



Date  
Call Letters  
Location  
Customer  
Antenna Type

19 Sep 2002  
WJAC-DT Channel 34  
Johnstown, PA  
Cox Broadcasting  
TFU-24DSC-R C170

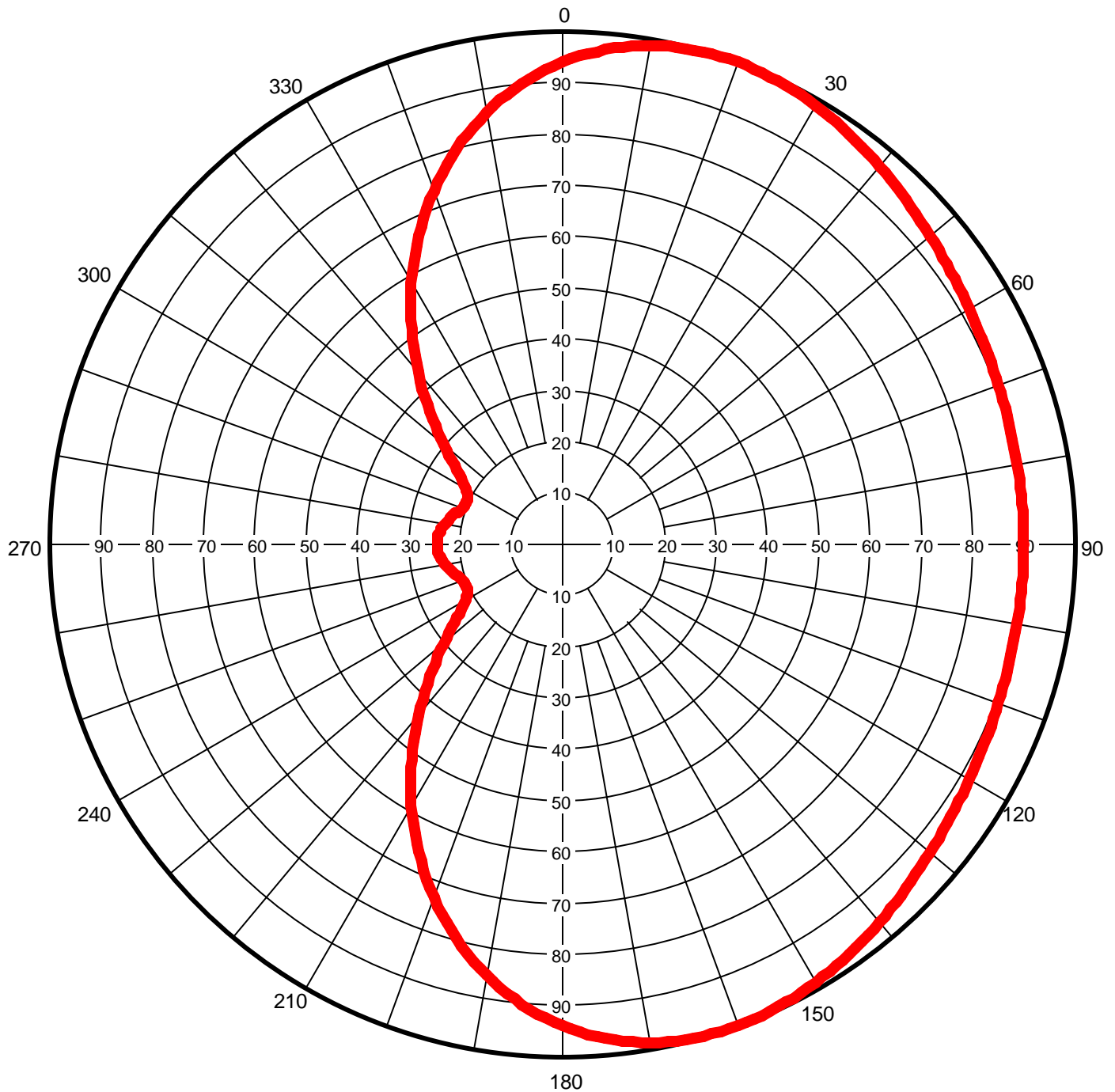
### AZIMUTH PATTERN

RMS Gain at Main Lobe  
Calculated / Measured

1.70 (2.30 dB)  
Calculated

Frequency  
Drawing #

593 MHz  
TFU-C170



Remarks: Denny & Associates, P.C.



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Antenna Type	<b>TFU-24DSC-R C170</b>	

### TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **TFU-C170**

Angle	Field	ERP (kW)	ERP (dBk)
0	0.940	220.9	23.44
10	0.987	243.5	23.87
20	1.000	250.0	23.98
30	0.988	244.0	23.87
40	0.963	231.8	23.65
50	0.936	219.0	23.40
60	0.917	210.2	23.23
70	0.905	204.8	23.11
80	0.900	202.5	23.06
90	0.899	202.1	23.05
100	0.900	202.5	23.06
110	0.905	204.8	23.11
120	0.917	210.2	23.23
130	0.936	219.0	23.40
140	0.963	231.8	23.65
150	0.988	244.0	23.87
160	1.000	250.0	23.98
170	0.987	243.5	23.87
180	0.940	220.9	23.44
190	0.854	182.3	22.61
200	0.733	134.3	21.28
210	0.588	86.4	19.37
220	0.437	47.7	16.79
230	0.302	22.8	13.58
240	0.218	11.9	10.75
250	0.207	10.7	10.30
260	0.232	13.5	11.29
270	0.245	15.0	11.76
280	0.232	13.5	11.29
290	0.207	10.7	10.30
300	0.218	11.9	10.75
310	0.302	22.8	13.58
320	0.437	47.7	16.79
330	0.588	86.4	19.37
340	0.733	134.3	21.28
350	0.854	182.3	22.61

#### Maxima

Angle	Field	ERP (kW)	ERP (dBk)
19	1.000	250.0	23.98
161	1.000	250.0	23.98
270	0.245	15.0	11.76

#### Minima

Angle	Field	ERP (kW)	ERP (dBk)
90	0.899	202.1	23.05
246	0.204	10.4	10.17
294	0.204	10.4	10.17

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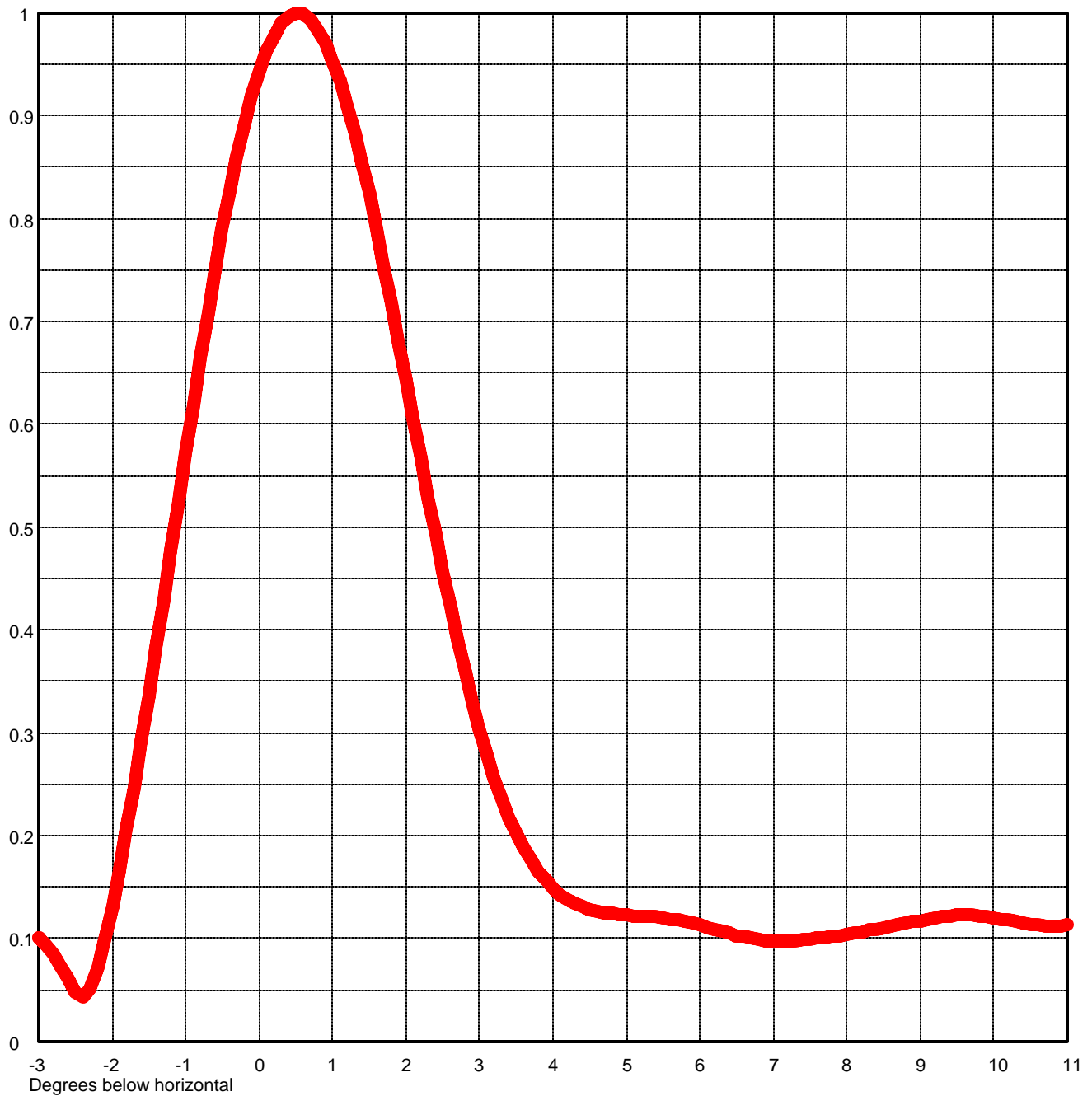
### ELEVATION PATTERN

RMS Gain at Main Lobe  
RMS Gain at Horizontal  
Calculated / Measured

19.5 (12.90 dB)  
17.3 (12.38 dB)  
Calculated

Beam Tilt  
Frequency  
Drawing #

0.50 Degrees  
593.00 MHz  
24Q195050-90



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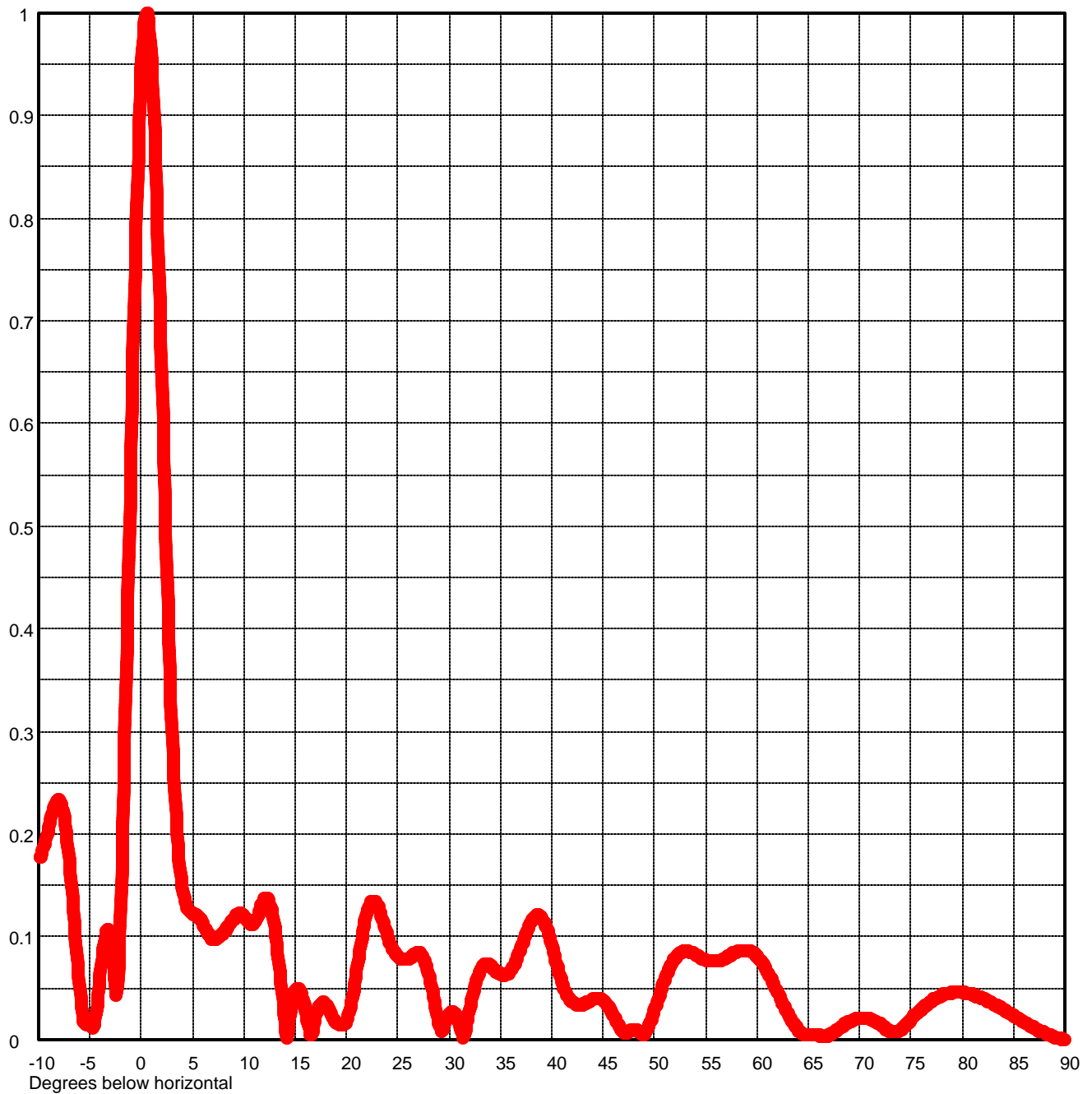
### ELEVATION PATTERN

RMS Gain at Main Lobe  
RMS Gain at Horizontal  
Calculated / Measured

19.5 (12.90 dB)  
17.3 (12.38 dB)  
Calculated

Beam Tilt  
Frequency  
Drawing #

0.50 Degrees  
593.00 MHz  
24Q195050-90-90



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 Call Letters **WJAC-DT** Channel **34**  
 Location **Johnstown, PA**  
 Customer **Cox Broadcasting**  
 Antenna Type **TFU-24DSC-R C170**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **24Q195050-90-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.175	2.4	0.493	10.6	0.113	30.5	0.026	51.0	0.058	71.5	0.018
-9.5	0.187	2.6	0.423	10.8	0.112	31.0	0.015	51.5	0.070	72.0	0.015
-9.0	0.206	2.8	0.359	11.0	0.113	31.5	0.005	52.0	0.079	72.5	0.011
-8.5	0.226	3.0	0.304	11.5	0.125	32.0	0.029	52.5	0.084	73.0	0.008
-8.0	0.233	3.2	0.256	12.0	0.137	32.5	0.051	53.0	0.086	73.5	0.007
-7.5	0.216	3.4	0.218	12.5	0.133	33.0	0.066	53.5	0.085	74.0	0.010
-7.0	0.174	3.6	0.188	13.0	0.108	33.5	0.073	54.0	0.083	74.5	0.014
-6.5	0.113	3.8	0.165	13.5	0.065	34.0	0.072	54.5	0.080	75.0	0.019
-6.0	0.051	4.0	0.149	14.0	0.017	34.5	0.067	55.0	0.077	75.5	0.025
-5.5	0.015	4.2	0.138	14.5	0.024	35.0	0.063	55.5	0.076	76.0	0.029
-5.0	0.015	4.4	0.131	15.0	0.047	35.5	0.063	56.0	0.076	76.5	0.034
-4.5	0.019	4.6	0.126	15.5	0.047	36.0	0.067	56.5	0.077	77.0	0.037
-4.0	0.062	4.8	0.124	16.0	0.029	36.5	0.076	57.0	0.080	77.5	0.040
-3.5	0.101	5.0	0.123	16.5	0.004	37.0	0.089	57.5	0.083	78.0	0.043
-3.0	0.101	5.2	0.122	17.0	0.022	37.5	0.103	58.0	0.085	78.5	0.045
-2.8	0.084	5.4	0.121	17.5	0.035	38.0	0.115	58.5	0.087	79.0	0.046
-2.6	0.060	5.6	0.119	18.0	0.034	38.5	0.121	59.0	0.087	79.5	0.046
-2.4	0.043	5.8	0.117	18.5	0.025	39.0	0.118	59.5	0.085	80.0	0.046
-2.2	0.071	6.0	0.113	19.0	0.016	39.5	0.108	60.0	0.081	80.5	0.045
-2.0	0.131	6.2	0.109	19.5	0.014	40.0	0.092	60.5	0.075	81.0	0.044
-1.8	0.206	6.4	0.105	20.0	0.018	40.5	0.073	61.0	0.066	81.5	0.042
-1.6	0.291	6.6	0.102	20.5	0.036	41.0	0.056	61.5	0.056	82.0	0.040
-1.4	0.382	6.8	0.099	21.0	0.067	41.5	0.043	62.0	0.046	82.5	0.037
-1.2	0.477	7.0	0.098	21.5	0.099	42.0	0.036	62.5	0.035	83.0	0.035
-1.0	0.572	7.2	0.098	22.0	0.124	42.5	0.034	63.0	0.025	83.5	0.032
-0.8	0.664	7.4	0.099	22.5	0.135	43.0	0.034	63.5	0.016	84.0	0.029
-0.6	0.750	7.6	0.100	23.0	0.131	43.5	0.036	64.0	0.009	84.5	0.026
-0.4	0.827	7.8	0.102	23.5	0.117	44.0	0.039	64.5	0.005	85.0	0.023
-0.2	0.892	8.0	0.104	24.0	0.101	44.5	0.040	65.0	0.004	85.5	0.020
0.0	0.943	8.2	0.106	24.5	0.088	45.0	0.038	65.5	0.004	86.0	0.017
0.2	0.978	8.4	0.109	25.0	0.081	45.5	0.032	66.0	0.004	86.5	0.014
0.4	0.997	8.6	0.112	25.5	0.078	46.0	0.024	66.5	0.003	87.0	0.011
0.6	0.999	8.8	0.115	26.0	0.078	46.5	0.014	67.0	0.004	87.5	0.008
0.8	0.984	9.0	0.117	26.5	0.082	47.0	0.007	67.5	0.007	88.0	0.006
1.0	0.954	9.2	0.120	27.0	0.084	47.5	0.007	68.0	0.011	88.5	0.004
1.2	0.910	9.4	0.122	27.5	0.079	48.0	0.009	68.5	0.014	89.0	0.002
1.4	0.854	9.6	0.123	28.0	0.064	48.5	0.008	69.0	0.017	89.5	0.001
1.6	0.789	9.8	0.122	28.5	0.041	49.0	0.005	69.5	0.019	90.0	0.000
1.8	0.718	10.0	0.120	29.0	0.016	49.5	0.014	70.0	0.021		
2.0	0.643	10.2	0.118	29.5	0.013	50.0	0.028	70.5	0.021		
2.2	0.567	10.4	0.115	30.0	0.025	50.5	0.043	71.0	0.020		

Remarks: Denny & Associates, P.C.