



Important: This is *not* a lighting fundamentals or roadway lighting design course. We assume that the attendee has a basic understanding of roadway lighting design principles as well as lighting terminology (lumen, candela, intensity, illuminance, luminance, footcandle, lux, etc.) and a basic understanding of luminaire photometry.

AGi32 Prerequisite skills: Please review the Roadway Class Prerequisites for the AGi32 skills required for successful participation in this class.

AGi32 Intermediate Roadway Class Outline

- I. Introductions
- II. Useful Tips for AGi32 Users
- III. Roadway Calculations in AGi32 – what you need to know
- IV. RP-8 Overview and other stuff
 - a. Roadway Classifications
 - b. Pedestrian Conflict Area Classifications
 - c. Pavement Classifications
 - d. Roadway Lighting Design Criteria
 - e. Roadway luminaire types (Types I-V; S-M-L ranges)
 - f. Cutoff classifications
 - g. Luminaire Classification System (LCS) & BUG Ratings
- V. Roadway Optimizer
 - a. Uses, limitations, restrictions
 - b. Roadway standards and pavement types
 - c. Layouts
 - d. Optimization criteria
 - e. Evaluating results
 - f. Advanced settings
 - g. Comparing layouts
 - h. Exporting and/or printing results
- VI. Expanded Roadway Application
 - a. IES criteria (RP-8-00)
 - b. Translate Origin
 - c. Compare potential luminaires with Roadway Optimizer
 - d. Luminaire layout & templates
 - e. Roadway luminance and other calculations

- f. View Manager
 - g. Project Manager
 - h. AutoCalc
 - i. Creating a “custom standard” to override RP-8 settings
- VII. Intersection Lighting
 - a. IES criteria (RP-8)
 - b. Single- and Multi-head luminaire Arrangements with post-top luminaires
 - c. Polygon-shaped grid, invoking arc command for corners
 - d. Isolines
 - e. Highlight Values
- VIII. Pedestrian Lighting Application
 - a. IES criteria (RP-8)
 - b. Horizontal illuminance on sidewalk
 - c. Vertical illuminance, elevated above sidewalk, two directions
 - d. Adding Objects with color and texture
 - e. Designating all surfaces as either Roadway Contributor or Roadway Pavement
 - f. Full Radiosity calculations
 - g. Render Mode
- IX. High-Mast Application: a freeway interchange
 - a. Custom luminaire arrangements
 - b. Static vs dynamic poles
 - c. Iso-illuminance templates
 - d. Illuminance grids per RP-8
 - e. Calc points in curved lines, changing elevation (on-ramp)
 - f. Highlight Values
 - g. Statistical Area
- X. Tunnel Lighting and RP-22-11 (considering reflective surfaces)
 - a. IES criteria (RP-22)
 - b. Full Radiosity calculations for tunnel applications
 - c. Adding Objects to the tunnel
 - d. Designating all surfaces as either Roadway Pavement or Roadway Contributor
 - e. Tunnel calculation grids
 - f. Switching and dimming luminaires for nighttime
 - g. Visualizations in Render Mode
 - h. Using Scene Manager for daytime and nighttime calculations analysis
- XI. Roundabout Lighting and DG-19
 - a. IES criteria (DG-19)
 - b. Locating luminaires in a circular array
 - c. Horizontal illuminance in the roundabout drive lanes
 - d. Vertical illuminance on pedestrians in the crosswalks
 - e. Calc points on a line, elevated, and “looking at” approaching drivers