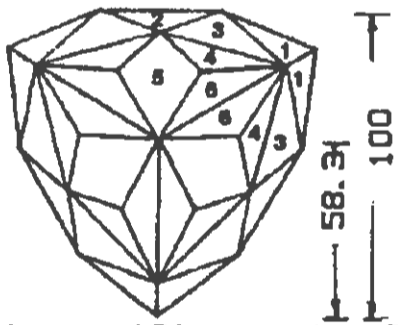
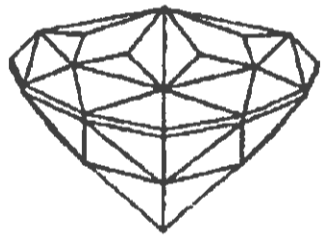
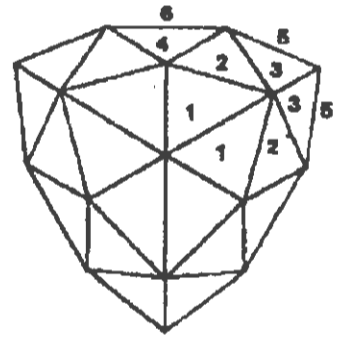




CROWN HEIGHT 26
PAVILION DEPTH 50

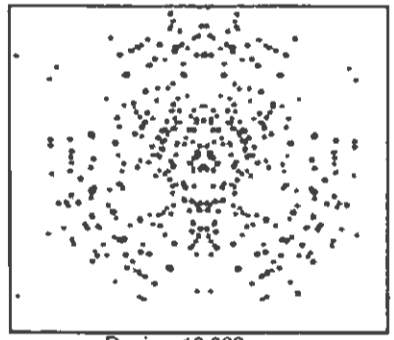
## 13.022A LONDON SHIELD VARIATION 2

96 INDEX 1.01 L/W 60 FACETS
Design by RICKS, Tom; FACETS, Mar 80, p4

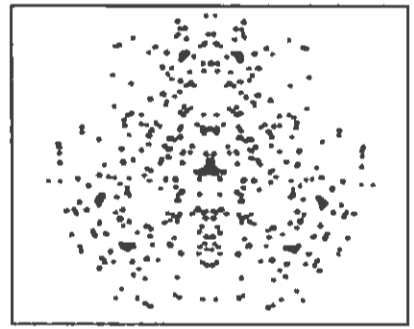
13.022A CROWN CUTTING INSTRUCTIONS

| STEP | ANGLE | BEARING INDEX | REMARKS |
|---|---|---|---|
| C1 | 51.3 | 90-70-58-38-26-06 | Match pavilion girdle |
| C2 | 56.8 | 96-64-32 | Match pavilion girdle |
| C3 | 42.0 | 92-68-60-36-28-04 | Meet C1-C2-GRD |
| C4 | 32.0 | 92-68-60-36-28-04 | Meet C3-C1-C1-C3 |
| C5 | 23.0 | 96-64-32 | Meet C4-C3-C2-C3-C4 |
| C6 | 19.8 | 88-72-56-40-24-08 | Meet C4-C3-C1-C1-C3-C4 |

Crown of this design has no Table (Apex facets instead). Pavilion is identical to 13.022 shown on page 3 so is not repeated. Brightness plots for both designs (appropriate for RI 1.54 Quartz) at different view angles are shown in Table I on page 1. Brightness Plot Discussion begins on page 2 and corresponding Reflection Plots are shown on this page..



Design 13.022



Design 13.022A

Computer generated LRP (Light Reflection Pattern)
These diagrams are equivalent (except for light/dark reversal) to the reflection patterns produced. Using the Projector-Screen System described in Seattle Facetor Design July 1986. There is much to be learned about diagrams such as this .....they represent location and direction point light sources would have to take to illuminate a stone and could be characterized as "Light Acceptance Patterns". They may also relate to scintillation and light concentration within the stone. Note 13.022A (the Apex facet design) has more areas where light is concentrated than 13.022 but both should produce very bright stones in low light conditions.

**What are the requirements for a "good" LRP ? Can we relate LRP to observable features in gemstones? We hope our readers have some ideas about this and will let us know if there are any answers. Cutting these two stones will not be a wasted effort because they are two of the brightest stones we have tested.**