

TECHNICAL EXHIBIT
APPLICATION FOR MODIFICATION OF
CONSTRUCTION PERMIT
TELEVISION STATION WLNE-DT
NEW BEDFORD, MASSACHUSETTS

March 15, 2004

CHANNEL 49 350 KW (MAX-DA) 284 M

TECHNICAL EXHIBIT
APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT
TELEVISION STATION WLNE-DT
NEW BEDFORD, MASSACHUSETTS
CHANNEL 49 350 KW (MAX-DA) 284 M

Table of Contents

| | |
|----------|--|
| | Technical Statement |
| Figure 1 | Technical Specifications |
| Figure 2 | Predicted Coverage Contours |
| Figure 3 | Summary of Allocation Analysis |
| Appendix | Transmitting Antenna Manufacturer's Pattern Data |

TECHNICAL EXHIBIT
APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT
TELEVISION STATION WLNE-DT
NEW BEDFORD, MASSACHUSETTS
CHANNEL 49 350 KW (MAX-DA) 284 M

Technical Statement

This Technical Exhibit was prepared on behalf of digital television broadcast station WLNE-DT, New Bedford, Massachusetts, in support of an application for modification of construction permit (See FCC File No. BPCDT-19991026ACC). WLNE-DT is authorized for operation on Channel 49 with a non-directional effective radiated power (ERP) of 380 kW and antenna height above average terrain (HAAT) of 264 m. The purpose of this application is to increase the antenna height and to specify a directional antenna operation with maximum ERP of 350 kW.

As described in detail herein, the proposed operation meets the *de minimis* interference protection requirements as outlined FCC's DTV Processing Guidelines,^{*} the FCC's *Second Memorandum Opinion and Order*,[†] and the *DTV Report and Order and Further Notice of Proposed Rule Making*.[‡]

Proposed Facilities

The proposed facility will employ a Dielectric model TFU-24DSB-R 4C170 TC transmitting antenna, which will be shared with WJAR-DT, Providence,

^{*} See FCC *Public Notice*, "Additional Application Processing Guidelines for Digital Television (DTV)", Released: August 10, 1998.

[†] See *Second Memorandum Opinion and Order on Reconsideration of the Fifth and Sixth Report and Orders*, FCC-98-315, Released: December 18, 1998.

[‡] See *Report and Order and Further Notice of Proposed Rule Making* in MM Docket No. 00-39, FCC 01-24, released January 19, 2001.

Rhode Island (Channel 51). The antenna is mounted with a center of radiation at 253 m above ground level and 313 m above mean sea level. The antenna radiation center HAAT is calculated to be 284 m based on the U.S.G.S. 3-second computer database. Technical specifications for the proposed operation are included herein as Figure 1.

The proposed facility provides minimum 48 dBu, f(50,90), coverage of New Bedford in compliance with Section 73.625(a)(1) of the FCC Rules, as adopted by the FCC in MM Docket No. 00-39. Figure 2 herein is a map depicting the predicted coverage contours of the proposed facility.

The proposed facility meets the maximum permissible ERP requirements for UHF DTV stations as outlined in Section 73.622(f)(8)(i) of the FCC Rules. According to this section of the Rules, considering a proposed antenna HAAT for the proposed WLNE-DT facility of 284 m, the maximum permissible ERP is 1000 kW.

The proposed transmitter is located 351 km from the closest point on the border the Canada and it is within the Canadian coordination zone. The closest FCC Monitoring station is located at Belfast, Maine at a distance of 338 km at a bearing of 31°True. The facility is located more than 674 km from the National Radio Quiet Zone in West Virginia. The proposal is located more than 3.2 km from the closest AM broadcast facility.

No adverse electromagnetic impact is expected as a result of the proposed operation. However, the applicant recognizes its responsibility to correct objectionable electromagnetic interference problems that result from its proposed operation.

Tower Registration

The proposed antenna structure has been registered with the FCC. The FCC antenna structure registration number is 1005123. There will be no change in the overall height of the antenna structure as a result of the instant proposal.

Domestic Allocation Considerations

The proposed WLNE-DT Channel 49 facility meets the requirements of Section 73.623 of the FCC Rules concerning predicted interference to other existing U.S. NTSC facilities and U.S. DTV allotments and assignments. Longley-Rice interference analyses were conducted pursuant to the requirements of the FCC Rules; OET Bulletin No. 69; and published FCC guidelines for preparation of such interference analyses. The Longley-Rice interference analyses were conducted using the software maintained by du Treil, Lundin & Rackley, Inc. based on the FCC published software routines.[§] Stations selected for analysis were determined pursuant to the distance requirements outlined in the FCC DTV Processing Guidelines Public Notice. Accordingly, co-channel DTV and NTSC stations within 429 km and 407 km, respectively, were examined for potential interference; and first-adjacent DTV and NTSC stations within 229 km and 207 km, respectively, were examined for potential interference. Analog taboo-related NTSC stations within 142 km were examined for potential interference. The results of the interference analyses for the proposed WLNE-DT facility are summarized herein at Figure 3. As indicated therein, the proposed facility will meet the 2%/10% criterion outlined in the FCC Rules and published guidelines with respect to all considered stations.

[§] The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is a precise implementation of the procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed.

With respect to Class A TV station protection, the proposal has been evaluated according to the requirements of Section 73.623(c)(5) of the FCC Rules. The analysis reveals two potentially affected Class A TV station facility records, as follows:

WRIW-LP, Providence, RI, Channel 50 (FCC File No. BPTTA-20030425ABC)

WRIW-LP, Providence, RI, Channel 50 (FCC File No. BLTTL-19990104JC)

A contour analysis indicates that there would be prohibited contour overlap between the proposed WLNE-DT facility and both of the WRIW-LP facilities. However, the applicant requests a waiver pursuant to Section 73.623(c)(5)(iii) of the FCC Rules to permit the use of the Longley-Rice terrain dependent propagation model as described in FCC OET Bulletin No. 69. An analysis of predicted interference with respect to both of the WRIW-LP facilities prepared according to OET Bulletin No. 69 reveals no additional net predicted interference to the WRIW-LP facilities (See Figure 5).

Environmental Considerations

An evaluation was conducted for the proposed facility concerning compliance with Section 1.1307(b) of the FCC Rules regarding human exposure to radio frequency (RF) energy.^{**} Calculations prepared in accordance with FCC Bulletin OET-65 (Edition 97-01) indicate that the proposal will not result in human exposure to RF radiation at ground level in excess of FCC standards. Power density calculations were conducted at 2-m above ground^{††} based on the following conservative assumptions, with the following results:

^{**} See FCC Office of Engineering and Technology Bulletin No. 56 for background information on non-ionizing RF energy of the type discussed here. Internet web reference:

http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

^{††} The antenna radiation center height above ground is 253 m.

| Call Sign | Channel | Total Average ERP (kW) | Relative Field Factor^{‡‡} | FCC Limit^{§§} (mW/cm²) | Percentage of Limit |
|------------------|----------------|-------------------------------|---|---|----------------------------|
| WLNE-DT | 49 | 350 | 0.20 | 0.455 | 1.6% |

As indicated above, the total exposure to RF radiation at 2-m above ground level will not exceed 1.6% of the FCC limit for general population / uncontrolled exposure. Therefore, the proposal complies with the FCC limits for human exposure to RF energy and it is categorically excluded from environmental processing. The applicant, in coordination with other users of the transmission facility, shall reduce power or cease operation as necessary to protect persons having access to the WLNE-DT tower or antenna from radio frequency radiation in excess of the FCC guidelines.

Louis Robert du Treil, Jr.

du Treil, Lundin & Rackley, Inc.
201 Fletcher Ave.
Sarasota, FL 34237-6019

March 15, 2004

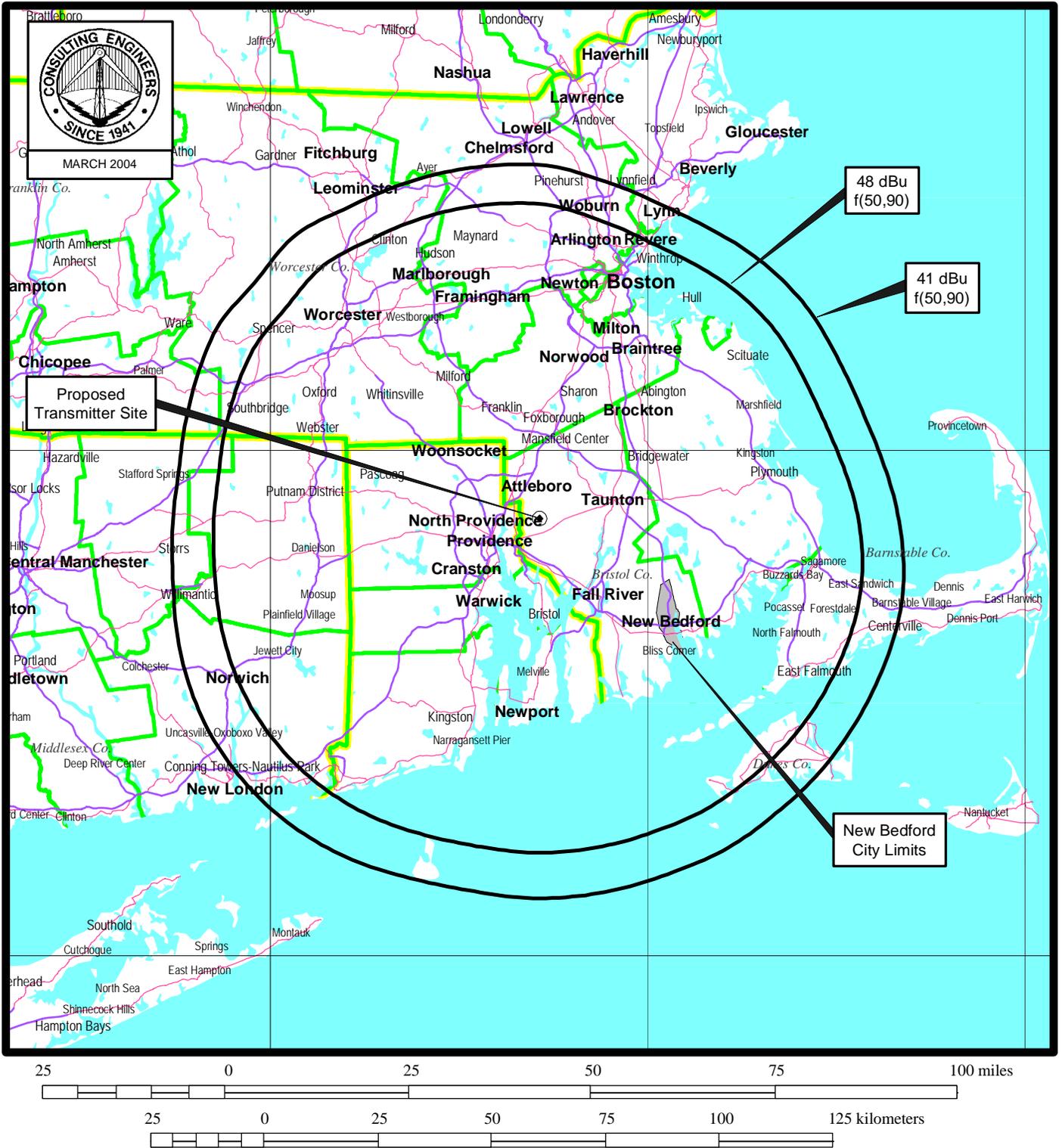
^{‡‡} This is a conservative estimate of the relative field factor in the downward direction.
^{§§} for general population/uncontrolled environments

TECHNICAL EXHIBIT
 APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT
 TELEVISION STATION WLNE-DT
 NEW BEDFORD, MASSACHUSETTS
 CHANNEL 49 350 KW (MAX-DA) 284 M

Technical Specifications

| | |
|---|--|
| Channel / Frequency Band | 49 / 680-686 MHz |
| Site Coordinates (NAD 27) | 41°51'54" North Latitude 71°17'15" West Longitude |
| Site elevation | 60 m AMSL |
| Average elevation of standard eight radials, 3 to 16 km (to the nearest meter) | 29 m AMSL |
| Overall height of existing structure | 289 m AGL / 349 m AMSL |
| Height of antenna radiation center (to the nearest meter) | 253 m AGL / 313 m AMSL |
| Antenna radiation center HAAT (to the nearest meter) | 284 m |
| ASRN | 1005123 |

| Proposed Operation | |
|---|---------------------|
| Parameter | DTV |
| Transmitter power output | 11.25 dBk (13.3 kW) |
| Combiner (Dielectric) | 0.25 dB |
| Transmission line loss (Dielectric, 6-1/8-inch EIA 50-ohm, 320-m) | 1.43 dB |
| Antenna input power | 9.57 dBk |
| Antenna gain (Dielectric, TFU-24DSB-R 4C170 TC) | 15.83 dB |
| Effective radiated power (ERP) | 25.4 dBk (350 kW) |



PREDICTED COVERAGE CONTOURS

TELEVISION STATION WLNE-DT
 NEW BEDFORD, MASSACHUSETTS
 CHANNEL 49 350 KW (MAX-DA) 284 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

TECHNICAL EXHIBIT
 APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT
 TELEVISION STATION WLNE-DT
 NEW BEDFORD, MASSACHUSETTS
 CHANNEL 49 350 KW (MAX-DA) 284 M

Summary of Allocation Analysis

| Stations Potentially Affected by Proposed Station | | | | | | | |
|---|---------|---------|------------------|---------------|--------|--------------------|------------------------------|
| Facility Number | Channel | Call | City State | Distance (km) | Status | Application Prefix | Application Reference Number |
| 1 | 34 | WNEU | MERRIMACK NH | 126.8 | APP | BPCT | 20020123AAE |
| 2 | 46 | WWDP | NORWELL MA | 26.0 | LIC | BLCT | 19970116KE |
| 3 | 48 | WYDN | WORCESTER MA | 70.1 | LIC | BLET | 20001226AAM |
| 4 | 48 | WRNN-TV | KINGSTON NY | 224.9 | APP | BMPCDT | 20040203AAJ |
| 5 | 48 | WRNN-TV | KINGSTON NY | 224.9 | CP | BPCDT | 20020130AAQ |
| 6 | 48 | WRNNTV | KINGSTON NY | 224.8 | APP | BPRM | 20000328AAV |
| 7 | 49 | WEDW | BRIDGEPORT CT | 170.8 | LIC | BLET | 19870908KE |
| 8 | 49 | WEKW-DT | KEENE NH | 157.2 | PLN | DTVPLN | DTVP1425 |
| 9 | 49 | WLED-TV | LITTLETON NH | 278.9 | LIC | BLET | 19980123KJ |
| 10 | 49 | WWSI | ATLANTIC CITY NJ | 358.1 | LIC | BLCDT | 20020812ABS |

| Stations Potentially Affected by Proposed Station | | | | | | | |
|---|---------|---------|------------------|---------------|--------|--------------------|------------------------------|
| Facility Number | Channel | Call | City State | Distance (km) | Status | Application Prefix | Application Reference Number |
| 11 | 49 | WACI-DT | ATLANTIC CITY NJ | 354.2 | PLN | DTVPLN | DTVP1426 |
| 12 | 49 | WNEP-DT | SCRANTON PA | 389.0 | PLN | DTVPLN | DTVP1429 |
| 13 | 49 | WNEP-TV | SCRANTON PA | 388.7 | CP | BPCDT | 19990729KF |
| 14 | 49 | WNEP-TV | SCRANTON PA | 388.7 | LIC | BLCDT | 20020807AAF |
| 15 | 50 | WNDS | DERRY NH | 97.1 | LIC | BLCT | 19831012KG |
| 16 | 50 | WRIW-LP | PROVIDENCE RI | 16.8 | CP | BPTTA | 20030425ABC |
| 17 | 50 | WRIW-LP | PROVIDENCE RI | 23.4 | LIC | BLTTL | 19990104JC |
| 18 | 53 | WEDN | NORWICH CT | 82.5 | CP | BPET | 20011003ABH |
| 19 | 53 | WEDN | NORWICH CT | 82.5 | LIC | BLET | 19860124KI |
| 20 | 56 | WLVI-TV | CAMBRIDGE MA | 49.0 | LIC | BLCT | 2080 |
| 21 | 57 | WGBY-TV | SPRINGFIELD MA | 119.9 | LIC | BLET | 345 |
| 22 | 57 | WGBY-TV | SPRINGFIELD MA | 119.9 | CP MOD | BMPET | 19910624KF |

Summary of Interference Analysis for Worst-Case Scenarios

| Facility Number | Interference Population Before Analysis | Interference Population After Analysis | Baseline Population | Net Change in Interference | Percent of Baseline | Permissible Percent of Baseline | Result |
|-----------------|---|--|---------------------|----------------------------|---------------------|---------------------------------|--------|
| 1 | -- | -- | -- | * | 0.000 | -- | pass |
| 2 | 894787 | 913262 | 2659524 | 18475 | 0.695 | 0.922 | pass |
| 3 | 1910489 | 1904735 | 4940921 | -5754 | -0.116 | 0.050 | pass |
| 4 | -- | -- | -- | * | 0.000 | -- | pass |
| 5 | -- | -- | -- | * | 0.000 | -- | pass |
| 6 | -- | -- | -- | * | 0.000 | -- | pass |
| 7 | 563209 | 313177 | 3822554 | -250032 | -6.541 | 0.050 | pass |
| 8 | 17247 | 16215 | 203546 | -1032 | -0.507 | 2.000 | pass |
| 9 | -- | -- | -- | * | 0.000 | -- | pass |
| 10 | -- | -- | -- | * | 0.000 | -- | pass |
| 11 | -- | -- | -- | * | 0.000 | -- | pass |
| 12 | -- | -- | -- | * | 0.000 | -- | pass |
| 13 | -- | -- | -- | * | 0.000 | -- | pass |
| 14 | -- | -- | -- | * | 0.000 | -- | pass |
| 15 | 524784 | 524784 | 3324849 | 0 | 0.000 | 0.050 | pass |
| 16 | -- | -- | -- | * | 0.000 | -- | pass |
| 17 | 31907 | 22842 | 660454 | -9065 | -1.373 | 2.000 | pass |

* There is no interference predicted.

| Summary of Interference Analysis for Worst-Case Scenarios | | | | | | | |
|---|---|--|---------------------|----------------------------|---------------------|---------------------------------|--------|
| Facility Number | Interference Population Before Analysis | Interference Population After Analysis | Baseline Population | Net Change in Interference | Percent of Baseline | Permissible Percent of Baseline | Result |
| 18 | 55338 | 42568 | 513359 | -12770 | -2.488 | 0.109 | pass |
| 19 | -- | -- | -- | * | 0.000 | -- | pass |
| 20 | -- | -- | -- | * | 0.000 | -- | pass |
| 21 | 263668 | 263347 | 6014509 | -321 | -0.005 | 2.000 | pass |
| 22 | -- | -- | -- | * | 0.000 | -- | pass |

* There is no interference predicted.

TECHNICAL EXHIBIT
APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT
TELEVISION STATION WLNE-DT
NEW BEDFORD, MASSACHUSETTS
CHANNEL 49 350 KW (MAX-DA) 284 M

Transmitting Antenna
Manufacturer's Pattern Data

(four pages follow)

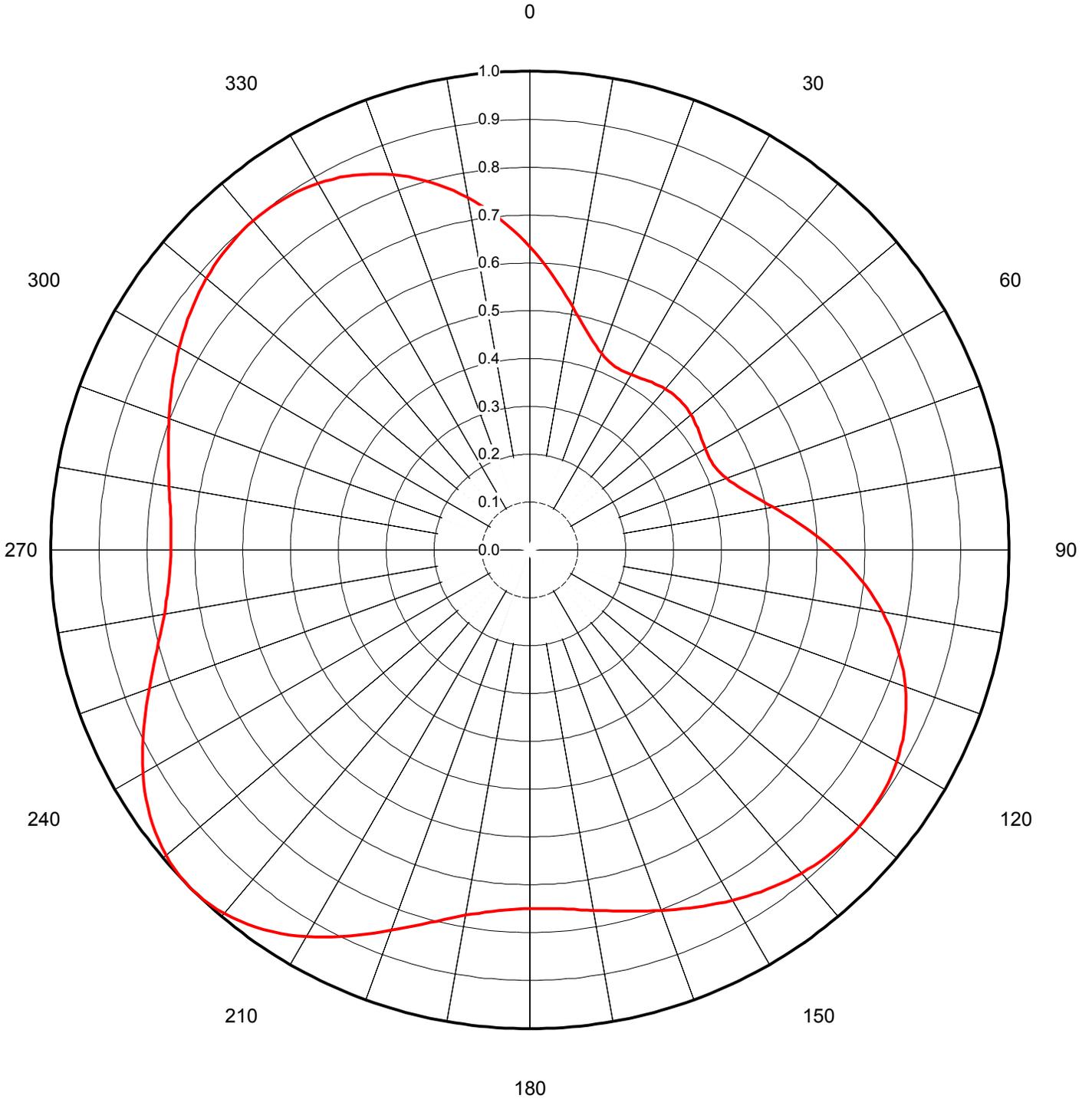


Proposal Number **DCA-10098**
Date **12-Nov-02**
Call Letters **WJAR-DT-DT** Channel **49**
Location **Providence, RI**
Customer
Antenna Type **TFU-24DSB-R 4C170 TC**

AZIMUTH PATTERN

Gain **1.70** **(2.30 dB)**
Calculated / Measured **Calculated**

Frequency **683.00 MHz**
Drawing # **TFU-4C170-49**





Proposal Number **DCA-10098**
 Date **12-Nov-02**
 Call Letters **WJAR-DT-DT** Channel **49**
 Location **Providence, RI**
 Customer
 Antenna Type **TFU-24DSB-R 4C170 TC**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-4C170-49**

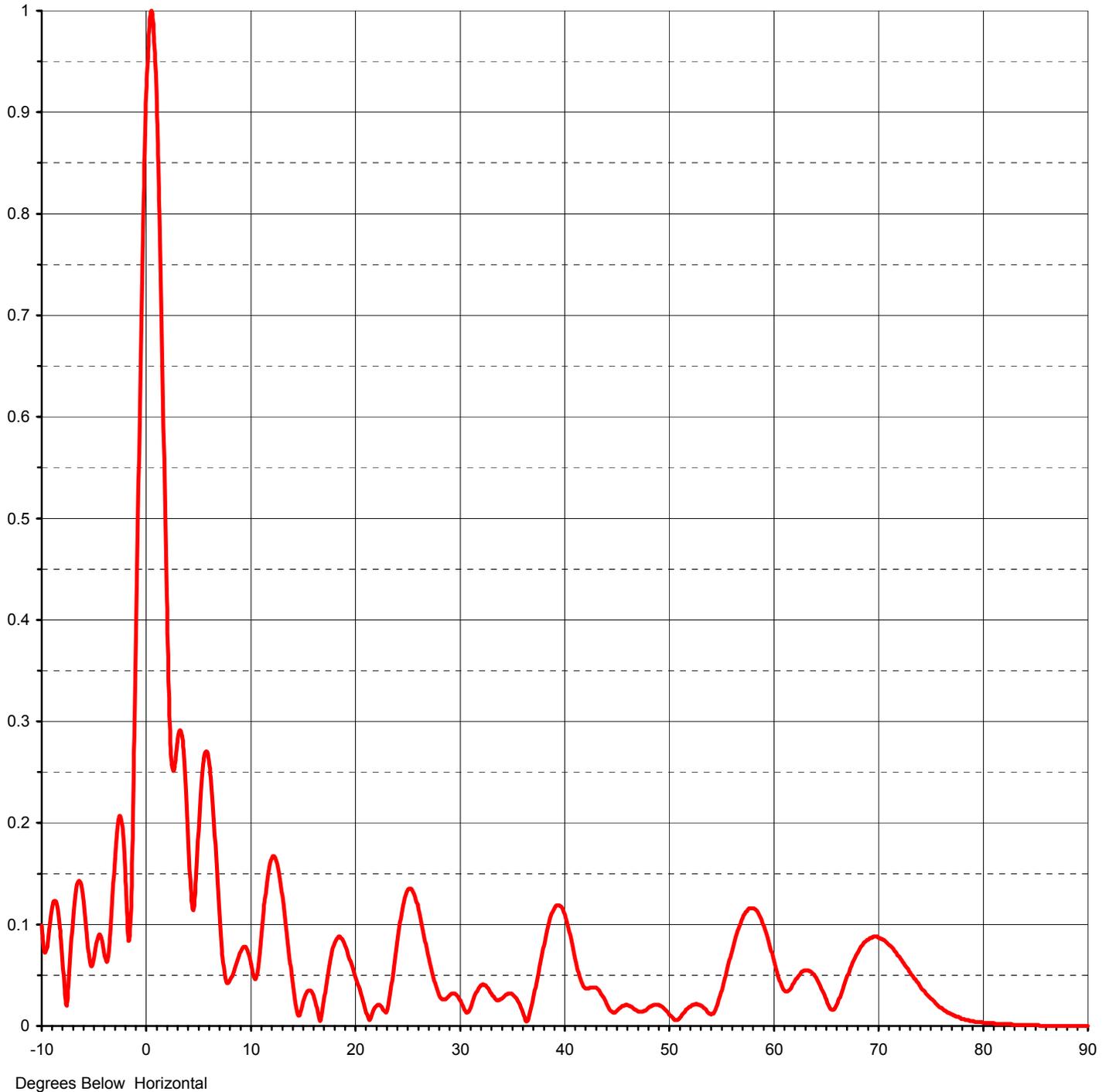
| Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 0.633 | 45 | 0.443 | 90 | 0.633 | 135 | 0.893 | 180 | 0.749 | 225 | 1.000 | 270 | 0.749 | 315 | 0.893 |
| 1 | 0.621 | 46 | 0.443 | 91 | 0.645 | 136 | 0.891 | 181 | 0.750 | 226 | 0.999 | 271 | 0.749 | 316 | 0.894 |
| 2 | 0.609 | 47 | 0.442 | 92 | 0.657 | 137 | 0.889 | 182 | 0.751 | 227 | 0.999 | 272 | 0.750 | 317 | 0.896 |
| 3 | 0.596 | 48 | 0.441 | 93 | 0.669 | 138 | 0.887 | 183 | 0.752 | 228 | 0.997 | 273 | 0.750 | 318 | 0.897 |
| 4 | 0.584 | 49 | 0.441 | 94 | 0.681 | 139 | 0.884 | 184 | 0.754 | 229 | 0.995 | 274 | 0.751 | 319 | 0.898 |
| 5 | 0.572 | 50 | 0.439 | 95 | 0.693 | 140 | 0.881 | 185 | 0.756 | 230 | 0.991 | 275 | 0.753 | 320 | 0.898 |
| 6 | 0.561 | 51 | 0.438 | 96 | 0.704 | 141 | 0.878 | 186 | 0.759 | 231 | 0.988 | 276 | 0.755 | 321 | 0.898 |
| 7 | 0.549 | 52 | 0.436 | 97 | 0.715 | 142 | 0.875 | 187 | 0.762 | 232 | 0.984 | 277 | 0.756 | 322 | 0.898 |
| 8 | 0.538 | 53 | 0.435 | 98 | 0.726 | 143 | 0.872 | 188 | 0.766 | 233 | 0.979 | 278 | 0.759 | 323 | 0.898 |
| 9 | 0.526 | 54 | 0.433 | 99 | 0.737 | 144 | 0.868 | 189 | 0.770 | 234 | 0.974 | 279 | 0.761 | 324 | 0.896 |
| 10 | 0.516 | 55 | 0.431 | 100 | 0.747 | 145 | 0.865 | 190 | 0.775 | 235 | 0.968 | 280 | 0.764 | 325 | 0.895 |
| 11 | 0.505 | 56 | 0.429 | 101 | 0.758 | 146 | 0.861 | 191 | 0.780 | 236 | 0.962 | 281 | 0.767 | 326 | 0.894 |
| 12 | 0.495 | 57 | 0.427 | 102 | 0.767 | 147 | 0.857 | 192 | 0.786 | 237 | 0.955 | 282 | 0.771 | 327 | 0.892 |
| 13 | 0.486 | 58 | 0.426 | 103 | 0.777 | 148 | 0.853 | 193 | 0.792 | 238 | 0.948 | 283 | 0.774 | 328 | 0.890 |
| 14 | 0.477 | 59 | 0.424 | 104 | 0.786 | 149 | 0.849 | 194 | 0.799 | 239 | 0.940 | 284 | 0.778 | 329 | 0.887 |
| 15 | 0.468 | 60 | 0.423 | 105 | 0.795 | 150 | 0.845 | 195 | 0.806 | 240 | 0.932 | 285 | 0.781 | 330 | 0.884 |
| 16 | 0.461 | 61 | 0.422 | 106 | 0.803 | 151 | 0.841 | 196 | 0.813 | 241 | 0.924 | 286 | 0.785 | 331 | 0.881 |
| 17 | 0.454 | 62 | 0.421 | 107 | 0.812 | 152 | 0.836 | 197 | 0.821 | 242 | 0.916 | 287 | 0.789 | 332 | 0.877 |
| 18 | 0.448 | 63 | 0.421 | 108 | 0.819 | 153 | 0.832 | 198 | 0.829 | 243 | 0.907 | 288 | 0.793 | 333 | 0.873 |
| 19 | 0.442 | 64 | 0.422 | 109 | 0.827 | 154 | 0.828 | 199 | 0.837 | 244 | 0.899 | 289 | 0.797 | 334 | 0.869 |
| 20 | 0.437 | 65 | 0.422 | 110 | 0.834 | 155 | 0.823 | 200 | 0.846 | 245 | 0.890 | 290 | 0.802 | 335 | 0.864 |
| 21 | 0.432 | 66 | 0.424 | 111 | 0.841 | 156 | 0.819 | 201 | 0.854 | 246 | 0.881 | 291 | 0.806 | 336 | 0.858 |
| 22 | 0.429 | 67 | 0.426 | 112 | 0.847 | 157 | 0.815 | 202 | 0.863 | 247 | 0.872 | 292 | 0.810 | 337 | 0.853 |
| 23 | 0.426 | 68 | 0.429 | 113 | 0.853 | 158 | 0.810 | 203 | 0.872 | 248 | 0.863 | 293 | 0.815 | 338 | 0.847 |
| 24 | 0.424 | 69 | 0.432 | 114 | 0.858 | 159 | 0.806 | 204 | 0.881 | 249 | 0.854 | 294 | 0.819 | 339 | 0.841 |
| 25 | 0.422 | 70 | 0.437 | 115 | 0.864 | 160 | 0.802 | 205 | 0.890 | 250 | 0.846 | 295 | 0.823 | 340 | 0.834 |
| 26 | 0.422 | 71 | 0.442 | 116 | 0.869 | 161 | 0.797 | 206 | 0.899 | 251 | 0.837 | 296 | 0.828 | 341 | 0.827 |
| 27 | 0.421 | 72 | 0.448 | 117 | 0.873 | 162 | 0.793 | 207 | 0.907 | 252 | 0.829 | 297 | 0.832 | 342 | 0.819 |
| 28 | 0.421 | 73 | 0.454 | 118 | 0.877 | 163 | 0.789 | 208 | 0.916 | 253 | 0.821 | 298 | 0.836 | 343 | 0.812 |
| 29 | 0.422 | 74 | 0.461 | 119 | 0.881 | 164 | 0.785 | 209 | 0.924 | 254 | 0.813 | 299 | 0.841 | 344 | 0.803 |
| 30 | 0.423 | 75 | 0.468 | 120 | 0.884 | 165 | 0.781 | 210 | 0.932 | 255 | 0.806 | 300 | 0.845 | 345 | 0.795 |
| 31 | 0.424 | 76 | 0.477 | 121 | 0.887 | 166 | 0.778 | 211 | 0.940 | 256 | 0.799 | 301 | 0.849 | 346 | 0.786 |
| 32 | 0.426 | 77 | 0.486 | 122 | 0.890 | 167 | 0.774 | 212 | 0.948 | 257 | 0.792 | 302 | 0.853 | 347 | 0.777 |
| 33 | 0.427 | 78 | 0.495 | 123 | 0.892 | 168 | 0.771 | 213 | 0.955 | 258 | 0.786 | 303 | 0.857 | 348 | 0.767 |
| 34 | 0.429 | 79 | 0.505 | 124 | 0.894 | 169 | 0.767 | 214 | 0.962 | 259 | 0.780 | 304 | 0.861 | 349 | 0.758 |
| 35 | 0.431 | 80 | 0.516 | 125 | 0.895 | 170 | 0.764 | 215 | 0.968 | 260 | 0.775 | 305 | 0.865 | 350 | 0.747 |
| 36 | 0.433 | 81 | 0.526 | 126 | 0.897 | 171 | 0.761 | 216 | 0.974 | 261 | 0.770 | 306 | 0.868 | 351 | 0.737 |
| 37 | 0.435 | 82 | 0.538 | 127 | 0.898 | 172 | 0.759 | 217 | 0.979 | 262 | 0.766 | 307 | 0.872 | 352 | 0.726 |
| 38 | 0.436 | 83 | 0.549 | 128 | 0.898 | 173 | 0.756 | 218 | 0.984 | 263 | 0.762 | 308 | 0.875 | 353 | 0.715 |
| 39 | 0.438 | 84 | 0.561 | 129 | 0.898 | 174 | 0.755 | 219 | 0.988 | 264 | 0.759 | 309 | 0.878 | 354 | 0.704 |
| 40 | 0.439 | 85 | 0.572 | 130 | 0.898 | 175 | 0.753 | 220 | 0.991 | 265 | 0.756 | 310 | 0.881 | 355 | 0.693 |
| 41 | 0.441 | 86 | 0.584 | 131 | 0.898 | 176 | 0.751 | 221 | 0.995 | 266 | 0.754 | 311 | 0.884 | 356 | 0.681 |
| 42 | 0.441 | 87 | 0.596 | 132 | 0.897 | 177 | 0.750 | 222 | 0.997 | 267 | 0.752 | 312 | 0.887 | 357 | 0.669 |
| 43 | 0.442 | 88 | 0.609 | 133 | 0.896 | 178 | 0.750 | 223 | 0.999 | 268 | 0.751 | 313 | 0.889 | 358 | 0.657 |
| 44 | 0.443 | 89 | 0.621 | 134 | 0.894 | 179 | 0.749 | 224 | 0.999 | 269 | 0.750 | 314 | 0.891 | 359 | 0.645 |



Proposal Number **DCA-10098**
Date **12-Nov-02**
Call Letters **WJAR-DT-DT** Channel **49**
Location **Providence, RI**
Customer
Antenna Type **TFU-24DSB-R 4C170 TC**

ELEVATION PATTERN

| | | | |
|------------------------|---------------------------|-----------|---------------------|
| RMS Gain at Main Lobe | 22.50 (13.52 dB) | Beam Tilt | 0.50 deg |
| RMS Gain at Horizontal | 18.80 (12.74 dB) | Frequency | 683.00 MHz |
| Calculated / Measured | Calculated | Drawing # | 24B22505L-90 |





Proposal Number **DCA-10098**
 Date **12-Nov-02**
 Call Letters **WJAR-DT-DT** Channel **49**
 Location **Providence, RI**
 Customer
 Antenna Type **TFU-24DSB-R 4C170 TC**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **24B22505L-90**

| Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -10.0 | 0.080 | 2.4 | 0.276 | 10.6 | 0.046 | 30.5 | 0.032 | 51.0 | 0.007 | 71.5 | 0.063 |
| -9.5 | 0.090 | 2.6 | 0.257 | 10.8 | 0.045 | 31.0 | 0.027 | 51.5 | 0.006 | 72.0 | 0.065 |
| -9.0 | 0.122 | 2.8 | 0.266 | 11.0 | 0.055 | 31.5 | 0.021 | 52.0 | 0.003 | 72.5 | 0.065 |
| -8.5 | 0.106 | 3.0 | 0.284 | 11.5 | 0.105 | 32.0 | 0.019 | 52.5 | 0.001 | 73.0 | 0.064 |
| -8.0 | 0.043 | 3.2 | 0.295 | 12.0 | 0.149 | 32.5 | 0.022 | 53.0 | 0.004 | 73.5 | 0.061 |
| -7.5 | 0.051 | 3.4 | 0.293 | 12.5 | 0.165 | 33.0 | 0.023 | 53.5 | 0.009 | 74.0 | 0.058 |
| -7.0 | 0.117 | 3.6 | 0.276 | 13.0 | 0.150 | 33.5 | 0.022 | 54.0 | 0.012 | 74.5 | 0.053 |
| -6.5 | 0.134 | 3.8 | 0.245 | 13.5 | 0.113 | 34.0 | 0.020 | 54.5 | 0.013 | 75.0 | 0.049 |
| -6.0 | 0.094 | 4.0 | 0.203 | 14.0 | 0.069 | 34.5 | 0.022 | 55.0 | 0.012 | 75.5 | 0.044 |
| -5.5 | 0.018 | 4.2 | 0.159 | 14.5 | 0.029 | 35.0 | 0.024 | 55.5 | 0.011 | 76.0 | 0.039 |
| -5.0 | 0.061 | 4.4 | 0.125 | 15.0 | 0.008 | 35.5 | 0.024 | 56.0 | 0.015 | 76.5 | 0.035 |
| -4.5 | 0.092 | 4.6 | 0.119 | 15.5 | 0.023 | 36.0 | 0.021 | 56.5 | 0.027 | 77.0 | 0.030 |
| -4.0 | 0.067 | 4.8 | 0.145 | 16.0 | 0.030 | 36.5 | 0.014 | 57.0 | 0.043 | 77.5 | 0.026 |
| -3.5 | 0.082 | 5.0 | 0.184 | 16.5 | 0.023 | 37.0 | 0.005 | 57.5 | 0.060 | 78.0 | 0.022 |
| -3.0 | 0.168 | 5.2 | 0.221 | 17.0 | 0.003 | 37.5 | 0.009 | 58.0 | 0.076 | 78.5 | 0.019 |
| -2.8 | 0.194 | 5.4 | 0.250 | 17.5 | 0.030 | 38.0 | 0.029 | 58.5 | 0.090 | 79.0 | 0.016 |
| -2.6 | 0.207 | 5.6 | 0.268 | 18.0 | 0.059 | 38.5 | 0.053 | 59.0 | 0.099 | 79.5 | 0.013 |
| -2.4 | 0.204 | 5.8 | 0.273 | 18.5 | 0.078 | 39.0 | 0.079 | 59.5 | 0.104 | 80.0 | 0.011 |
| -2.2 | 0.184 | 6.0 | 0.266 | 19.0 | 0.083 | 39.5 | 0.101 | 60.0 | 0.103 | 80.5 | 0.009 |
| -2.0 | 0.145 | 6.2 | 0.247 | 19.5 | 0.076 | 40.0 | 0.115 | 60.5 | 0.097 | 81.0 | 0.007 |
| -1.8 | 0.097 | 6.4 | 0.220 | 20.0 | 0.063 | 40.5 | 0.117 | 61.0 | 0.085 | 81.5 | 0.006 |
| -1.6 | 0.081 | 6.6 | 0.186 | 20.5 | 0.048 | 41.0 | 0.108 | 61.5 | 0.071 | 82.0 | 0.005 |
| -1.4 | 0.148 | 6.8 | 0.149 | 21.0 | 0.031 | 41.5 | 0.089 | 62.0 | 0.055 | 82.5 | 0.004 |
| -1.2 | 0.254 | 7.0 | 0.110 | 21.5 | 0.012 | 42.0 | 0.065 | 62.5 | 0.040 | 83.0 | 0.003 |
| -1.0 | 0.374 | 7.2 | 0.073 | 22.0 | 0.011 | 42.5 | 0.046 | 63.0 | 0.030 | 83.5 | 0.002 |
| -0.8 | 0.499 | 7.4 | 0.040 | 22.5 | 0.023 | 43.0 | 0.038 | 63.5 | 0.031 | 84.0 | 0.002 |
| -0.6 | 0.621 | 7.6 | 0.013 | 23.0 | 0.021 | 43.5 | 0.040 | 64.0 | 0.037 | 84.5 | 0.002 |
| -0.4 | 0.735 | 7.8 | 0.014 | 23.5 | 0.013 | 44.0 | 0.040 | 64.5 | 0.044 | 85.0 | 0.001 |
| -0.2 | 0.834 | 8.0 | 0.028 | 24.0 | 0.040 | 44.5 | 0.035 | 65.0 | 0.048 | 85.5 | 0.001 |
| 0.0 | 0.913 | 8.2 | 0.038 | 24.5 | 0.079 | 45.0 | 0.025 | 65.5 | 0.047 | 86.0 | 0.001 |
| 0.2 | 0.968 | 8.4 | 0.044 | 25.0 | 0.113 | 45.5 | 0.016 | 66.0 | 0.043 | 86.5 | 0.001 |
| 0.4 | 0.997 | 8.6 | 0.048 | 25.5 | 0.132 | 46.0 | 0.016 | 66.5 | 0.036 | 87.0 | 0.000 |
| 0.6 | 0.996 | 8.8 | 0.052 | 26.0 | 0.133 | 46.5 | 0.023 | 67.0 | 0.027 | 87.5 | 0.000 |
| 0.8 | 0.968 | 9.0 | 0.057 | 26.5 | 0.119 | 47.0 | 0.029 | 67.5 | 0.017 | 88.0 | 0.000 |
| 1.0 | 0.914 | 9.2 | 0.063 | 27.0 | 0.095 | 47.5 | 0.031 | 68.0 | 0.012 | 88.5 | 0.000 |
| 1.2 | 0.836 | 9.4 | 0.068 | 27.5 | 0.072 | 48.0 | 0.028 | 68.5 | 0.018 | 89.0 | 0.000 |
| 1.4 | 0.741 | 9.6 | 0.070 | 28.0 | 0.052 | 48.5 | 0.023 | 69.0 | 0.028 | 89.5 | 0.000 |
| 1.6 | 0.635 | 9.8 | 0.070 | 28.5 | 0.037 | 49.0 | 0.017 | 69.5 | 0.038 | 90.0 | 0.000 |
| 1.8 | 0.524 | 10.0 | 0.068 | 29.0 | 0.027 | 49.5 | 0.011 | 70.0 | 0.047 | | |
| 2.0 | 0.420 | 10.2 | 0.062 | 29.5 | 0.027 | 50.0 | 0.007 | 70.5 | 0.054 | | |
| 2.2 | 0.333 | 10.4 | 0.053 | 30.0 | 0.031 | 50.5 | 0.007 | 71.0 | 0.060 | | |