4.1 GENERAL

The lighting design process includes:
- System characterization
- System layout
- Plan preparation
- Calculation
- Plan sheet development
- Plan quantities
- Plan set completion

These steps are arranged in the order in which they are usually encountered in the design process. The context in which they are presented is that of a completely new design to be accomplished by an individual with an adequate engineering background, but less than average lighting design experience.

4.2 STEP #1 – ESTABLISH PERFORMANCE CRITERIA

The first question the lighting designer should ask is, "Why must this facility be lighted?" The lighting designer should review the lighting warrants and collect preliminary roadway design parameters to determine specific lighting needs. Use the questionnaire in Appendix VB-1 to first understand the needs of the maintaining jurisdiction.

- Discussions with the VDOT Central Office Traffic Engineering Design Section, Regional Traffic Engineering, and the Resident Engineer will provide an understanding of the priorities concerned with lighting a facility.

- Determine the facility or functional classification of the roadway. Determine the average lighting levels, uniformity ratios, and the required minimum lighting level using the recommendations found in the most current IESNA RP-8 publication.

- The design engineer should try to visit the proposed facility and note the surrounding community.   Videotaping and taking pictures of the site is recommended. The designer should also take note of available electrical service locations.

4.3 STEP #2 – SELECTION OF EQUIPMENT

The initial selection of lighting equipment is developed through open discussion between the VDOT Central Office Traffic Engineering Design Section and the local VDOT personnel. The VDOT Regional Traffic Engineer may have a general concept on how the facility should be lighted. Together with the Resident Engineer, they best understand the requirements of the residents and the flow of traffic through the facility.

This step is interrelated with the next step, System Characterization.