Comparative Report

To compare two stones in HP Carbon, you may use the Comparative Report.

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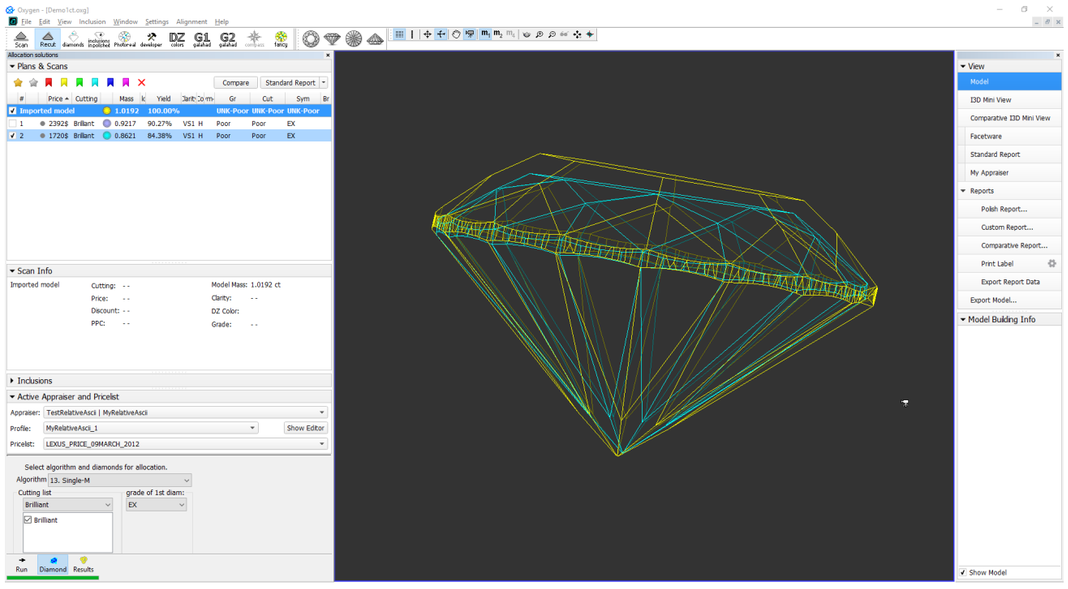
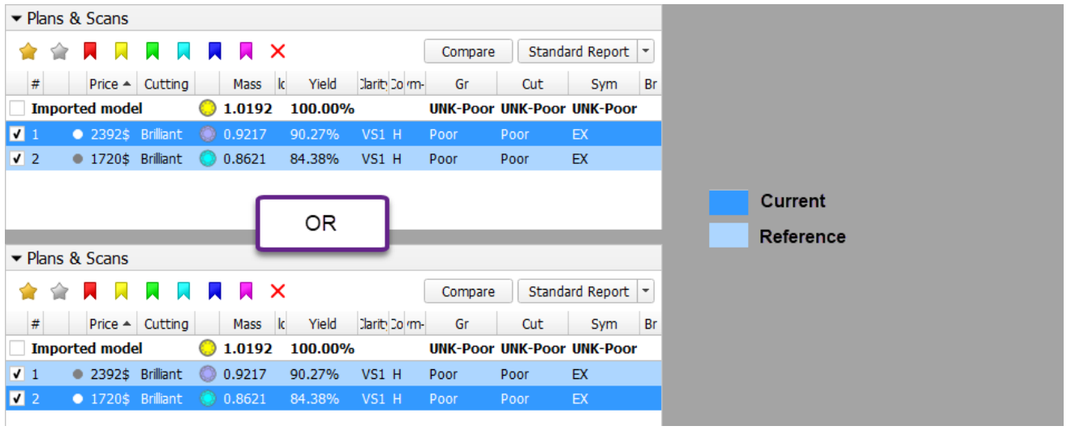
Selecting Models to Compare

Upon selecting the models, one of them is considered the reference one, while the other is considered current. The *current* model represents the current state of the stone, the *reference* model represents what we are going to achieve after cutting. If the main scan is included in the comparison, it is used as the current model.



If the main scan is not included in the comparison, the model you select first becomes current (marked with darker blue), second - reference (marked with lighter blue).

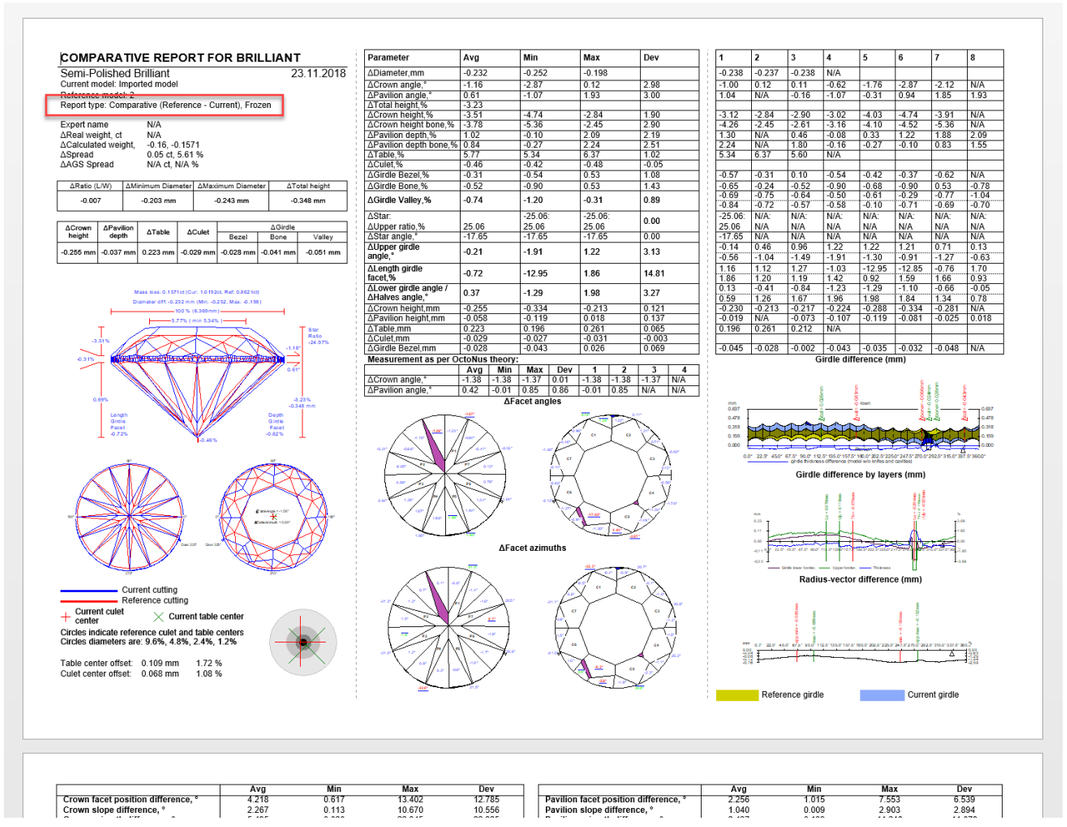


> **Tip**
>
> Have only one model selected - it is your current. Then add another - this will become a reference.

Report Types

"Reference - Current" (Main Flow)

So the **main flow** for such selection will be clicking the **Create Comparative Report** button, which produces "Reference - Current" result. The "Reference - Current" means that in the report if the **Parameter A** = 1,0 for current and = 0,7 for reference, then in the comparative report **Parameter A** = -0,3 (reference - current = 0,7 - 1,0 = -0,3). Thus, such report shows how this parameter and other parameters should be changed to achieve the desired result (reference) from the current state of the stone.



"Current - Reference" (Alternative Flow)

Alternatively, we can use the **Create Target Report** button, which produces a "Current - Reference" result. Such report shows how parameters of the current state of the stone differ from the desired result (reference).

TARGET REPORT FOR BRILLIANT

Semi-Polished Brilliant 23.11.2018

Current model: Imported model
Reference model: 2
Report type: Target (Current - Reference), Frozen

Expert name N/A
ΔReal weight, ct N/A
ΔCalculated weight, 0.16, 0.1571
ΔSpread -0.06 ct, -5.80 %
ΔAGS Spread N/A ct, N/A %

ΔRatio (L/W)	ΔMinimum Diameter	ΔMaximum Diameter	ΔTotal height
0.006	0.203 mm	0.239 mm	0.250 mm

ΔCrown height	ΔPavilion depth	ΔTable	ΔCulet	ΔGirdle		
				Bezel	Bone	Valley
0.121 mm	0.096 mm	-0.225 mm	0.029 mm	0.029 mm	0.044 mm	0.050 mm

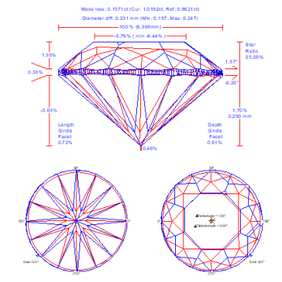


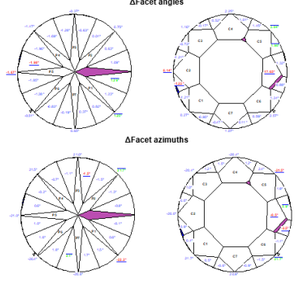
Table center offset: 0.102 mm 1.61 %
Culet center offset: 0.067 mm 1.06 %

Parameter	Avg	Min	Max	Dev
ΔDiameter,mm	0.231	0.197	0.247	
ΔCrown angle,°	1.57	0.14	3.04	2.89
ΔPavilion angle,°	-0.20	-1.67	1.25	2.92
ΔTotal height,%	1.70			
ΔCrown height,%	1.35	0.31	2.76	2.45
ΔCrown height bone,%	2.06	0.97	3.12	2.15
ΔPavilion depth,%	-0.04	-1.19	0.77	1.96
ΔPavilion depth bone,%	-0.70	-2.11	0.48	2.59
ΔTable,%	-5.76	-6.44	-5.30	1.14
ΔCulet,%	0.46	0.42	0.48	0.05
ΔGirdle Bezel,%	0.33	-0.53	0.62	1.15
ΔGirdle Bone,%	0.56	-0.50	0.96	1.46
ΔGirdle Valley,%	**0.72**	**0.33**	**1.21**	**0.88**
ΔStar		25.55	25.55	0.00
ΔUpper ratio,%	-25.55	-25.55	-25.55	
ΔStar angle,°	17.65	17.65	17.65	0.00
ΔUpper girdle angle,°	**0.19**	**-1.22**	**1.90**	**3.12**
ΔLength girdle facet,%	**0.72**	**-1.89**	**12.99**	**14.88**
ΔLower girdle angle / ΔHalves angle,°	**-0.40**	**-1.98**	**1.29**	**3.27**
ΔCrown height,mm	0.121	0.056	0.208	0.152
ΔPavilion height,mm	0.060	-0.005	0.117	0.122
ΔTable,mm	-0.225	-0.268	-0.196	0.073
ΔCulet,mm	0.029	0.027	0.031	0.003
ΔGirdle Bezel,mm	0.029	-0.026	0.048	0.073

Measurement as per OctoNus theory:

	Avg	Min	Max	Dev	1	2	3	4
ΔCrown angle,°	1.57	1.26	1.86	0.60	1.26	1.59	1.86	N/A
ΔPavilion angle,°	0.28	0.12	0.44	0.32	0.44	0.12	N/A	N/A

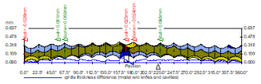
ΔFacet angles



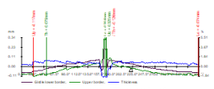
ΔFacet azimuths

1	2	3	4	5	6	7	8
0.230	0.235	0.233	N/A				
0.27	N/A	0.14	1.16	2.25	3.04	2.57	1.57
1.25	N/A	0.75	-0.37	-1.47	-1.67	-0.51	0.65
1.58	N/A	1.53	1.92	2.86	3.29	2.72	2.04
0.97	N/A	1.34	2.05	2.83	2.89	3.12	1.20
0.31	N/A	0.14	-0.63	-1.47	-1.79	-0.75	0.06
0.15	N/A	-0.34	-1.31	-2.11	-1.32	-0.48	0.48
-6.44	-5.30	-5.54	N/A				
0.32	N/A	-0.07	0.55	0.46	0.39	0.64	0.60
0.30	0.62	0.96	0.72	0.84	-0.50	0.83	0.70
0.52	0.63	0.31	0.78	1.05	0.85	0.75	0.56
0.60	0.11	0.72	0.70	0.72	0.71	0.76	0.65
25.55	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-25.55	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17.65	N/A	N/A	N/A	N/A	N/A	N/A	N/A
-1.21	-1.22	-1.21	-0.73	-0.17	0.52	1.01	1.45
1.90	1.32	0.88	1.24	0.59	0.11	-0.47	-0.95
0.93	12.96	12.86	0.78	-1.71	-1.85	-1.21	-1.18
-1.42	-0.92	-1.59	-1.67	-0.92	-1.17	-1.10	-1.28
1.23	1.29	1.09	0.63	0.01	-0.63	-1.28	-1.69
-1.96	-1.98	-1.85	-1.38	-0.83	-0.19	0.37	0.82
0.135	N/A	0.133	0.156	0.213	0.239	0.204	0.163
0.117	N/A	0.103	0.051	-0.002	-0.005	0.053	0.102
-0.268	-0.196	-0.211	N/A				
0.028	N/A	0.004	0.043	0.038	0.033	0.049	0.046

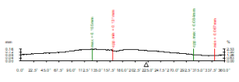
Girdle difference (mm)



Girdle difference by layers (mm)



Radius-vector difference (mm)



Reference girdle Current girdle

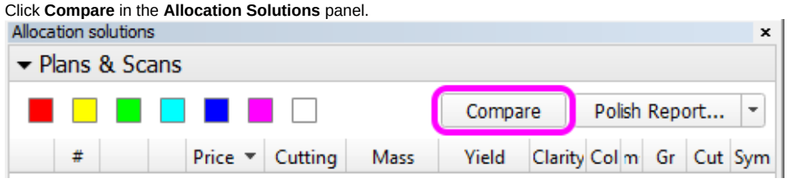
	Avg	Min	Max	Dev
Crown facet position difference,°	4.218	0.617	13.402	12.785
Crown slope difference,°	2.267	0.113	10.670	10.556
Crown azimuth difference,°	6.455	0.000	22.145	22.276

	Avg	Min	Max	Dev
Pavilion facet position difference,°	2.256	1.015	7.553	6.539
Pavilion slope difference,°	1.040	0.009	2.903	2.894
Pavilion azimuth difference,°	2.427	0.120	11.248	11.128

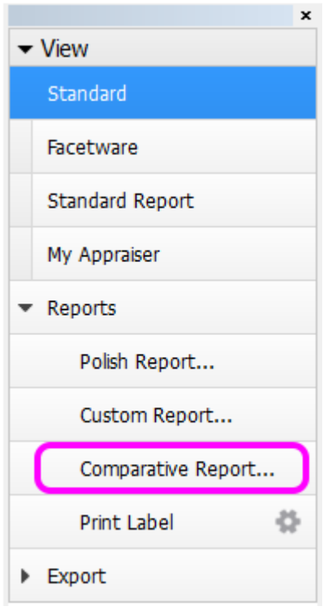
Generating Comparative Report

To generate a new Comparative Report for the selected models:

1. Click **Compare** in the **Allocation Solutions** panel.

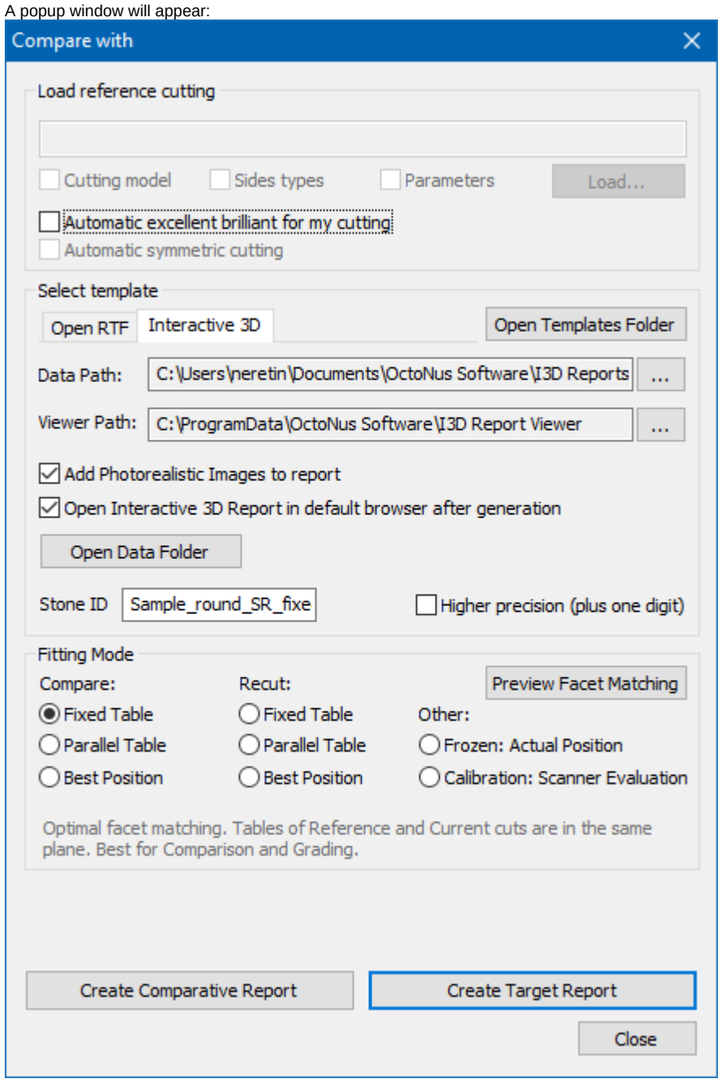


Alternatively, click **Comparative reports** in the right panel.



Note that the corresponding buttons may be inactive if too many or too few models are selected. See **Models management** for further clarification.

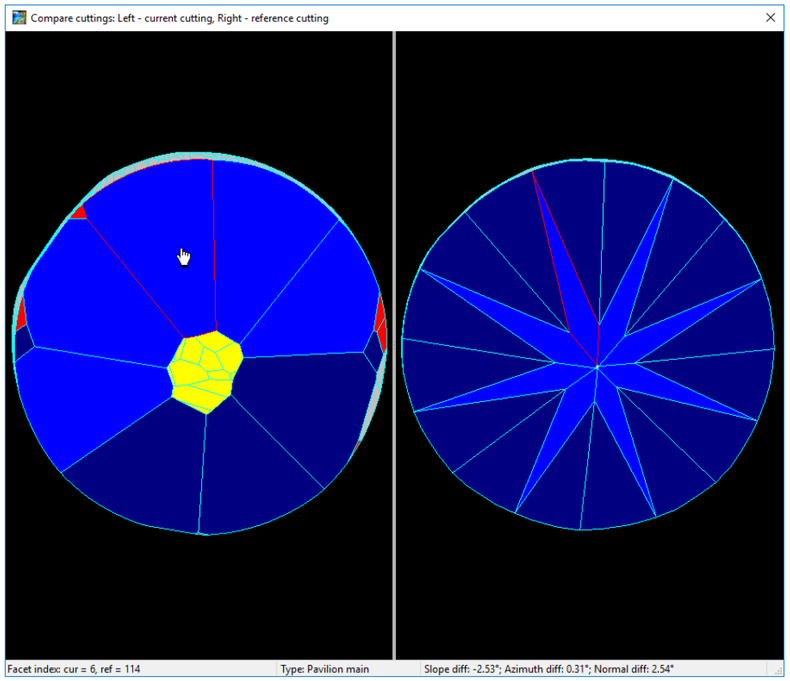
2. A popup window will appear:



   a. The **Load reference cutting** block is intended for use with DiamCalc, and thus not relevant here.
   b. The **Select template** block is intended to select the type and format of the report, i.e. RTF or Interactive 3D, and the cut-dependent details.
   c. The **Fitting mode** determines how the two models are fit together. Upon selecting the models, one of them is considered the *reference* one, while the other is considered *current*. If the main scan is included in the comparison, it is used as the current model; otherwise, the solution with lower index is used. Afterwards, the two models are positioned in the following manner for the purpose of the present report:

Mode	Positioning
Compare: Fixed table	Models are positioned for the best facet matching so that the table facets of the models coincide.
Compare: Parallel table	Models are positioned for the best facet matching so that the table facets of the models are parallel.
Compare: Best position	Models are positioned so as to achieve the best facet matching without restrictions.
Recut: Fixed table	Models are positioned for the best facet matching so that the table facets of the models coincide and the reference model fits completely inside the current model (a maximum protrusion of 50um is currently allowed). If it would not fit given the limitations, an error message is returned.
Recut: Parallel table	Models are positioned for the best facet matching so that the table facets of the models are parallel and the reference model fits completely inside the current model (a maximum protrusion of 50um is currently allowed). If it would not fit given the limitations, an error message is returned.
Recut: Best position	Models are positioned for the best facet matching with the only restriction that the reference model fits completely inside the current model (a maximum protrusion of 50um is currently allowed). If it would not fit, an error message is returned.
Frozen: Actual Position	Models are assumed to be arranged exactly as they are in the present file, without any repositioning.
Calibration: Scanner Evaluation	Models are assumed to be the same (probably in different orientation). This is a special mode intended for hardware adjustment.

3. You can preview how the facets of the two models are matched by pressing the **Preview Facet Matching** button.
   A dialog will appear showing both models with facet types indicated by color. You can hover the mouse cursor over any facet to see its properties and highlight a matching facet on the second model.



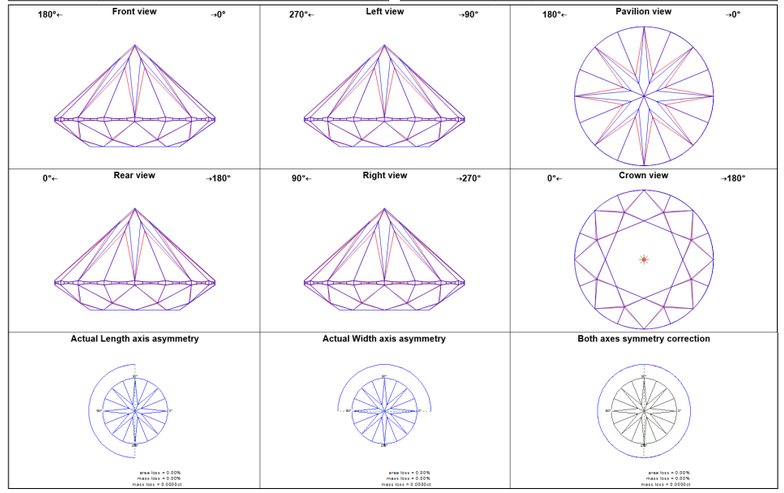
4. Once you are done with the settings, press **Create Comparative Report** to compare the current model against reference (i.e. with the reference model oriented as in its own Polish report, and the current model's orientation dependent on it), or **Create Target Report** to compare the other way around. A report will open up in the browser or MS Word window, depending on the selected report format.

I3D report

RTF report

	Avg	Min	Max	Dev
Crown facet position difference, °	0.351	0.157	1.155	0.998
Crown slope difference, °	0.343	0.155	1.134	0.979
Crown azimuth difference, °	0.143	0.001	0.664	0.663

	Avg	Min	Max	Dev
Pavilion facet position difference, °	0.392	0.042	0.571	0.528
Pavilion slope difference, °	0.389	0.031	0.571	0.540
Pavilion azimuth difference, °	0.047	0.015	0.079	0.065



For the ease of comparison, the numbering of facets of the both reference and current models in the comparative report is retained the same as in their corresponding individual polish reports.

Note that the current model in the comparative report typically would be oriented differently from its own polish report, that is, its C1 facet may not be facing the 0° azimuth.

Related Pages

- Comparative I3D Mini View