alpha (A)	beta (B)	gamma (Y)		n							
0.7853981634	1.570796327	0.05695587609		1.028023726							
45	90										
	x	2.6									
	L	45.6									
dA	dB	dY		dn	dn/dA						
0.0872664626	0	0.002316298492		0.001152582989	0.003152131096						
5	0	dx	dY/dx		dn/dB						
		0.1	0.02258308925		-0.01854218578						
		dL	dY/dL		dn/dY						
		0.4	-0.001287632282		0.4832179667						
				Variations in alpha		Variations in beta		Variations in x		Variations in L	
Ai = 45 deg				alpha	n	beta	n	x	n	L	n
Bi = 90 deg				30	1.023522544	75	1.036103725	1.5	1.016296798	44	1.029021524
Li = 45.6 cm				31	1.024040556	76	1.0355404	1.6	1.017371404	44.1	1.028957092
xi = 2.6 cm				32	1.024529374	77	1.034982221	1.7	1.018444382	44.2	1.028892944
				33	1.024988445	78	1.034428783	1.8	1.019515705	44.3	1.028829078
dAi = 5 deg				34	1.02541725	79	1.033879694	1.9	1.020585349	44.4	1.028765494
dBi = 5 deg				35	1.025815305	80	1.033334571	2	1.021653287	44.5	1.028702188
dxi = .1 cm				36	1.026182161	81	1.032793044	2.1	1.022719496	44.6	1.02863916
dLi = .4 cm				37	1.026517404	82	1.032254752	2.2	1.02378395	44.7	1.028576407
				38	1.026820658	83	1.031719341	2.3	1.024846624	44.8	1.028513927
				39	1.027091582	84	1.031186464	2.4	1.025907495	44.9	1.028451719
				40	1.02732987	85	1.030655781	2.5	1.026966537	45	1.028389781
Variations in da				41	1.027535256	86	1.030126959	2.6	1.028023726	45.1	1.028328111
da	dn			42	1.027707509	87	1.029599667	2.7	1.029079038	45.2	1.028266708
0	0.001967502019	<- too big of an error because of be		43	1.027846436	88	1.029073579	2.8	1.030132449	45.3	1.028205569
0.5	0.0019676943			44	1.027951881	89	1.028548373	2.9	1.031183936	45.4	1.028144694
1	0.001968271031			45	1.028023726	90	1.028023726	3	1.032233475	45.5	1.02808408
1.5	0.001969231874			46	1.02806189	91	1.027499319	3.1	1.033281043	45.6	1.028023726
2	0.001970576267			47	1.028066332	92	1.026974834	3.2	1.034326615	45.7	1.027963629
3	0.001974412346			48	1.028037045	93	1.02644995	3.3	1.03537017	45.8	1.027903789
4	0.001979770369			49	1.027974063	94	1.025924349	3.4	1.036411684	45.9	1.027844204
5	0.001986638023			50	1.027877456	95	1.025397707	3.5	1.037451134	46	1.027784872
6	0.001994999716			51	1.027747332	96	1.024869701	3.6	1.038488499	46.1	1.027725792
7	0.002004836755			52	1.027583838	97	1.024340002	3.7	1.039523755	46.2	1.027666961
8	0.002016127544			53	1.027387156	98	1.023808278	3.8	1.04055688	46.3	1.027608379
9	0.002028847814			54	1.027157507	99	1.023274193	3.9	1.041587853	46.4	1.027550044
10	0.002042970863			55	1.027157507	100	1.022737404	4	1.042616651	46.5	1.027491954
11	0.002058467817			56	1.026600378	101	1.02219756	4.1	1.043643253	46.6	1.027434108
12	0.002075307899			57	1.026273523	102	1.021654305	4.2	1.044667637	46.7	1.027376503
13	0.002093458696			58	1.025914953	103	1.021107272	4.3	1.045689782	46.8	1.02731914
14	0.00211288643			59	1.025525072	104	1.020556085	4.4	1.046709668	46.9	1.027262016
15	0.002133556217			60	1.025104319	105	1.020000358	4.5	1.047727272	47	1.027205129
16	0.002155432327										
Variations in dB											
dB	dn										
0	0.001152582989										
1	0.001197154489										
2	0.00132188231										
2.5	0.001408196832										
3	0.001506993516	more than 2 degrees and it the error is too large (at least larger than I want it)									
4	0.001733248027		dA=8 deg and dB = 2.5 deg is the max uncertianty apparently								
5	0.001986638023		(need to ask what the allowed error is)								
6	0.002258046765										
7	0.002541708558										
8	0.002833946409										
9	0.00313236089										
10	0.003435342762										
11	0.003741782688										
12	0.004050895966										
13	0.004362114305										
14	0.00467501732										
15	0.004989288058										
Variations in dx		(pretty darn sensitive to error in x)		(good thing that's what we are measuring most carefully)							
0	0.001660088004										
0.05	0.001747455806										
0.1	0.001986638023										
0.15	0.002331368417										
0.3	0.003670618236										
0.4	0.004670043618										
0.5	0.005703231842										
0.6	0.006754707721										
0.7	0.007817095129										
0.9	0.009960612766										
1	0.01103810388										

alpha (A)	beta (B)	gamma (Y)		n	
0.7853981634	1.570796327	0.05695587609		1.028023726	
45	90				
	x	2.6			
	L	45.6			
dA	dB	dY		dn	dn/dA
0.0872664626	0	0.002316298492		0.001152582989	0.003152131096
5	0	dx	dY/dx		dn/dB
		0.1	0.02258308925		-0.01854218578
		dL	dY/dL		dn/dY
		0.4	-0.001287632282		0.4832179667
2	0.0218881537				
3	0.03277972693				

Variations in dL		(doesn't affect it very much at all)
dL	dn	
0	0.001970986548	
0.05	0.001971232058	
0.1	0.001971968405	
0.15	0.001973195039	
0.2	0.001974911046	
0.3	0.001979805728	
0.4	0.001986638023	
0.5	0.001995388027	
0.6	0.002006030647	
0.7	0.002018535946	
0.8	0.00203286955	
0.9	0.00204899309	
1	0.002066864677	
2	0.002330955693	
3	0.002714601725	