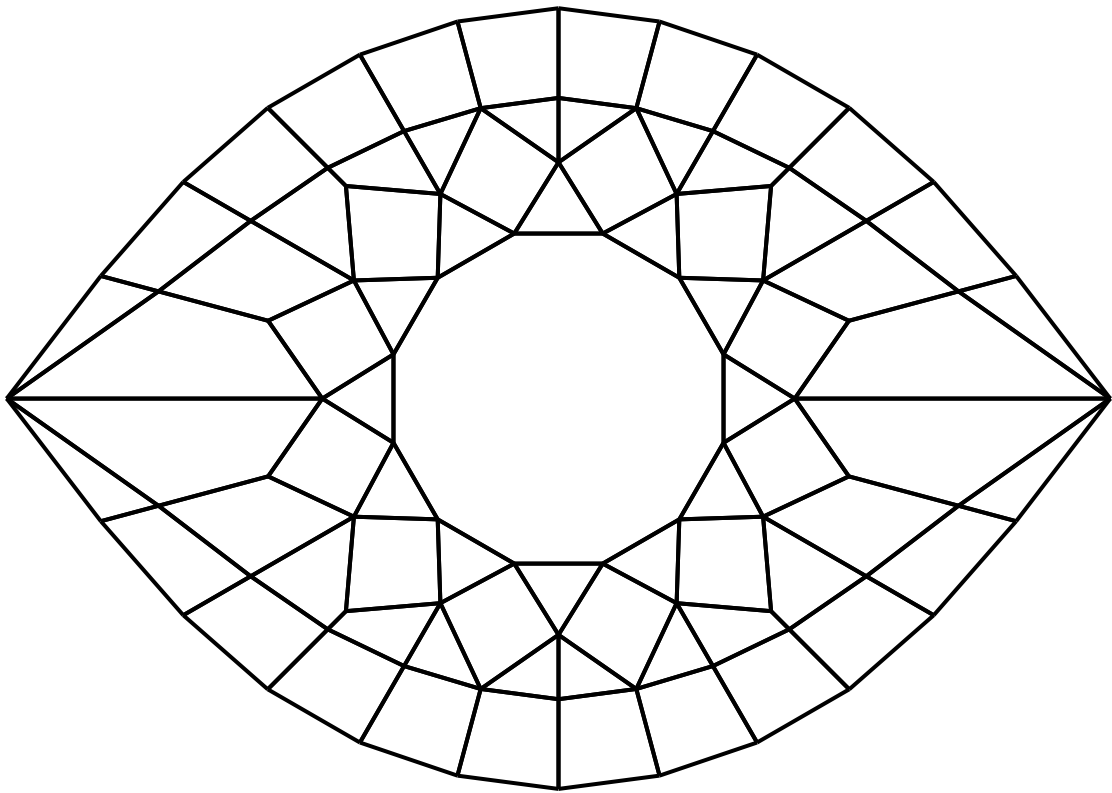


# Perception

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# Perception

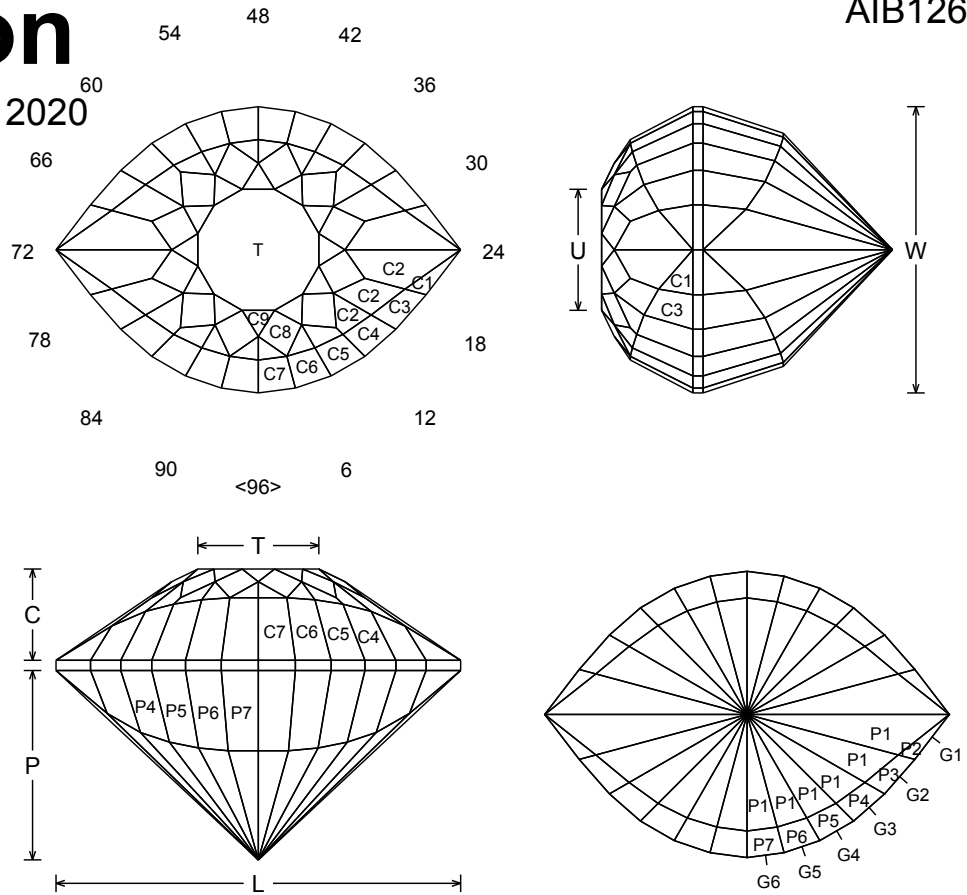
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## Design Information

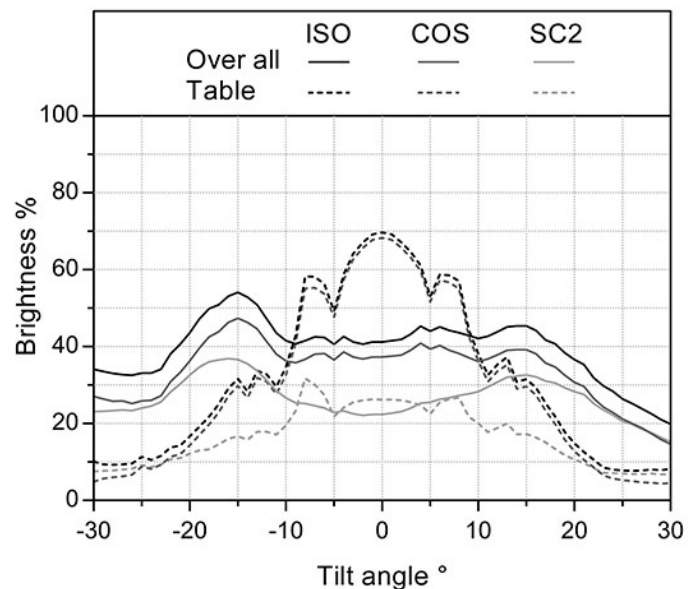
Pavilion facets	48
Girdle facets	24
Crown facets	72+1
Total facets	145
Index gear	96
Symmetry	2-fold mirror image
RI range	1.60 to 2.40*
RI diagram	1.60 to 1.70
L/W = 1.413	T/W = 0.423
U/W = 0.423	P/W = 0.661
C/W = 0.319	V/W <sup>3</sup> = 0.496

\* can be optimized further for materials above RI 2.40.

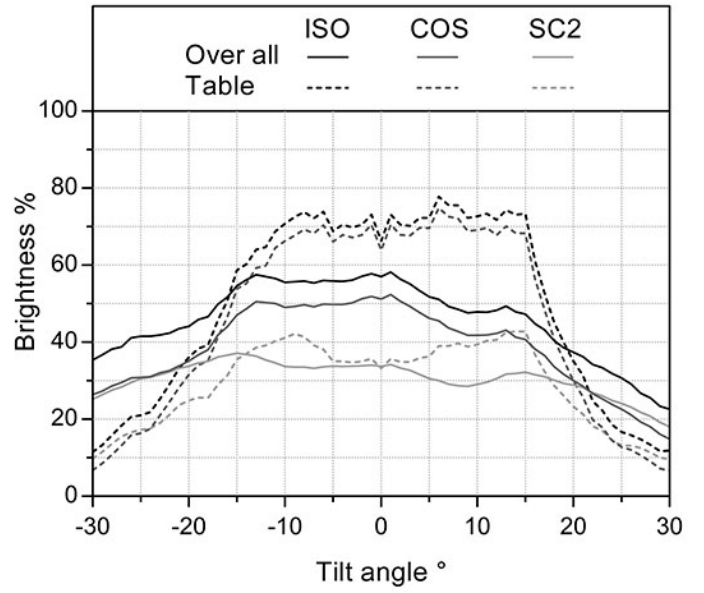


In appreciation to fellow faceters who have enjoyed my books, I have decided to provide this eye design free. I have created angle optimizations that produce a face up pattern that I really like for a range of refractive indexes (RI) from 1.60 to 2.40. Unfortunately the design will not optimize for quartz. Note the diagram above shows the angles for RI 1.60 to 1.70, this optimization has the highest crown. You will notice in the angle tables on the following pages that the crown angles drop as the RI increases. This design will darken gemstone rough, so I would only recommend cutting it in lightly saturated materials, especially at lower RI. I did not find this design hard to cut, but take care to cut accurately the C2 facets that are cut to depth and hopefully the rest of the crown facets should all fall into place. The design 'Perception' is for personal use and not to be publish elsewhere without the author's permission. It can be download via the author's website. <https://facetingdesigns.com/>

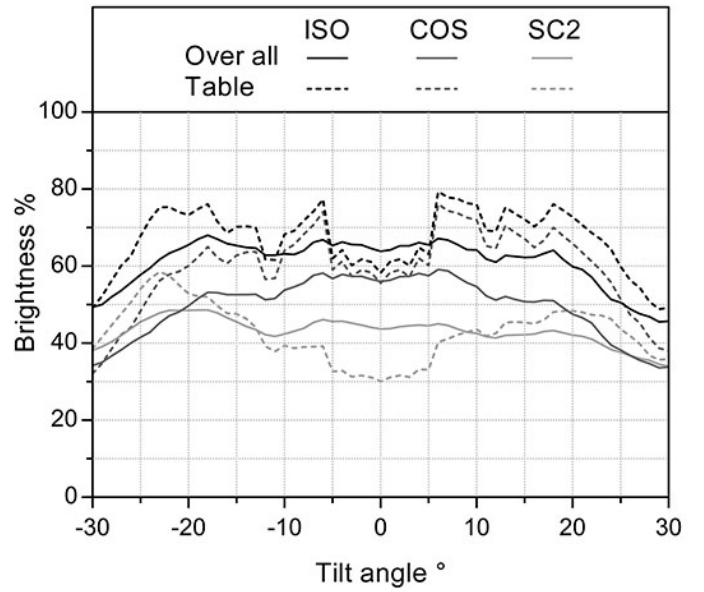
## RI = 1.61 Topaz



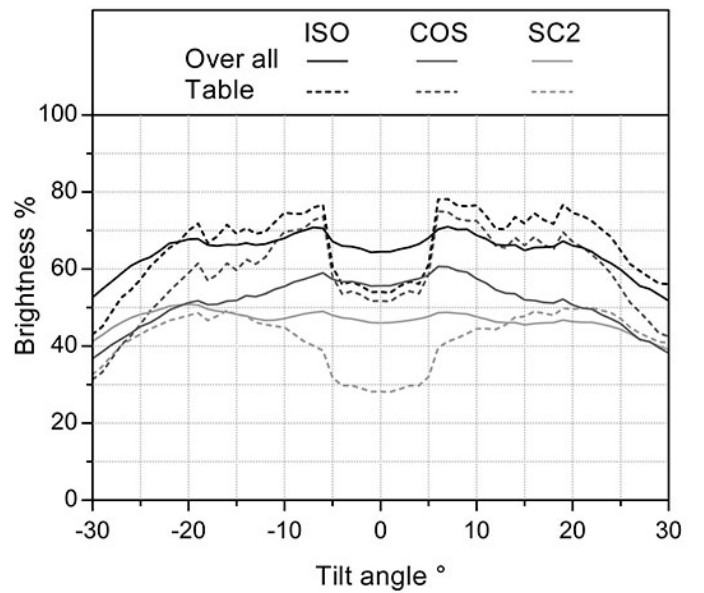
RI = 1.76 Corundum



RI = 2.16 CZ



RI = 2.37 Sphalerite

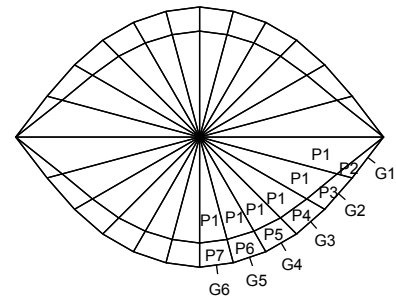
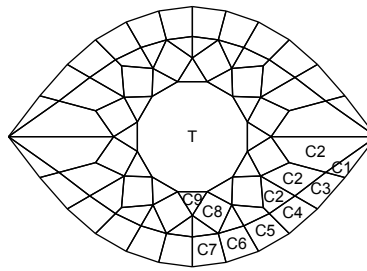


# Perception

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Angles for RI 1.60 to 2.00



**Pavilion** \*A = RI 1.60 to 1.70 B = RI 1.70 to 1.80 C = RI 1.80 to 1.90 D = RI 1.90 to 2.00

Facets	A	B	C	D	Index	Instructions
P1	43.35°	43.35°	43.35°	43.35°	02-06-10-14-18-22-26-30-34-38-42-46-50-54-58-62-66-70-74-78-82-86-90-94	Form FCP
G1	90.00°	90.00°	90.00°	90.00°	14-34-62-82	Set stone size
G2	90.00°	90.00°	90.00°	90.00°	13-35-61-83	Meet G1, P1
G3	90.00°	90.00°	90.00°	90.00°	11-37-59-85	Meet G2, P1
G4	90.00°	90.00°	90.00°	90.00°	08-40-56-88	Meet G3, P1
G5	90.00°	90.00°	90.00°	90.00°	05-43-53-91	Meet G4, P1
G6	90.00°	90.00°	90.00°	90.00°	02-46-50-94	Meet G5, P1
P2	69.64°	69.64°	69.64°	69.64°	14-34-62-82	Meet G1, P1. Establish a level girdle
P3	70.19°	70.19°	70.19°	70.19°	13-35-61-83	Meet G1, G2, P2 & P1, P2. Maintain a level girdle
P4	70.82°	70.82°	70.82°	70.82°	11-37-59-85	Meet G2, G3, P3 & P1, P3. Maintain a level girdle
P5	71.39°	71.39°	71.39°	71.39°	08-40-56-88	Meet G3, G4, P4 & P1, P4. Maintain a level girdle
P6	71.73°	71.73°	71.73°	71.73°	05-43-53-91	Meet G4, G5, P5 & P1, P5. Maintain a level girdle
P7	71.84°	71.84°	71.84°	71.84°	02-46-50-94	Meet G5, G6, P6 & P1, P6. Maintain a level girdle

**Crown** \*A = RI 1.60 to 1.70 B = RI 1.70 to 1.80 C = RI 1.80 to 1.90 D = RI 1.90 to 2.00

Facets	A	B	C	D	Index	Instructions
C1	59.46°	57.74°	56.06°	54.21°	14-34-62-82	Establish girdle width
C2	34.41°	32.63°	30.99°	29.27°	02-06-10-14-18-22-26-30-34-38-42-46-50-54-58-62-66-70-74-78-82-86-90-94	Meet G1, C1 on indexes 22, 26, 70, 74 to set tier depth. Cut remaining facets to same depth
C3	60.20°	58.51°	56.85°	55.01°	13-35-61-83	Meet G1, G2, C1 & C1, C2. Maintain girdle width
C4	61.06°	59.40°	57.76°	55.95°	11-37-59-85	Meet G2, G3, C3 & C2, C3. Maintain girdle width
C5	61.84°	60.21°	58.60°	56.81°	08-40-56-88	Meet G3, G4, C4 & C2, C4. Maintain girdle width
C6	62.30°	60.68°	59.09°	57.32°	05-43-53-91	Meet G4, G5, C5 & C2, C5. Maintain girdle width
C7	62.46°	60.84°	59.25°	57.49°	02-46-50-94	Meet G5, G6, C6 & C2, C6. Maintain girdle width
C8	31.12°	29.44°	27.89°	26.29°	04-12-20-28-36-44-52-60-68-76-84-92	Meet C2, C6, C7 on indexes 4, 44, 52, 92 to set tier depth. Cut remaining facets to same depth
C9	25.92°	24.44°	23.08°	21.69°	96-08-16-24-32-40-48-56-64-72-80-88	Meet C2, C8
T	0.00°	0.00°	0.00°	0.00°	Table	Meet C8, C9

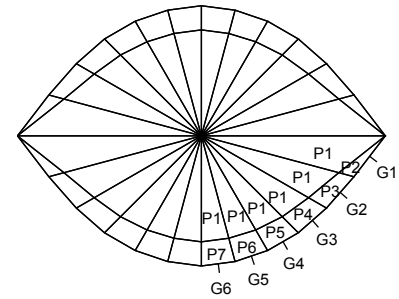
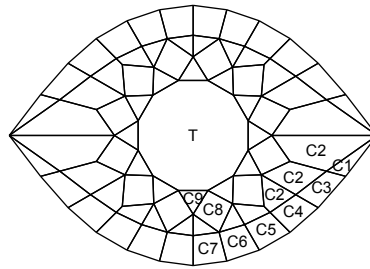
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Angles for RI 2.00 to 2.40



**Pavilion** \*E = RI 2.00 to 2.10 F = RI 2.10 to 2.20 G = RI 2.20 to 2.30 H = RI 2.30 to 2.40

Facets	E	F	G	H	Index	Instructions
P1	43.35°	43.35°	43.35°	43.35°	02-06-10-14-18-22- 26-30-34-38-42-46- 50-54-58-62-66-70- 74-78-82-86-90-94	Form FCP
G1	90.00°	90.00°	90.00°	90.00°	14-34-62-82	Set stone size
G2	90.00°	90.00°	90.00°	90.00°	13-35-61-83	Meet G1, P1
G3	90.00°	90.00°	90.00°	90.00°	11-37-59-85	Meet G2, P1
G4	90.00°	90.00°	90.00°	90.00°	08-40-56-88	Meet G3, P1
G5	90.00°	90.00°	90.00°	90.00°	05-43-53-91	Meet G4, P1
G6	90.00°	90.00°	90.00°	90.00°	02-46-50-94	Meet G5, P1
P2	69.64°	69.64°	69.64°	69.64°	14-34-62-82	Meet G1, P1. Establish a level girdle
P3	70.19°	70.19°	70.19°	70.19°	13-35-61-83	Meet G1, G2, P2 & P1, P2. Maintain a level girdle
P4	70.82°	70.82°	70.82°	70.82°	11-37-59-85	Meet G2, G3, P3 & P1, P3. Maintain a level girdle
P5	71.39°	71.39°	71.39°	71.39°	08-40-56-88	Meet G3, G4, P4 & P1, P4. Maintain a level girdle
P6	71.73°	71.73°	71.73°	71.73°	05-43-53-91	Meet G4, G5, P5 & P1, P5. Maintain a level girdle
P7	71.84°	71.84°	71.84°	71.84°	02-46-50-94	Meet G5, G6, P6 & P1, P6. Maintain a level girdle

**Crown** \*E = RI 2.00 to 2.10 F = RI 2.10 to 2.20 G = RI 2.20 to 2.30 H = RI 2.30 to 2.40

Facets	E	F	G	H	Index	Instructions
C1	52.32°	50.84°	48.89°	47.39°	14-34-62-82	Establish girdle width
C2	27.62°	26.39°	24.85°	23.71°	02-06-10-14-18-22- 26-30-34-38-42-46- 50-54-58-62-66-70- 74-78-82-86-90-94	Meet G1, C1 on indexes 22, 26, 70, 74 to set tier depth. Cut remaining facets to same depth
C3	53.14°	51.67°	49.73°	48.23°	13-35-61-83	Meet G1, G2, C1 & C1, C2. Maintain girdle width
C4	54.10°	52.65°	50.72°	49.23°	11-37-59-85	Meet G2, G3, C3 & C2, C3. Maintain girdle width
C5	54.98°	53.54°	51.63°	50.15°	08-40-56-88	Meet G3, G4, C4 & C2, C4. Maintain girdle width
C6	55.50°	54.07°	52.17°	50.70°	05-43-53-91	Meet G4, G5, C5 & C2, C5. Maintain girdle width
C7	55.67°	54.25°	52.35°	50.88°	02-46-50-94	Meet G5, G6, C6 & C2, C6. Maintain girdle width
C8	24.75°	23.62°	22.20°	21.16°	04-12-20-28-36-44- 52-60-68-76-84-92	Meet C2, C6, C7 on indexes 4, 44, 52, 92 to set tier depth. Cut remaining facets to same depth
C9	20.37°	19.40°	18.19°	17.31°	96-08-16-24-32-40- 48-56-64-72-80-88	Meet C2, C8
T	0.00°	0.00°	0.00°	0.00°	Table	Meet C8, C9

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