

26/11/56

$\phi = +180^\circ$ North-South Pattern, 4 wires
 $\alpha = 0^\circ$ Two groups phased 180°
 Each group are in phase pair.

θ Degrees	Degrees $366 \sin \theta$	Degrees $(366 \sin \theta + \phi)$	$\cos(366 \sin \theta + \phi)$	$1 + \cos(-)$	$[1 + \cos(-)]^{1/2}$	$\sqrt{2} [-]^{1/2}$ X FNS of 2918/56	Percent of 5.90 Max.
0	0	180.0	-1.000	.000	.000	.000	0
5	31.9	211.9	-.850	.150	.387	1.598	27
10	63.7	243.7	-.442	.558	.746	2.957	50
15	94.8	274.8	+.083	1.083	1.041	3.885	66
20	125.2	305.2	.578	1.578	1.257	4.260	72
25	154.8	334.8	.902	1.902	1.380	4.155	71
30	183.0	363.0	.995	1.995	1.412	3.678	62
35	210.0	390.0	.866	1.866	1.368	3.018	51
40	235.3	415.3	.569	1.569	1.252	2.180	37
45	258.5	438.5	.199	1.199	1.096	1.463	25
50	280.5	460.5	-.182	.818	.904	.915	16
55	299.5	479.5	-.491	.509	.713	.466	7.9
60	317.0	497.0	-.730	.270	.519	.224	3.8
65	332.0	512.0	-.882	.118	.344	.082	1.4
70	344.0	524.0	-.961	.039	.197	.022	0.4
75	354.0	534.0	-.994	.006	.078	.003	0
80	360.5	540.5	-1.000	.000	.000	.000	
85	365.0	545.0	-.996	.004	.063	-.001	
90	366.0	546.0	-.994	.006	.078	.000	

$\phi = 180^\circ$ fixed
 $\alpha = 45^\circ + 90^\circ$

$D = 2\sqrt{2} ABC$
 $F = 2\sqrt{2} ABE$

16/12/56

	A	B	C	D	E	F
	29/8/56	26/11/56	5/12/56		29/11/56	
θ	\sin	$\phi = 180^\circ$	$\alpha = 95^\circ$		$\alpha = 90^\circ$	
Degrees	(475msd)	$[-]^{1/2}$	$[-]^{1/2}$		$[-]^{1/2}$	
90	0	.078	.507	0	.975	0
85	.072	.063	.515	.007	.980	-.012
80	.143	.000	.539	0	.998	0
75	.213	.078	.576	.027	1.027	+.048
70	.281	.197	.630	.099	1.068	.167
65	.344	.344	.698	.234	1.115	.374
60	.404	.519	.773	.458	1.169	.692
55	.443	.713	.863	.770	1.227	1.096
50	.509	.904	.952	1.239	1.280	1.664
45	.553	1.096	1.048	1.797	1.330	2.280
40	.593	1.252	1.141	2.400	1.372	2.885
35	.628	1.368	1.225	2.975	1.403	3.405
30	.657	1.412	1.300	3.418	1.414	3.720
25	.683	1.380	1.359	3.618	1.405	3.740
20	.702	1.257	1.398	3.482	1.325	3.303
15	.719	1.041	1.414	2.992	1.318	2.65
10	.729	.746	1.405	2.162	1.236	1.902
5	.736	.387	1.370	1.107	1.130	+.911
0	.737	.000	1.307	0	1.000	0

$$\phi = 180^\circ \text{ fixed}$$

$$\alpha = 45^\circ + 90^\circ$$

$$A = 2\sqrt{2} ABC$$

$$F = 2\sqrt{2} ABE$$

16/12/56

	A	B	C	D	E	F
	24/8/56	26/11/56	5/12/56		29/11/56	
θ	\sin	$\phi = 180^\circ$	$\alpha = 45^\circ$		$\alpha = 90^\circ$	
Degrees	(71.5 scale)	$[-] \frac{1}{2}$	$[-] \frac{1}{2}$		$[-] \frac{1}{2}$	
0	.737	.000	1.307	0	1.000	0
-5	.736	.387	1.218	.982	.851	-.687
10	.729	.746	1.109	1.707	.687	1.060
15	.719	1.041	.978	2.070	.512	1.087
20	.702	1.257	^{min?} .733	^{max} 1.830	.333	.830
25	.683	1.380	.680	1.810	+.155	-.413
30	.657	1.412	.525	1.380	-.032	+.084
35	.628	1.368	.366	.889	.182	.441
40	.593	1.252	.212	.455	.339	.712
45	.553	1.096	+.068	.117	.477	.818
50	.509	.904	-.066	.086	.600	.780
55	.443	.713	.182	.163	.705	.630
60	.404	.519	.290	.172	.797	.462
65	.344	.344	.376	.126	.870	.292
70	.281	.197	.448	.070	.929	.145
75	.213	.078	.505	.024	.972	.045
80	.143	.000	.543	0	1.002	0
85	.072	.063	.567	.007	1.020	+.013
90	0	.078	-.575	0	-1.025	0

$$\phi = 180^\circ \text{ fixed}$$

$$\alpha = 135^\circ + 180^\circ$$

16/12/56

$$D = 2\sqrt{2} ABC$$

$$F = 2\sqrt{2} AB E$$

	A 24/8/3	B 26/11/56	C 10/12/56	D	E 3/12/56	F
θ	\sin	$\phi = 180^\circ$	$\alpha = 135^\circ$		$\alpha = 180^\circ$	
Degrees	(97.5 scale)	$[-]^{1/2}$	$[-]^{1/2}$		$[-]^{1/2}$	
90			-1.320	0	1.413	0
85			1.318	.017	1.414	.018
80			1.308	0	1.414	0
75			1.291	.061	1.413	.066
70			1.267	.198	1.411	.221
65			1.230	.412	1.403	.470
60			1.185	.702	1.389	.822
55			1.120	1.000	1.367	1.220
50			1.044	1.359	1.330	1.730
45			.950	1.630	1.279	2.190
40			.840	1.765	1.210	2.541
35			.707	1.718	1.122	2.725
30			.559	1.470	1.013	2.665
25			.395	1.052	.885	2.360
20			.214	.534	.734	1.830
15			-.030	.064	.568	1.203
10			-.161	.248	.387	.596
5			-.354	.286	.198	.160
0			.541	0	.000	0

$\phi = 180^\circ$ fixed
 $\alpha = 135^\circ + 180^\circ$

$D = 2\sqrt{2}AB\epsilon$
 $F = 2\sqrt{2}AB\epsilon$

16/12/56

	A	B	C	D	E	F
	24/8/56	24/11/56	10/12/56			
θ	\sin	$\phi = 180^\circ$	$\alpha = 135^\circ$			$\alpha = 180^\circ$
Degrees	(47.5 sec θ)	$[-]^{1/2}$	$[-]^{1/2}$			$[-]^{1/2}$
0			.541	0		
-5			.717	.579		
10			.880	1.355		
15			1.022	2.165		
20			1.141	2.845		
25			1.240	3.300		
30			1.313	3.450		
35			1.367	3.318		
40			1.399	2.940		
45			1.414	2.420		
50			1.414	1.940		
55			1.402	1.253		
60			1.382	.820		
65			1.362	.456		
70			1.341	.210		
75			1.320	.062		
80			1.308	0		
85			1.296	.017		
90			1.292	0		