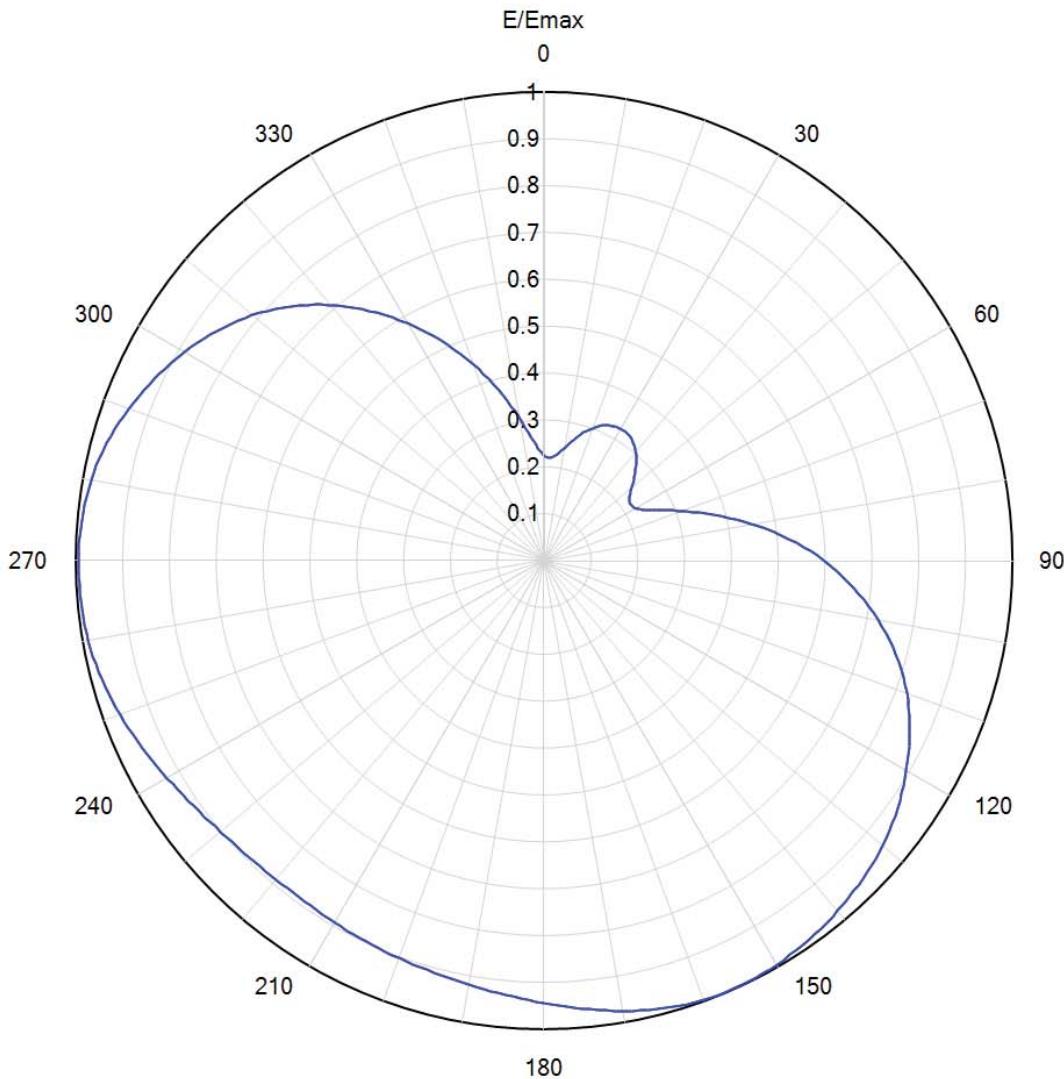




Azimuth Pattern



Model: SBB-E-8C170 Polarization: Horizontal
 Location: Palm Springs, CA. Frequency: 587.00 MHz
 Customer: News-Press & Gazette Broadcasting Directivity: 1.7 (2.32 dB)
 Date: October 5, 2017 Elevation Angle: 1.00 degrees
 Rotation Angle: 210 degrees Horizontal Unit Pattern:
 Note: Pattern Tolerance +/-5% of Emax File = SBB-C170-578.pat



Model: **SBB-E-8C170**
 Location: **Palm Springs, CA.**
 Customer: **News-Press & Gazette**
 Date: **October 5, 2017**

Polarization: **Horizontal**
 Frequency (MHz): **587.00**
 Directivity: **1.7 (2.32 dB)**
 Elevation Angle: **1.00 degrees**
 Rotation Angle: **210 degrees**

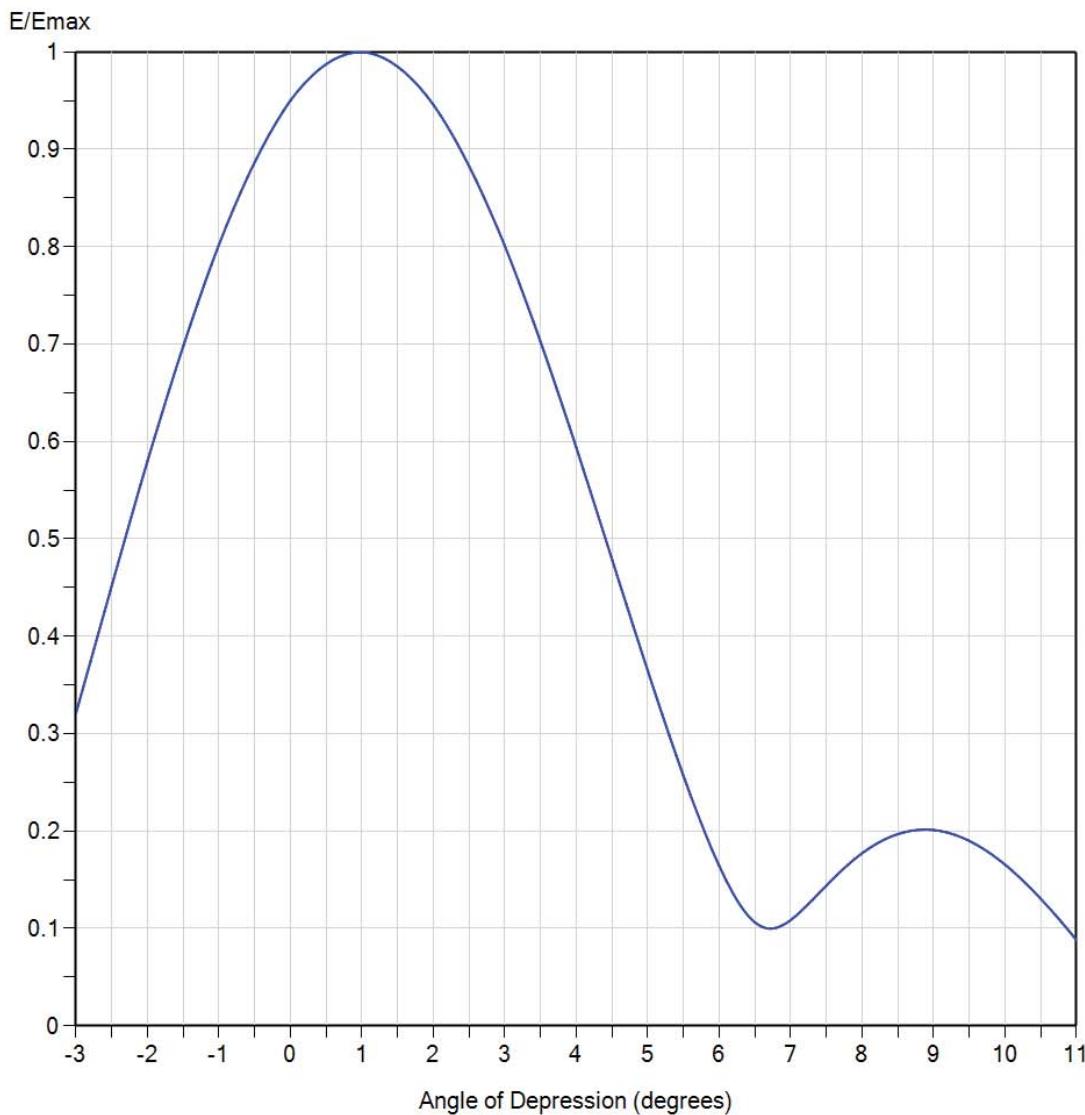


TABULATED AZIMUTH PATTERN

| Angl | Field |
|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 0 | 0.224 | 45 | 0.277 | 90 | 0.597 | 135 | 0.962 | 180 | 0.944 | 225 | 0.893 | 270 | 0.994 | 315 | 0.766 | | |
| 1 | 0.221 | 46 | 0.270 | 91 | 0.611 | 136 | 0.965 | 181 | 0.941 | 226 | 0.894 | 271 | 0.994 | 316 | 0.756 | | |
| 2 | 0.220 | 47 | 0.264 | 92 | 0.625 | 137 | 0.968 | 182 | 0.939 | 227 | 0.896 | 272 | 0.993 | 317 | 0.745 | | |
| 3 | 0.220 | 48 | 0.257 | 93 | 0.638 | 138 | 0.970 | 183 | 0.936 | 228 | 0.897 | 273 | 0.993 | 318 | 0.734 | | |
| 4 | 0.221 | 49 | 0.251 | 94 | 0.651 | 139 | 0.973 | 184 | 0.933 | 229 | 0.899 | 274 | 0.992 | 319 | 0.723 | | |
| 5 | 0.222 | 50 | 0.245 | 95 | 0.664 | 140 | 0.976 | 185 | 0.930 | 230 | 0.901 | 275 | 0.991 | 320 | 0.711 | | |
| 6 | 0.225 | 51 | 0.239 | 96 | 0.676 | 141 | 0.978 | 186 | 0.928 | 231 | 0.903 | 276 | 0.990 | 321 | 0.699 | | |
| 7 | 0.229 | 52 | 0.234 | 97 | 0.688 | 142 | 0.980 | 187 | 0.926 | 232 | 0.906 | 277 | 0.988 | 322 | 0.687 | | |
| 8 | 0.233 | 53 | 0.229 | 98 | 0.700 | 143 | 0.983 | 188 | 0.923 | 233 | 0.908 | 278 | 0.987 | 323 | 0.675 | | |
| 9 | 0.238 | 54 | 0.225 | 99 | 0.712 | 144 | 0.985 | 189 | 0.921 | 234 | 0.911 | 279 | 0.985 | 324 | 0.662 | | |
| 10 | 0.244 | 55 | 0.222 | 100 | 0.724 | 145 | 0.987 | 190 | 0.919 | 235 | 0.914 | 280 | 0.982 | 325 | 0.650 | | |
| 11 | 0.249 | 56 | 0.220 | 101 | 0.735 | 146 | 0.989 | 191 | 0.917 | 236 | 0.917 | 281 | 0.980 | 326 | 0.637 | | |
| 12 | 0.255 | 57 | 0.219 | 102 | 0.746 | 147 | 0.991 | 192 | 0.916 | 237 | 0.920 | 282 | 0.977 | 327 | 0.624 | | |
| 13 | 0.261 | 58 | 0.220 | 103 | 0.757 | 148 | 0.993 | 193 | 0.914 | 238 | 0.923 | 283 | 0.974 | 328 | 0.611 | | |
| 14 | 0.267 | 59 | 0.221 | 104 | 0.768 | 149 | 0.994 | 194 | 0.912 | 239 | 0.926 | 284 | 0.970 | 329 | 0.598 | | |
| 15 | 0.273 | 60 | 0.223 | 105 | 0.778 | 150 | 0.996 | 195 | 0.911 | 240 | 0.929 | 285 | 0.967 | 330 | 0.585 | | |
| 16 | 0.279 | 61 | 0.227 | 106 | 0.788 | 151 | 0.997 | 196 | 0.909 | 241 | 0.933 | 286 | 0.963 | 331 | 0.571 | | |
| 17 | 0.285 | 62 | 0.232 | 107 | 0.797 | 152 | 0.998 | 197 | 0.908 | 242 | 0.936 | 287 | 0.958 | 332 | 0.558 | | |
| 18 | 0.290 | 63 | 0.238 | 108 | 0.807 | 153 | 0.999 | 198 | 0.906 | 243 | 0.940 | 288 | 0.954 | 333 | 0.544 | | |
| 19 | 0.295 | 64 | 0.246 | 109 | 0.815 | 154 | 0.999 | 199 | 0.905 | 244 | 0.943 | 289 | 0.949 | 334 | 0.531 | | |
| 20 | 0.300 | 65 | 0.254 | 110 | 0.824 | 155 | 1.000 | 200 | 0.904 | 245 | 0.947 | 290 | 0.944 | 335 | 0.517 | | |
| 21 | 0.305 | 66 | 0.263 | 111 | 0.832 | 156 | 1.000 | 201 | 0.902 | 246 | 0.950 | 291 | 0.939 | 336 | 0.503 | | |
| 22 | 0.308 | 67 | 0.274 | 112 | 0.840 | 157 | 1.000 | 202 | 0.901 | 247 | 0.954 | 292 | 0.934 | 337 | 0.489 | | |
| 23 | 0.312 | 68 | 0.284 | 113 | 0.847 | 158 | 1.000 | 203 | 0.900 | 248 | 0.957 | 293 | 0.928 | 338 | 0.475 | | |
| 24 | 0.315 | 69 | 0.296 | 114 | 0.855 | 159 | 0.999 | 204 | 0.899 | 249 | 0.960 | 294 | 0.923 | 339 | 0.461 | | |
| 25 | 0.318 | 70 | 0.308 | 115 | 0.862 | 160 | 0.998 | 205 | 0.898 | 250 | 0.964 | 295 | 0.917 | 340 | 0.447 | | |
| 26 | 0.320 | 71 | 0.321 | 116 | 0.868 | 161 | 0.997 | 206 | 0.897 | 251 | 0.967 | 296 | 0.912 | 341 | 0.433 | | |
| 27 | 0.322 | 72 | 0.334 | 117 | 0.875 | 162 | 0.995 | 207 | 0.895 | 252 | 0.970 | 297 | 0.906 | 342 | 0.419 | | |
| 28 | 0.324 | 73 | 0.348 | 118 | 0.882 | 163 | 0.994 | 208 | 0.894 | 253 | 0.972 | 298 | 0.900 | 343 | 0.405 | | |
| 29 | 0.325 | 74 | 0.362 | 119 | 0.888 | 164 | 0.992 | 209 | 0.893 | 254 | 0.975 | 299 | 0.894 | 344 | 0.391 | | |
| 30 | 0.325 | 75 | 0.376 | 120 | 0.894 | 165 | 0.989 | 210 | 0.892 | 255 | 0.978 | 300 | 0.888 | 345 | 0.377 | | |
| 31 | 0.325 | 76 | 0.391 | 121 | 0.900 | 166 | 0.987 | 211 | 0.891 | 256 | 0.980 | 301 | 0.881 | 346 | 0.363 | | |
| 32 | 0.325 | 77 | 0.405 | 122 | 0.906 | 167 | 0.984 | 212 | 0.891 | 257 | 0.982 | 302 | 0.875 | 347 | 0.350 | | |
| 33 | 0.324 | 78 | 0.420 | 123 | 0.911 | 168 | 0.982 | 213 | 0.890 | 258 | 0.984 | 303 | 0.868 | 348 | 0.336 | | |
| 34 | 0.323 | 79 | 0.435 | 124 | 0.916 | 169 | 0.979 | 214 | 0.889 | 259 | 0.986 | 304 | 0.861 | 349 | 0.323 | | |
| 35 | 0.321 | 80 | 0.450 | 125 | 0.922 | 170 | 0.976 | 215 | 0.889 | 260 | 0.988 | 305 | 0.854 | 350 | 0.310 | | |
| 36 | 0.318 | 81 | 0.465 | 126 | 0.927 | 171 | 0.973 | 216 | 0.889 | 261 | 0.989 | 306 | 0.846 | 351 | 0.298 | | |
| 37 | 0.315 | 82 | 0.480 | 127 | 0.931 | 172 | 0.970 | 217 | 0.888 | 262 | 0.990 | 307 | 0.839 | 352 | 0.286 | | |
| 38 | 0.312 | 83 | 0.495 | 128 | 0.936 | 173 | 0.967 | 218 | 0.888 | 263 | 0.991 | 308 | 0.831 | 353 | 0.275 | | |
| 39 | 0.308 | 84 | 0.510 | 129 | 0.940 | 174 | 0.963 | 219 | 0.889 | 264 | 0.992 | 309 | 0.823 | 354 | 0.265 | | |
| 40 | 0.304 | 85 | 0.525 | 130 | 0.944 | 175 | 0.960 | 220 | 0.889 | 265 | 0.993 | 310 | 0.814 | 355 | 0.255 | | |
| 41 | 0.299 | 86 | 0.540 | 131 | 0.948 | 176 | 0.957 | 221 | 0.890 | 266 | 0.993 | 311 | 0.805 | 356 | 0.247 | | |
| 42 | 0.294 | 87 | 0.555 | 132 | 0.952 | 177 | 0.954 | 222 | 0.890 | 267 | 0.994 | 312 | 0.796 | 357 | 0.239 | | |
| 43 | 0.289 | 88 | 0.569 | 133 | 0.955 | 178 | 0.951 | 223 | 0.891 | 268 | 0.994 | 313 | 0.786 | 358 | 0.233 | | |
| 44 | 0.283 | 89 | 0.583 | 134 | 0.958 | 179 | 0.947 | 224 | 0.892 | 269 | 0.994 | 314 | 0.776 | 359 | 0.228 | | |



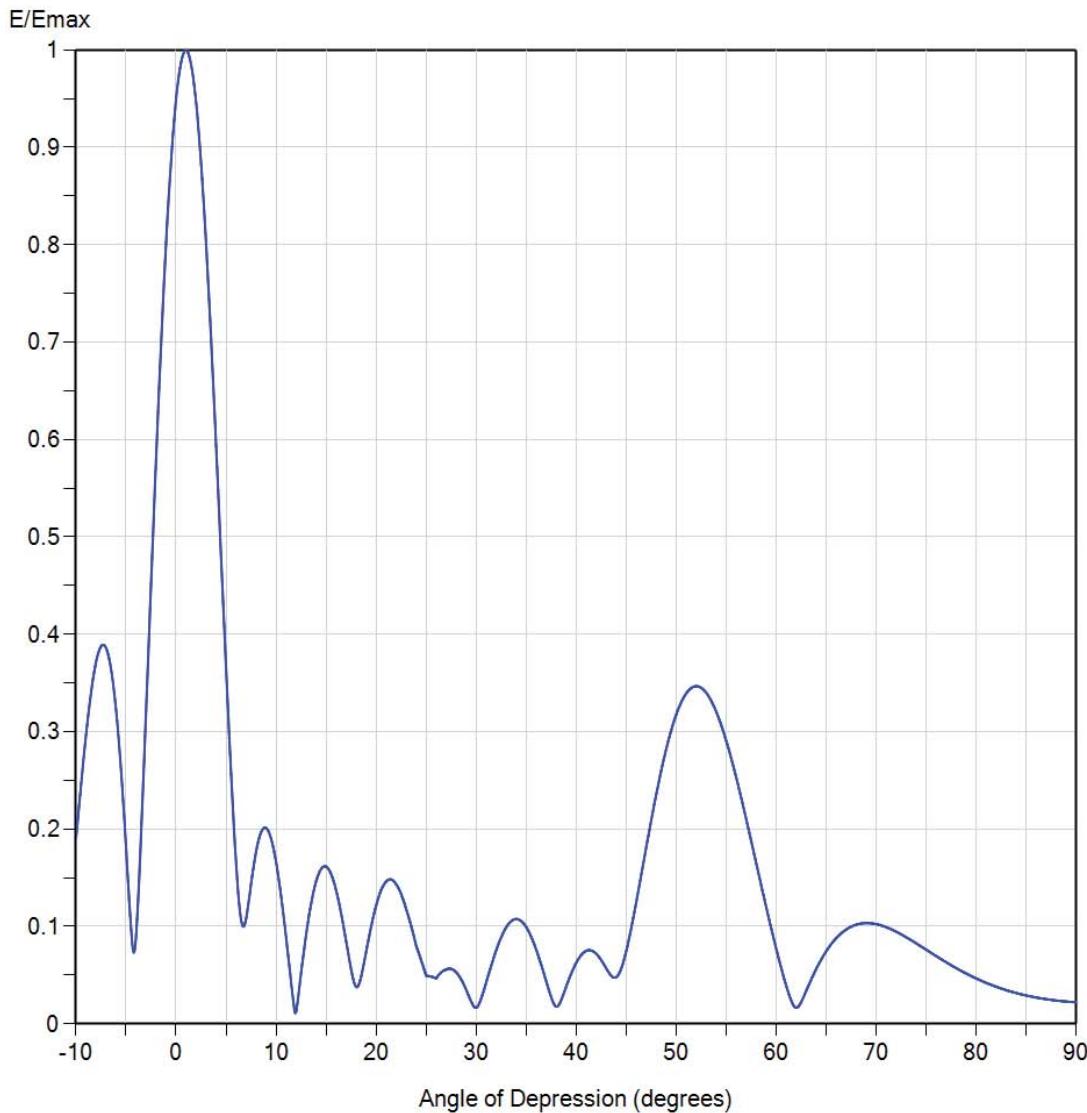
Elevation Pattern



| | | | |
|---------------|-----------------------------------|---------------------------|----------------|
| Model: | SBB-E-8C170 | Frequency: | 587.00 MHz |
| Polarization: | <u>Horizontal</u> | Directivity (Main Lobe): | 9.3 (9.70 dBd) |
| Location: | Palm Springs, CA. | Directivity (At Horizon): | 8.4 (9.25 dBd) |
| Customer: | News-Press & Gazette Broadcasting | Beam Tilt: | 1.00 degrees |
| Date: | October 5, 2017 | Azimuth Angle: | 516 degrees |



Elevation Pattern



| | | | |
|---------------|-----------------------------------|---------------------------|----------------|
| Model: | SBB-E-8C170 | Frequency: | 587.00 MHz |
| Polarization: | <u>Horizontal</u> | Directivity (Main Lobe): | 9.3 (9.70 dBd) |
| Location: | Palm Springs, CA. | Directivity (At Horizon): | 8.4 (9.25 dBd) |
| Customer: | News-Press & Gazette Broadcasting | Beam Tilt: | 1.00 degrees |
| Date: | October 5, 2017 | Azimuth Angle: | 516 degrees |



Model: **SBB-E-8C170**
 Location: **Palm Springs, CA.**
 Customer: **News-Press & Gazette**
 Date: **October 5, 2017**

Polarization: **Horizontal**
 Frequency (MHz): **587.00**
 Directivity (Main Lobe): **9.3 (9.70 dB)**
 Directivity (At Horizon): **8.4 (9.25 dB)**
 Beam Tilt: **1.00 degrees**



TABULATED ELEVATION PATTERN

| Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -10.0 | 0.191 | 2.4 | 0.897 | 10.6 | 0.122 | 30.5 | 0.026 | 51.0 | 0.339 | 71.5 | 0.097 |
| -9.5 | 0.246 | 2.6 | 0.868 | 10.8 | 0.106 | 31.0 | 0.043 | 51.5 | 0.345 | 72.0 | 0.094 |
| -9.0 | 0.297 | 2.8 | 0.836 | 11.0 | 0.088 | 31.5 | 0.060 | 52.0 | 0.347 | 72.5 | 0.092 |
| -8.5 | 0.340 | 3.0 | 0.801 | 11.5 | 0.042 | 32.0 | 0.076 | 52.5 | 0.345 | 73.0 | 0.089 |
| -8.0 | 0.372 | 3.2 | 0.763 | 12.0 | 0.013 | 32.5 | 0.089 | 53.0 | 0.340 | 73.5 | 0.086 |
| -7.5 | 0.388 | 3.4 | 0.723 | 12.5 | 0.053 | 33.0 | 0.099 | 53.5 | 0.332 | 74.0 | 0.083 |
| -7.0 | 0.386 | 3.6 | 0.681 | 13.0 | 0.092 | 33.5 | 0.105 | 54.0 | 0.320 | 74.5 | 0.079 |
| -6.5 | 0.364 | 3.8 | 0.638 | 13.5 | 0.124 | 34.0 | 0.108 | 54.5 | 0.306 | 75.0 | 0.076 |
| -6.0 | 0.322 | 4.0 | 0.594 | 14.0 | 0.147 | 34.5 | 0.105 | 55.0 | 0.290 | 75.5 | 0.073 |
| -5.5 | 0.260 | 4.2 | 0.548 | 14.5 | 0.159 | 35.0 | 0.099 | 55.5 | 0.272 | 76.0 | 0.069 |
| -5.0 | 0.181 | 4.4 | 0.502 | 15.0 | 0.161 | 35.5 | 0.089 | 56.0 | 0.253 | 76.5 | 0.066 |
| -4.5 | 0.097 | 4.6 | 0.456 | 15.5 | 0.154 | 36.0 | 0.076 | 56.5 | 0.232 | 77.0 | 0.063 |
| -4.0 | 0.091 | 4.8 | 0.410 | 16.0 | 0.137 | 36.5 | 0.060 | 57.0 | 0.210 | 77.5 | 0.060 |
| -3.5 | 0.194 | 5.0 | 0.365 | 16.5 | 0.113 | 37.0 | 0.044 | 57.5 | 0.187 | 78.0 | 0.057 |
| -3.0 | 0.321 | 5.2 | 0.320 | 17.0 | 0.085 | 37.5 | 0.027 | 58.0 | 0.164 | 78.5 | 0.054 |
| -2.8 | 0.374 | 5.4 | 0.277 | 17.5 | 0.056 | 38.0 | 0.018 | 58.5 | 0.142 | 79.0 | 0.052 |
| -2.6 | 0.426 | 5.6 | 0.237 | 18.0 | 0.038 | 38.5 | 0.024 | 59.0 | 0.119 | 79.5 | 0.049 |
| -2.4 | 0.478 | 5.8 | 0.199 | 18.5 | 0.049 | 39.0 | 0.038 | 59.5 | 0.097 | 80.0 | 0.046 |
| -2.2 | 0.530 | 6.0 | 0.164 | 19.0 | 0.074 | 39.5 | 0.052 | 60.0 | 0.077 | 80.5 | 0.044 |
| -2.0 | 0.580 | 6.2 | 0.135 | 19.5 | 0.100 | 40.0 | 0.063 | 60.5 | 0.057 | 81.0 | 0.042 |
| -1.8 | 0.628 | 6.4 | 0.113 | 20.0 | 0.122 | 40.5 | 0.071 | 61.0 | 0.039 | 81.5 | 0.040 |
| -1.6 | 0.675 | 6.6 | 0.102 | 20.5 | 0.137 | 41.0 | 0.075 | 61.5 | 0.024 | 82.0 | 0.038 |
| -1.4 | 0.720 | 6.8 | 0.101 | 21.0 | 0.146 | 41.5 | 0.075 | 62.0 | 0.016 | 82.5 | 0.036 |
| -1.2 | 0.762 | 7.0 | 0.109 | 21.5 | 0.148 | 42.0 | 0.072 | 62.5 | 0.023 | 83.0 | 0.035 |
| -1.0 | 0.802 | 7.2 | 0.121 | 22.0 | 0.143 | 42.5 | 0.065 | 63.0 | 0.034 | 83.5 | 0.033 |
| -0.8 | 0.838 | 7.4 | 0.136 | 22.5 | 0.133 | 43.0 | 0.057 | 63.5 | 0.046 | 84.0 | 0.032 |
| -0.6 | 0.872 | 7.6 | 0.151 | 23.0 | 0.118 | 43.5 | 0.049 | 64.0 | 0.057 | 84.5 | 0.030 |
| -0.4 | 0.000 | 7.8 | 0.165 | 23.5 | 0.100 | 44.0 | 0.048 | 64.5 | 0.066 | 85.0 | 0.029 |
| -0.2 | 0.000 | 8.0 | 0.177 | 24.0 | 0.080 | 44.5 | 0.057 | 65.0 | 0.075 | 85.5 | 0.028 |
| 0.0 | 0.950 | 8.2 | 0.187 | 24.5 | 0.065 | 45.0 | 0.075 | 65.5 | 0.082 | 86.0 | 0.027 |
| 0.2 | 0.968 | 8.4 | 0.194 | 25.0 | 0.049 | 45.5 | 0.098 | 66.0 | 0.088 | 86.5 | 0.026 |
| 0.4 | 0.982 | 8.6 | 0.199 | 25.5 | 0.049 | 46.0 | 0.125 | 66.5 | 0.093 | 87.0 | 0.025 |
| 0.6 | 0.000 | 8.8 | 0.201 | 26.0 | 0.047 | 46.5 | 0.153 | 67.0 | 0.097 | 87.5 | 0.025 |
| 0.8 | 0.998 | 9.0 | 0.201 | 26.5 | 0.053 | 47.0 | 0.182 | 67.5 | 0.100 | 88.0 | 0.024 |
| 1.0 | 1.000 | 9.2 | 0.198 | 27.0 | 0.056 | 47.5 | 0.209 | 68.0 | 0.102 | 88.5 | 0.023 |
| 1.2 | 0.997 | 9.4 | 0.193 | 27.5 | 0.056 | 48.0 | 0.236 | 68.5 | 0.103 | 89.0 | 0.023 |
| 1.4 | 0.990 | 9.6 | 0.186 | 28.0 | 0.053 | 48.5 | 0.260 | 69.0 | 0.103 | 89.5 | 0.022 |
| 1.6 | 0.979 | 9.8 | 0.177 | 28.5 | 0.045 | 49.0 | 0.282 | 69.5 | 0.103 | 90.0 | 0.000 |
| 1.8 | 0.964 | 10.0 | 0.166 | 29.0 | 0.035 | 49.5 | 0.302 | 70.0 | 0.102 | | |
| 2.0 | 0.946 | 10.2 | 0.153 | 29.5 | 0.023 | 50.0 | 0.318 | 70.5 | 0.101 | | |
| 2.2 | 0.923 | 10.4 | 0.138 | 30.0 | 0.017 | 50.5 | 0.330 | 71.0 | 0.099 | | |