

Using SweetLine

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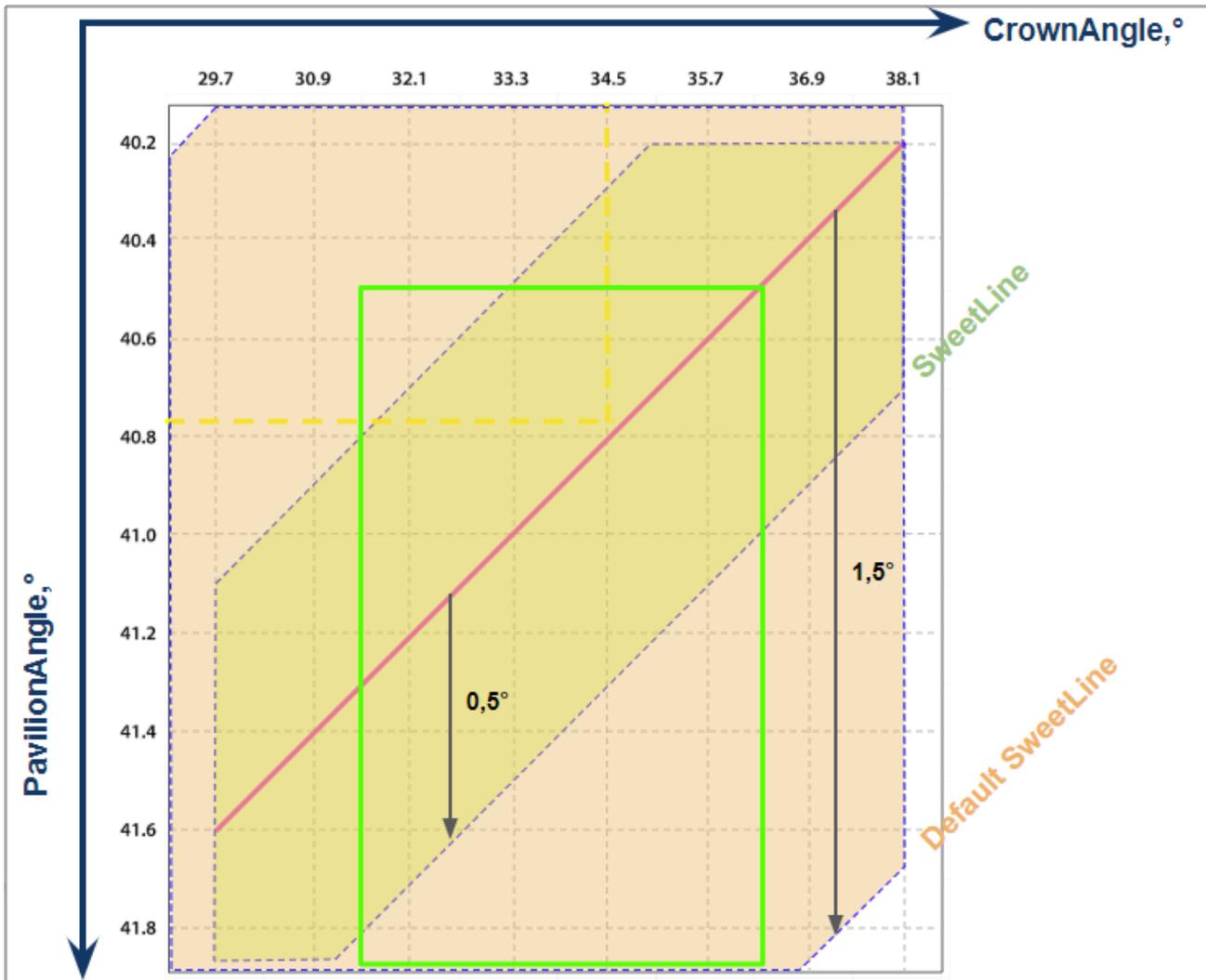
Overview

The *SweetLine* parameter description, information about its calculation, and presence in appraisers and reports is presented on the [SweetLine](#) page.

For Round Brilliant, Oval

Parameter Usage

Using the SweetLine parameter, you can achieve better optical performance for the solutions. Smaller values of SweetLine would cut out a stripe from the rectangle, potentially enabling the search for favorable solutions over a wide range of parameters. Previously this area could only be covered by a series of smaller rectangles, that is, by running the search multiple times with extremely tightened CrownAngle and PavilionAngle, each time covering a small portion of the stripe. Sweetline offers a less time-consuming alternative to this approach.



The default EX boundaries for SweetLine is from -1.5 to 1.5. Boundaries both for EX and for all other grades can be changed and saved in editable profiles.

Appraiser Editor

GIA Facetware + MyRound
Profile: **Default** (read only)

Show Presets

Cut Symmetry

Parameter	Grade	Value	[FR]	[GD]	[VG]	[EX]	EX]	VG]	GD]	FR]
Table	EX	55.598	10	46,5	49,5	51,5	62,5	66,5	69,5	99
CrownAngle	EX	36.433	10	21,75	26,25	31,25	36,75	38,75	40,25	90
PavilionAngle	EX	40.609	10	38,7	39,7	40,5	41,9	42,5	43,1	90
SweetLine	EX	0.288	-9	-6	-3	-1,5	1,5	3	6	9
StarLength	Poor		10	32,5	37,5	42,5	57,5	72,5	77,5	90
LowerGirdleLength	EX	79.147	50	57,5	62,5	75	80	92,5	97,5	99
GirdleBezel	EX	3.892	0	1,25	1,75	2,25	4,75	5,75	7,25	20
GirdleValley	EX	1.926	0	0	0	0,75	2,94	4,14	6,14	20
CrownHeight	EX	16.430	5	10,5	12	12,3	17	17,5	18,5	40
TotalHeight	EX	63.030	10	54	57	58	64,5	66	70	90
Culet	VG	0.457	0	0	0	0	0,2	1,5	2	20
CrownPainting	EX	0.636	-9	-6	-3	-2,5	2,5	5	7	20
PavilionPainting	EX	0.035	-9	-5	-3	-2,5	2,5	4	6	20
SumPainting	EX	0.671	-9	-6	-5	-3,5	5	8	10	20
GirdleVerticality	EX	0.116	-20	-1,5	-1	-0,5	0,5	1	1,5	20
HeightGirdleExtraFacet	FR	9.774	0	0	0	0	2	4	8	20
GirdleCrownExtraFacets	GD	3.000	0	0	0	0	0	2	4	20
GirdlePavilionExtraFacets	EX	1.000	0	0	0	0	3	4	6	20
GirdleExtraFacets	EX	1.000	0	0	0	0	2	4	8	20

Import...
Export

While comparing the Smart Recut solutions making use of SweetLine, keep in mind the following features:

- Changing the SweetLine parameter does not necessarily affect the solutions. If a solution found with default SweetLine happened to fall close enough to the optimal line, then the search with lowered SweetLine might end up in the same solution.
- The MaxMass preset takes into account neither the [CrownAngle](#) and [PavilionAngle](#) nor [SweetLine](#) limitations.

Overview Video

Video SweetLine - Time-Saving Approach to Getting Better Optical Performance			
Published:	2019, October 1	Last Updated:	2019, December 5
			v.2.0

Your browser does not support the HTML5 video element

Video summary:

- CrownAngle = 34.5 and PavilionAngle = 40.75 named *Tolkowsky Point* provide the best optical performance
- Brilliants belonging to axis going through Tolkowsky Point with the negative slope 1:6 also provide excellent optical performance
- The SweetLine parameter sticks solutions to this axis
- There are two ways of using SweetLine: via SweetLine profile or using your own editable profile with SweetLine, CrownAngle and PavilionAngle set to your needs

Video keywords: SweetLine, SweetLine axis, optical performance, CrownAngle, PavilionAngle

Published in:	Release Notes	2019-10-23 - HPOxygen Server 5.3.42
	Documentation	Using SweetLine
	Playlists	All Videos
	Also	As Separate Page Specification

Example - Rough Stone

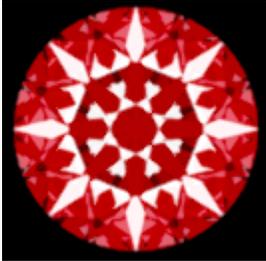
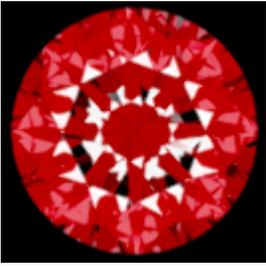
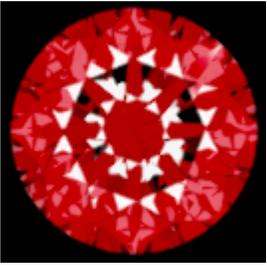
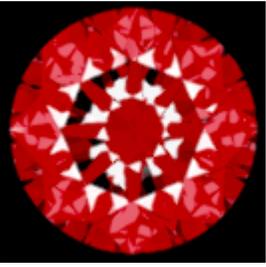
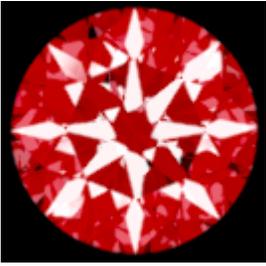
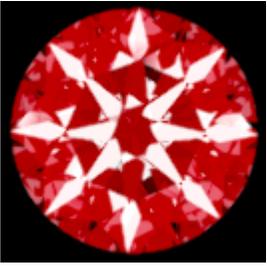
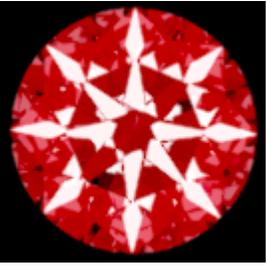
Here is an example of rough stone (0041_4.90ct.Mmd_modern.oxg) with two sets of Smart Recut solutions. Note how the tightened setting of SweetLine leads to the improved visual appearance (the "hearts and arrows" pattern) and greater values of light return.

Plan	Color	Price	Mass	Alloc	Yield	Clarity	Sym-O	Gr	Cut	Sym	Pro
1	Star	Brilliant 17582\$	4.8963	1.7662	35.95%	VS1 H	+8.05	EX	EX	EX	ModernCut
12	Yellow Flag	Brilliant 17982\$	1.8055	SR 36.76%	VS1 H	+7.56	EX	EX	EX	EX	ModernCut
13	Yellow Flag	Brilliant 17982\$	1.8074	SR 36.76%	VS1 H	+7.10	EX	EX	EX	EX	ModernCut
15	Yellow Flag	Brilliant 17982\$	1.8018	SR 36.76%	VS1 H	+7.93	EX	EX	EX	EX	ModernCut
16	Yellow Flag	Brilliant 17982\$	1.8039	SR 36.76%	VS1 H	+7.74	EX	EX	EX	EX	ModernCut
17	Yellow Flag	Brilliant 17982\$	1.8082	SR 36.76%	VS1 H	+6.73	EX	EX	EX	EX	ModernCut
18	Yellow Flag	Brilliant 17882\$	1.7958	SR 36.56%	VS1 H	+8.22	EX	EX	EX	EX	ModernCut
19	Yellow Flag	Brilliant 16073\$	1.8104	SR 36.97%	VS1 H	+6.00	EX-VG	EX	EX-VG	EX	ModernCut
20	Green Flag	Brilliant 17882\$	1.7953	SR 36.56%	VS1 H	+6.23	EX	EX	EX	EX	SweetLine
21	Green Flag	Brilliant 17982\$	1.7997	SR 36.76%	VS1 H	+5.57	EX	EX	EX	EX	SweetLine
22	Green Flag	Brilliant 17882\$	1.7900	SR 36.56%	VS1 H	+7.63	EX	EX	EX	EX	SweetLine
23	Green Flag	Brilliant 17882\$	1.7890	SR 36.56%	VS1 H	+7.14	EX	EX	EX	EX	SweetLine
24	Green Flag	Brilliant 17782\$	1.7817	SR 36.35%	VS1 H	+8.17	EX	EX	EX	EX	SweetLine
25	Green Flag	Brilliant 17882\$	1.7980	SR 36.56%	VS1 H	+5.83	EX	EX	EX	EX	SweetLine
27	Green Flag	Brilliant 15984\$	1.8020	SR 36.76%	VS1 H	+5.46	EX-VG	EX	EX-VG	EX	SweetLine

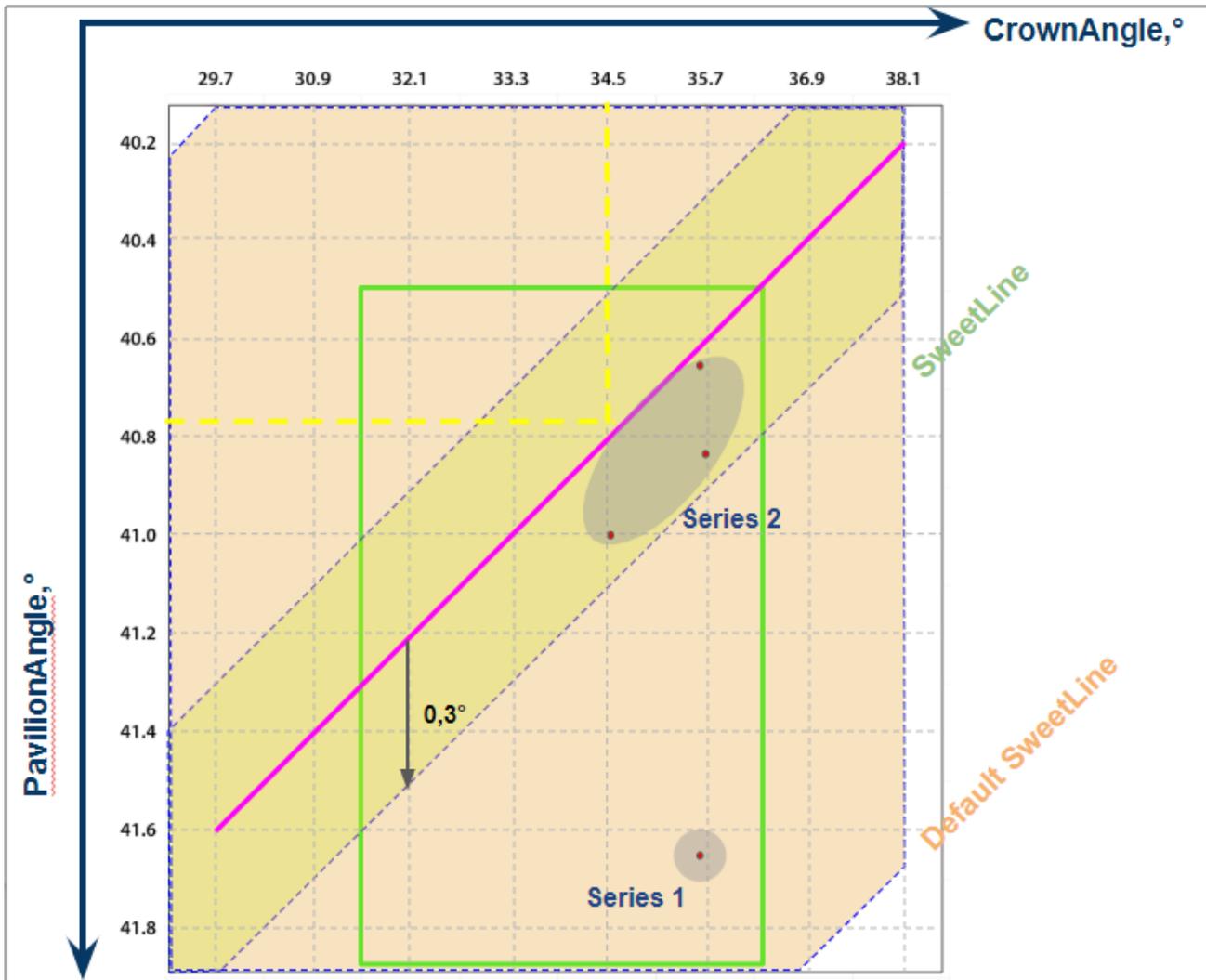
Yellow Flags = SR above solution #1, Modern_Cut with Table EX = [54 60]

Green Flags = the same with SweetLine EX = [-0,3 0,3]

Preset			7.ExtendedLimits	6.LowSym	5.Standard
	Original stone	18. Semipolished	Series 1 (Default SweetLine = 1,5)		
Mass	4.8963	1.7662	1.8104	1.8082	1.8074
Optical symmetry	NA	8.05	6.00	6.73	7.10
CrownAngle, PavilionAngle	NA	34.69 41.24	35.20 41.65	35.20 41.65	35.20 41.65
Light return	NA		0.90	0.87	0.87

Picture	NA				
			Series 2 (SweetLine = 0,3)		
Mass			1.8020	1.7997	1.7980
Optical symmetry			5.46	5.57	5.83
CrownAngle, PavilionAngle			35.70 40.85	35.70 40.85	35.70 40.85
Light return			0.98	0.99	1.00
Picture					

i Light return is currently not included in HPO reports. It may be obtained via DiamCalc. To open a model in DiamCalc, export it from HPO using **File Export Diamond to dmc file**.



Note that the MaxMass preset is excluded from the comparison.

Example - Semipolished Stone

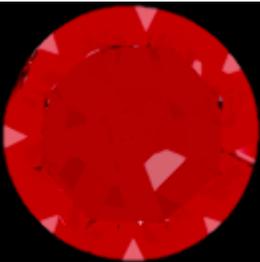
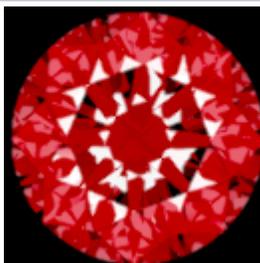
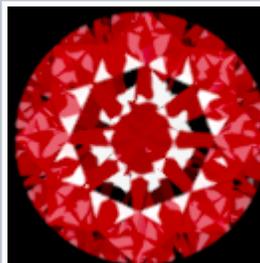
Below is an example of a semipolished stone ([Sweetline_example_2 \(SL Updated Results\).oxg](#)) with two sets of Smart Recut solutions. Note how the tightened setting of SweetLine leads to the improved visual appearance (the "hearts and arrows" pattern) and greater values of light return.

Plans & Scans										
<input type="checkbox"/> Shadow scan <input checked="" type="radio"/> 1.3736 +5.65 UNK UNK UNK Profile1										
<input checked="" type="checkbox"/>	2	● Brilliant 8140\$	● 1.1125	80.81%	VS1 H	+8.94	EX	EX	EX	Profile1
<input type="checkbox"/>	4	● Brilliant 8287\$	● 1.1318	SR 82.26%	VS1 H	+6.94	EX	EX	EX	Profile1
<input type="checkbox"/>	5	● Brilliant 8287\$	● 1.1333	SR 82.26%	VS1 H	+7.61	EX	EX	EX	Profile1
<input type="checkbox"/>	6	● Brilliant 7366\$	● 1.1375	SR 82.26%	VS1 H	+5.04	EX-VG	EX	EX-VG	Profile1
<input type="checkbox"/>	7	● Brilliant 8287\$	● 1.1295	SR 82.26%	VS1 H	+8.43	EX	EX	EX	Profile1
<input type="checkbox"/>	8	● Brilliant 8287\$	● 1.1341	SR 82.26%	VS1 H	+7.36	EX	EX	EX	Profile1
<input type="checkbox"/>	9	● Brilliant 8287\$	● 1.1363	SR 82.26%	VS1 H	+5.97	EX	EX	EX	Profile1
<input type="checkbox"/>	10	● Brilliant 8287\$	● 1.1324	SR 82.26%	VS1 H	+8.15	EX	EX	EX	Profile1
<input type="checkbox"/>	12	● Brilliant 8287\$	● 1.1293	SR 82.26%	VS1 H	+6.84	EX	EX	EX	Profile1
<input type="checkbox"/>	13	● Brilliant 8213\$	● 1.1262	SR 81.53%	VS1 H	+7.41	EX	EX	EX	Profile1
<input type="checkbox"/>	14	● Brilliant 6445\$	● 1.1304	SR 82.26%	VS1 H	+5.10	EX-GD	EX	EX-GD	Profile1
<input type="checkbox"/>	15	● Brilliant 8213\$	● 1.1212	SR 81.53%	VS1 H	+8.39	EX	EX	EX	Profile1
<input type="checkbox"/>	17	● Brilliant 8287\$	● 1.1297	SR 82.26%	VS1 H	+6.38	EX	EX	EX	Profile1
<input type="checkbox"/>	18	● Brilliant 8213\$	● 1.1277	SR 81.53%	VS1 H	+7.15	EX	EX	EX	Profile1
<input type="checkbox"/>	19	● Brilliant 8213\$	● 1.1242	SR 81.53%	VS1 H	+7.50	EX	EX	EX	Profile1

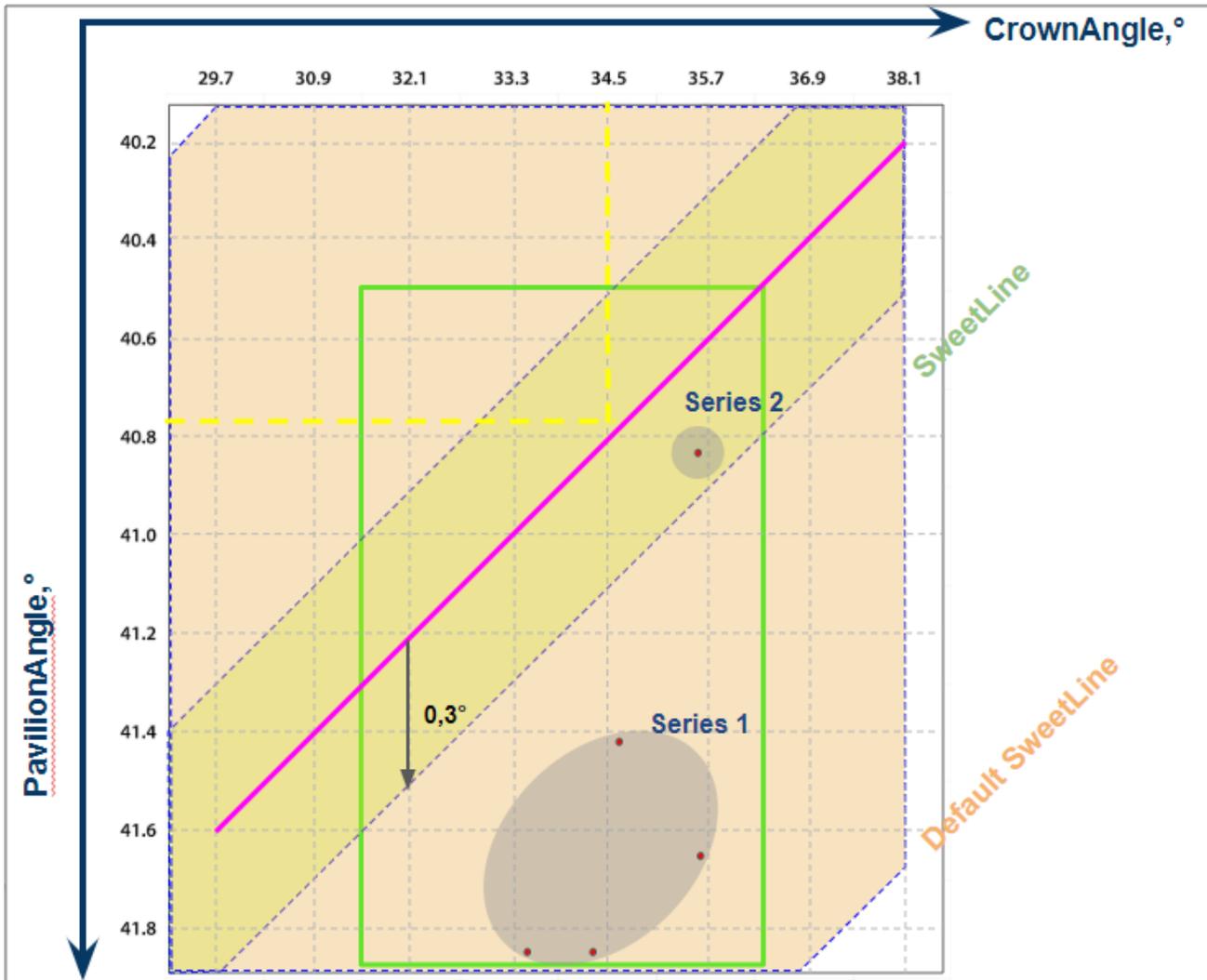
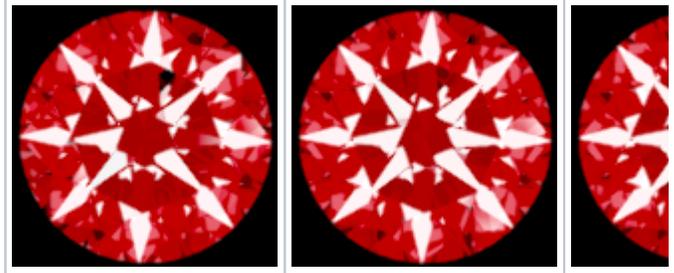
SweetLine = Default (1.5)

SweetLine = 0.3

Yellow Flags = SR above solution #2, Modern_Cut with Table EX = [54 60]
 Green Flags = the same with SweetLine EX = [-0,3 0,3]

Preset			7.ExtendedLimits	6.LowSym	5.
	Original stone	18. Semipolished	Series 1 (De		
Mass	1.3736	1.1125	1.1375	1.1363	
Optical symmetry			5.04	5.97	
CrownAngle, PavilionAngle			35.20 41.65	35.20 41.65	
Light return			0.91	0.91	
Picture					
			Series 2		
Mass			1.1304	1.1297	
Optical symmetry			5.10	6.38	
CrownAngle, PavilionAngle			35.20 40.85	35.20 40.85	
Light return			0.97	0.97	

Picture



For AnyCut

Specifying Unique SweetLine Slope for Client Cuttings

For each of the **Client Cuttings**, you can specify a unique SweetLine axis slope using its allocation forms (for information about user cuttings and allocation forms, see [In-house cut registration](#)). There are three ways of how SweetLine axis slope is specified for the cutting:

- **The user did not specify any specific forms:** the SweetLine axis is built using the base allocation form of the cutting - the system uses this form and draws a line through it in accordance with the built-in system logic for finding optimal optical performance.

What is a base allocation form? It is the form automatically registered when performing **In-house cut registration** (equal to the model being registered as cutting).

How to distinguish the base allocation form? In the list of forms, it does not have "(...)" after its name:

The screenshot displays a software interface for diamond management. At the top, there's a 'Plans & Scans' section with a toolbar and buttons for 'Compare' and 'Standard Report'. Below this is a table listing various cutting forms. The first row is circled in red. The table columns include #, Cutting, Price, Mass, Alloc, Profile, Yield, DZ, Sym-O, Gr, and Br.

#	Cutting	Price	Mass	Alloc	Profile	Yield	DZ	Sym-O	Gr	Sym	Br
1	CushionRectangular_PM4_PG8_PH24_PBrill_C32	12800\$	1.2883	Forms	Cushion_1	0.00%	H	+8.37	EX		EX
11	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O10)	4603\$	1.3724	Forms	Cushion_1	0.00%	H	+8.34	VG		EX
21	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O10)	4603\$	1.3724	Forms	Cushion_1	0.00%	H	+8.34	VG		EX
3	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O02)	4570\$	1.3657	Forms	Cushion_1	0.00%	H	+8.33	EX		EX
13	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O02)	4570\$	1.3657	Forms	Cushion_1	0.00%	H	+8.33	EX		EX
2	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O01)	4570\$	1.3596	Forms	Cushion_1	0.00%	H	+8.32	EX		EX
12	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O01)	4570\$	1.3596	Forms	Cushion_1	0.00%	H	+8.32	EX		EX
14	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O03)	4536\$	1.3577	Forms	Cushion_1	0.00%	H	+8.21	EX		EX
20	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O09)	4469\$	1.3354	Forms	Cushion_1	0.00%	H	+8.30	VG		EX
9	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O08)	4435\$	1.3232	Forms	Cushion_1	0.00%	H	+8.41	VG		EX
19	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O08)	4435\$	1.3232	Forms	Cushion_1	0.00%	H	+8.41	VG		EX
5	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O04)	4435\$	1.3197	Forms	Cushion_1	0.00%	H	+8.29	VG		EX
15	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O04)	4435\$	1.3197	Forms	Cushion_1	0.00%	H	+8.29	VG		EX
8	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O07)	4368\$	1.2990	Forms	Cushion_1	0.00%	H	+8.22	EX		EX
18	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O07)	4368\$	1.2990	Forms	Cushion_1	0.00%	H	+8.22	EX		EX
6	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O05)	4334\$	1.2927	Forms	Cushion_1	0.00%	H	+8.30	EX		EX
16	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O05)	4334\$	1.2927	Forms	Cushion_1	0.00%	H	+8.31	EX		EX
7	CushionRectangular_PM4_PG8_PH24_PBrill_C32 (O06)	4334\$	1.2897	Forms	Cushion_1	0.00%	H	+8.27	EX		EX

Below the table, there are sections for 'Diamond Info', 'Inclusions (0)', 'Appraiser and Pricelist', and 'Diamond Allocation'. The 'Diamond Allocation' section shows an algorithm of '19. Single (FixedForm)' and a list of cutting options including 'C4 ASC', 'Cushion D', 'shionRectangl PM4 PG8 PH24 PBrill', 'CushionSquare PM4 PG8 PH24 PBrill', 'MyOval 01', 'MySquare 01', 'Oval C32P24 Shifted NBT', 'PearSample1', and 'PearSimple'. A 'Start Allocation' button is visible at the bottom right of this section.

- **The user specified only one form:** the SweetLine axis is built using this form - the system uses this form and draws a line through it in accordance with the built-in system logic for finding optimal optical performance.
- **The user specified two forms:** the SweetLine axis is built using these forms - the system draws a line through them.

To specify forms for SweetLine for your cutting:

1. Show allocation forms of your cutting as described [here](#).
2. Right-click the appropriate allocation form and select **Sweetline anycut: set first point of line**.

The selected points are marked in the **Allocation** column as "SL1" and "SL2".

▼ Plans & Scans

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	Cutting	Price	Mass	Alloc	rofi	Yield	Σ Sym-O	Gr	Sym	Br
<input checked="" type="checkbox"/>	1 CushionRectangular_PM4_P...	12800\$	1.2883	Form		0.00%	H +8.37			
<input type="checkbox"/>	2 CushionRectangular_PM4_P...	4570\$	1.3596	Form		0.00%	H +8.32			
<input type="checkbox"/>	3 CushionRectangular_PM4_P...	4570\$	1.3667	SL1		0.00%	H +8.33			
<input type="checkbox"/>	4 CushionRectangular_PM4_P...	4536\$	1.3577	Form		0.00%	H +8.21			
<input type="checkbox"/>	5 CushionRectangular_PM4_P...	4435\$	1.3197	Form		0.00%	H +8.29			
<input type="checkbox"/>	6 CushionRectangular_PM4_P...	4334\$	1.2927	Form		0.00%	H +8.30			
<input type="checkbox"/>	7 CushionRectangular_PM4_P...	4334\$	1.2897	Form		0.00%	H +8.27			
<input type="checkbox"/>	8 CushionRectangular_PM4_P...	4368\$	1.2990	Form		0.00%	H +8.22			
<input type="checkbox"/>	9 CushionRectangular_PM4_P...	4435\$	1.3242	SL2		0.00%	H +8.41			
<input type="checkbox"/>	10 CushionRectangular_PM4_P...	4469\$	1.3354	Form		0.00%	H +8.30			
<input type="checkbox"/>	11 CushionRectangular_PM4_P...	4603\$	1.3724	Form		0.00%	H +8.34			