

file ag0280  
 Fred Goozen  
 Ruby balls for survey  
 units mm

	X	Y	Z	diameter	roundness
Back light only					
auto focus on edge			145.7750		
find position with target circle	117.8410	152.4142			
measure circle	117.8391	152.4105		0.9991	0.0031
auto focus on edge			145.6950		
measure circle with auto edge finder	117.3473	152.3252		0.9993	0.0027
Ring light only					
auto focus on edge			145.6650		
find position with target circle	117.8420	152.4122			
measure circle	118.3191	152.2623		1.0058	0.0030
auto focus on edge			145.6910		
measure circle with auto edge finder	117.4820	152.7532		1.0010	0.0030
Coax light only					
auto focus on edge			145.7480		
find position with target circle	117.8380	152.4162			
measure circle	118.3321	152.2913		1.0077	0.0059
auto focus on edge			145.7470		
measure circle with auto edge finder	117.4440	152.7157		0.9978	0.0028
mixed light					
auto focus on edge "left" clean edge			145.6820		
auto focus on edge "center" clean edge			145.6830		
auto focus on edge "right" some small bright spots			145.7220		
double edge			145.8550		

spread with target circle	0.0040	0.004			
spread measure circle	0.4930	0.1192			
spread measure circle with auto edge finder	0.1347	0.4280			
spread clean edge			0.0930	0.008	

conclusion  
 light source mix will change XY measured position with circle measurement  
 light source mix will NOT change XY measured position with circle target  
 light source mix on a clean edge will change the Z position  
 with constant lighting and point of Z measurement will repeat to 0.01mm