

Table 5.11

**Measurement of roundness by Dial gauge deflections of 12-mm Diameter Stainless Steel (SS) Round Bar**  
**Mean values of Dial Gauge Deflection Readings before straightening of 12 mm Stainless Steel (SS) round bar x 0.01 mm**

Length in cm	Angles in Degrees																								STD DEV (mm)
	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	
11	51	50	49	49	50	51	51	52	54	56	58	59	60	61	62	63	62	62	61	60	59	56	54	51	0.04899
13	53	51	51	51	51	52	53	53	54	56	58	59	60	61	62	62	62	61	61	60	59	57	56	54	0.04109
15	54	53	53	53	53	53	54	55	55	56	59	59	60	61	62	62	62	61	61	60	60	59	57	56	0.03365
17	53	52	52	52	52	52	53	53	54	55	57	57	59	59	60	60	60	59	59	58	57	56	55	54	0.02954
20	51	51	51	51	51	51	52	52	53	54	55	56	57	57	58	58	58	57	57	55	54	54	53	52	0.02601
22	52	52	52	51	51	52	52	52	53	53	54	55	56	56	57	57	57	57	57	56	55	55	54	53	0.02149
25	53	52	52	52	52	52	52	53	53	53	54	54	56	56	56	56	56	57	57	56	56	56	55	53	0.01815
27	52	52	52	51	51	52	52	52	53	53	53	53	55	55	55	56	56	56	55	55	55	54	54	53	0.01558
31	52	52	51	51	51	51	52	52	52	52	53	53	54	54	54	55	55	55	54	54	54	53	53	53	0.01342
33	52	51	51	50	50	50	50	51	51	51	52	52	53	54	54	55	55	55	55	55	55	54	54	53	0.01856
35	51	51	50	49	49	49	49	50	50	51	51	52	53	53	54	55	55	56	56	56	55	55	54	53	0.02435
37	51	51	50	50	49	49	49	50	50	50	50	51	51	52	52	53	53	54	54	54	54	53	53	52	0.01641
40	51	51	50	50	50	50	50	50	50	49	50	50	50	50	51	51	52	52	52	52	52	52	51	51	0.00961
42	51	51	50	50	49	49	49	49	49	49	49	49	49	49	50	50	51	52	52	53	53	53	52	52	0.01354
45	52	51	51	49	49	49	49	49	49	49	49	49	49	49	49	50	51	52	52	53	53	53	53	52	0.01804
46	54	53	53	51	51	50	50	50	50	50	51	51	51	52	52	53	54	55	55	56	56	56	56	55	0.02229
48	56	55	55	54	53	52	52	51	52	52	53	53	54	55	55	56	57	58	59	59	59	59	59	58	0.02725
50	53	54	54	54	54	54	54	54	55	55	55	55	55	55	55	55	54	54	54	54	54	54	54	54	0.00575
53	50	52	53	54	55	56	57	58	58	58	57	57	57	56	55	54	51	50	49	49	49	49	49	49	0.0344

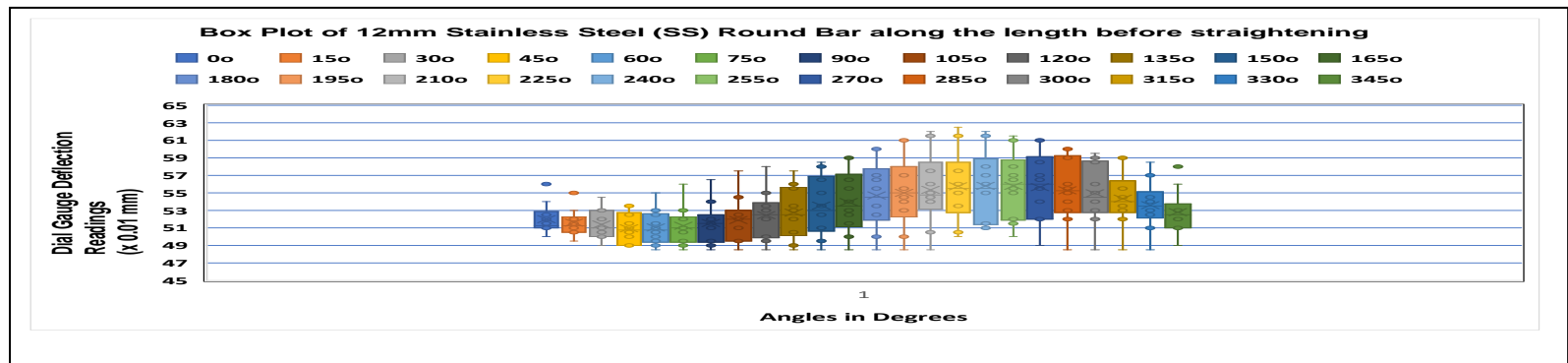


Figure 5.9(a): Box Plot of dial gauge readings dataset of mean values of 12-mm diameter Stainless Steel (SS) round bar before straightening

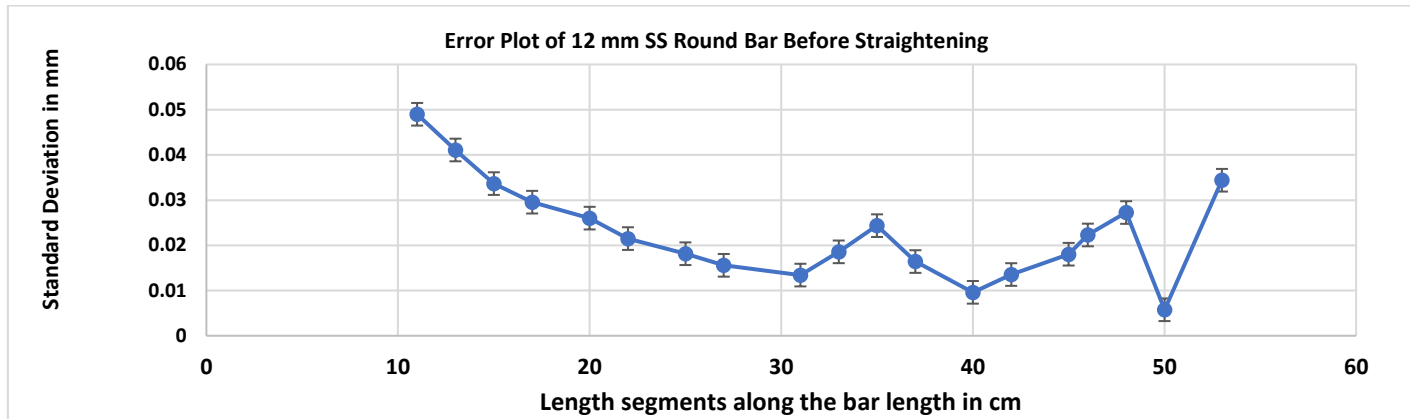


Figure 5.9(b): Error Plot of 12 mm Stainless Steel Round Bar Before Straightening