

2017.06.05 - Helium Polish version 5.6.91.1, report.dll version 2.10.34.1, BrilRecon.dll version 1.1.24.1, report templates dd 05.04.2017

Release contains:

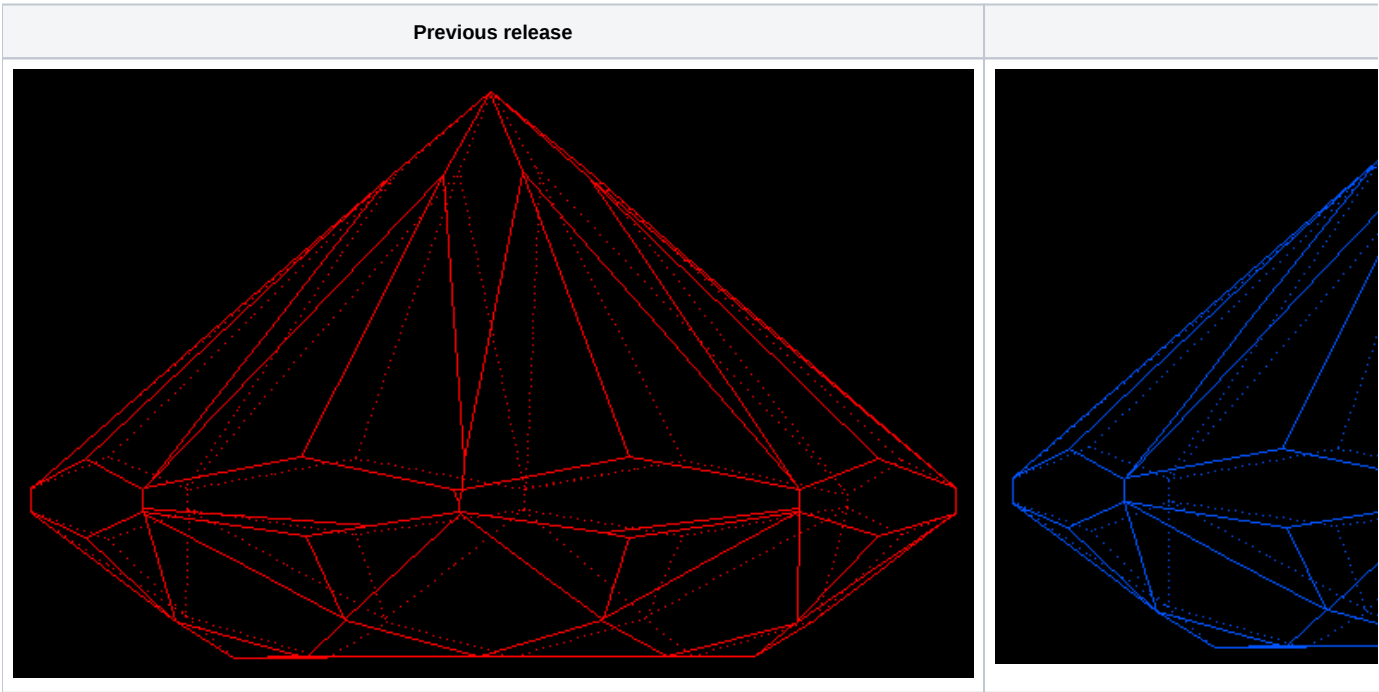
File	Version
HeliumPolish.exe	5.6.91.1
report.dll	2.10.34.1
BrilRecon.dll	1.1.24.1
ikov.dll	1.1.3.9 (not changed)
Report templates	2017-04-05

In this version we made the following changes:

- [Model building](#)
- [Reports](#)
 - [Corrected mass in reports](#)
 - [Lower Facet Length for Cushion](#)
 - [Crown Main Width and Crown Main Length facets for Cushion](#)
 - [Pavilion Wing Facets](#)
 - [Facet type detection for Round Fancies](#)
 - [Girdle internal angle for Step Cut](#)
 - [Pavilion and crown facets type recognition on RBC](#)
 - [Radiant and square radiant facet height](#)
- [Bug Fixes](#)

Model building

Algorithm for building girdle for Octagon cut is improved (Please use *Brilliant* method for Octagon cut).



Reports

Corrected mass in reports

Corrected mass is now displayed in the reports as two values, namely, with 2-digit and 4-digit precision.

Please note that CORRECTED_MASS_2 and WEIGHT_CT bookmarks are not affected by digit precision option, so it has 2 digit precision in any case.

Reported in	Section	Units	Bookmarks
All reports (all cuts)	Top	ct	CORRECTED_MASS_2 (2 digits, previously existing bookmark)
			CORRECTED_MASS_4 (4 digits, new bookmark)

ILLUSTRATED REPORT FOR BRILLIANT

Polished Brilliant

29.12.2016

Model	Refined scan
Expert name	
Scale weight, ct	
Corrected mass, ct	1.56, 1.5621
Measurements	7.369 (7.347 -7.392) x 4.483 /0.002 mm
Spread	-0.08 ct, -5.64 %
AGS Spread	-0.09 ct, -5.88 %
Girdle / Nat	1

Full Report for Brilliant

General Information

Model	Refined scan	Extra Facet Girdle (steep/shallow)	1 (0/1)
Expert name		Extra Facet Crown	No
Report date	29.12.2016	Extra Facet Pavilion	Yes (1)
Scale weight, ct		Appraiser title	GIA Facetware
Model mass, ct	1.56, 1.5645	Overall cut quality	VG
Corrected mass, ct	1.56, 1.5621	Symmetry appraiser title	GIA Facetware
Spread	-0.08 ct, -5.64%	Overall symmetry quality	VG
AGS Spread	-0.09 ct, -5.88%	Density, g/cm3	3.51524
Girdle height method	GIA	Rake Girdle angle, °	75.0
Girdle center method	Girdle center mass	Final Grade	VG

Lower Facet Length for Cushion

Lower Facet Length parameter is added for Cushion cuts.

It is defined as the projected distance from the junction of the main pavilion facets to the corresponding side of the girdle, and reported separately for all four sides.

Reported in	Section	Values	Units	Bookmarks
Full Report for Cushion	Main Parameters	Avg, Min, Max, Dev at each direction	Both % (diameter) and mm	LOWER_FACET_LENGTH_0_AVG, LOWER_FACET_LENGTH_0_MIN, LOWER_FACET_LENGTH_0_MAX, LOWER_FACET_LENGTH_0_DEV, LOWER_FACET_LENGTH_90_AVG, LOWER_FACET_LENGTH_90_MIN, LOWER_FACET_LENGTH_90_MAX, LOWER_FACET_LENGTH_90_DEV, LOWER_FACET_LENGTH_180_AVG, LOWER_FACET_LENGTH_180_MIN, LOWER_FACET_LENGTH_180_MAX, LOWER_FACET_LENGTH_180_DEV, LOWER_FACET_LENGTH_270_AVG, LOWER_FACET_LENGTH_270_MIN, LOWER_FACET_LENGTH_270_MAX, LOWER_FACET_LENGTH_270_DEV
	Detailed Parameters	Individual values (2 at each direction)	Both % (diameter) and mm	LOWER_FACET_LENGTH_0_1, LOWER_FACET_LENGTH_0_2, LOWER_FACET_LENGTH_90_1, LOWER_FACET_LENGTH_90_2, LOWER_FACET_LENGTH_180_1, LOWER_FACET_LENGTH_180_2,

Crown Main Width and Crown Main Length facets for Cushion

For a non-standard Cushion cut having four Crown Main Width and four Crown Main Length facets, all four individual measurements for their slopes, azimuths, and heights are now reported.

Parameter		1	2	3	4
Crown Main Width angle	°	15.61	16.33	15.58	15.08
Crown Main Width height	mm	0.923	0.955	1.021	0.989
Diameter: Corner	%	113.61	113.61	113.61	113.61
Diameter: Corner	mm	7.472	7.449	7.449	7.449
Crown Main Width angle	°	35.01	36.22	34.99	34.94
Crown Main Width height	%	15.22	16.33	15.58	15.08
Crown Main Width height	mm	0.998	1.071	1.021	0.989
Crown Main Width azimuth	°	8.9	169.0	189.9	350.5
Crown Main Length angle	°	34.69	35.06	34.92	34.74
Crown Main Length height	%	14.78	15.03	14.63	14.35
Crown Main Length height	mm	0.969	0.986	0.960	0.941
Crown Main Length azimuth	°	78.9	100.5	258.3	281.6

Reported in	Section	Values	Units	Bookmarks
Full Report for Cushion	Detailed Parameters	Individual values #3, 4	°	CRN_MAIN_WIDTH_ANGLE_DEG_3, CRN_MAIN_WIDTH_ANGLE_DEG_4, CRN_MAIN_WIDTH_AZIMUTH_DEG_3, CRN_MAIN_WIDTH_AZIMUTH_DEG_4, CRN_MAIN_WIDTH_HEIGHT_PC_3, CRN_MAIN_WIDTH_HEIGHT_PC_4, CRN_MAIN_WIDTH_HEIGHT_MM_3, CRN_MAIN_WIDTH_HEIGHT_MM_4, CRN_MAIN_LENGTH_ANGLE_DEG_3, CRN_MAIN_LENGTH_ANGLE_DEG_4, CRN_MAIN_LENGTH_AZIMUTH_DEG_3, CRN_MAIN_LENGTH_AZIMUTH_DEG_4, CRN_MAIN_LENGTH_HEIGHT_PC_3, CRN_MAIN_LENGTH_HEIGHT_PC_4, CRN_MAIN_LENGTH_HEIGHT_MM_3, CRN_MAIN_LENGTH_HEIGHT_MM_4

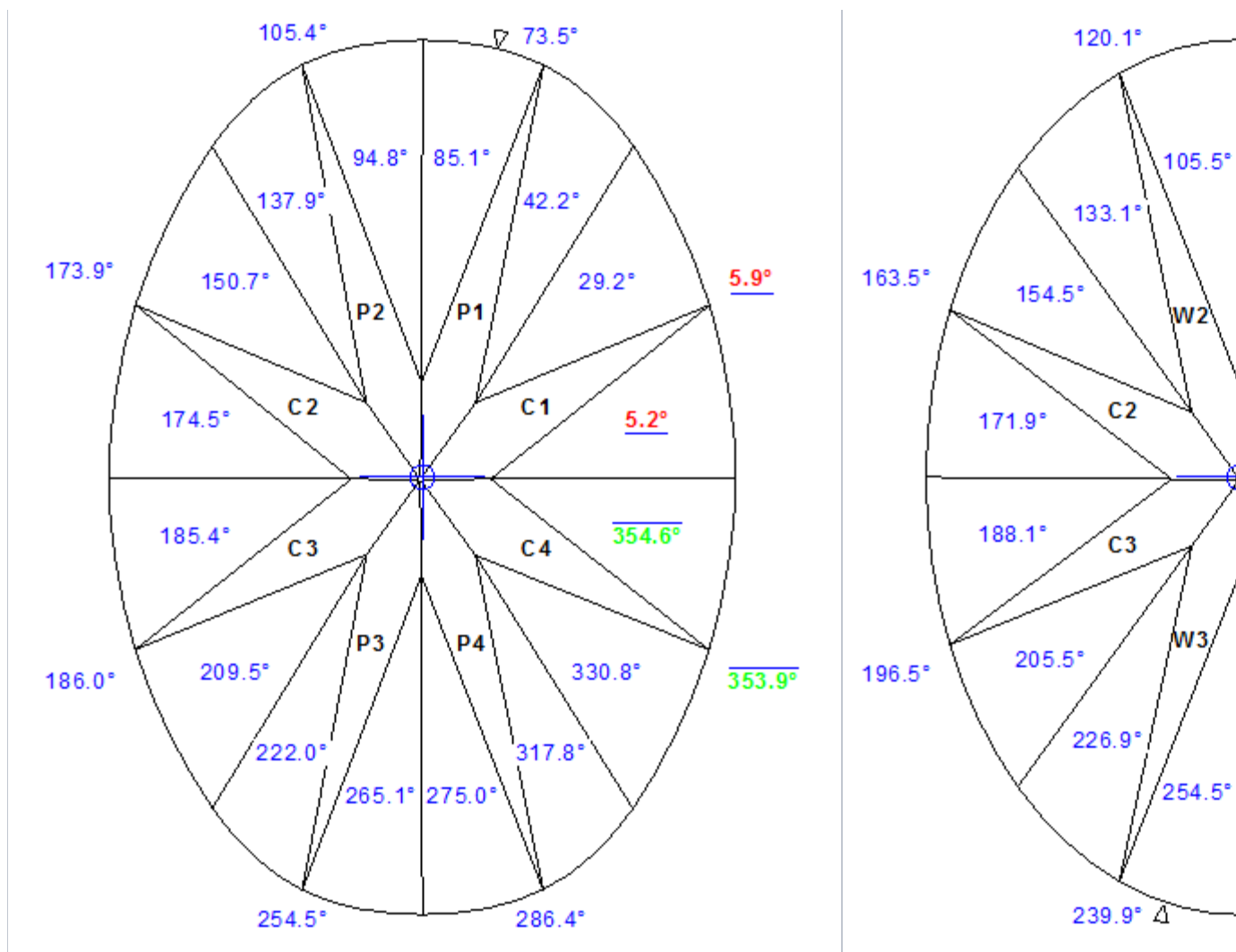


Note that the Avg, Min, Max, and Dev values for these parameters were already calculated correctly before this change. All four individual measurements were taken into account. Also, the missing measurements were correctly displayed on the pictures.

Pavilion Wing Facets

Algorithm for detection wing facets is improved:

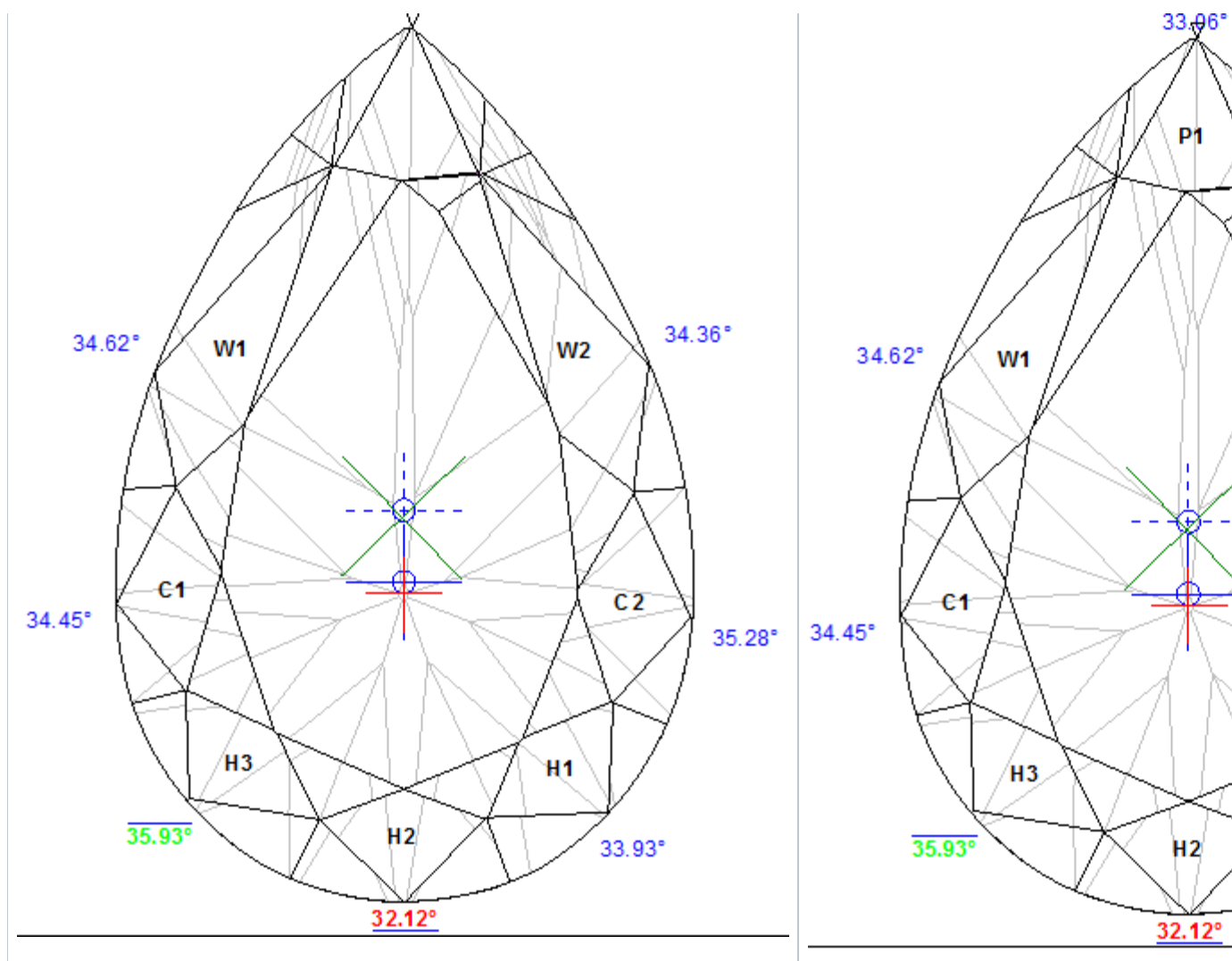
Previous release	Current



Facet type detection for Round Fancies

Algorithm for facet type detection is improved for Round Fancies:

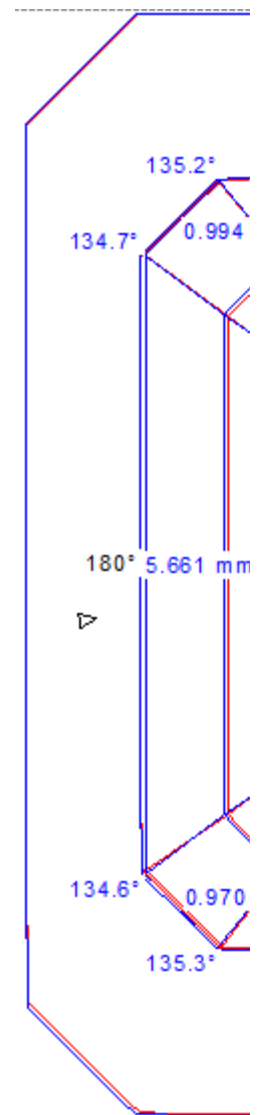
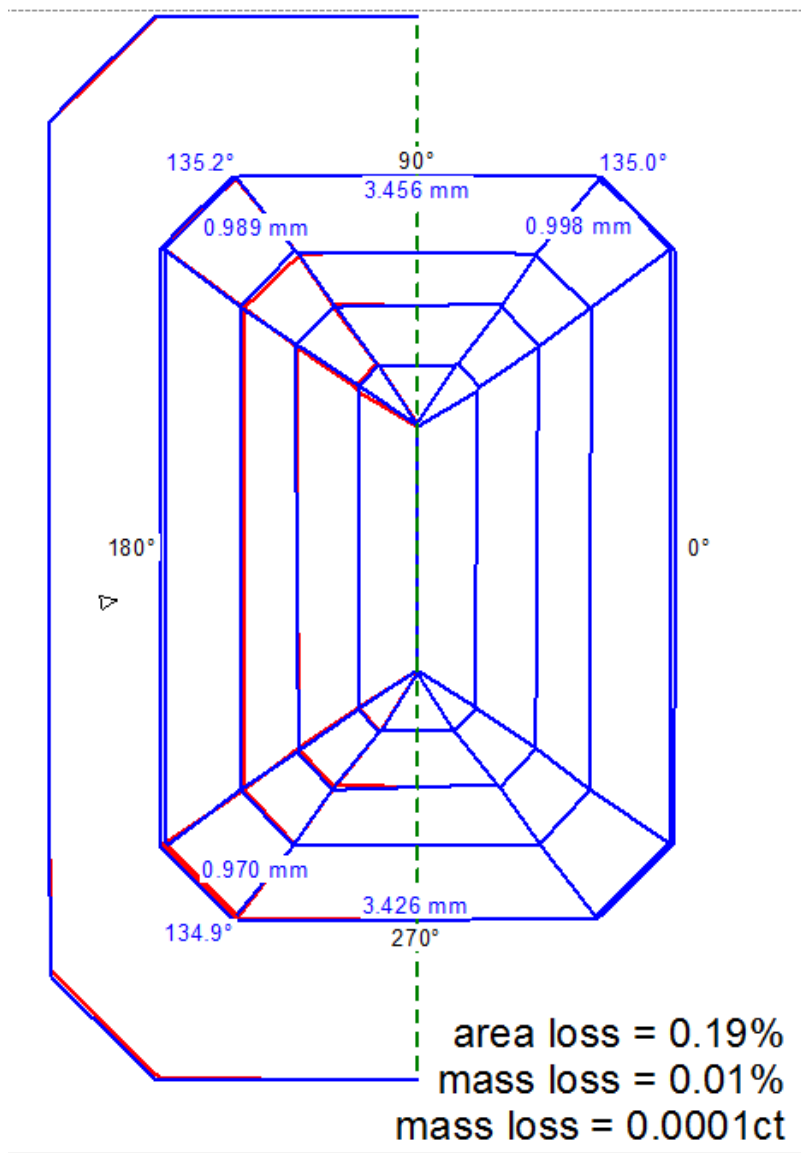
Previous release	Current Release



Girdle internal angle for Step Cut

Algorithm for girdle internal angle calculation is improved.

Previous release	



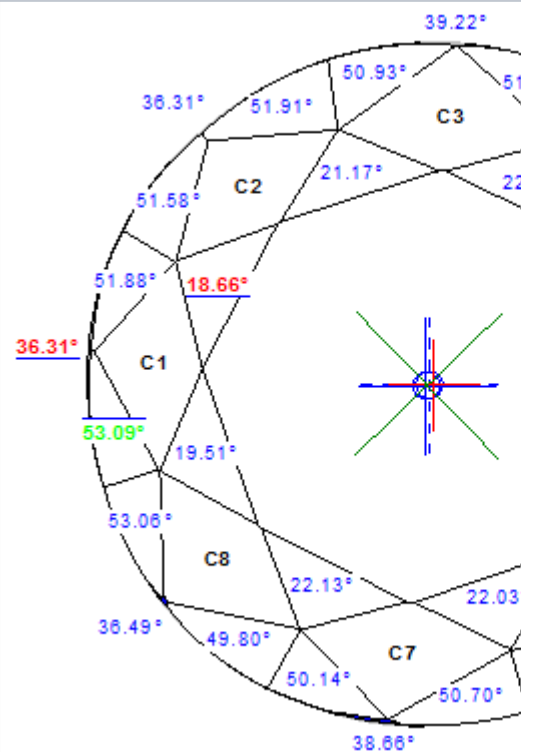
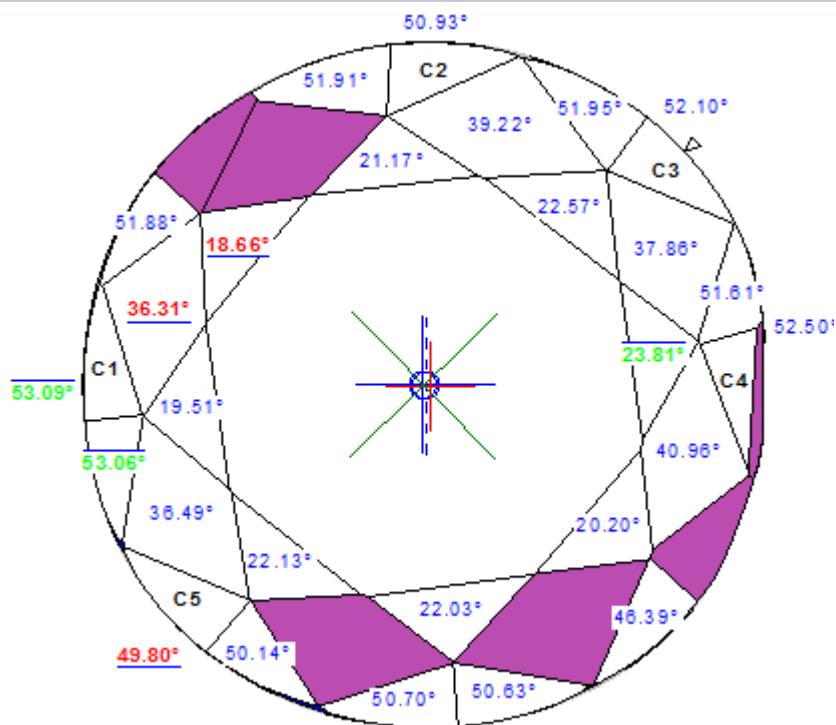
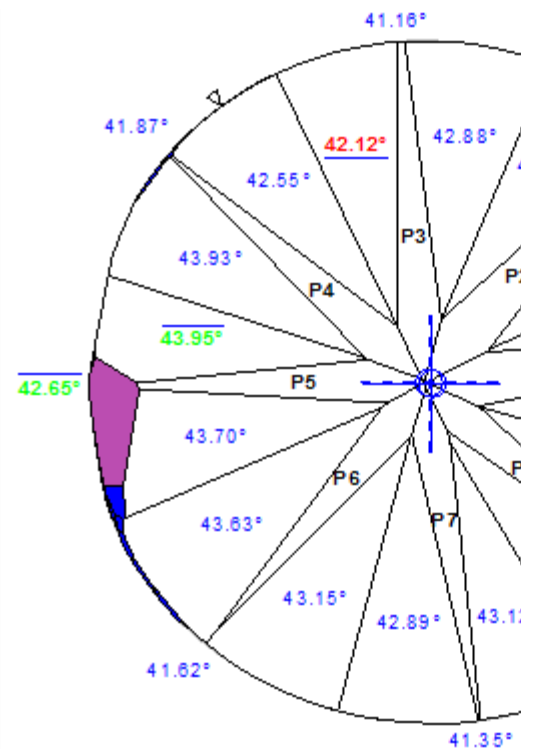
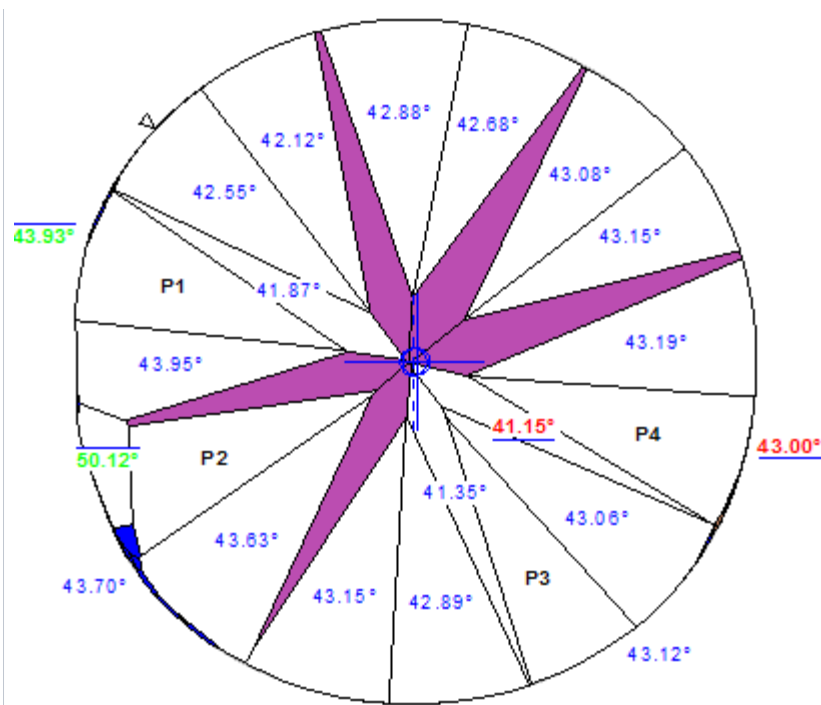
Girdle parameters		1	2	3	4
Girdle internal angle width	°	N/A	N/A	N/A	N/A
Girdle internal angle length	°	135.0	135.2	89.7	134.9

Girdle parameters	
Girdle internal angle width	
Girdle internal angle length	

Pavilion and crown facets type recognition on RBC

Pavilion and crown facets type bad recognition on RBC is improved:

Previous release	Current Release



Radiant and square radiant facet height

Radiant and square radiant facet height measurement is changed:

- In previous release facet height was measured as distance from table to lowest point of facet.
- In current release it is measured as distance from highest point to lowest point of facet.

Bug Fixes

- Table edge calculation in a Round brilliant with extra facets is fixed.
- Girdle height calculation for stones with extra girdle facets is fixed.
- Girdle bezel height statistics for 10x brilliant is fixed.
- "GIA heights" option does not affect on average diameter calculation.