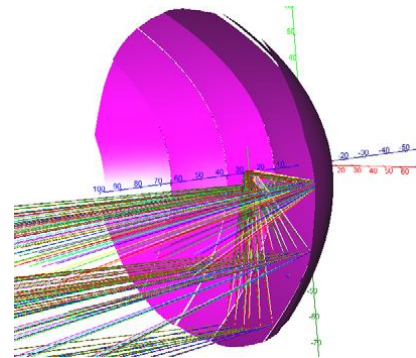
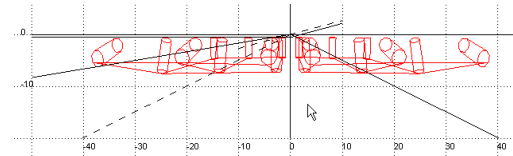


Basic Training Lighting Design With LucidShape

1: Simulation

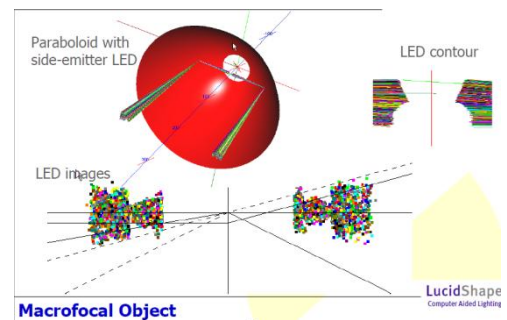
- ❖ **Basics of forward ray trace**
 - The simulation setup
 - First simple example
- ❖ **Different ray trace methods**
 - Monte Carlo
 - Light Mapping
 - Interactive Ray trace
- ❖ **Basic Material types**
 - Emitter: Lambert
 - Actors: [diffuse] specular, refractive
 - Sensors: lumen, lux, cd/m²
- ❖ **Complete Example**
 - CAD data import, export and assign surface properties
 - Simulation, Analysis, photometric test tables
- ❖ **Ray file**
 - Theory, Sensor, Light source



Interactive ray trace

2a: Functional Geometry

- ❖ **Theory for profile curves and surfaces**
 - Practice with curve and surface test suites
- ❖ **The 3 major mathematical methods and application**
 - The PS (procedural surface) application
 - The MF (macro focal) application
 - The PCS (poly curve system) application



❖ **The PS application**

- Various light function
- Reflector, refractor, rectangle, round
- Practice

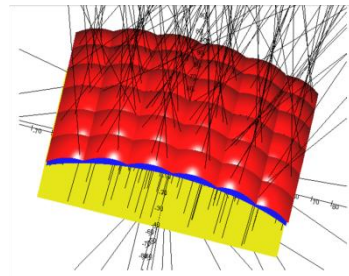
2b: Functional Geometry

❖ **The MF (macro focal) application**

- Various light function, cutoff lines
- Reflector, refractor based on free grid, styling issues
- Practice

❖ **The PCS (poly curve system) application**

- PES headlamp
- LED concentrator
- Various lens types: aspherical, fresnel,..
- styling issues
- Practice



❖ **Collimator lens**

❖ **Compensation of ray deviation; “neutral “surfaces**

3a: Simulation II

❖ **Advanced Material types**

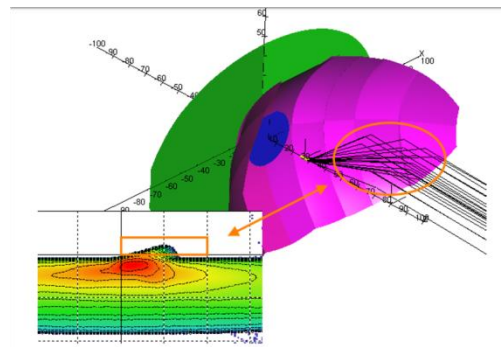
- Emitters: from LID data, curve, surface
- Actors: BSDF
- Sensors: ray history

❖ **Lit Appearance**

- Flow sensor
- Luminance camera
- Luminance images

❖ **Analysis**

- gather light
- reverse sensor light

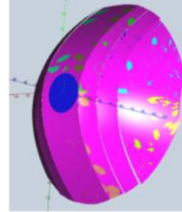


- ❖ Spectral simulation

3b: General

- ❖ Benchmark TC4-45
- ❖ LID Editor for beam pattern combination
- ❖ Global Settings
- ❖ Ray trace spooler
- ❖ CAD like operation in Lucid Shape
- ❖ Data Conversion
 - NURBS to Mesh Surface

CAD data conversion



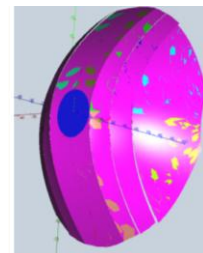
The original and the converted reflector displayed in LucidShape

Sequence:

The reflector is created in LucidShape and exported to Rhino as a *.3dm file. Then an IGES formatted files is created in Rhino and imported in ASAP. The CAD Import dialog in newer ASAP versions provides the following settings.



Here the Checkbox „Use Model Accuracy“ takes care for the correct import of the surface information from A.C.A.D.



The original and the converted reflector displayed in LucidShape

