**Standard Round Brilliant with Continuous Girdle**

Section O 8A.1 Coloured Cubic Zirconia

Section I 8A.2 Coloured Cubic Zirconia

Section N 8A.3 Coloured Cubic Zirconia

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | |  | | |  | | |
|  | | | | | Angles for R.I. = 2.160  57 + rolled girdle  8-fold, mirror-image symmetry  96 index  L/W = 1.000 T/W = 0.593 U/W = 0.593  P/W = 0.461 C/W = 0.164  Vol. /W³ = 0.225 | | | |
| **PAVILION** | |  | | |  | |
| P1 | 45.00° | 03-09-15-21-27-33-39-45 | | | Cut to TCP | |
|  |  | 51-57-63-69-75-81-87-93 | | |  | |
| G1 | 90.00° |  | | | Cut to size, “rolled girdle” | |
| P2 | 43.00° | 96-12-24-36-48-60-72-84 | | | Cut to Girdle | |
| **CROWN** | | | | | | |
| C1 | 44.00° | 03-09-15-21-27-33-39-45 | | | Set girdle thickness | |
|  |  | 51-57-63-69-75-81-87-93 | | |  | |
| C2 | 37.00° | 96-12-24-36-48-60-72-84 | | | Cut to Girdle | |
| C3 | 22.00° | 06-18-30-42-54-66-78-90 | | | Cut to meet C1, C2 | |
| T | 0.00° | Table | | | Cut to meet C2, C3 | |

**Standard Round Brilliant with Faceted Girdle**

Section O 8B.1 Australian Amethyst Specified Size: 8 mm

Section I 8B.2 Australian Amethyst Specified Size: 7 mm

Section N 8B.3 Australian Amethyst

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | |  | |
|  | | Angles for R.I. = 1.540  57 + 16 girdles = 73 facets  8-fold, radial symmetry  96 index  L/W = 1.000 T/W = 0.519 U/W = 0.519  P/W = 0.467 C/W = 0.216  Vol. /W³ = 0.240 | |

|  |  |  |  |
| --- | --- | --- | --- |
| **PAVILION** | |  |  |
| P1 | 45.00° | 03-09-15-21-27-33-39-45 | Cut to TCP |
|  |  | 51-57-63-69-75-81-87-93 |  |
| G1 | 90.00° | 03-09-15-21-27-33-39-45 | Set Size |
|  |  | 51-57-63-69-75-81-87-93 |  |
| P2 | 43.00° | 96-12-24-36-48-60-72-84 | Cut to Girdle |
| **CROWN** | | | |
| C1 | 47.00° | 03-09-15-21-27-33-39-45 | Cut to establish girdle |
|  |  | 51-57-63-69-75-81-87-93 |  |
| C2 | 42.00° | 96-12-24-36-48-60-72-84 | Cut to Girdle |
| C3 | 27.00° | 06-18-30-42-54-66-78-90 | Meet C1, C2 |
| T | 0.00° | Table | Meet C2, C3 |

**Standard oblong step cut with cut corners**

Section O 9A.1 Australian Citrine Specified Size: 12 mm x 14 mm

Section I 9A.2 Australian Citrine Specified Size: 11 mm x 13 mm

Section N 9A.3 Coloured Quartz

Section J 9A.4 Coloured Quartz

|  |  |  |
| --- | --- | --- |
|  |  |  |

|  |  |
| --- | --- |
|  | Angles for R.I. = 1.540  45 + 8 girdles = 53 facets  2-fold, mirror-image symmetry  96 index  L/W = 1.666 T/W = 1.400 U/W = 0.620  P/W = 0.408 C/W = 0.136  Vol. /W³ = 0.561 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PAVILION** | |  |  |  | **CROWN** | |  |  |
| G1 | 90.00° | 96-48 | Set width |  | C1 | 55.00° | 96-48 | Set girdle width |
| G2 | 90.00° | 24-72 | Set length |  | C2 | 55.00° | 24-72 | Level girdle |
| P1 | 63.00° | 96-48 | Cut to approx 75% of the height of the stone |  | C3 | 55.00° | 12-36-60-84 | Level girdle |
| P2 | 63.00° | 24-72 | Meet at P1, Girdle |  | C4 | 42.00° | 96-48 | Cut to diagram |
| P3 | 53.00° | 96-48 | Cut to diagram |  | C5 | 42.00° | 24-72 | Meet C5, C6, C8 |
| P4 | 53.00° | 24-72 | Cut to meet P3 |  | C6 | 42.00° | 12-36-60-84 | Cut as required |
| P5 | 43.00° | 96-48 | Cut to diagram, P3 should be 2x P1 wide |  | C7 | 26.00° | 96-48 | Cut to leave C4 half the width of C1 |
| P6 | 43.00° | 24-72 | Cut to meet P5 |  | C8 | 26.00° | 24-72 | Cut to leave C5 half the width of C2 |
| P7 | 62.86° | 12-36-60-84 | Cut as required |  | C9 | 26.00° | 12-36-60-84 | Cut as required |
| P8 | 53.21° | 12-36-60-84 | Cut as required |  | T | 0.00° | Table | Cut to diagram |
| G3 | 90.00° | 12-36-60-84 | Cut to level girdle |  |  |  |  |  |

**The Meridian Cut**

Attributed to the late Jack Bushby

Section O 10.1 Colourless Topaz

|  |  |  |
| --- | --- | --- |
|  |  |  |

|  |  |
| --- | --- |
|  | Angles for R.I. = 1.610  49 + 8 girdles = 57 facets  2-fold, mirror image symmetry  64 index  L/W = 1.666 T/W = 1.296 U/W = 0.685  P/W = 0.651C/W = 0.162  Vol. /W³ = 0.663 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PAVILION** | |  |  |  | **CROWN** | |  |  |
| G1 | 90.00° | 64-32 |  |  | C1 | 46.00° | 64-32 |  |
| G2 | 90.00° | 08-16-24-40-48-56 |  |  | C2 | 46.00° | 16-48 |  |
| P1 | 55.00° | 64-32 |  |  | C3 | 68.42° | 08-24-40-56 |  |
| P2 | 55.00° | 08-16-24-40-48-56 |  |  | C4 | 36.00° | 01-31-33-63 |  |
| P3 | 49.50° | 01-31-33-63 |  |  | C5 | 36.00° | 15-17-47-49 |  |
| P4 | 49.50° | 15-17-47-49 |  |  | C6 | 25.00° | 13-19-45-51 |  |
| P5 | 43.25° | 03-29-35-61 |  |  | T | 00.00° | Table |  |
| P6 | 43.25° | 13-19-45-51 |  |  |  |  |  |  |
| P7 | 39.00° | 05-27-37-59 |  |  |  |  |  |  |

**Centralian Star**

Bob Kay

Section I 10.2 Colourless Topaz

|  |  |  |
| --- | --- | --- |
|  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | Angles for R.I. = 1.610  85 + 12 girdles = 97 facets  12-fold, radial symmetry  96 index  L/W = 1.000 T/W = 0.605 U/W = 0.605  P/W = 0.429 C/W = 0.074  Vol. /W³ = 0.179 | | |
| **PAVILION** | |  | |  |
| P1 | 42.00° | 96-08-16-24-32-40 | | Cut to TCP |
|  |  | 48-56-64-72-80-88 | |  |
| G1 | 90.00° | 96-08-16-24-32-40 | | Establish size |
|  |  | 48-56-64-72-80-88 | |  |
| P2 | 40.00° | 04-12-20-28-36-44 | | Cut to Girdle |
|  |  | 52-60-68-76-84-92 | |  |
| P3 | 38.00° | 96-08-16-24-32-40 | | Cut to P1 |
|  |  | 48-56-64-72-80-88 | |  |
| **CROWN** | | | | |
| C1 | 28.00° | 96-08-16-24-32-40 | | Establish Girdle |
|  |  | 48-56-64-72-80-88 | |  |
| C2 | 22.00° | 04-12-20-28-36-44 | | Meet Girdle |
|  |  | 52-60-68-76-84-92 | |  |
| C3 | 12.00° | 96-08-16-24-32-40 | | Meet C1 |
|  |  | 48-56-64-72-80-88 | |  |
| C4 | 08.00° | 04-12-20-28-36-44 | | Meet C2 |
|  |  | 52-60-68-76-84-92 | |  |
| T | 0.00° | Table | | Meet C3, C4 |

**JBCROSS**

The late Jack Bushby

Section N 10.3 Colourless Man-made Cubic Zirconia

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | |  | | | |  |
|  | | | | | | Angles for R.I. = 2.160  49 + 8 girdles = 57 facets  8-fold, radial symmetry  64 index  L/W = 1.000 T/W = 0.552 U/W = 0.552  P/W = 0.504 C/W = 0.140  Vol. /W³ = 0.257 | | |
|  | | | | | |  | | |
| **PAVILION** | | |  | | | |  | |
| G1 | 90.00° | 02-14-18-30-34-46-50-62 | | | Size Stone | | | |
| P1 | 58.50° | 02-14-18-30-34-46-50-62 | | | Establish girdle to about 75% of stone depth | | | |
| P2 | 47.00° | 03-13-19-29-35-45-51-61 | | | Meet at Girdle | | | |
| P3 | 40.50° | 08-24-40-56 | | | Meet at Girdle | | | |
| P4 | 42.50° | 64-16-32-48 | | | Meet at PCP. Cut to diagram | | | |
| **CROWN** | | | | | | | | |
| C1 | 55.00° | 02-14-18-30-34-46-50-62 | | | Establish Girdle | | | |
| C2 | 37.00° | 64-16-32-48 | | | Meet at Girdle | | | |
| C3 | 20.00° | 64-16-32-48 | | | Cut to meet C1, C2 | | | |
| C4 | 14.00° | 01-15-17-31-33-47-49-63 | | | Cut to meet C1, C2, C3 | | | |
| T | 00.00° | Table | | | Cut to meet C3, C4 | | | |

**Topaz Twinkler-96**

Bob Kay

Section J 10.4 Colourless Topaz

|  |  |  |
| --- | --- | --- |
|  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | Angles for R.I. = 1.610  41 + 8 girdles = 49 facets  8-fold, radial symmetry  96 index  L/W = 1.000 T/W = 0.239 U/W = 0.239  P/W = 0.454 C/W = 0.162  Vol. /W³ = 0.204 | | |
| **PAVILION** | |  | |  | |
| P1 | 43.00° | 96-12-24-36-48-60-72-84 | | | Cut to TCP |
| G1 | 90.00° | 96-12-24-36-48-60-72-84 | | | Set size |
| P2 | 40.00° | 06-18-30-42-54-66-78-90 | | | Cut to meet girdle and form PCP |
| **CROWN** | | | | | |
| C1 | 26.00° | 96-12-24-36-48-60-72-84 | | | Cut to level girdle |
| C2 | 21.50° | 06-18-30-42-54-66-78-90 | | | Meet at Girdle |
| C3 | 17.00° | 96-12-24-36-48-60-72-84 | | | Meet at C1 |
| T | 00.00° | Table | | | Meet C2, C3 |

**Montezuma Concavia – Concave Cut**

Modified by Paul Sabolta 2018 for Concave

From an original design by Arya Akhavan 2013

Section O 10.5 Blue Man-made Cubic Zirconia

|  |  |  |
| --- | --- | --- |
|  |  |  |

|  |  |
| --- | --- |
|  | Angles for R.I. = 2.160  31 + 10 girdles = 41 facets  1-fold, mirror-image symmetry  96 index  L/W = 1.000 T/W = 0.599 U/W = 0.513  P/W = 0.457  C/W = 0.155  Vol. /W³ = 0.180 |

|  |  |  |  |
| --- | --- | --- | --- |
| **PAVILION** | |  |  |
| 1 | 43.00° | 03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93 | Preform, Cut to TCP (Flat Facets) |
| 2 | 90.00° | 27-33-39-45-51-57-63-69 | Preform, Set stone size (8 Flat Facets) Minimum 10mm |
| 3 | 43.00° | 03-09-15-21-27-33-39-45-51-57-63-69-75-81-87-93 | Concave (16 Concave Facets) Form PCP  (Mandrel size, cutters choice to achieve meetpoints) |
| 4 | 90.00° | 27-33-39-45-51-57-63-69 | Concave (8 Concave Facets) Form PCP  (Mandrel size, cutters choice to achieve meetpoints) |
| 5 | 90.00° | 12-84 | Meet 3,4 |
| 6 | 70.00° | 12-84 | Level girdle |
| **CROWN** | | | |
| A | 40.00° | 12-84 | Set girdle thickness to suit |
| B1 | 40.00° | 27-33-39-45-51-57-63-69 | Level girdle (8 Flat Facets) |
| B2 | 40.00° | 27-33-39-45-51-57-63-69 | Concave (8 Concave Facets)  (Mandrel size, cutters choice to achieve meetpoints) |
| C | 34.67° | 11-85 | Meet A, 3 |
| D | 00.00° | Table | Meet A, C, B2 |

**English Rose**

Maurice Jones, Salisbury East, SA

Section O 11.1 Colourless Quartz

|  |  |  |
| --- | --- | --- |
|  |  |  |

|  |  |  |
| --- | --- | --- |
|  |  | Angles for R.I. = 1.540  52 + 8 girdles = 60 facets  4-fold, radial symmetry  96 index  L/W = 1.000  P/W = 0.465 C/W = 0.251  Vol. /W³ = 0.214 |

**Note:** Facets on 43.00° do not meet at culet,

as shown above.

|  |  |  |  |
| --- | --- | --- | --- |
| **PAVILION** | |  |  |
| P1 | 54.00° | 06-18-30-42-54-66-78-90 | Cut to TCP |
| G1 | 90.00° | 06-18-30-42-54-66-78-90 | Set size, level girdle |
| P2 | 50.00° | 07-17-31-41-55-65-79-89 | Meet P1, Girdle |
| P3 | 43.00° | 11-13-35-37-59-61-83-85 | Meet P1, P2, G |
| P4 | 38.40° | 96-24-48-72 | Meet P1 |
| **CROWN** | | | |
| C1 | 40.80° | 06-18-30-42-54-66-78-90 | Cut to establish girdle |
| C2 | 33.40° | 08-16-32-40-56-64-80-88 | Cut to meet Girdle |
| C3 | 30.00° | 12-36-60-84 | Cut to meet C1, C2 at Girdle |
| C4 | 18.20° | 96-24-48-72 | Cut to 50% of width of stone |

**Vesper**

Maurice Jones, Salisbury East, SA

Section I 11.2 Colourless Man-made Cubic Zirconia

|  |  |  |
| --- | --- | --- |
|  |  |  |

|  |  |
| --- | --- |
|  | Angles for R.I. = 2.160  56 + 12 girdles = 68 facets  4-fold, radial symmetry  96 index  L/W = 1.000  P/W = 0.476 C/W = 0.238  Vol. /W³ = 0.257 |

|  |  |  |  |
| --- | --- | --- | --- |
| **PAVILION** | |  |  |
| G1 | 90.00° | 96-24-48-72 | Set size |
| G2 | 90.00° | 05-19-29-43-53-67-77-91 | Cut as per diagram |
| P1 | 47.30° | 96-24-48-72 | Cut to TCP |
| P2 | 45.00° | 05-19-29-43-53-67-77-91 | Meet P1, Girdle |
| P3 | 41.00° | 08-16-32-40-56-64-80-88 | Meet Girdle |
| P4 | 39.50° | 12-36-60-84 | Meet G, P3. Form PCP |
| **CROWN** | | | |
| C1 | 33.50° | 01-23-25-47-49-71-73-95 | Establish Girdle |
| C2 | 33.00° | 04-20-28-44-52-68-76-92 | Establish Girdle |
| C3 | 32.50° | 96-24-48-72 | Meet Girdle |
| C4 | 22.82° | 10-14-34-38-58-62-82-86 | Meet Girdle |
| C5 | 15.00° | 96-24-48-72 | Meet C3 |

**Petunia**

The Late Jack Bushby

Section N 11.3 Coloured Man-made Cubic Zirconia

|  |  |  |
| --- | --- | --- |
|  |  |  |

|  |  |
| --- | --- |
|  | Angles for R.I. = 2.160  56 + 8 girdles = 64 facets  8-fold, radial symmetry  64 index  L/W = 1.166 T/W = 0.519 U/W = 0.620  P/W = 0.583 C/W = 0.194  Vol. /W³ = 1.147 |

|  |  |  |  |
| --- | --- | --- | --- |
| **PAVILION** | |  |  |
| P1 | 48.00° | 64-08-16-24-32-40-48-56 | Cut to TCP |
| G | 90.00° | 64-08-16-24-32-40-48-56 | Set size |
| P2 | 42.17° | 64-08-16-24-32-40-48-56 | Cut to leave P1 approx 1/3 original |
| P3 | 42.00° | 04-12-20-28-36-44-52-60 | Cut to meet P1, Girdle |
| **CROWN** | | | |
| C1 | 52.00° | 64-08-16-24-32-40-48-56 | Cut to establish girdle |
| C2 | 39.90° | 02-06-10-14-18-22-26-30-34-38-42-46-50-54-58-62 | Cut to meet Girdle |
| C3 | 18.00° | 64-08-16-24-32-40-48-56 | Cut to meet C1, C2 |