0.367             | 1.64          | 2.14       |
| 200   | 0.362             | 1.59          | 2.01       |
| 210   | 0.351             | 1.50          | 1.75       |
| 220   | 0.340             | 1.40          | 1.47       |
| 230   | 0.329             | 1.31          | 1.19       |
| 240   | 0.329             | 1.31          | 1.19       |
| 250   | 0.334             | 1.36          | 1.33       |
| 260   | 0.345             | 1.45          | 1.61       |
| 270   | 0.362             | 1.59          | 2.01       |
| 280   | 0.389             | 1.84          | 2.65       |
| 290   | 0.416             | 2.11          | 3.24       |
| 300   | 0.449             | 2.45          | 3.90       |
| 310   | 0.477             | 2.76          | 4.41       |
| 320   | 0.499             | 3.02          | 4.80       |
| 330   | 0.520             | 3.29          | 5.18       |
| 340   | 0.537             | 3.51          | 5.45       |
| 350   | 0.548             | 3.65          | 5.62       |



**Propagation Systems, Inc.**

**Relative Field Elevation Pattern**





### Propagation Systems Inc.

Relative Field Tabulation Elevation Pattern

Antenna Model: PSILP8OI-21-EP

Gain (h-pol): 12.16 (10.85 dBd)

Gain (v-pol): 3.65 (5.62 dBd)

Station: W21DY

| Angle | Field | dB     | Angle | Field | dB     | Angle | Field | dB     |
|-------|-------|--------|-------|-------|--------|-------|-------|--------|
| -90   | 0.001 | -60.00 | -50   | 0.027 | -31.43 | -10   | 0.194 | -14.26 |
| -89   | 0.002 | -54.11 | -49   | 0.049 | -26.26 | -9    | 0.133 | -17.53 |
| -88   | 0.006 | -45.03 | -48   | 0.067 | -23.46 | -8    | 0.118 | -18.59 |
| -87   | 0.010 | -39.61 | -47   | 0.080 | -21.92 | -7    | 0.232 | -12.67 |
| -86   | 0.016 | -35.97 | -46   | 0.087 | -21.26 | -6    | 0.400 | -7.96  |
| -85   | 0.022 | -33.16 | -45   | 0.085 | -21.38 | -5    | 0.578 | -4.76  |
| -84   | 0.028 | -30.91 | -44   | 0.076 | -22.38 | -4    | 0.744 | -2.57  |
| -83   | 0.035 | -29.04 | -43   | 0.059 | -24.55 | -3    | 0.879 | -1.12  |
| -82   | 0.042 | -27.51 | -42   | 0.036 | -28.86 | -2    | 0.968 | -0.28  |
| -81   | 0.049 | -26.18 | -41   | 0.009 | -41.27 | -1    | 1.000 | 0.00   |
| -80   | 0.056 | -25.10 | -40   | 0.020 | -33.91 | 0     | 0.972 | -0.25  |
| -79   | 0.062 | -24.18 | -39   | 0.048 | -26.40 | 1     | 0.886 | -1.05  |
| -78   | 0.067 | -23.42 | -38   | 0.071 | -22.99 | 2     | 0.753 | -2.47  |
| -77   | 0.072 | -22.84 | -37   | 0.087 | -21.26 | 3     | 0.584 | -4.67  |
| -76   | 0.076 | -22.41 | -36   | 0.092 | -20.68 | 4     | 0.400 | -7.97  |
| -75   | 0.078 | -22.15 | -35   | 0.087 | -21.18 | 5     | 0.216 | -13.30 |
| -74   | 0.079 | -22.07 | -34   | 0.071 | -22.99 | 6     | 0.052 | -25.71 |
| -73   | 0.078 | -22.17 | -33   | 0.045 | -26.94 | 7     | 0.080 | -21.92 |
| -72   | 0.075 | -22.48 | -32   | 0.012 | -38.33 | 8     | 0.170 | -15.38 |
| -71   | 0.070 | -23.06 | -31   | 0.024 | -32.47 | 9     | 0.215 | -13.35 |
| -70   | 0.063 | -23.97 | -30   | 0.058 | -24.73 | 10    | 0.217 | -13.27 |
| -69   | 0.054 | -25.29 | -29   | 0.086 | -21.32 | 11    | 0.183 | -14.74 |
| -68   | 0.044 | -27.20 | -28   | 0.103 | -19.75 | 12    | 0.124 | -18.11 |
| -67   | 0.031 | -30.07 | -27   | 0.106 | -19.51 | 13    | 0.053 | -25.58 |
| -66   | 0.019 | -34.45 | -26   | 0.093 | -20.63 | 14    | 0.019 | -34.45 |
| -65   | 0.013 | -37.80 | -25   | 0.065 | -23.68 | 15    | 0.080 | -21.99 |
| -64   | 0.022 | -32.99 | -24   | 0.026 | -31.73 | 16    | 0.121 | -18.34 |
| -63   | 0.037 | -28.61 | -23   | 0.020 | -33.85 | 17    | 0.139 | -17.12 |
| -62   | 0.052 | -25.66 | -22   | 0.067 | -23.48 | 18    | 0.134 | -17.46 |
| -61   | 0.066 | -23.62 | -21   | 0.106 | -19.46 | 19    | 0.108 | -19.35 |
| -60   | 0.077 | -22.22 | -20   | 0.132 | -17.62 | 20    | 0.067 | -23.50 |
| -59   | 0.086 | -21.33 | -19   | 0.137 | -17.28 | 21    | 0.018 | -34.66 |
| -58   | 0.090 | -20.90 | -18   | 0.119 | -18.47 | 22    | 0.029 | -30.63 |
| -57   | 0.090 | -20.90 | -17   | 0.079 | -22.07 | 23    | 0.070 | -23.12 |
| -56   | 0.085 | -21.40 | -16   | 0.020 | -34.11 | 24    | 0.097 | -20.23 |
| -55   | 0.075 | -22.46 | -15   | 0.051 | -25.89 | 25    | 0.109 | -19.24 |
| -54   | 0.061 | -24.35 | -14   | 0.122 | -18.25 | 26    | 0.104 | -19.64 |
| -53   | 0.042 | -27.54 | -13   | 0.183 | -14.76 | 27    | 0.085 | -21.43 |
| -52   | 0.020 | -33.85 | -12   | 0.221 | -13.13 | 28    | 0.054 | -25.34 |
| -51   | 0.003 | -49.95 | -11   | 0.226 | -12.93 | 29    | 0.017 | -35.25 |