

TECHNICAL STATEMENT  
K281BW DENVER, COLORADO  
MOUNTAIN COMMUNITY TRANSLATORS, LLC  
FCC FORM 349  
JULY 2016

This Technical Statement is made in support of a minor change application for FM translator station K281BW at Cheyenne, Wyoming, facility ID 157657. K281BW seeks to relocate its current authorization by less than 250 miles and become a fill-in translator for Class B, KBNO(AM) Denver, Colorado, facility ID 59956. This proposal which is normally a major change move is in response to the Commissions AM Revitalization Order DA-1491 released 12/23/2015. The following will show that the new proposed operation of K281BW will meet all of the Commissions technical requirements for an FM translator station.

The proposed operation of K281BW specifies an Effective Radiated Power of 0.14 kilowatts. It will operate with a Custom Nicom BKG77 directional antenna with circular polarization. The antenna will be mounted on an existing non-registered tower, with an overall height of 10 meters above the ground. The antenna will be mounted with a Center of Radiation of 10 meters above the ground, and 2253 meters Above Mean Sea Level. The coordinates of this tower are located at N 39° 43' 46.1", W 105° 14' 08.1", NAD 27. This is a multi-user site located on Lookout Mountain. There are several towers and mounting poles at this facility. This will be the only antenna mounted on a 10 meter monopole at this site.

Figure 1 is a detailed interference study conducted on channel 249D with these new proposed facilities. It shows that the new operation of K281BW will not cause any

interference to any existing or proposed FM stations on any of the pertinent same channel or adjacent channels to channel 249, with the exception of 2<sup>nd</sup> adjacent channel station KBCO Boulder, Colorado operating on channel 247C, facility ID 48966.

The proposed operation of K281BW on 249D is located within the protected 60 dBμ contour of 2<sup>nd</sup> adjacent KBCO. The predicted F(50-50) field strength of KZZP at the proposed K281BW transmitter site is 91.9 dBμ, see figure 2. Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K281BW on channel 249D is an additional 40 dBμ or 131.9 dBμ.

Figure 3 shows the predicted 131.9 dBμ interference contour. The applicant, Mountain Community Translators, LLC, respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes nearby the proposed existing tower site, which is a privately owned with private access. The transmitter building is uninhabited and does not have indoor plumbing. Should any unforeseen actual interference be caused, the licensee will immediately cease broadcasting with K281BW until such interference can be eliminated.

The proposed operation of K281BW Denver will be considered a “Fill-In” operation for Class B AM station KBNO Denver, Colorado, facility ID 59956. KBNO(AM) operates with 5 kilowatts daytime with a directional antenna system on 1280 kHz. Figure 5 shows that the proposed 60 dBμ contour for the proposed K281BW will not extend beyond the daytime 2.0 mV/m contour of KBNO. It will also not extend beyond a 25 miles radius from the KBNO tower site. Since this is a “Fill-In” translator,

the maximum ERP will not exceed the maximum permissible ERP of 250 watts in any azimuth.

Figure 4 is a tabulation of the directional antenna pattern.

It was found that the new proposed operation of K281BW Denver, Colorado on channel 249D, will satisfy all of the required commission rules and regulations for an FM translator station.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K281BW DENVER, CO. CH. 249D											
Average Protected F(50-50)= 16.98 km											
Standard Directional											
COR= 2253 M											
DISPLAY DATES											
DATA 07-28-16											
SEARCH 07-28-16											
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kW)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
247C	KBCO	LIC	DEY	346.7	20.98	39 54 48.0	100.000	12.3	87.2	-2.4	-66.6*
Boulder		CO		166.7	BMLH19960506KA	105 17 32.0	469	2583	Citicasters		Li censes, Inc.
249C2	KSJL	CP	_CX	103.6	94.48	39 31 32.0	50.000	136.9	51.7	-43.4*	40.5
Strasburg		CO		284.3	BPED20140304ADG	104 10 02.0	150	1854	Radio 74		Internationale
249C2	KZYR	LIC	NC_	264.6	104.40	39 38 05.0	15.000	128.9	54.3	-34.7*	29.6
Avon		CO		83.8	BLH20010913AAK	106 26 47.0	134	3028	Cool Radio,		Lic
249C3	KSJL	LIC	NH_	91.4	88.43	39 42 19.0	25.000	99.8	22.7	-12.0*	64.1
Strasburg		CO		272.1	BLED20120315AEJ	104 12 17.0	16	1621	Radio 74		Internationale
249L1	KDOH-LP	CP	___	98.0	5.11	39 43 23.1	0.011			-5.8*	0.3
Golden		CO		278.0	BNPL20131113AQE	105 10 35.2	85	1962	Teshuvah		International Min
249L1	KPDD-LP	CP	___	13.5	30.01	39 59 32.0	0.027			7.8	7.6
Louisville		CO		193.6	BNPL20131114AQU	105 09 11.0	57	1722	City Of Louisville		
250L1	NEW	CP	___	60.4	21.12	39 49 22.5	0.100			10.7	15.1
Westminster		CO		240.6	BNPL20131022ANK	105 01 15.0	-13	1619	Regis University		
250C1	KXBG	CP	_CN	1.5	129.46	40 53 42.0	100.000	108.1	74.7	11.1	39.9
Cheyenne		WY		181.6	BPH19981207IC	105 11 38.0	247	2197	Citicasters		Li censes, Inc.
251C	KKFM	LIC	_CN	163.5	114.12	38 44 36.0	71.000	13.8	97.1	95.9	16.6
Colorado Springs		CO		343.8	BLH19940321KC	104 51 44.0	698	2949	Radio License		Hol ding Cbc,
251D	K251AB	LIC	DCN	15.1	58.74	40 14 24.0	0.250	1.1	11.6	48.3	47.0
Longmont		CO		195.2	BLFT19920831TD	105 03 19.0	77	1615	Bonneville		International C
250C1	KXBG	LIC	_CN	7.2	153.45	41 06 01.0	100.000	93.8	63.3	49.6	82.5
Cheyenne		WY		187.3	BLH19800229AD	105 00 23.0	165	2174	Citicasters		Li censes, Inc.
248D	K248AP	LIC	_H_	260.0	72.50	39 36 50.0	0.105	8.1	5.7	54.5	58.0
Silverthorne		CO		79.5	BLFT20010713ABO	106 04 02.0	-288	2861	Skandia,		Lic
248D	K248CH	CP	_C_	355.5	98.88	40 37 02.0	0.060	27.4	18.4	61.0	67.0
Fort Collins		CO		175.4	BNPFT20130826ABZ	105 19 40.0	400	2562	Horizon		Christian Fellowsh
248C3	KWUZ	CP	NCX	205.7	157.01	38 27 11.0	0.250	67.8	45.5	82.1	103.0
Poncha Springs		CO		25.2	BPH20150212ABF	106 01 02.0	834	3575	Three Eagles		Communication
248D	K248AS	LIC	_C_	162.3	98.25	38 53 10.0	0.250	10.1	7.1	83.8	83.4
Woodland Park		CO		342.5	BLFT20120927AGP	104 53 24.0	-105	2215	Educational		Communications
249L1	1579573	APP	___	155.7	107.43	38 50 48.2	0.075			86.7	96.3
Colorado Springs		CO		336.1	BNPL20131113A0B	104 43 31.1	35	1918	Falcon Radio,		Inc.

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM. In & Out distances between contours are shown at closest points. Reference zone= West Zone, Co to 3rd adjacent. All separation margins (if shown) include rounding.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*\*\*affixed to 'IN' or 'OUT' values = site inside restricted contour.

\* No actual interference will be caused to second adjacent channel KBCO since the 131.9 DBU interference contour will not cover any population. See the Technical Statement for more information.

FIGURE 2 - KBCO PREDICTED 91.9 DBU CONTOUR  
K281BW DENVER, CO. CH. 249D

Coverage Study - NGDC 30 SEC  
07-28-2016

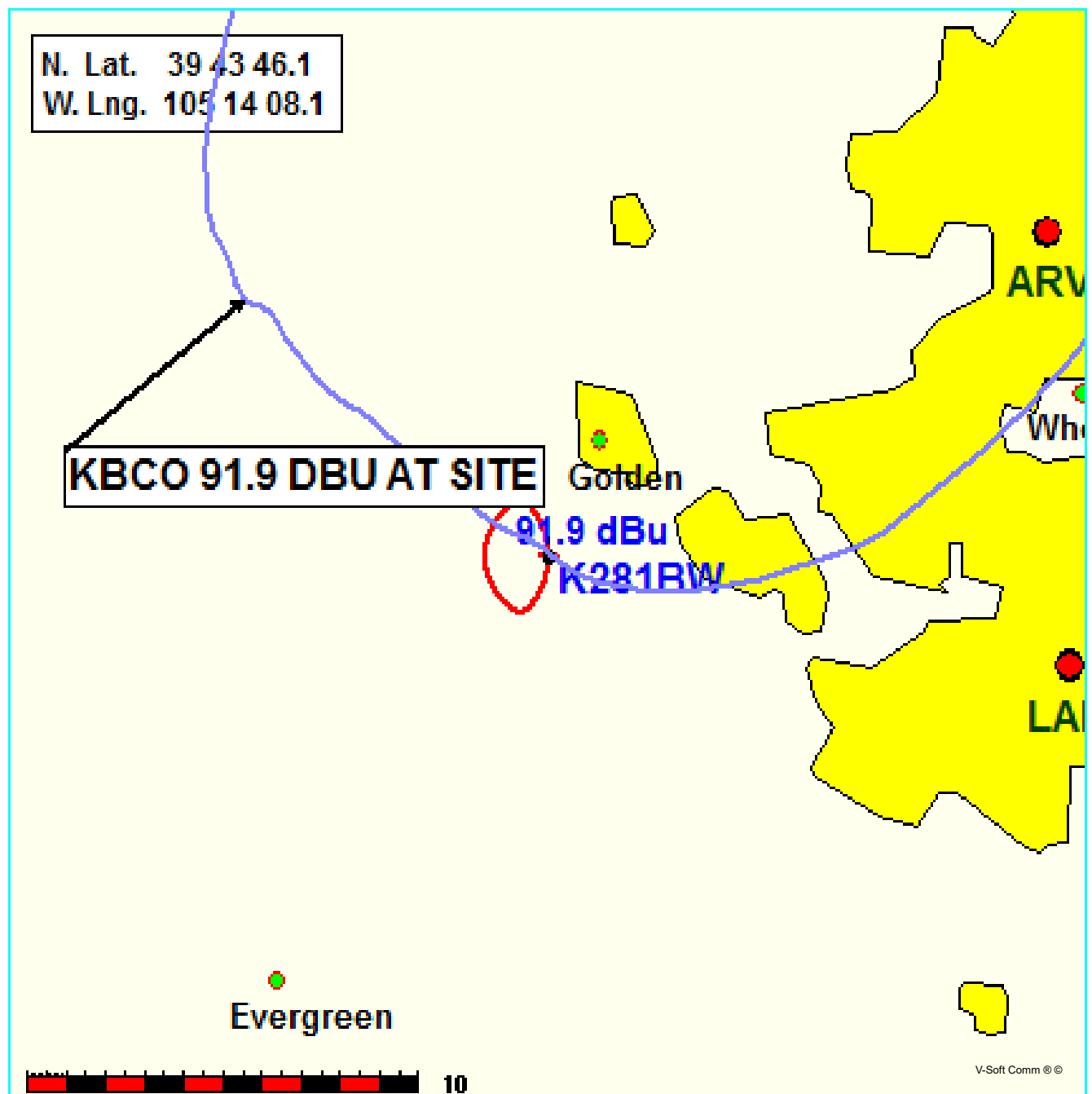


FIGURE 3- PREDICTED 131.9 DBU CONTOUR  
K281BW DENVER, CO. CH. 249D

Coverage Study - NGDC 30 SEC  
07-28-2016

K281BW CH249 D , 0.14 kW, 227.1M HAAT, 2253.0M COR  
AMSL Interference Contour = 132 dBu. Population = 0

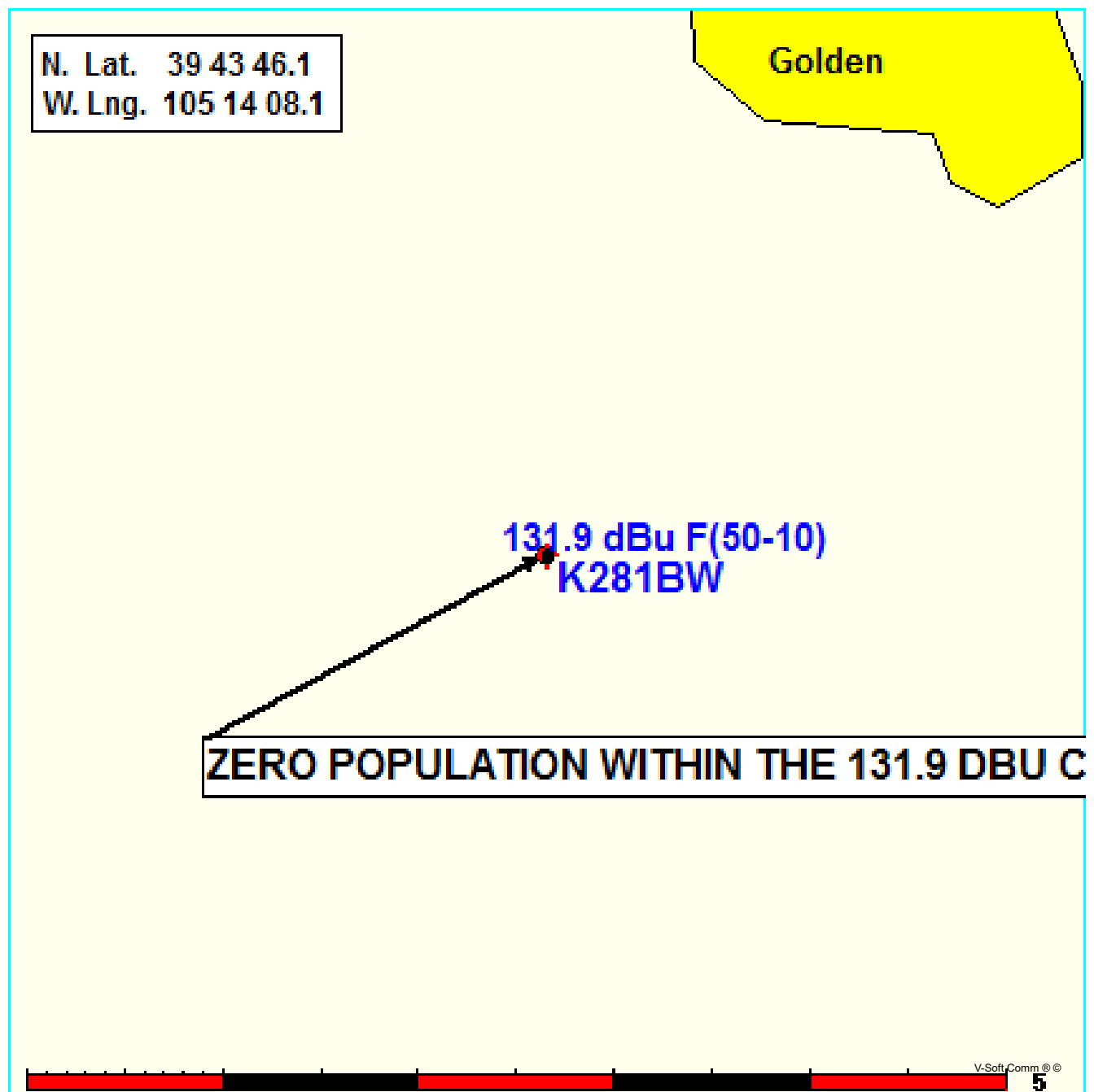


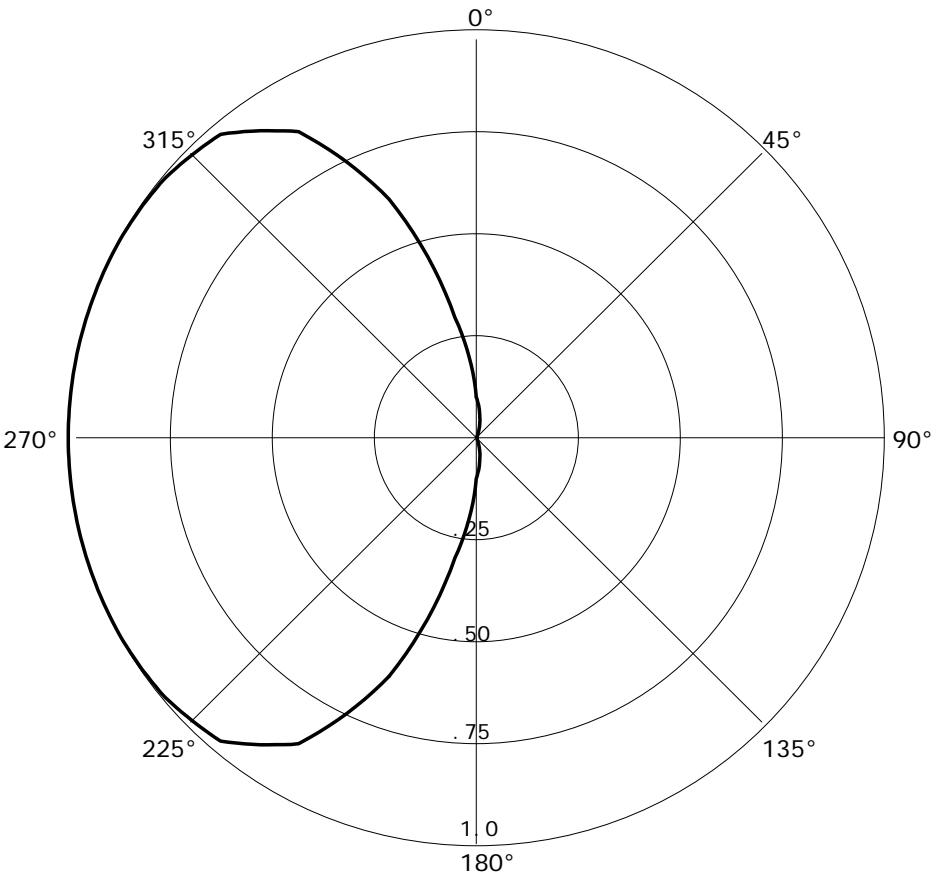
FIGURE 4 - DIRECTIONAL ANTENNA DATA  
K281BW

07-28-2016

RMS(V)= .608

Graph is Relative Field

Azi	Field	dBk	kW
000	0.100	-28.539	0.001
010	0.050	-34.559	0.000
020	0.015	-45.017	0.000
030	0.002	-62.518	0.000
040	0.002	-62.518	0.000
050	0.002	-62.518	0.000
060	0.002	-62.518	0.000
070	0.002	-62.518	0.000
080	0.002	-62.518	0.000
090	0.002	-62.518	0.000
100	0.002	-62.518	0.000
110	0.002	-62.518	0.000
120	0.002	-62.518	0.000
130	0.002	-62.518	0.000
140	0.002	-62.518	0.000
150	0.002	-62.518	0.000
160	0.015	-45.017	0.000
170	0.050	-34.559	0.000
180	0.100	-28.539	0.001
190	0.300	-18.996	0.013
200	0.625	-12.621	0.055
210	0.870	-9.748	0.106
220	0.975	-8.759	0.133
230	0.995	-8.582	0.139
240	1.000	-8.539	0.140
250	1.000	-8.539	0.140
260	1.000	-8.539	0.140
270	1.000	-8.539	0.140
280	1.000	-8.539	0.140
290	1.000	-8.539	0.140
300	1.000	-8.539	0.140
310	0.995	-8.582	0.139
320	0.975	-8.759	0.133
330	0.870	-9.748	0.106
340	0.625	-12.621	0.055
350	0.300	-18.996	0.013



**K281BW**

Latitude: 39-43-46.10 N  
Longitude: 105-14-08.10 W  
ERP: 0.14 kW  
Channel: 249  
Frequency: 97.7 MHz  
AMSL Height: 2253.0 m  
Elevation: 2206.994 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

**K281BW**

Latitude: 39-43-46.10 N  
Longitude: 105-14-08.10 W  
ERP: 0.14 kW  
Channel: 249  
Frequency: 97.7 MHz  
AMSL Height: 2253.0 m  
Elevation: 2206.994 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

