

# Using SweetLine

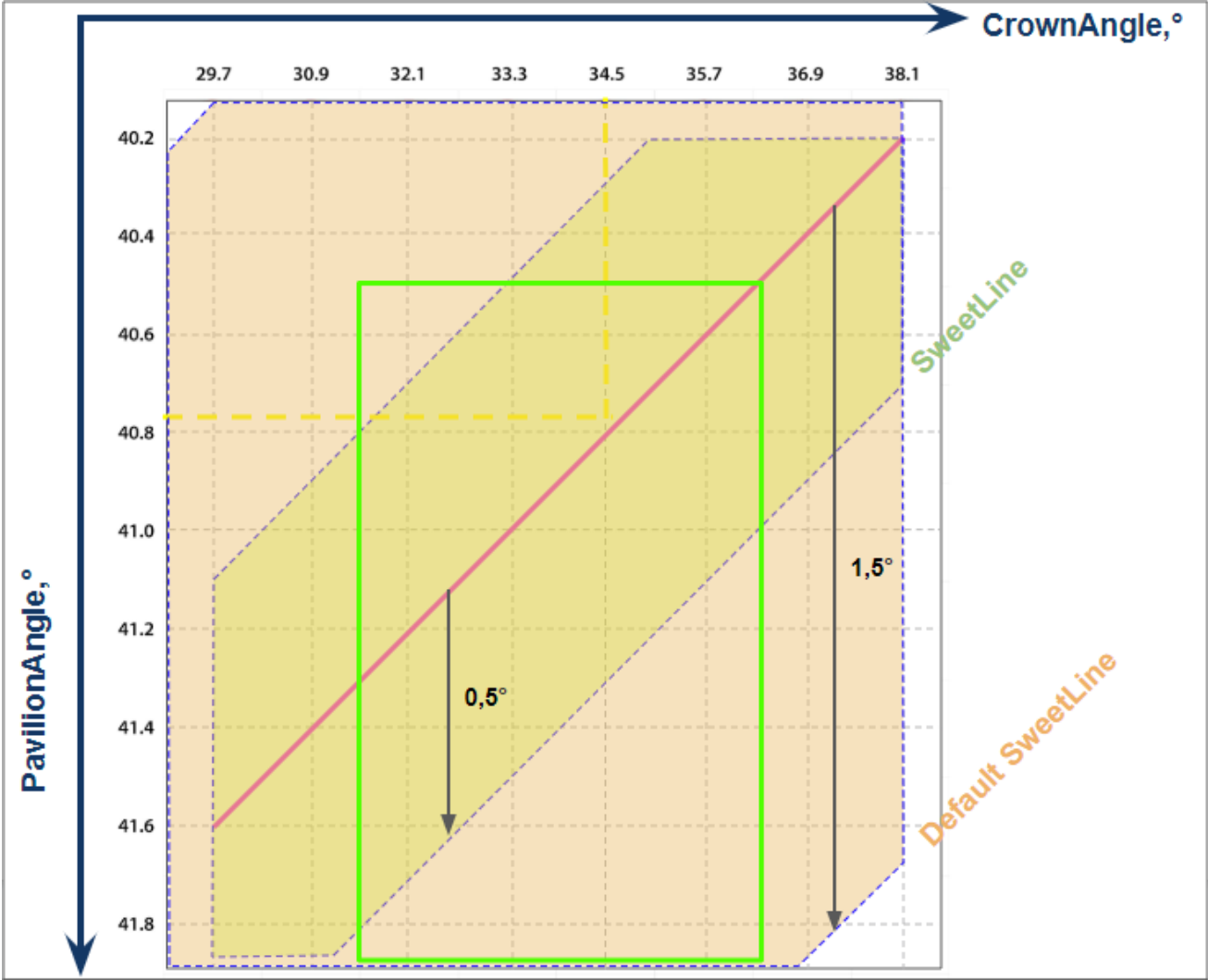
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## Overview

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

## 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.

Allocation solutions

Plans & Scans

CompareStandard Report

CuttingPriceMassAllocYieldClarityZSym-OGrCutSymPro

Imported model4.8963--





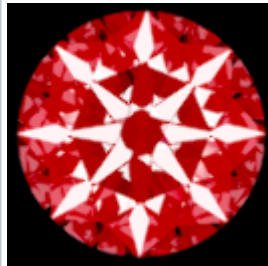

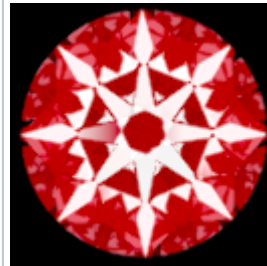

1	Brilliant	17582\$	1.7662	35.95%	VS1	H	+8.05	EX	EX	EX	ModernCut
12	Brilliant	17982\$	1.8055	SR 36.76%	VS1	H	+7.56	EX	EX	EX	ModernCut
13	Brilliant	17982\$	1.8074	SR 36.76%	VS1	H	+7.10	EX	EX	EX	ModernCut
15	Brilliant	17982\$	1.8018	SR 36.76%	VS1	H	+7.93	EX	EX	EX	ModernCut
16	Brilliant	17982\$	1.8039	SR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

SweetLine = Default (1.5)

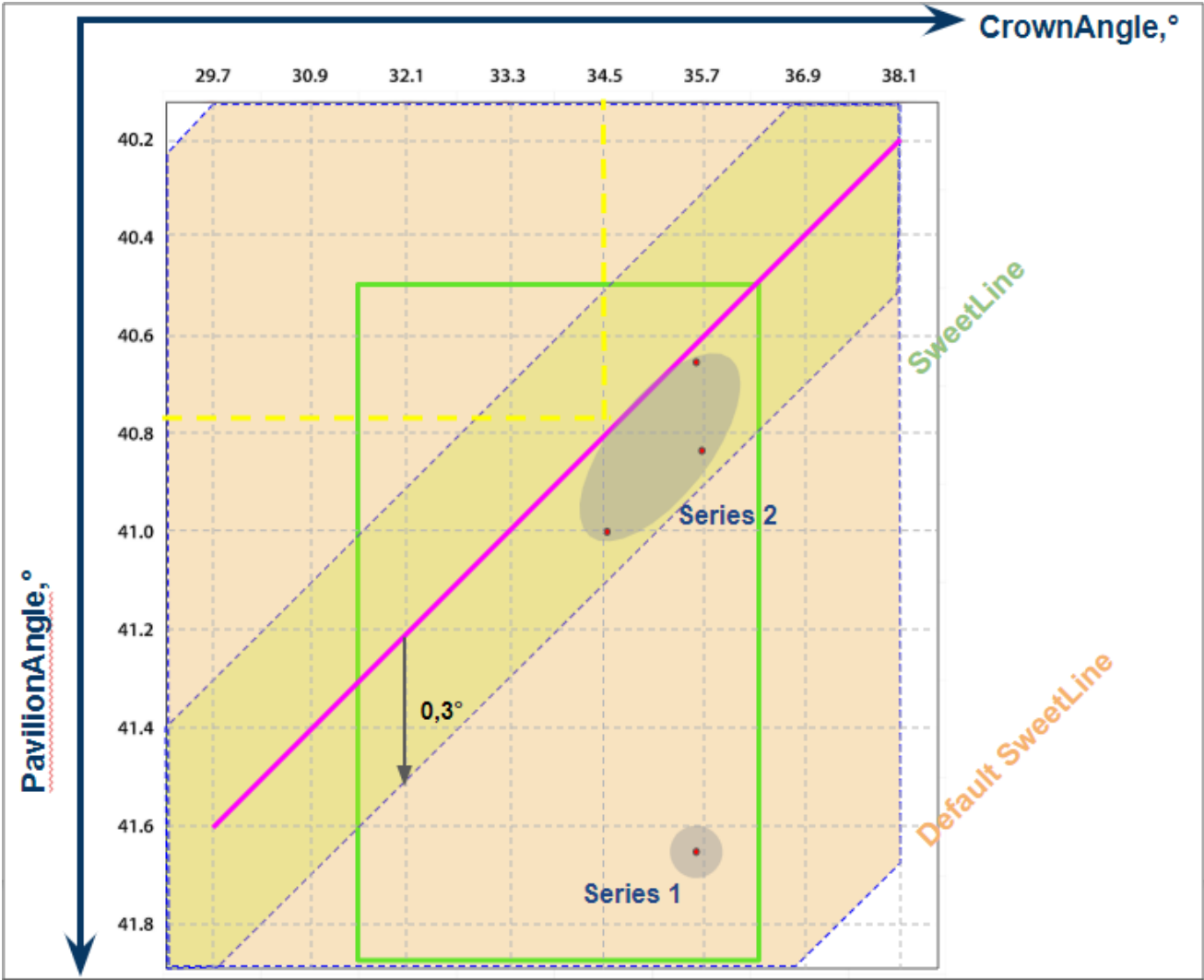
SweetLine = 0.3


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	4.NormalSym	3.MediumSym	2.HighSym	1.UltraSym
	Original stone	18. Semipolished	Series 1 (Default SweetLine = 1,5)						
Mass	4.8963	1.7662	1.8104	1.8082	1.8074	1.8055	1.8039	1.8018	1.7958
Optical symmetry	NA	8.05	6.00	6.73	7.10	7.56	7.74	7.93	8.22
CrownAngle, PavilionAngle	NA	34.69 41.24	35.20 41.65	35.20 41.65	35.20 41.65	35.20 41.65	35.20 41.65	35.20 41.65	35.20 41.65
Light return	NA		0.90	0.87	0.87	0.85	0.87	0.88	0.89
Picture	NA								
			Series 2 (SweetLine = 0,3)						

Mass			1.8020	1.7997	1.7980	1.7953	1.7900	1.7890	1.7817
Optical symmetry			5.46	5.57	5.83	6.23	7.63	7.14	8.17
CrownAngle, PavilionAngle			35.70 40.85	35.70 40.85	35.70 40.85	35.70 40.85	35.20 40.65	34.70 41.01	35.20 40.65
Light return			0.98	0.99	1.00	1.01	0.99	1.02	0.99
Picture									

 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

☐ Shadow scan    ☒ 1.3736    +5.65 UNK    UNK    UNK    Profile1

		Cutting	Price	Mass	Alloc	Yield	Clarity	Color	Sym-O	Gr	Cut	Sym	Profile	E
<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	






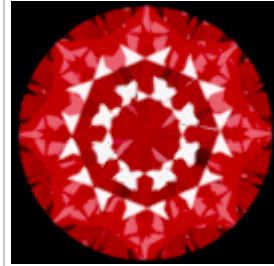



SweetLine = Default (1.5)

SweetLine = 0.3

**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.Standard	4.NormalSym	3.MediumSym	2.HighSym	1.UltraSym
	Original stone	18. Semipolished	Series 1 (Default SweetLine = 1,5)						
Mass	1.3736	1..1125	1.1375	1.1363	1.1318	1.1341	1.1333	1.1324	1.1295
Optical symmetry			5.04	5.97	6.94	7.36	7.61	8.15	8.43
CrownAngle, PavilionAngle			35.20 41.65	35.20 41.65	34.20 41.85	34.70 41.45	34.70 41.45	33.70 41.85	33.70 41.85
Light return			0.91	0.91	0.93	0.95	0.95	0.94	0.95
Picture									
			Series 2 (SweetLine = 0,3)						
Mass			1.1304	1.1297	1.1293	1.1277	1.1262	1.1242	1.1212
Optical symmetry			5.10	6.38	6.84	7.15	7.41	7.50	8.39
CrownAngle, PavilionAngle			35.20 40.85	35.20 40.85	35.20 40.85	35.20 40.85	35.20 40.85	35.20 40.85	35.20 40.85
Light return			0.97	0.97	0.97	0.97	0.97	0.98	0.99

**Series 2 (SweetLine = 0,3)**

Picture

