TABLE OF CONTENTS

Part 1: Light Fitting 1 - Modelling Complex Shapes

1. Preparing to draw p.6

2. Drawing the NURBS Arc.....p.9

3. Drawing the NURBS Curve.....p.10

4. Creating the NURBS object.....p.13

5. Creating the Lotus flower fitting.....p.15

6. Drawing the pendant light fitting.....p.19

7. Rendering the light fitting using Open GL and simple lighting.....p.21

8. Rendering the light fitting using RenderWorks and plain colours.....p.25

9. Rendering the Lotus shade fitting using RenderWorks and textures.....p.27

10. Rendering the globe fittings using RenderWorks and textures.....p.33

11. Lighting the globes.....p.36

12. Preparing the drawing for print.....p.39

TOOL INDEX

- Ellipse Tool.....p.15
- Light Tool.....p.36
- Locus Tool.....p.7
- Loft Surface Tool.....p.13
- Mirror Tool.....p.7
- NURBS Arc Tool.....p.9
- NURBS Curve Tool.....p.10
- Sphere Tool.....p.19
- 3D Locus Tool..... p.36
- 3D Reshape Tool.....p.11
- 3D Selection Tool.....p.37

Part 2: Light Fitting 2 - Modelling Organic Shapes

Introduction P.41

1. Drawing the lower part of the unit P.41

2. Drawing the upper part of the unit P.46

WHAT WILL YOU LEARN?

Upon completion of this tutorial, you will be able to:

- **Gain an insight into VectorWorks 3D Modelling features.**
- **Use nurbs Arcs to create a complex shape.**
- **Use the Loft Surface Tool.**
- **Use the Extract Curve Tool.**

APPENDIXES

Appendix A: NURBS P.52
Appendix B: The Loft Surface Tool P.53
Appendix C: Light Preferences Terminology P.54

INTRODUCTION

This tutorial was created to help you understand some of VectorWorks most advanced features: drawing with Non Uniform Rational B-Spline (NURBS), the Loft Tool, basic lighting and rendering with Renderworks.

It is designed to help you develop an understanding of the software upon which you can build and like any other software, the only way to learn is to practice and experiment.

To do this, you will create a complex light fitting in the shape of an inverted stylised lotus flower. The light was one of my original design and was used as the focal point in a holistic health & beauty centre.

As witth any other vectorWorks drawing, the first thing to do is to set up a page and scale. I chose to work in **mm** at **scale 1:25** with an **A0 size print area** to work with and a **symetrical Reference Grid of 500** but you can choose whatever suits you best. You can reduce the scale of the drawing to suit any print area when it is finished.

The main part of the fitting has a 2.4m diameter span but, as it is made of transluscent layers of paper fitted onto a frame, it is fairly light for its size. The light itself comes from 3 glass balls of 3 different sizes: 1 x 300mm, 1 x 250mm and 1 x 200mm suspended to the ceiling and passing through a circular opening at the centre of the shade.

To help you understand what you will be doing, lets first have a look at some of the finished views:

In plan view, the fitting looks flat and the globes are difficult to see (Fig. 0.0)

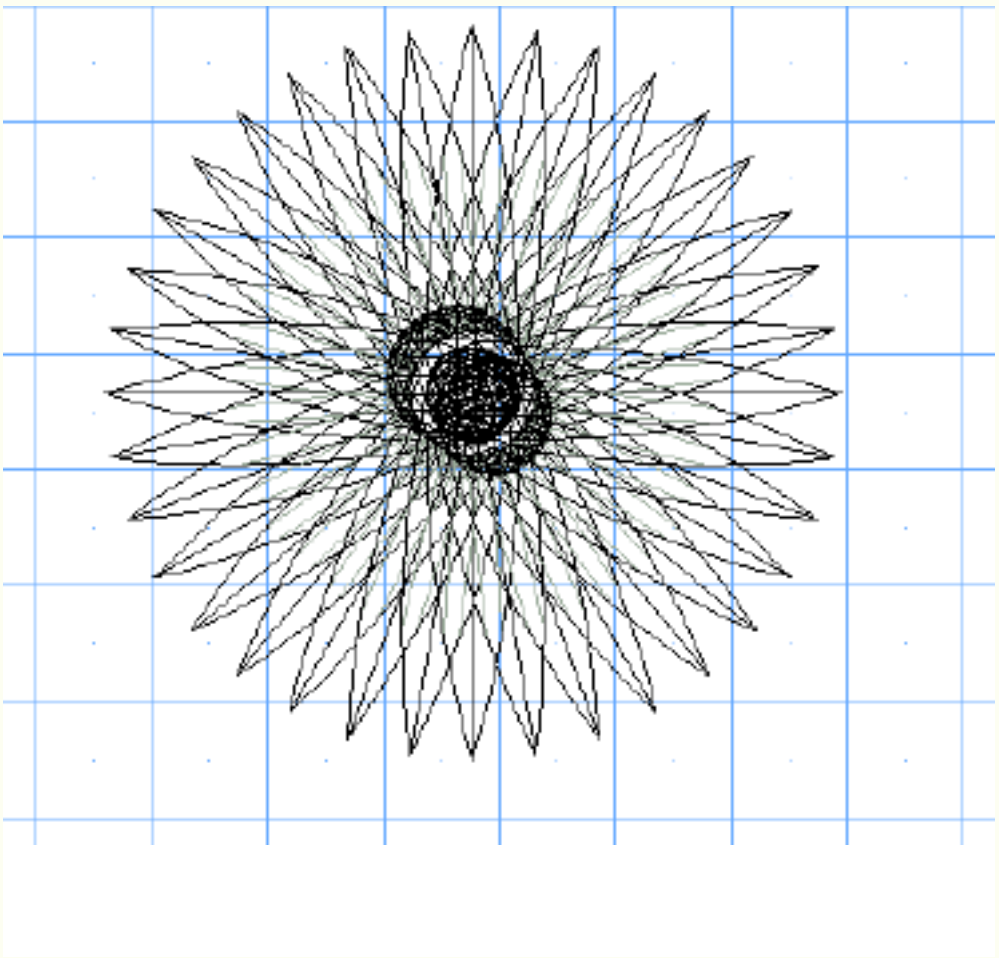

Fig. 0.0