

**TABLE 1.** Properties of the core sample group of 45 Research Diamonds.<sup>a</sup>

RD no.	Weight (ct)	Crown angle (°)	Crown height (%)	Pavilion angle (°)	Table size (%)	Total depth (%)	Star length (%)	Lower girdle length (%)	Girdle thickness	Girdle condition	Culet size	Clarity	Color	Fluorescence	Polish	Symmetry
01	0.61	34.3	15.5	40.6	54	61.2	53.8	81	Thin to medium	Faceted	None	VS <sub>1</sub>	E	None	Very good	Very good
02	0.64	33.0	13.0	41.6	59	61.5	55	75	Slightly thick to thick	Faceted	Very small	SI <sub>2</sub>	E	Faint	Very good	Good
03	0.55	32.0	11.5	41.0	63	58.6	60	80	Medium to slightly thick	Faceted	None	VS <sub>2</sub>	H	None	Good	Good
04	0.70	36.0	15.5	42.0	58	65.4	55	80	Slightly thick to thick	Faceted	None	VVS <sub>2</sub>	E	None	Good	Very good
05	0.66	24.0	9.5	42.4	57	58.5	55	85	Medium to slightly thick	Faceted	None	VS <sub>2</sub>	F	None	Very good	Good
06	0.59	23.0	9.5	42.0	56	57.2	60	80	Medium to slightly thick	Faceted	None	VVS <sub>2</sub>	F	Faint	Very good	Very good
07	0.76	36.5	17.5	41.4	53	64.1	55	90	Thin to medium	Faceted	None	SI <sub>1</sub>	F	None	Very good	Very good
08	0.50	33.5	14.0	41.2	57	61.1	55	85	Medium	Faceted	None	VVS <sub>1</sub>	H	None	Very good	Very good
09	0.66	23.5	10.0	42.2	55	59.4	60	75	Medium to slightly thick	Faceted	None	IF	F	None	Very good	Good
10	0.68	34.5	16.0	41.0	54	62.1	55	75	Very thin to medium	Faceted	None	VS <sub>2</sub>	G	None	Very good	Good
11	0.71	37.0	16.0	42.2	58	64.9	45	85	Medium to slightly thick	Bruted	None	VS <sub>2</sub>	D	None	Good	Very good
12	0.71	35.0	15.0	41.0	57	62.6	55	75	Medium to slightly thick	Faceted	None	SI <sub>1</sub>	F	None	Good	Very good
13	0.59	33.5	16.0	41.2	52	61.9	60	80	Thin to slightly thick	Faceted	None	VVS <sub>2</sub>	E	None	Very good	Good
14	0.71	34.5	14.0	42.0	59	62.4	60	80	Very thin to slightly thick	Faceted	None	SI <sub>1</sub>	G	None	Good	Good
15	0.67	25.5	10.0	40.8	59	55.6	55	75	Medium	Faceted	None	VS <sub>1</sub>	H	None	Good	Good
16	0.82	33.5	15.5	40.6	53	61.2	50	75	Thin to medium	Faceted	Very small	VS <sub>1</sub>	G	None	Good	Very good
17	0.75	26.0	10.0	38.6	59	53.2	50	75	Thin to medium	Faceted	None	VS <sub>2</sub>	F	None	Very good	Very good
18	0.62	29.0	11.0	41.4	61	57.8	45	75	Medium to slightly thick	Faceted	None	VVS <sub>2</sub>	H	None	Very good	Very good
19	0.72	29.0	10.5	39.6	62	54.5	50	75	Medium	Faceted	None	VS <sub>1</sub>	H	None	Very good	Very good
20	0.62	34.5	13.5	40.8	61	59.6	55	80	Medium	Faceted	None	VVS <sub>1</sub>	I	Strong blue	Very good	Very good
21	0.82	35.5	15.5	41.2	58	62.3	55	75	Thin to medium	Faceted	None	VVS <sub>1</sub>	I	Strong blue	Very good	Good
22	0.81	35.5	16.5	39.4	54	60.6	55	75	Thin	Faceted	None	VS <sub>1</sub>	K	None	Very good	Very good
23	0.72	36.5	17.0	40.6	54	63.7	55	80	Medium	Faceted	None	VVS <sub>2</sub>	I	None	Very good	Good

<sup>a</sup> Research Diamonds RD01–RD27 and RD29 were previously reported in Reintz et al. (2001); variations in proportion values from that article are the result of recutting, measuring device tolerances, and/or the application of rounding. Verbal descriptions are used here for girdle thickness and culet

RD no.	Weight (ct)	Crown angle (°)	Crown height (%)	Pavilion angle (°)	Table size (%)	Total depth (%)	Star length (%)	Lower girdle length (%)	Girdle thickness	Girdle condition	Culet size	Clarity	Color	Fluorescence	Polish	Symmetry
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24	0.58	35.5	12.5	39.0	66	56.3	60	75	Thin to medium	Faceted	None	VVS <sub>1</sub>	H	None	Very good	Good
25	0.82	40.0	13.0	42.0	69	60.2	55	75	Thin to medium	Faceted	None	VVS <sub>2</sub>	H	None	Good	Very good
26	0.89	38.0	15.0	42.0	61	63.3	55	70	Medium	Faceted	None	VS <sub>1</sub>	I	None	Very good	Very good
27	0.44	11.0	15.0	50.8	64	67.8	50	75	Thin to medium	Faceted	None	VS <sub>2</sub>	G	Strong blue	Very good	Good
28 <sup>b</sup>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
29	0.69	37.5	15.5	42.2	60	62.9	50	75	Thin to medium	Bruted	Small	SI <sub>1</sub>	F	Faint	Excellent	Excellent
30	0.64	34.5	15.5	40.8	55	60.9	50	75	Medium	Bruted	None	IF	I	None	Very good	Excellent
31	0.41	27.0	11.5	40.4	57	58.8	50	75	Slightly thick to thick	Faceted	Very small	VS <sub>2</sub>	E	None	Very good	Good
32	0.64	35.0	16.5	41.0	53	60.5	45	60	Medium to thick	Faceted	Slightly large	VS <sub>2</sub>	H	Medium blue	Very good	Good
33	0.64	37.0	16.5	44.0	56	68.0	55	70	Thin to medium	Faceted	None	VS <sub>1</sub>	H	None	Very good	Very good
34	0.49	41.5	19.5	40.4	56	70.7	55	80	Very thick	Faceted	None	VS <sub>1</sub>	H	None	Very good	Good
35	0.44	31.0	9.0	43.2	70	58.4	65	80	Thin to medium	Bruted	None	VS <sub>2</sub>	D	None	Good	Good
36	0.65	37.0	16.5	43.4	57	67.9	55	75	Medium to thick	Faceted	None	VS <sub>2</sub>	H	None	Excellent	Very good
37	0.50	33.5	9.5	40.2	70	56.9	60	80	Slightly thick to thick	Bruted	None	VS <sub>2</sub>	F	None	Good	Good
38	0.70	37.0	16.5	41.6	57	69.1	60	85	Very thick	Faceted	None	VS <sub>1</sub>	H	None	Very good	Good
39	0.70	35.5	15.5	41.2	57	74.0	55	80	Extremely thick	Faceted	None	SI <sub>1</sub>	F	Medium blue	Good	Good
40	0.70	38.5	14.5	41.0	63	69.3	60	80	Very thick to extremely thick	Faceted	None	SI <sub>1</sub>	G	None	Good	Good
41	0.71	37.0	17.0	40.2	55	67.3	55	85	Very thick	Faceted	None	VS <sub>2</sub>	H	Medium blue	Good	Good
42	0.71	37.0	17.0	41.4	54	68.3	55	80	Thick	Faceted	None	VS <sub>1</sub>	G	None	Good	Very good
43	0.50	38.5	17.5	41.8	57	71.5	55	80	Thick to very thick	Faceted	None	VVS <sub>2</sub>	G	None	Good	Good
44	0.70	38.0	16.5	41.4	57	68.1	55	80	Medium to very thick	Faceted	None	VVS <sub>2</sub>	I	Faint	Good	Good
45	0.62	37.0	14.5	45.2	62	69.3	60	85	Medium to very thick	Bruted	None	VS <sub>1</sub>	F	None	Good	Good
46	0.54	37.0	14.5	37.2	62	54.5	60	85	Extremely thin to thick	Bruted	None	SI <sub>2</sub>	F	None	Excellent	Good

size, as they are reported by the GIA Gem Laboratory. Listed properties were determined by the GIA Gem Laboratory.

<sup>b</sup> Not included in sample set for this research because it is a modified round brilliant.