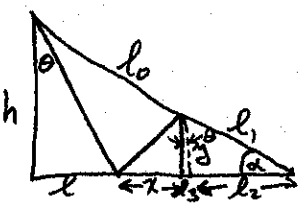


~~$\frac{h}{x+l_3} = \tan(\theta+2\alpha)$~~

$h = (l+x+l_3+l_2)\tan\alpha = [h\tan\theta + x + y\tan\theta + \tan\alpha]\tan\alpha = h\tan\theta\tan\alpha + x\tan\alpha + y\tan\theta\tan\alpha + y$

$h[1-\tan\theta\tan\alpha] = x\tan\alpha + y(\tan\theta\tan\alpha) + y = y[1+\tan\theta\tan\alpha] + x\tan\alpha$

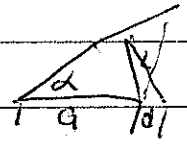
$h = \frac{y[1+\tan\theta\tan\alpha] + x\tan\alpha}{1-\tan\theta\tan\alpha} = \frac{.091[\tan\theta+\tan\alpha][1+\tan\theta\tan\alpha] + x\tan\alpha}{1-\tan\theta\tan\alpha}$

$l_2+l_3 = 0.091 = \frac{h}{\tan\alpha} + y\tan\theta = y\left[\frac{1}{\tan\alpha} + \tan\theta\right] = y\left[\frac{\tan\theta\tan\alpha+1}{\tan\alpha}\right] \Rightarrow y = \frac{.091\tan\alpha}{1+\tan\theta\tan\alpha}$

$\therefore l_0+l_1 = \frac{.091[\tan\theta+\tan\alpha][1+\tan\theta\tan\alpha] + x\tan\alpha}{\sin\alpha[1-\tan\theta\tan\alpha]}$

$l_0+l_1 = \frac{0.091\tan\alpha + x\tan\alpha}{\sin\alpha[1-\tan\theta\tan\alpha]} = \frac{(.091+x)\tan\alpha}{\sin\alpha[1-\tan\theta\tan\alpha]} = \frac{0.091+x}{\cos\alpha[1-\tan\theta\tan\alpha]}$

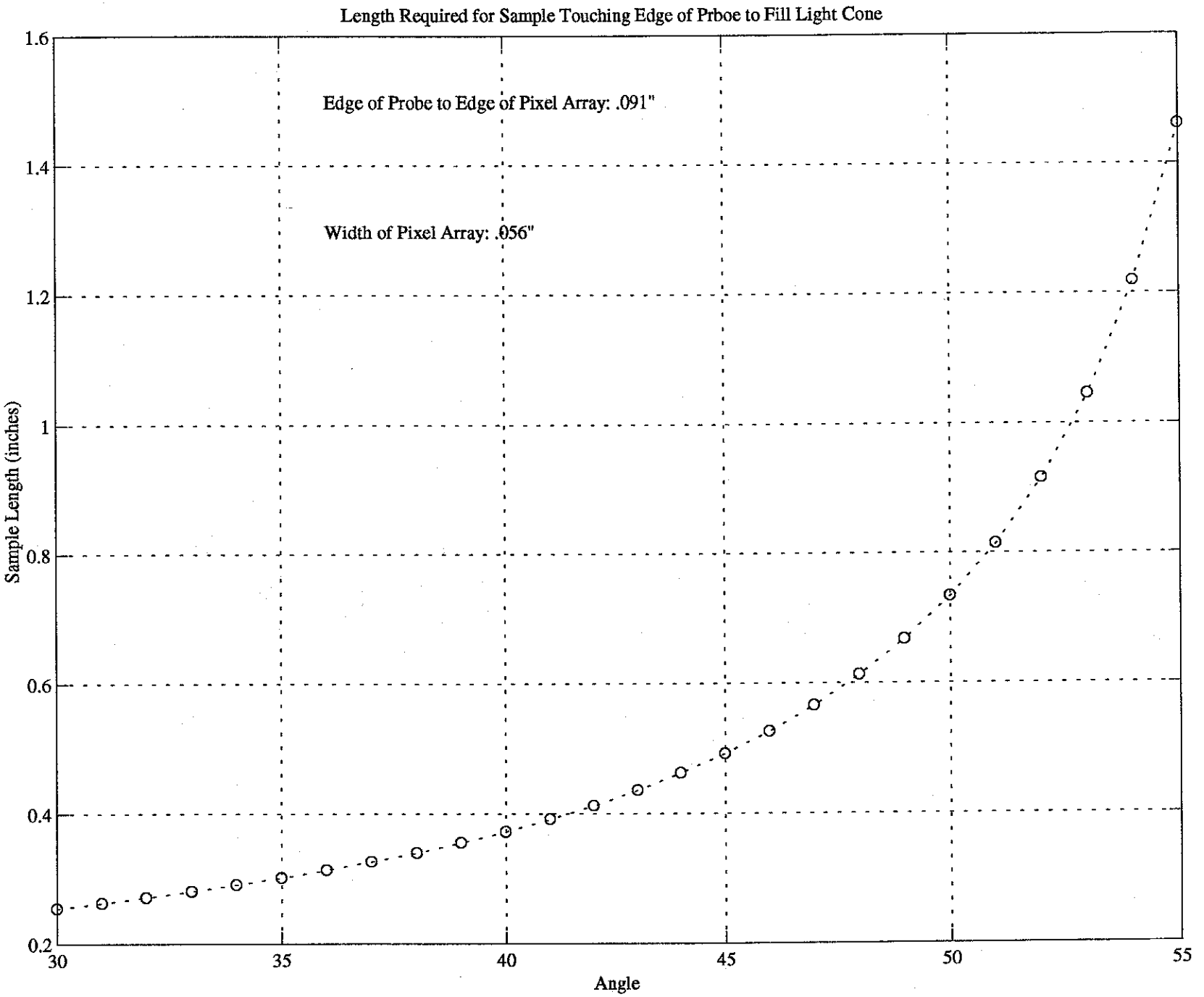
x	θ	α	l_0+l_1	
.056	30	33	~~0.558~~	0.280
		35	~~0.593~~	0.301
		40	~~0.719~~	0.372
		45	~~0.945~~	0.492

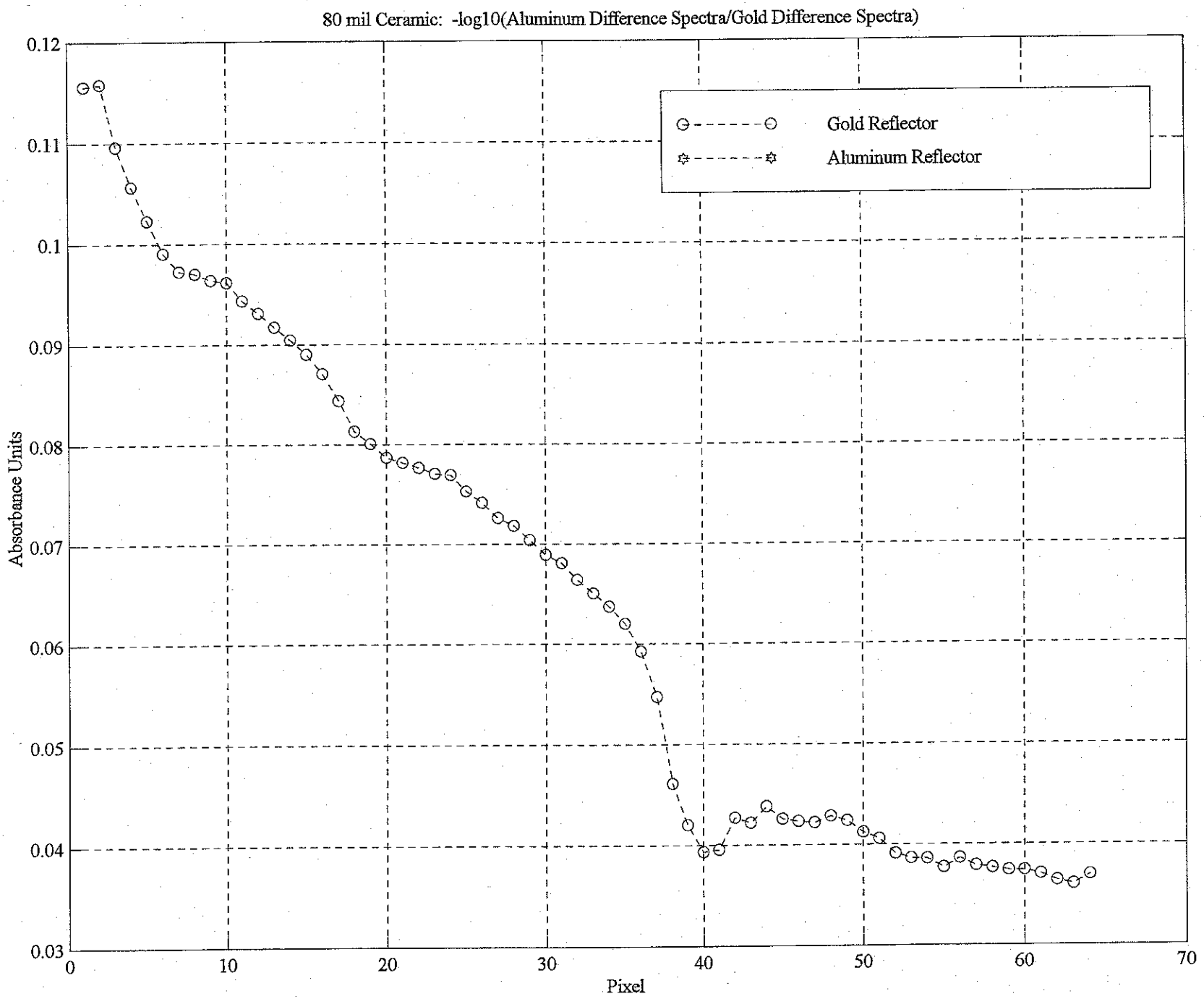


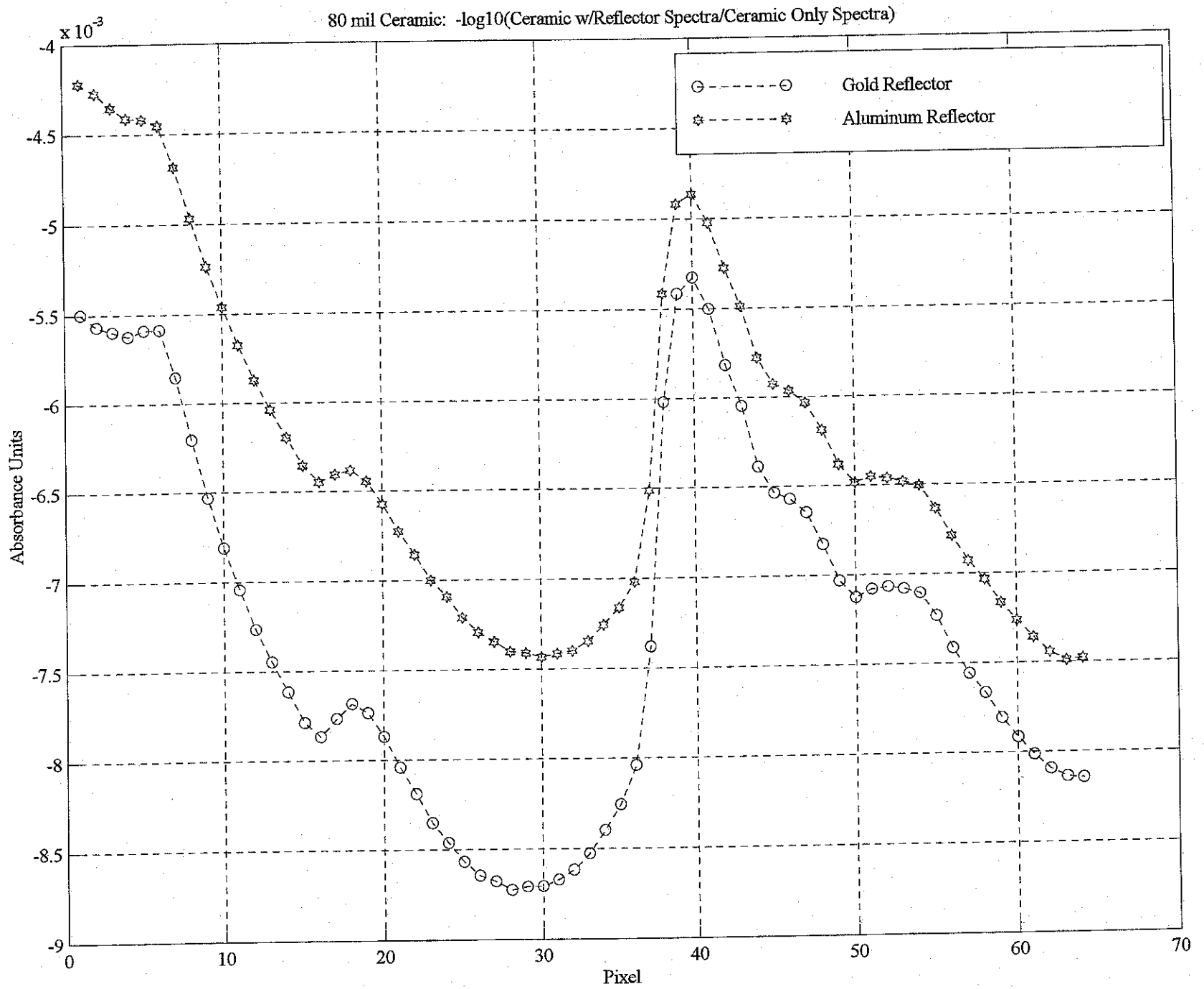
$d = x\left[\tan(90-L)\tan(-2L+2\alpha) - 1\right]$

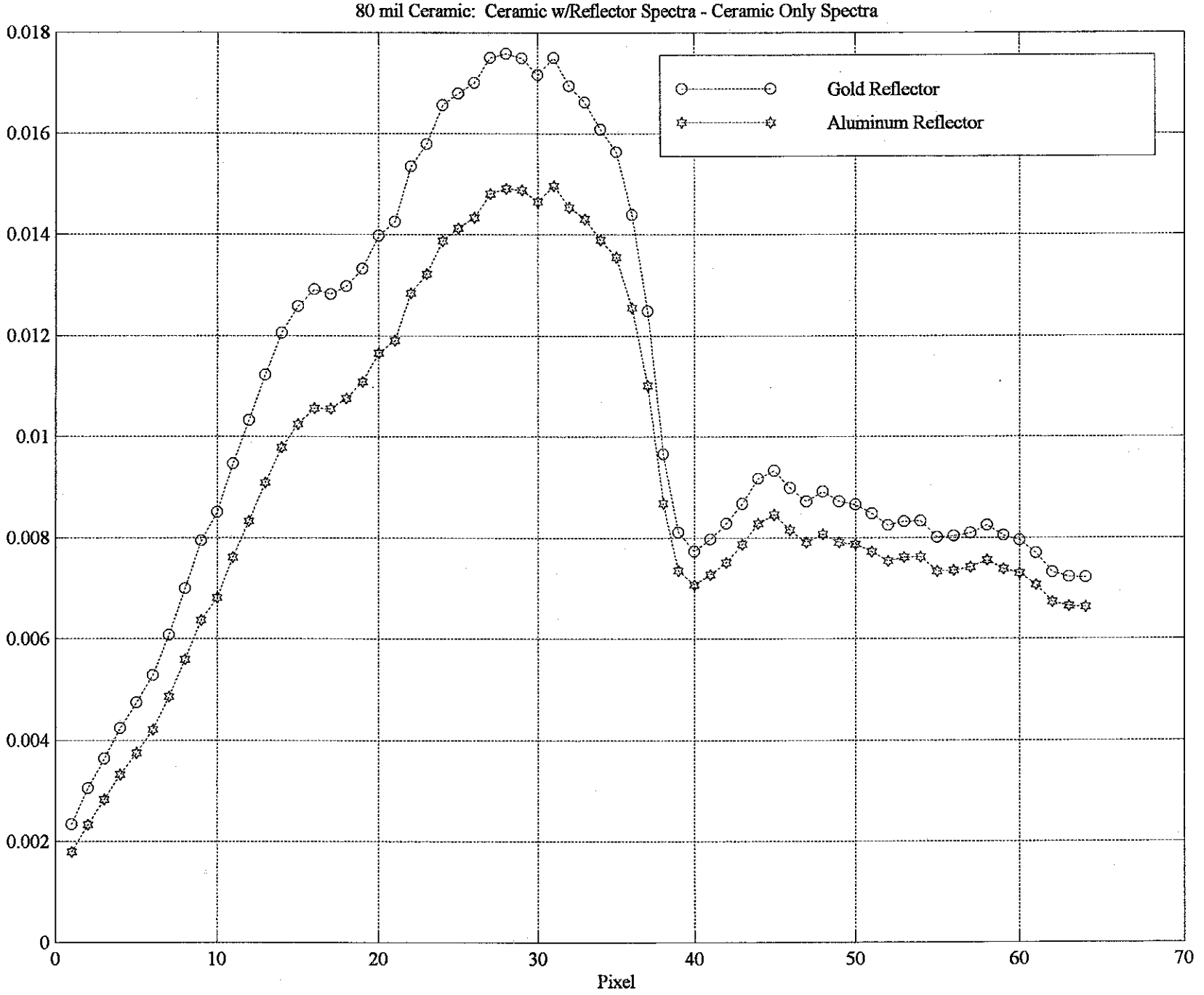
$x = \frac{a\tan\alpha\tan L}{1+\tan\alpha\tan L}$

$d = a\tan\alpha\tan L\left(\tan(90-L)\tan(-2L+2\alpha) - 1\right) / (1+\tan\alpha\tan L)$


Length Required for Sample Touching Edge of Prboe to Fill Light Cone
Edge of Probe to Edge of Pixel Array: .091"
Width of Pixel Array: .056"
Sample Length (inches)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
30
35
40
45
50
55
Angle


80 mil Ceramic: -log10(Aluminum Difference Spectra/Gold Difference Spectra)
Gold Reflector
Aluminum Reflector
Absorbance Units
Pixel
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0
10
20
30
40
50
60
70


80 mil Ceramic: -log10(Ceramic w/Reflector Spectra/Ceramic Only Spectra)
x 10^-3
-4
-4.5
-5
-5.5
-6
-6.5
-7
-7.5
-8
-8.5
-9
Absorbance Units
0
10
20
30
40
50
60
70
Pixel
Gold Reflector
Aluminum Reflector


80 mil Ceramic: Ceramic w/Reflector Spectra - Ceramic Only Spectra
Gold Reflector
Aluminum Reflector
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
0
10
20
30
40
50
60
70
Pixel