MID-STATE CONSULTANTS

ENGINEERING STATEMENT

IN SUPPORT OF

APPLICATION FOR DISPLACEMENT OF DIGITAL TRANSLATOR

WTBT-DT

TAMPA, FL

Background

Major Market Broadcasting of Florida, Inc. (MMBF), soon to be the licensee of low power television translator station WTBT-LD (Facility ID. 168481) at Tampa, FL, is seeking, in its instant application, to displace WTBT-LD to Ch. 27.

Displacement Parameters

MMBF is proposing the following parameters for the WTBT-LD digital operation on Ch. 27:

Coordinates:	27° 50' 51.5" N (NAD83) 82° 15' 49.4" W
ERP:	15.0 kW
RCAMSL:	413.2m
RCAGL:	390.0m
Antenna:	Scala 4x2 750-10325
Mask:	Full-Service

PROVIDING COMMUNICATION
SYSTEMS ENGINEERING

CORPORATE OFFICE
1475 NORTH 200 WEST
NEPHI, UT 84648

TEL: (435) 623-8601
FAX: (435) 623-8610

REGIONAL OFFICE
6197 MILLER RD.
SWARTZ CREEK, MI 48473

TEL: (810)-226-0750

Interference

An interference study was conducted of the proposed facility parameters using the FCC TVStudy software (Version 2.2.5) with the default parameters. The results of the study (copy attached hereto) show that potential interference from the proposed facility is not predicted to exceed 0.49% to any full-service DTV or Class A stations or 1.99% to any low power stations as required by the Commission's Rules.

Environmental/RFR

This report addresses only the conditions specified in 47CFR1.1307 that deal with Radio Frequency Radiation. Any other non-RFR conditions that might require the preparation of an EA are beyond the scope of this report; since the structure is existing and registered, such conditions should not be an issue requiring further consideration.

The location of the proposed facility is a multi-user site and it is assumed to currently be "in compliance" with FCC guidelines for human exposure to RFR (as defined in OET-65). The worst-case ground level RFR contributed to the site by this proposal is calculated to be 0.001082 mW/cm^2 at 2m AGL. The calculated RFR is much less than 5% of the maximum permissible exposure (MPE) for public areas (0.367333 mW/cm^2) at Ch. 27 (548-554 MHz). Per Section 1.1307(b) of the FCC Rules, the proposed operation would be categorically excluded from taking corrective action in areas with levels above the MPE limit where the contribution to the RFR from the proposed facility is less than 5%. MMBF agrees to comply with the Commission's requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access.

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Certification

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

Benjamin L. Pidek, P.E.
September 22, 2021

Attached:
TVStudy Interference Check Report
Antenna Azimuth and Elevation Pattern Plots and Tabulations

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TVStudy TV Interference Check Report for WTBT-LD on Ch. 27

Study created: 2021.09.01 20:43:17

Study build station data: LMS TV 2021-09-01

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    Proposal: WTBT-LD D27 LD CP TAMPA, FL
 File number: WTBT-C27-KAT750-15k-WEDUTwr
 Facility ID: 168481
Station data: User record
   Record ID: 1894
     Country: U.S.
```

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WXAX-CD	D26	DC	LIC	CLEARWATER, FL	BLANK0000158053	0.0 km
No	WGVT-LD	D26	LD	CP	GAINESVILLE, FL	BLANK0000140066	210.7
No	WGVT-LD	D26	LD	LIC	GAINESVILLE, FL	BLDTL20080605AAQ	210.6
No	W26DP-D	D26	LD	LIC	INVERNESS, FL	BLDTT20100122AAL	116.4
No	WHDN-CD	D26	DC	CP	NAPLES, FL	BLANK0000003751	188.3
No	WHDN-CD	D26	DC	LIC	NAPLES, FL	BLANK0000001626	188.2
No	W26FI-D	D26	LD	CP	OKEECHOBEE, FL	BLANK0000071804	95.1
No	W26FI-D	D26	LD	APP	OKEECHOBEE, FL	BLANK0000149833	92.2
No	WKMG-TV	D26	DT	LIC	ORLANDO, FL	BLANK0000149963	145.2
No	WSNN-LD	D26	LD	LIC	SARASOTA, FL	BLANK0000059117	59.7
No	WOCD-LD	D27	LD	LIC	DUNNELLON, FL	BLANK0000154197	136.9
No	WOCD-LD	D27	LD	APP	DUNNELLON, FL	BLANK0000158154	145.1
No	WOCD-LD	N27-	TX	LIC	DUNNELLON, FL	BLTTL20090331AEX	143.6
No	WLZE-LD	D27	LD	CP	FORT MYERS, FL	BLANK0000145004	126.5
No	WYME-CD	D27	DC	LIC	GAINESVILLE, FL	BLANK0000098965	200.4
No	WWRJ-LD	D27	LD	LIC	JACKSONVILLE, FL	BLANK0000149999	280.8
No	WWRJ-LD	D27	LD	CP	JACKSONVILLE, FL	BLANK0000150180	278.7
No	WWRJ-LD	N27-	TX	LIC	JACKSONVILLE, FL	BLTTL20140115AAF	280.8
No	WGZT-LP	N27	TX	LIC	KEY WEST, FL	BLTTL20030804AAH	369.2
No	WGZT-LP	D27	LD	CP	KEY WEST, FL	BLANK0000152223	369.1
No	WSFL-TV	D27	DT	LIC	MIAMI, FL	BLANK0000070454	290.8
Yes	WRDQ	D27	DT	LIC	ORLANDO, FL	BLANK0000149085	143.0
No	W27EO-D	D27	LD	LIC	PANAMA CITY, FL	BLANK0000157414	410.8
No	WTXL-TV	D27	DT	LIC	TALLAHASSEE, FL	BLCDT20090217ABY	354.5
No	W28EZ-D	D28	LD	CP	GAINESVILLE, FL	BNPDTL20090825AOQ	176.9
No	WZVN-TV	D28	DT	LIC	NAPLES, FL	BLANK0000107164	124.1
No	WRBW	D28	DT	LIC	ORLANDO, FL	BLANK0000143935	142.7

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

```
    Channel: D27
       Mask: Full Service
   Latitude:  27 50 51.50 N (NAD83)
  Longitude:  82 15 49.40 W
```

Height AMSL: 413.2 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: Kathrein 750-10325 QW Offset 260.0 deg
Elev Pattrn: Generic
Elec Tilt: 0.60

50.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.559 kW	392.9 m	42.5 km
45.0	0.002	396.9	12.8
90.0	0.000	386.7	2.4
135.0	0.018	382.6	22.9
180.0	3.46	382.8	52.8
225.0	12.1	394.2	60.1
270.0	10.6	405.1	59.9
315.0	13.6	405.7	61.4

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 393 m

Distance to Canadian border: 1537.1 km

Distance to Mexican border: 1467.0 km

Conditions at FCC monitoring station: Vero Beach FL
Bearing: 99.1 degrees Distance: 162.5 km

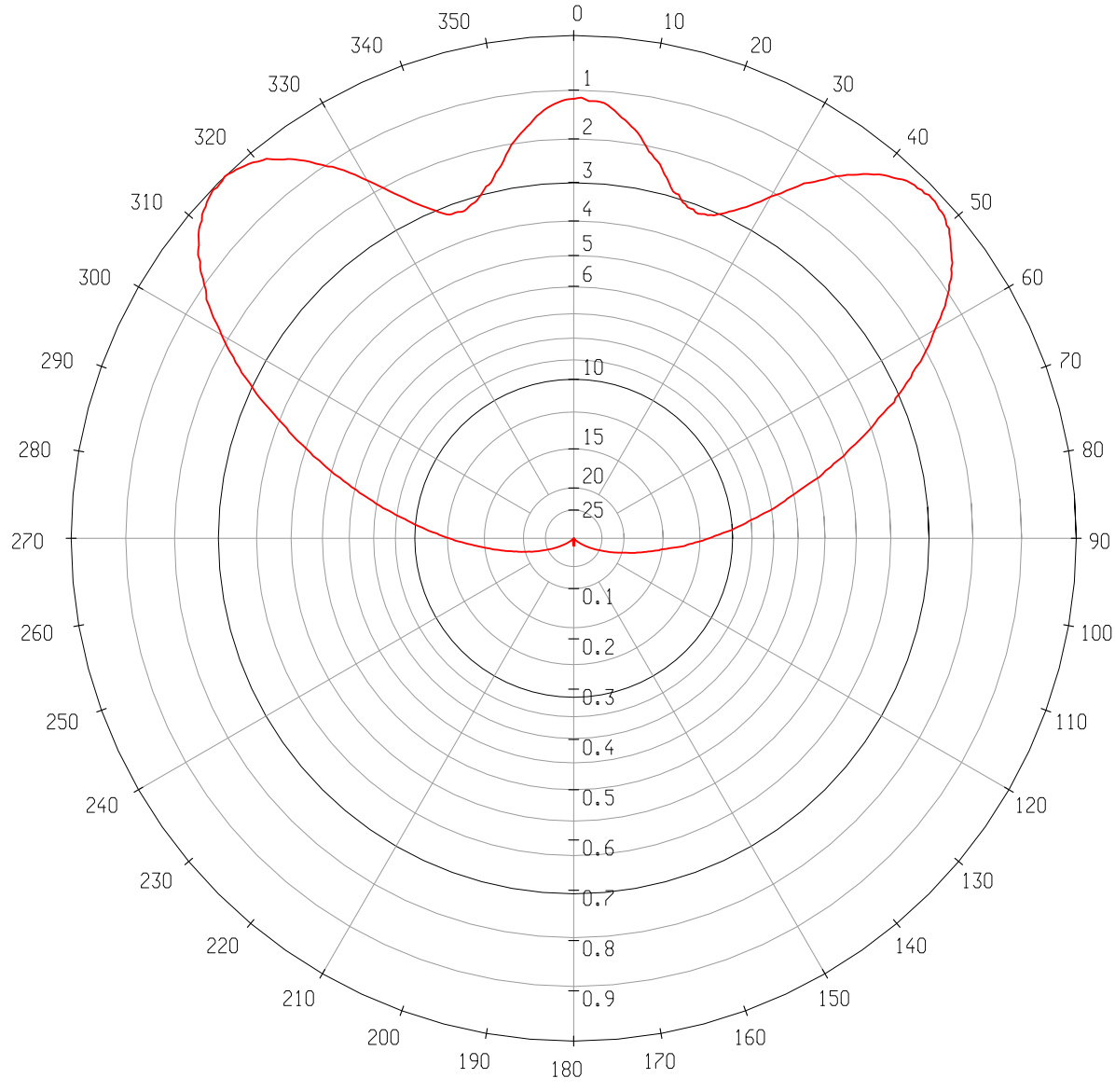
Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 308.9 degrees Distance: 2505.8 km

Study cell size: 1.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

No IX check failures found.



frequency in MHz 551.000

down-tilt in 0.0

max / mean in dB 5.31

KATHREIN Rosenheim Germany	4x2 750-10325 array configured for reduced rear @ ch 27	Typ Nr.
BCA/Mi 2.9.21 9:33		Bl.:

simulation with typical exactness of +/- 8% of max signal

Kathrein Scala 4x2 750 10325 - Ch. 27

TABULATED DATA FOR AZIMUTH PATTERN

ANGLE	FIELD
0	0.911
1	0.913
2	0.909
3	0.908
4	0.906
5	0.898
6	0.888
7	0.877
8	0.868
9	0.858
10	0.841
11	0.829
12	0.816
13	0.805
14	0.790
15	0.773
16	0.764
17	0.755
18	0.743
19	0.735
20	0.731
21	0.729
22	0.727
23	0.726
24	0.730
25	0.737
26	0.744
27	0.752
28	0.763
29	0.776
30	0.791
31	0.806
32	0.822
33	0.840
34	0.852
35	0.867
36	0.884
37	0.898
38	0.911
39	0.925
40	0.937
41	0.948
42	0.958
43	0.967
44	0.974
45	0.980
46	0.985
47	0.988
48	0.988
49	0.987
50	0.986
51	0.982

ANGLE	FIELD
52	0.976
53	0.970
54	0.961
55	0.951
56	0.940
57	0.929
58	0.915
59	0.901
60	0.884
61	0.869
62	0.853
63	0.835
64	0.818
65	0.799
66	0.780
67	0.762
68	0.740
69	0.720
70	0.700
71	0.680
72	0.660
73	0.640
74	0.621
75	0.601
76	0.582
77	0.559
78	0.538
79	0.519
80	0.500
81	0.484
82	0.465
83	0.445
84	0.426
85	0.410
86	0.394
87	0.376
88	0.359
89	0.343
90	0.328
91	0.312
92	0.297
93	0.283
94	0.270
95	0.255
96	0.239
97	0.227
98	0.216
99	0.204
100	0.193
101	0.183
102	0.173
103	0.164

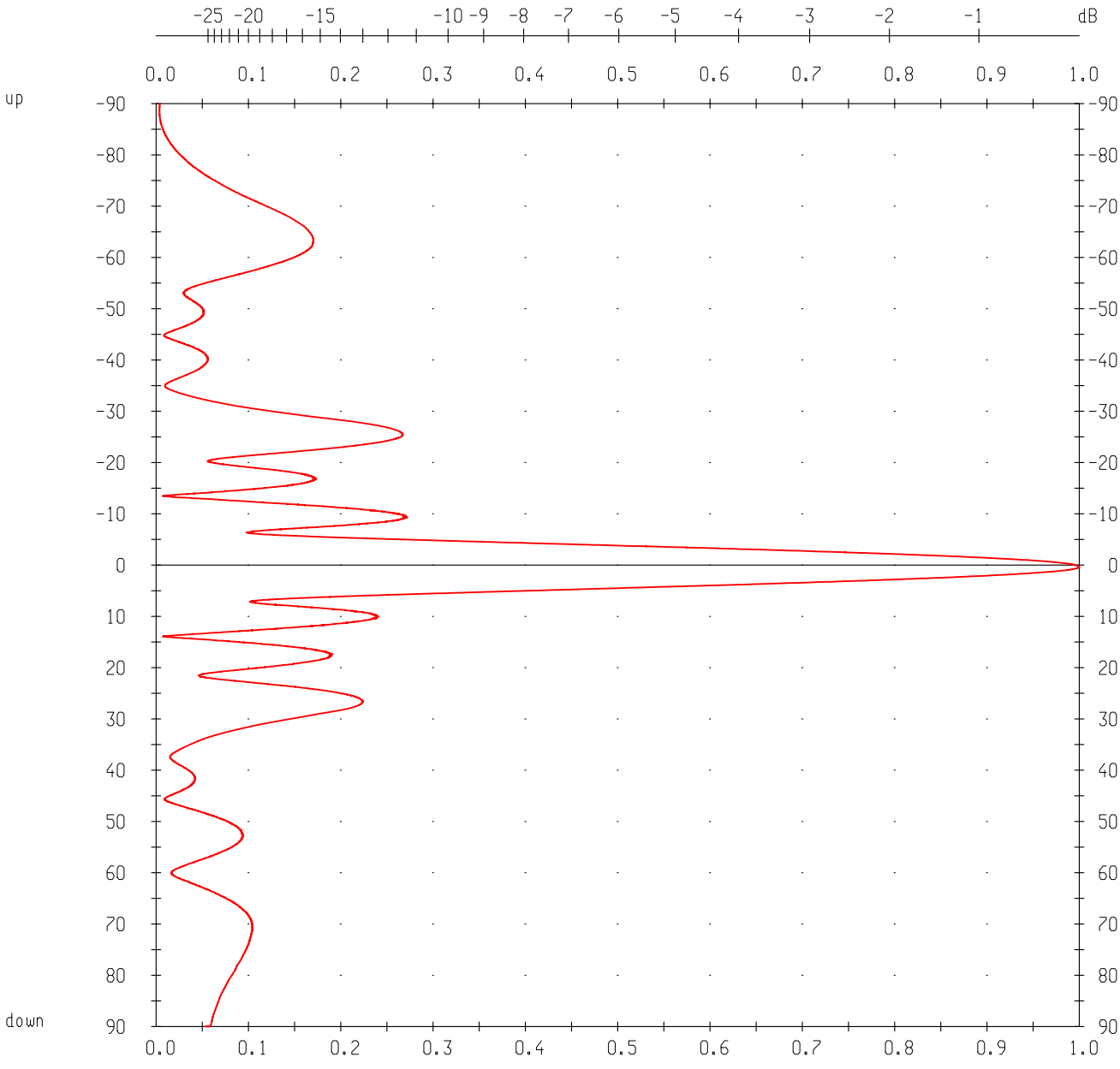
ANGLE	FIELD
104	0.155
105	0.146
106	0.137
107	0.130
108	0.123
109	0.115
110	0.109
111	0.103
112	0.096
113	0.090
114	0.084
115	0.079
116	0.074
117	0.069
118	0.065
119	0.060
120	0.056
121	0.052
122	0.049
123	0.045
124	0.041
125	0.038
126	0.035
127	0.033
128	0.030
129	0.028
130	0.026
131	0.024
132	0.022
133	0.021
134	0.019
135	0.018
136	0.017
137	0.016
138	0.015
139	0.014
140	0.014
141	0.013
142	0.013
143	0.012
144	0.012
145	0.011
146	0.011
147	0.010
148	0.009
149	0.008
150	0.007
151	0.007
152	0.006
153	0.005
154	0.004
155	0.004

ANGLE	FIELD
156	0.003
157	0.002
158	0.002
159	0.001
160	0.001
161	0.001
162	0.000
163	0.000
164	0.000
165	0.000
166	0.000
167	0.000
168	0.000
169	0.001
170	0.001
171	0.001
172	0.001
173	0.002
174	0.002
175	0.002
176	0.002
177	0.003
178	0.003
179	0.003
180	0.003
181	0.003
182	0.003
183	0.002
184	0.002
185	0.002
186	0.002
187	0.002
188	0.001
189	0.001
190	0.001
191	0.001
192	0.000
193	0.000
194	0.000
195	0.000
196	0.000
197	0.000
198	0.000
199	0.001
200	0.001
201	0.001
202	0.002
203	0.003
204	0.003
205	0.004
206	0.005
207	0.006

ANGLE	FIELD
208	0.006
209	0.007
210	0.008
211	0.009
212	0.010
213	0.011
214	0.011
215	0.012
216	0.013
217	0.013
218	0.014
219	0.014
220	0.015
221	0.015
222	0.016
223	0.016
224	0.017
225	0.018
226	0.019
227	0.020
228	0.021
229	0.022
230	0.024
231	0.025
232	0.028
233	0.030
234	0.033
235	0.035
236	0.038
237	0.041
238	0.044
239	0.047
240	0.051
241	0.056
242	0.060
243	0.065
244	0.069
245	0.074
246	0.079
247	0.085
248	0.091
249	0.097
250	0.105
251	0.111
252	0.118
253	0.125
254	0.134
255	0.142
256	0.150
257	0.158
258	0.168
259	0.177

ANGLE	FIELD
260	0.187
261	0.197
262	0.209
263	0.219
264	0.232
265	0.244
266	0.257
267	0.270
268	0.284
269	0.298
270	0.314
271	0.330
272	0.342
273	0.359
274	0.376
275	0.393
276	0.408
277	0.425
278	0.444
279	0.462
280	0.480
281	0.500
282	0.518
283	0.538
284	0.557
285	0.578
286	0.598
287	0.618
288	0.638
289	0.658
290	0.679
291	0.699
292	0.719
293	0.739
294	0.761
295	0.780
296	0.800
297	0.819
298	0.837
299	0.854
300	0.871
301	0.889
302	0.905
303	0.921
304	0.930
305	0.944
306	0.957
307	0.967
308	0.975
309	0.983
310	0.989
311	0.994

ANGLE	FIELD
312	0.997
313	1.000
314	1.000
315	0.999
316	0.996
317	0.990
318	0.983
319	0.975
320	0.966
321	0.955
322	0.941
323	0.928
324	0.913
325	0.897
326	0.880
327	0.865
328	0.849
329	0.832
330	0.813
331	0.797
332	0.781
333	0.768
334	0.757
335	0.743
336	0.734
337	0.729
338	0.723
339	0.720
340	0.720
341	0.724
342	0.728
343	0.735
344	0.741
345	0.754
346	0.767
347	0.774
348	0.788
349	0.802
350	0.819
351	0.834
352	0.847
353	0.858
354	0.871
355	0.882
356	0.890
357	0.899
358	0.906
359	0.910



frequency in MHz 551.000
azimut in 0.0
omni-dir in dBd 9.48

KATHREIN Rosenheim Germany	4x2 750-10325 array configured for reduced rear @ ch 27	Typ Nr.
BCA/Mi 2.9.21 9:33		Bl.:

Kathrein Scala 4x2 750 10325 - Ch. 27

TABULATED DATA FOR ELEVATION PATTERN

ANGLE	FIELD
-10	0.272
-9	0.340
-8	0.478
-7	0.546
-6	0.677
-5	0.737
-4	0.793
-3	0.887
-2	0.924
-1	0.978
0	0.993
1	0.999
2	0.988
3	0.971
4	0.912
5	0.873
6	0.775
7	0.717
8	0.592
9	0.525
10	0.456
11	0.316
12	0.247
13	0.113
14	0.051
15	0.062
16	0.113
17	0.158
18	0.234
19	0.262
20	0.301
21	0.314
22	0.325
23	0.324

ANGLE	FIELD
24	0.318
25	0.296
26	0.281
27	0.244
28	0.223
29	0.175
30	0.153
31	0.132
32	0.100
33	0.088
34	0.073
35	0.071
36	0.074
37	0.077
38	0.079
39	0.080
40	0.078
41	0.071
42	0.065
43	0.048
44	0.038
45	0.027
46	0.003
47	0.010
48	0.037
49	0.050
50	0.076
51	0.089
52	0.101
53	0.123
54	0.133
55	0.151
56	0.159
57	0.171

ANGLE	FIELD
58	0.175
59	0.179
60	0.186
61	0.188
62	0.190
63	0.189
64	0.187
65	0.185
66	0.183
67	0.178
68	0.174
69	0.168
70	0.163
71	0.155
72	0.151
73	0.146
74	0.137
75	0.133
76	0.125
77	0.122
78	0.440
79	0.440
80	0.440
81	0.440
82	0.440
83	0.440
84	0.440
85	0.440
86	0.440
87	0.440
88	0.440
89	0.440
90	0.440