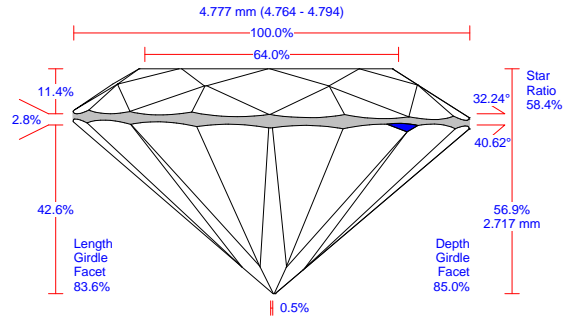


HELIUM FULL REPORT

Polished Brilliant

General information

Model Simple
 Expert name Makoed A.G.
 Report date 06.07.2007
 Real weight, ct 0.37, 0.3756
 Calculated weight, ct 0.37, 0.3756
 Appraiser title GIA_PCTG_StarCul
 Overall cut quality G
 Symmetry appraiser title Internal
 Overall symmetry quality FR
 Spread 0.03 ct, 8.38%
 AGS Spread 0.03 ct, 8.08%
 Girdle to MIC 0.018 mm
 EF / Nat Yes (2)



Main parameters

Parameter		Avg	Min	Max	Dev	Cut	Sym
Diameter	mm	4.777	4.764	4.794	0.62 %	E	VG
Crown angle	°	32.24	31.05	32.55	1.50	Grading	VG
Crown height	%	11.37	10.64	12.34	1.71	V	GD
Crown height	mm	0.543	0.508	0.590	0.082		
Crown height at girdle minima	%	11.96	10.93	13.04	2.10	N/A	GD
Crown height at girdle minima	mm	0.571	0.522	0.623	0.100		
Pavilion angle	°	40.62	39.63	41.47	1.84	Grading	GD
Pavilion depth	%	42.64	41.67	43.72	2.05	N/A	GD
Pavilion depth	mm	2.037	1.990	2.088	0.098		
Pavilion depth at girdle minima	%	43.42	42.41	44.69	2.28	N/A	GD
Pavilion depth at girdle minima	mm	2.074	2.026	2.135	0.109		
Upper girdle facets angle	°	39.91	38.83	41.11	2.28		VG
Upper girdle facets height	%	7.92	6.98	8.90	1.91		VG
Upper girdle facets height	mm	0.378	0.334	0.425	0.091		
Star facets angle	°	18.79	17.63	19.85	2.21		VG
Star :							
Upper ratio	%	58.39 :	54.01 :	63.15 :	9.14	E	FR
		41.61	45.99	36.85			
Lower girdle facets angle	°	41.53	40.54	42.44	1.91		VG
Lower girdle facets height	%	37.15	35.68	38.41	2.73		
Lower girdle facets height	mm	1.775	1.704	1.835	0.131		
Depth Girdle Facet	%	84.95	83.10	86.69	3.60	E	VG
Length Girdle Facet	%	83.64	81.71	85.34	3.63		
Total height	%	56.88				V	
Total height	mm	2.717					
Table	%	64.05	63.84	64.15	0.31	Grading	EX
Table	mm	3.060	3.050	3.064	0.015		
Culet	%	0.53	0.35	0.63	0.28	E	EX
Culet	mm	0.025	0.017	0.030	0.013		
Twist	°	1.38	0.03	3.61	3.58		FR
Girdle thickness: Bezel	%	2.84	2.39	3.40	1.01	E	GD
Girdle thickness: Bezel	mm	0.136	0.114	0.162	0.048		
Girdle thickness: Bone	%	3.30	2.94	3.80	0.86		VG
Girdle thickness: Bone	mm	0.158	0.140	0.181	0.041		
Girdle thickness: Valley	%	1.53	1.16	1.98	0.82	E	EX
Girdle thickness: Valley	mm	0.073	0.055	0.095	0.039		
Measurement as per OctoNus theory:							
Crown angle	°	32.24	31.80	32.42	0.62		
Pavilion angle	°	40.62	40.52	40.82	0.31		
Culet through bezel	°	25.30				N/A	
Fish eye effect	°	3.36				N/A	

Paint / Dug		Avg	Type	Sym	Max	Dev	Sym
Crown	°	-1.58	Painting	EX	-4.24	3.91	EX
Crown	notches	0.4, Small			1.1	1.0	
Pavilion	°	-0.30		EX	-2.07	3.04	EX
Pavilion	notches	0.1, Negligible			0.6	0.8	

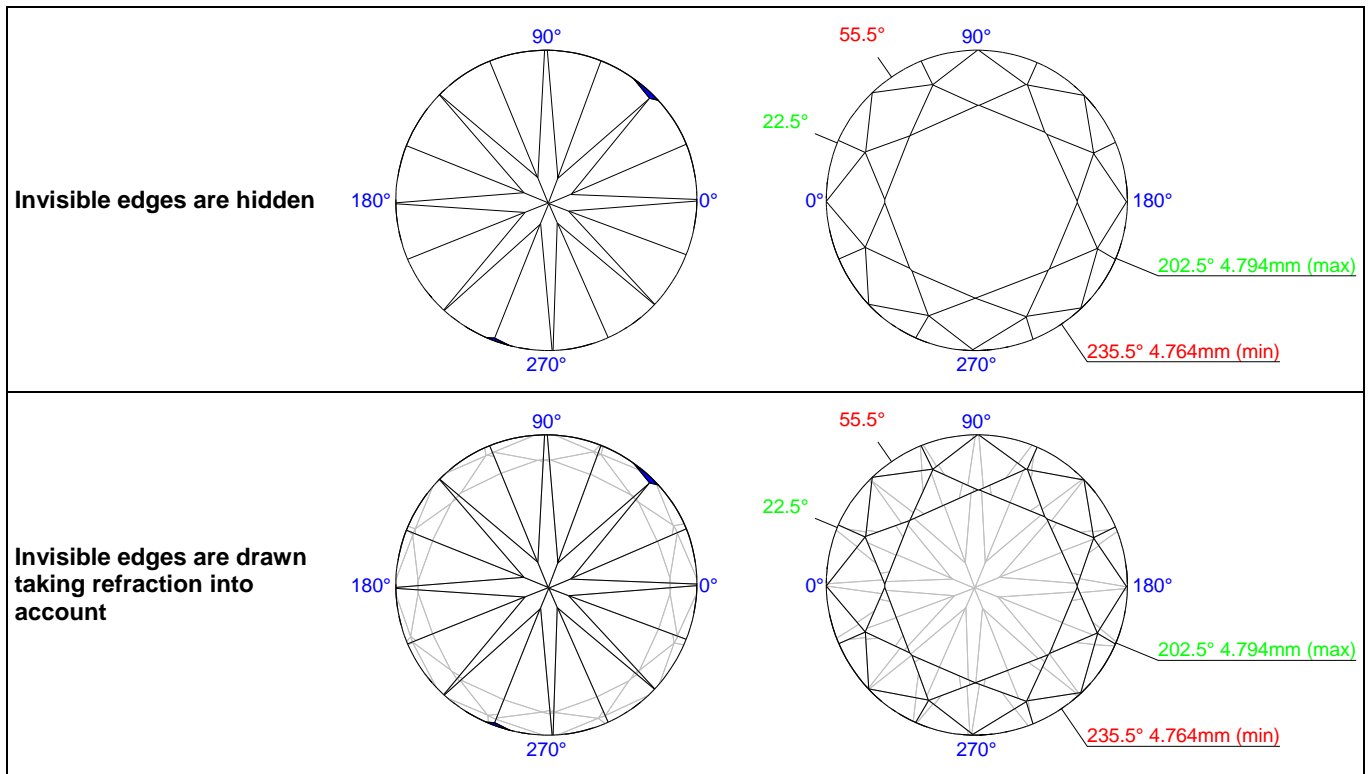
Detailed parameters

Parameter		1	2	3	4	5	6	7	8
Diameter	mm	4.783	4.772	4.775	4.775				
Crown angle	°	32.41	32.54	32.14	31.05	32.44	32.24	32.52	32.55
Crown height	%	12.34	12.14	11.54	10.84	10.64	10.64	11.16	11.64
Crown height	mm	0.590	0.580	0.551	0.518	0.508	0.508	0.533	0.556
Crown height at girdle minima	%	13.04	12.83	12.60	12.35	12.10	11.65	11.35	11.38
		10.98	10.93	11.30	11.68	11.81	12.06	12.41	12.95
Crown height at girdle minima	mm	0.623	0.613	0.602	0.590	0.578	0.556	0.542	0.544
		0.525	0.522	0.540	0.558	0.564	0.576	0.593	0.618
Crown azimuth	°	0.0	45.8	89.6	134.6	177.7	226.2	270.1	318.2
Crown azimuth deviation from ideal	°	0.04	0.81	-0.38	-0.42	-2.31	1.24	0.08	3.22
Pavilion angle	°	40.33	40.29	39.63	40.12	40.71	41.36	41.47	41.04
Pavilion depth	%	41.67	42.24	41.95	42.85	43.48	43.72	43.06	42.18
Pavilion depth	mm	1.990	2.018	2.004	2.047	2.077	2.088	2.057	2.015
Pavilion depth at girdle minima	%	42.44	42.91	42.90	42.58	42.87	43.49	43.90	44.18
		44.38	44.69	44.33	44.06	43.65	43.21	42.76	42.41
Pavilion depth at girdle minima	mm	2.027	2.050	2.050	2.034	2.048	2.077	2.097	2.110
		2.120	2.135	2.118	2.105	2.085	2.064	2.043	2.026
Pavilion azimuth	°	0.0	45.1	90.2	136.6	181.3	225.4	270.1	315.0
Pavilion azimuth deviation from ideal	°	0.00	0.09	0.15	1.58	1.30	0.36	0.11	0.03
Upper girdle facets angle	°	39.58	39.28	39.61	40.30	40.18	39.70	39.31	40.03
		40.83	38.83	41.11	40.21	40.92	39.53	39.39	39.82
Upper girdle facets height	%	8.90	8.74	8.15	7.96	7.83	7.34	7.46	7.51
		7.16	6.98	7.40	7.69	8.05	8.31	8.32	8.86
Upper girdle facets height	mm	0.425	0.417	0.389	0.380	0.374	0.350	0.356	0.359
		0.342	0.334	0.354	0.368	0.384	0.397	0.398	0.423
Upper girdle facets azimuth	°	9.9	36.0	55.0	79.0	99.8	124.5	145.0	169.4
		187.5	219.2	236.7	261.8	281.0	308.8	327.7	349.2
Upper girdle facets azimuth deviation from ideal	°	-1.33	2.29	-1.24	0.26	-1.41	0.73	-1.26	0.63
		-3.73	5.48	0.44	3.01	-0.25	5.07	1.50	0.48
Star facets angle	°	19.32	19.37	19.22	18.60	17.63	18.30	18.04	19.85
Star facets azimuth	°	21.5	65.9	112.3	155.6	202.7	248.9	293.4	339.1
Star facets azimuth deviation from ideal	°	-0.96	-1.59	-0.22	-1.92	0.17	1.45	0.91	1.61
Star : Upper ratio	%	54.65 :	57.84 :	60.63 :	58.79 :	63.15 :	60.26 :	57.78 :	54.01 :
		45.35	42.16	39.37	41.21	36.85	39.74	42.22	45.99
Lower girdle facets angle	°	41.08	41.11	41.06	40.54	40.61	40.95	41.30	41.52
		41.79	42.22	42.39	42.44	42.24	42.04	41.80	41.35
Lower girdle facets height	%	36.47	36.56	36.30	35.68	36.11	36.47	37.18	37.39
		37.64	38.17	38.25	38.41	38.11	37.46	37.32	36.94
Lower girdle facets height	mm	1.742	1.747	1.734	1.704	1.725	1.742	1.776	1.786
		1.798	1.824	1.827	1.835	1.821	1.790	1.783	1.764
Lower girdle facets azimuth	°	11.1	35.9	55.0	79.7	102.4	125.6	148.2	170.5
		192.6	215.4	237.6	259.5	281.5	304.1	326.1	348.6
Lower girdle facets azimuth deviation from ideal	°	-0.16	2.15	-1.28	0.91	1.13	1.88	1.93	1.72
		1.40	1.65	1.33	0.71	0.27	0.38	-0.13	-0.17
Depth Girdle Facet	%	85.39	84.47	83.85	83.13	83.69	83.10	84.16	84.00
		84.30	84.79	85.66	86.63	86.69	86.19	86.64	86.55
Length Girdle Facet	%	84.20	83.27	82.67	81.94	82.31	81.71	82.81	82.65
		83.09	83.59	84.35	85.34	85.25	84.74	85.21	85.13
Table	%	64.07	64.15	64.14	63.84				
Table	mm	3.061	3.064	3.064	3.050				
Twist	°	0.04	0.73	0.54	2.00	3.61	0.88	0.03	3.19
Girdle Bezel	%	2.87	2.39	3.40	3.19	2.72	2.47	2.60	3.06
Girdle Bezel	mm	0.137	0.114	0.162	0.153	0.130	0.118	0.124	0.146
Girdle Bone	%	2.99	3.54	3.44	3.07	3.80	2.94	3.59	3.05
Girdle Bone	mm	0.143	0.169	0.164	0.147	0.181	0.140	0.171	0.146
Girdle Valley	%	1.43	1.16	1.38	1.98	1.96	1.76	1.68	1.35
		1.63	1.34	1.27	1.17	1.44	1.70	1.73	1.54
Girdle Valley	mm	0.068	0.055	0.066	0.095	0.094	0.084	0.080	0.065
		0.078	0.064	0.060	0.056	0.069	0.081	0.083	0.074
Crown painting	°	-1.37	-1.48	-2.05	-0.65	-1.03	-1.14	-0.84	-2.94
		-1.42	-4.24	-0.80	-2.93	-0.33	-1.85	-1.72	-0.43
Crown painting	notches	0.4	0.4	0.5	0.2	0.3	0.3	0.2	0.8
		0.4	1.1	0.2	0.8	0.1	0.5	0.5	0.1
Pavilion painting	°	-0.16	-2.07	-1.37	-0.75	0.98	-0.30	0.35	-0.41
		0.10	-1.29	0.97	-0.60	0.16	-0.35	-0.16	0.17
Pavilion painting	notches	0.0	0.6	0.4	0.2	0.3	0.1	0.1	0.1
		0.0	0.3	0.3	0.2	0.0	0.1	0.0	0.0
Measurement as per OctoNus theory:									
Crown angle	°	32.42	32.39	32.33	31.80				
Pavilion angle	°	40.52	40.82	40.55	40.58				

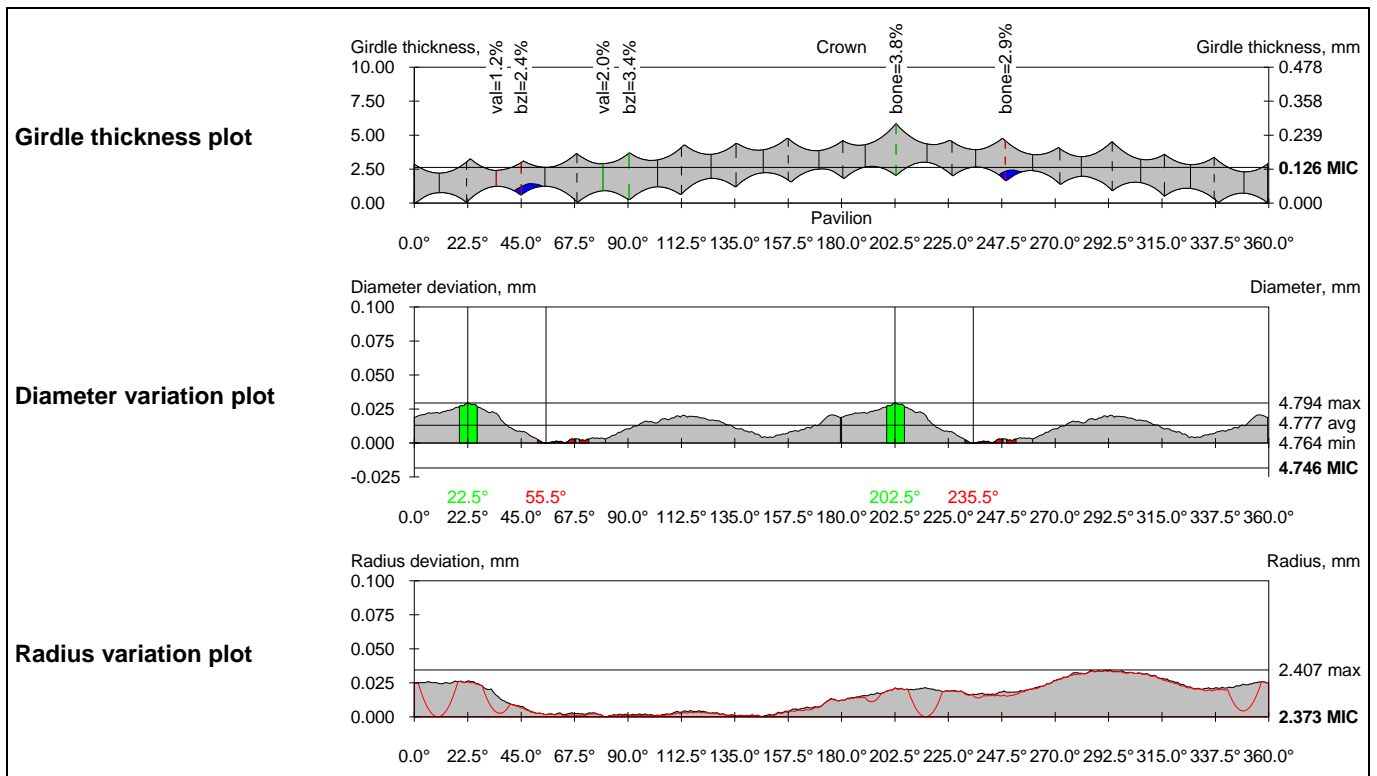
Offset	Distance, %	Distance, mm
Girdle-Culet offset by table axis	1.52 ± 0.26	0.059 ± 0.011
Girdle-Table offset by table axis	1.24 ± 0.23	0.073 ± 0.012
Culet-Table offset by table axis	1.83 ± 0.27	0.087 ± 0.013
Girdle to table-culet line offset	1.07	0.051

Culet shift ratio by main diameter		
Main diameter (avg)	4.777 mm, 100%	
Width-wise culet shift ratio	2.427 mm, 50.81 %	2.356 mm, 49.32 %
Length-wise culet shift ratio	2.341 mm, 49.00 %	2.434 mm, 50.94 %

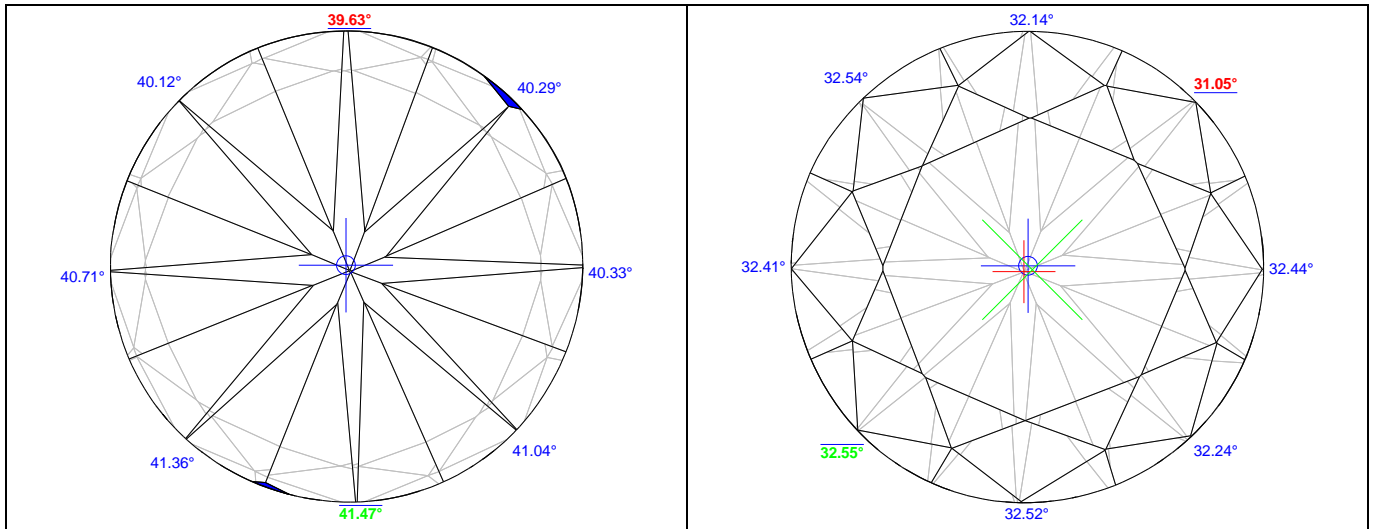
Crown and pavilion views of the diamond with indication of the diameter minimum and maximum



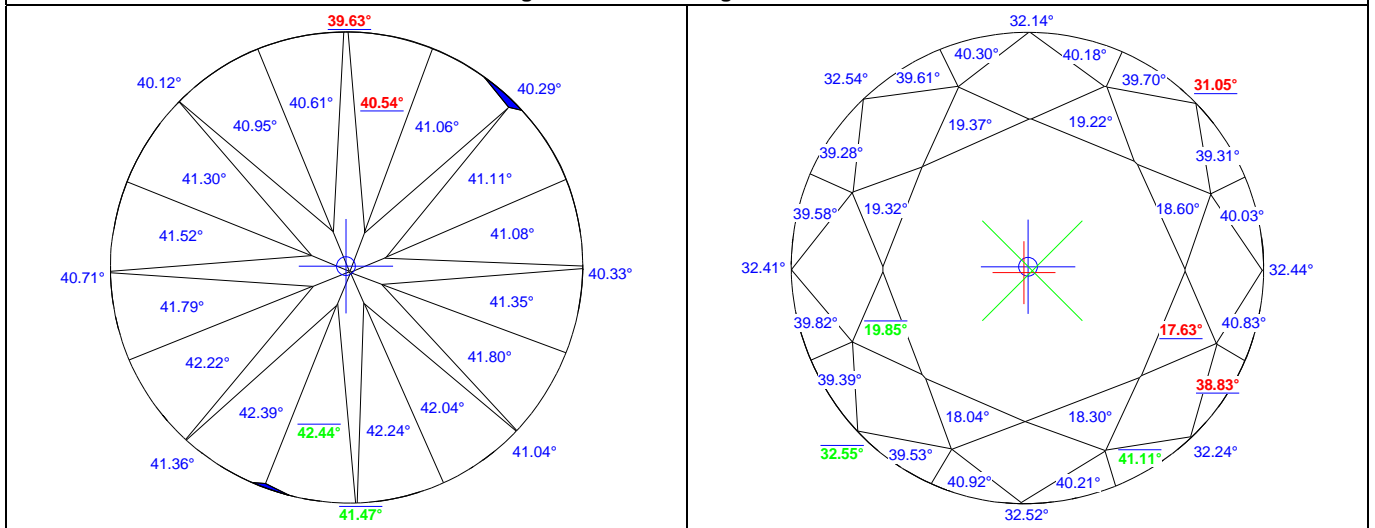
Plots



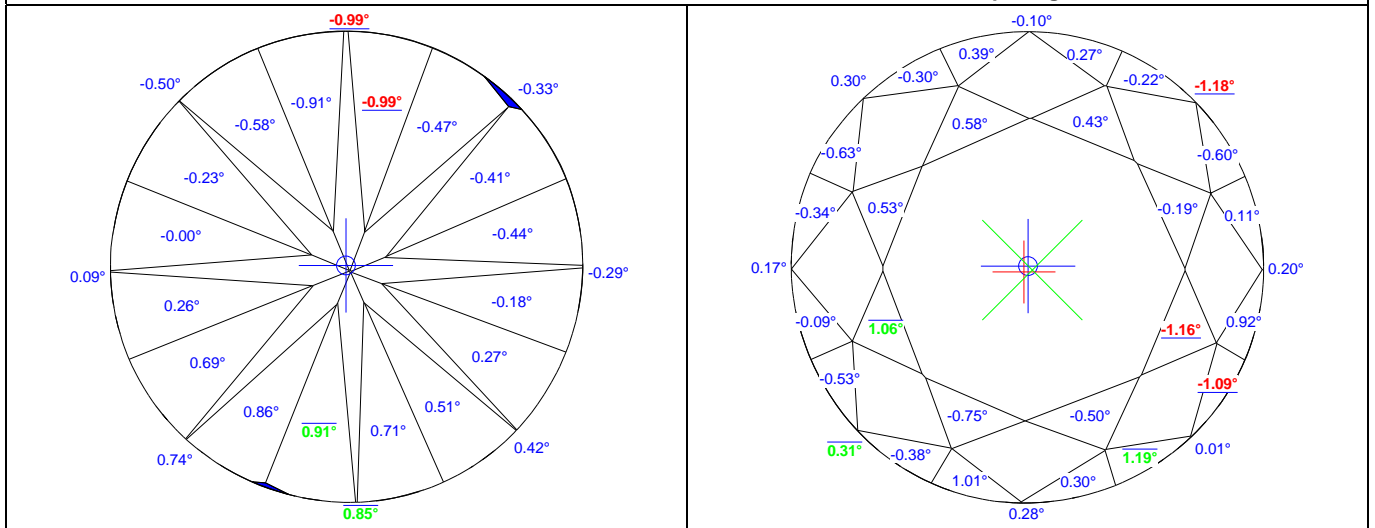
Facets' azimuth and slope angles



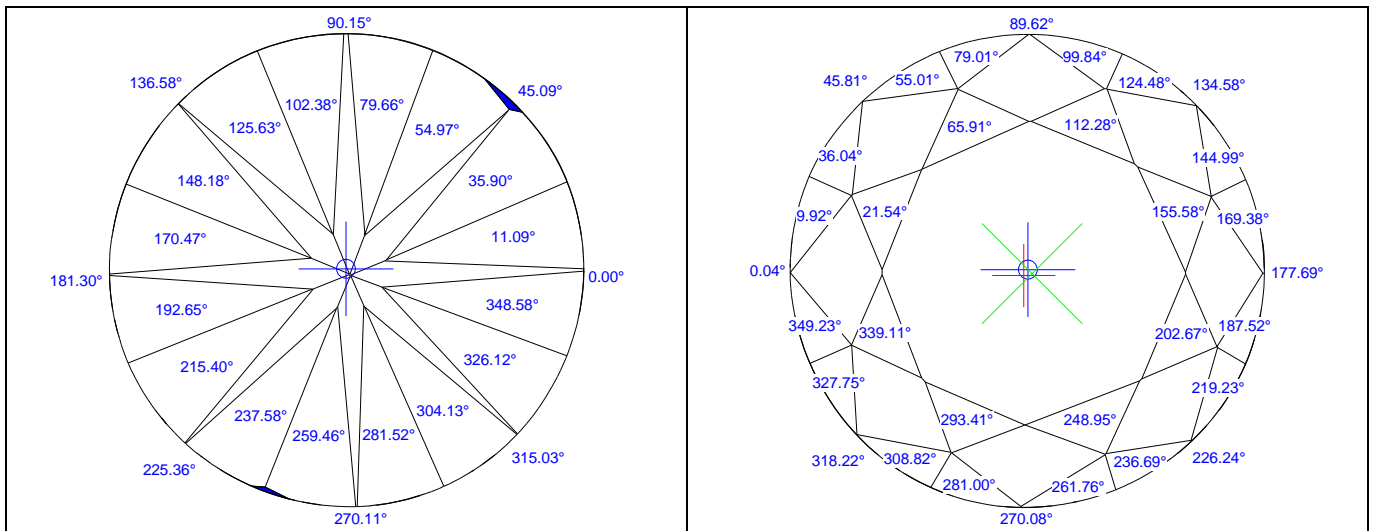
Pavilion and crown views of the diamond with indication of main facets' slope angles
Invisible edges are drawn taking refraction into account



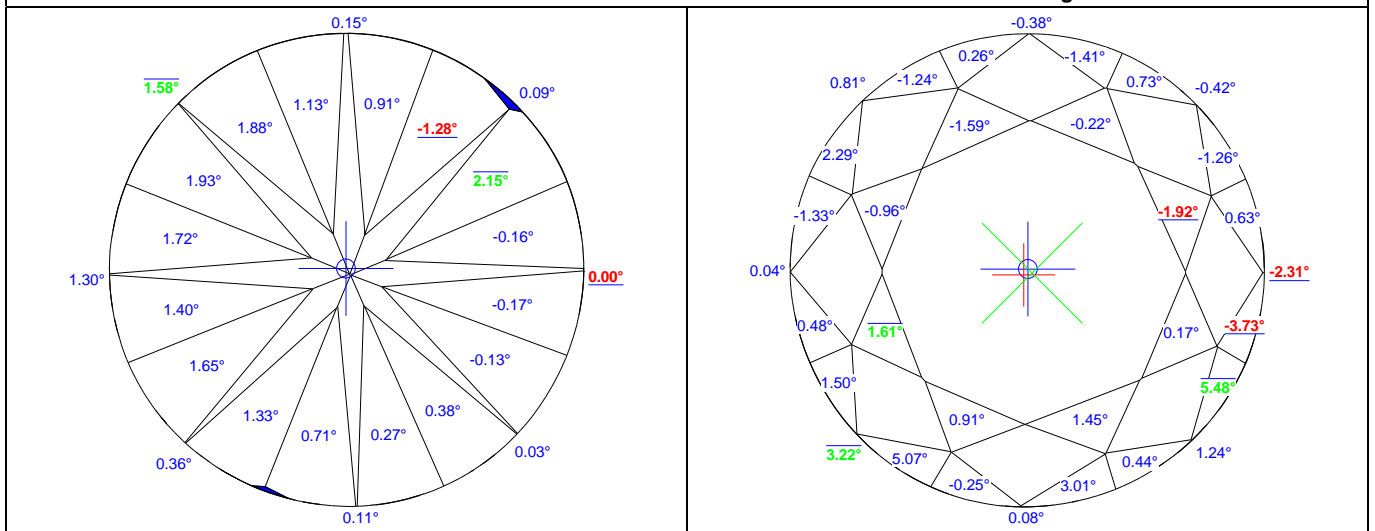
Pavilion and crown views of the diamond with indication of facets' slope angles



Pavilion and crown views of the diamond with indication of deviation of facets' slope angles from the average values

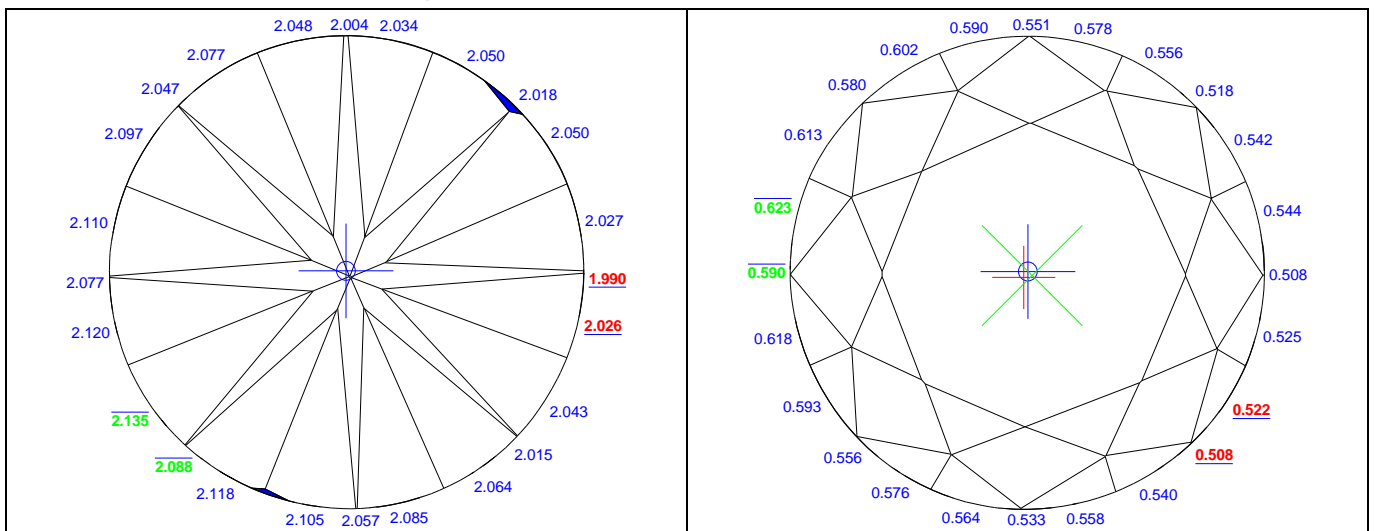


Pavilion and crown views of the diamond with indication of facets' azimuth angles

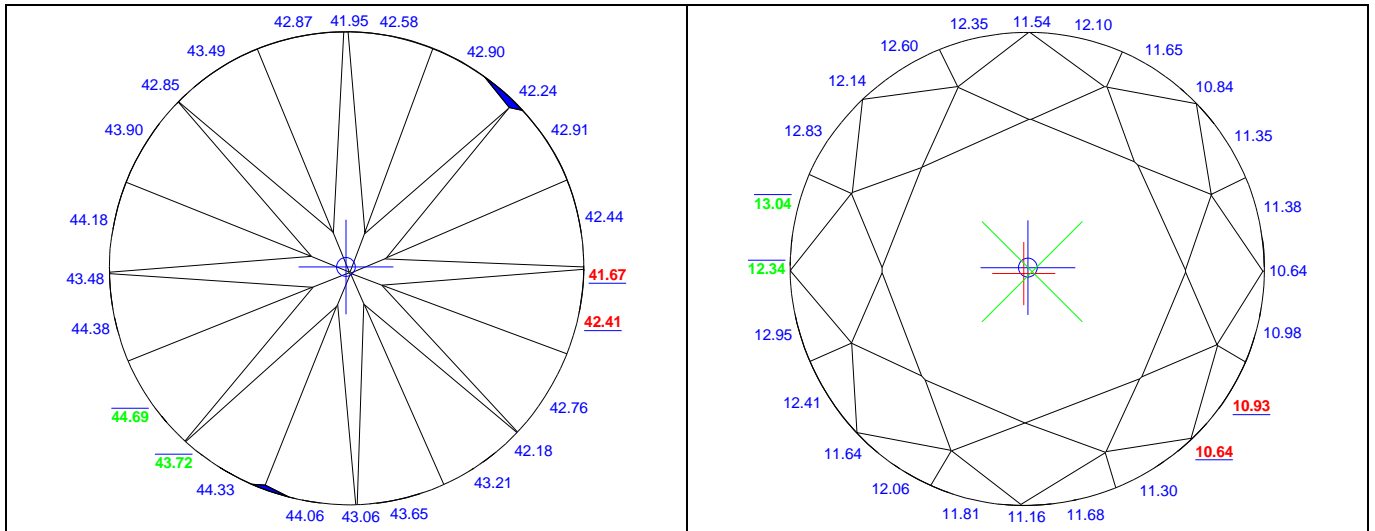


Pavilion and crown views of the diamond with indication of deviation of facets' azimuth angles from their ideal positions for the round brilliant

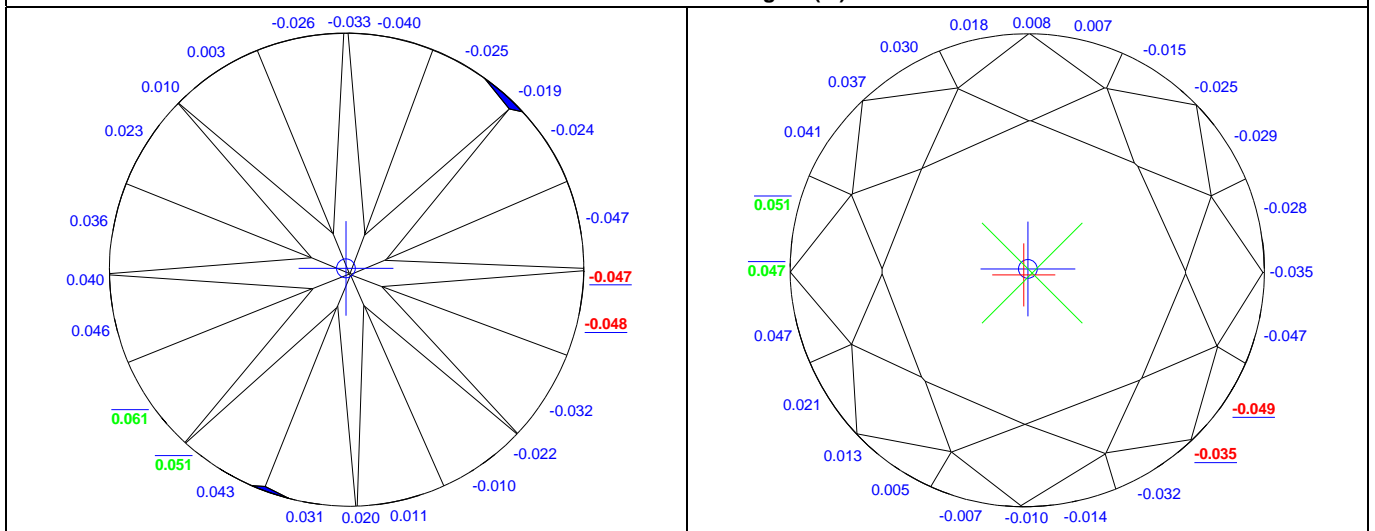
Pavilion and Crown heights



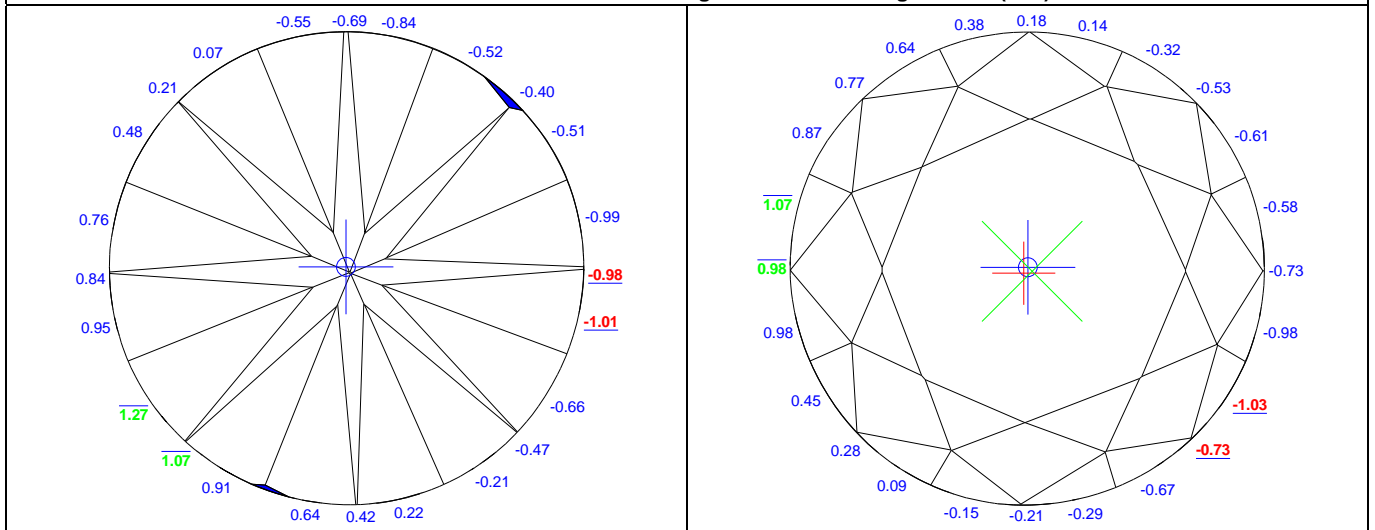
Pavilion and Crown heights (mm)



Pavilion and Crown heights (%)

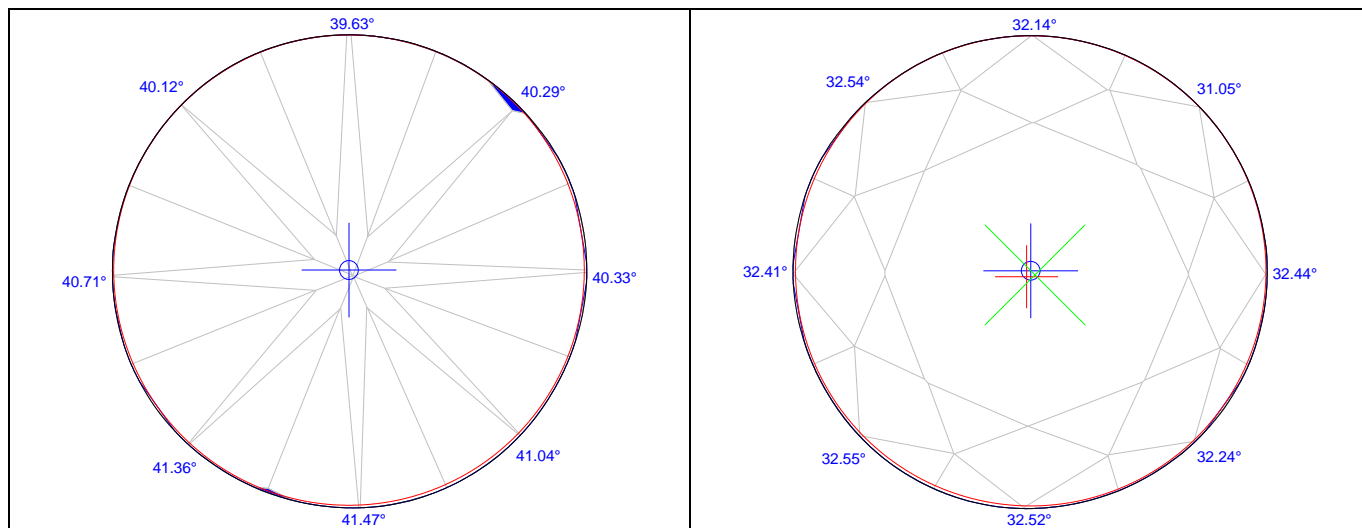


Deviations of Pavilion and Crown heights from the average values (mm)

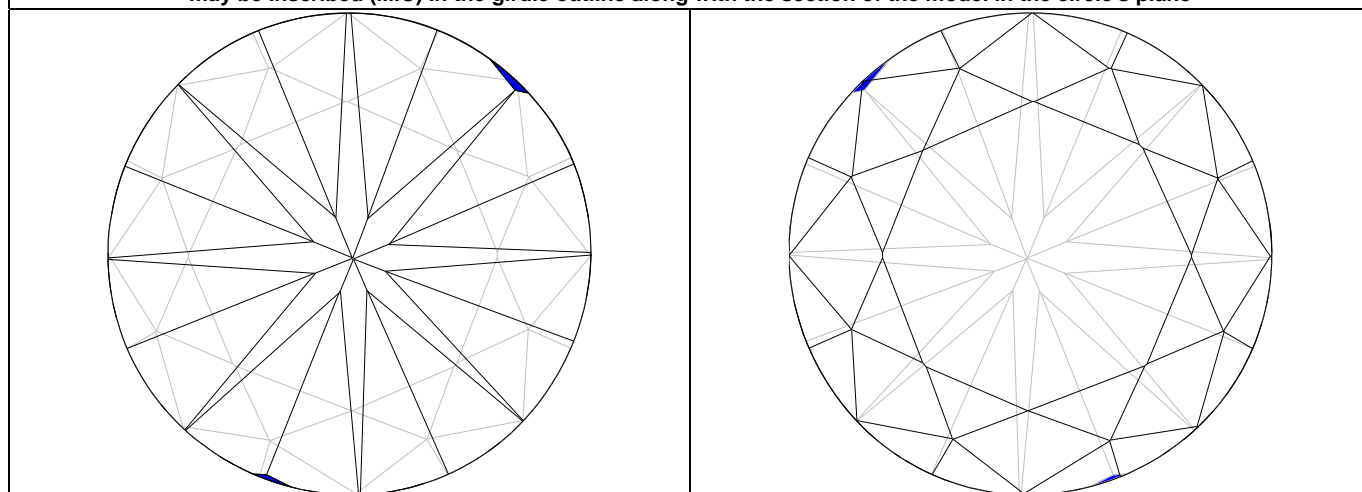


Deviations of Pavilion and Crown heights from the average values (%)




Additional illustrations



Pavilion and crown views of the diamond with indication of the maximum circle that may be inscribed (MIC) in the girdle outline along with the section of the model in the circle's plane



Pavilion and crown views of the diamond with indication of invisible edges without refraction

	Girdle center		Culet center		Table center
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