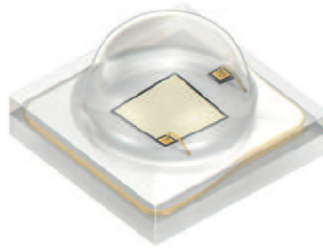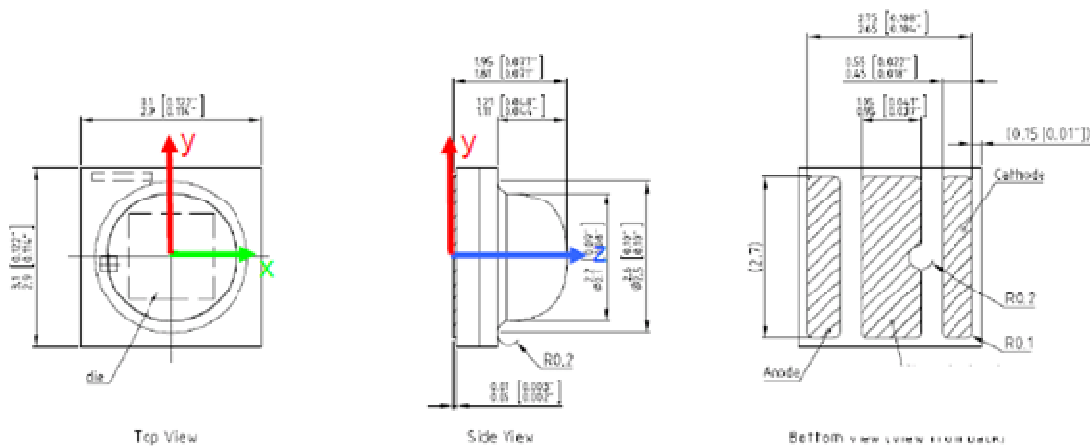# Information for OSRAM rayfile data

GD_CSSPM1.14, OSLON SSL 120, Deep Blue

1. Position of global coordinate origin vs. Package

The global coordinate origin is at the center of the package at bottom surface. The CAD model provided with this rayfile package has the same global orientation as the rayfile.
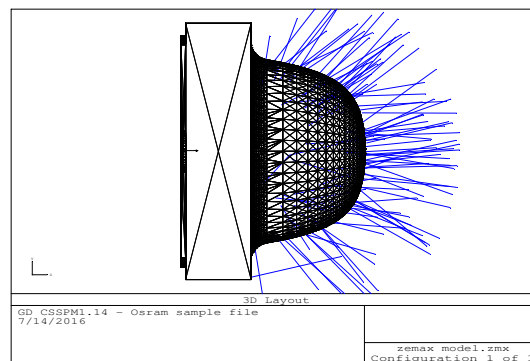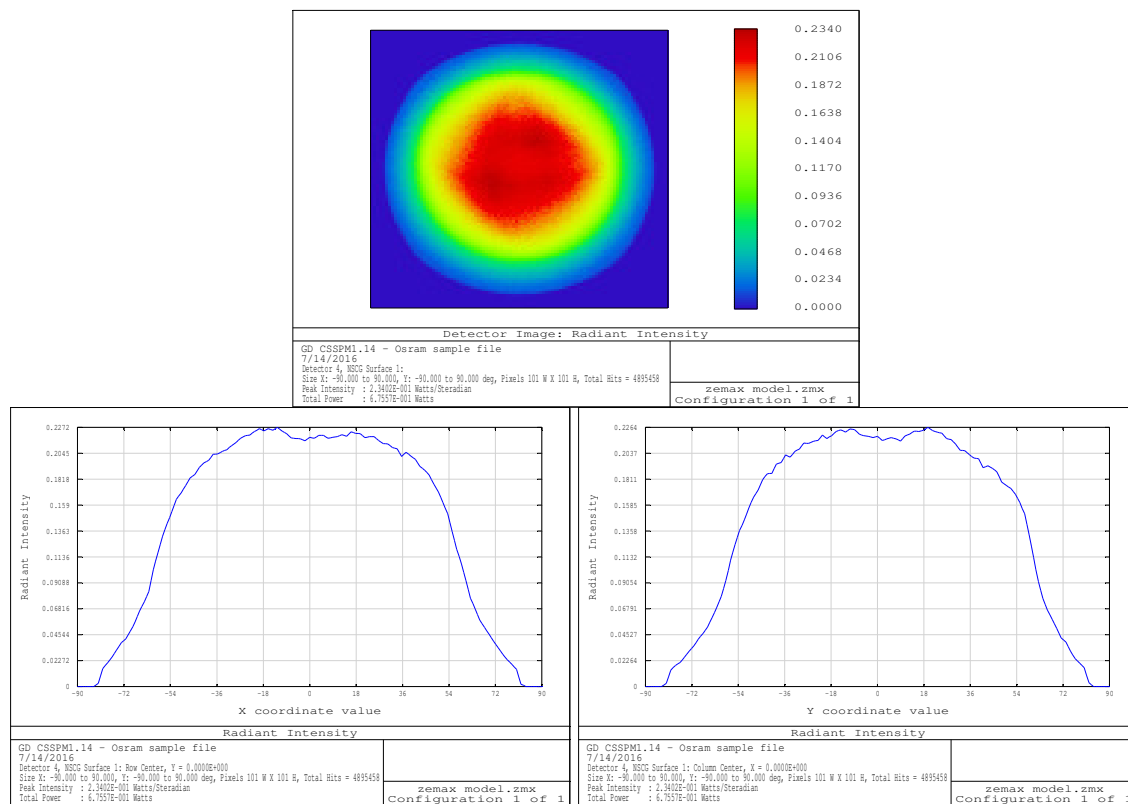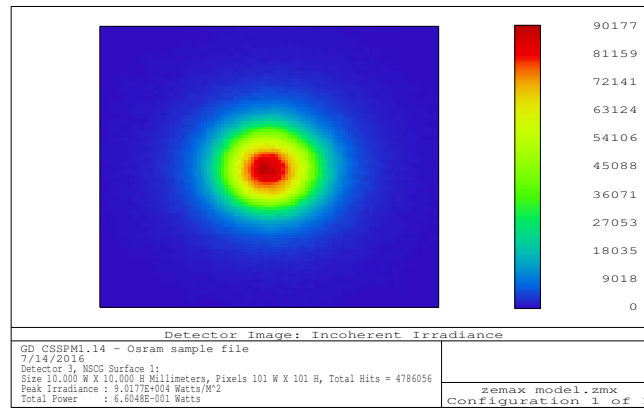

Fig. 1: Orientation of LED

2. General Properties of the Rayfile

- the starting points of the rays need to be in air
- the rays are randomly ordered in the rayfile
- the CAD model provided with this rayfile package is intended for the design of mechanical components and not valid for optical raytracing calculations
- the units used for the coordinates in the rayfile and for the CAD model are mm
- the virtual focus of this rayfile (5M rays) with respect to the above coordinate origin is:
  x = 0.023mm
  y = -0.095mm
  z = 0.698mm

3. Luminous intensity (units: cd, LED Luminous flux Φ=0.69W)

Detector Image: Radiant Intensity

GD CSSPM1.14 – Osram sample file
7/14/2016
Detector 4, NSCG Surface 1:
Size X: -90.000 to 90.000, Y: -90.000 to 90.000 deg, Pixels 101 W X 101 H, Total Hits = 4895458
Peak Intensity : 2.3402E-001 Watts/Steradian
Total Power   : 6.7557E-001 Watts

zemax model.zmx
Configuration 1 of 1

Radiant Intensity

GD CSSPM1.14 – Osram sample file
7/14/2016
Detector 4, NSCG Surface 1: Row Center, Y = 0.0000E+000
Size X: -90.000 to 90.000, Y: -90.000 to 90.000 deg, Pixels 101 W X 101 H, Total Hits = 4895458
Peak Intensity : 2.3402E-001 Watts/Steradian
Total Power   : 6.7557E-001 Watts

zemax model.zmx
Configuration 1 of 1

Radiant Intensity

GD CSSPM1.14 – Osram sample file
7/14/2016
Detector 4, NSCG Surface 1: Column Center, X = 0.0000E+000
Size X: -90.000 to 90.000, Y: -90.000 to 90.000 deg, Pixels 101 W X 101 H, Total Hits = 4895458
Peak Intensity : 2.3402E-001 Watts/Steradian
Total Power   : 6.7557E-001 Watts

zemax model.zmx
Configuration 1 of 1

4. **Near field illuminance** (units: lx, LED Luminous flux Φ=0.69W, z=2.1mm)


```
Detector Image: Incoherent Irradiance
GD CSSPM1.14 - Osram sample file
7/14/2016
Detector 3, NSCG Surface 1:
Size 10.000 W X 10.000 H Millimeters, Pixels 101 W X 101 H, Total Hits = 4786056
Peak Irradiance : 9.0177E+004 Watts/M^2
Total Power     : 6.6048E-001 Watts
                                                          zemax model.zmx
                                                       Configuration 1 of 1
```

5. Software Related Information

ASAP

The provided rayfiles for ASAP are in binary format. Flux is set to a default of 1; the user has to adapt the flux setting in the software. Wavelength is set to peak emission wavelength.
The typical radiometric spectrum in ASCII format *.txt is included in the package.
Units for wavelength are nm.

IES TM25

The provided rayfiles for IES TM25 contain the typical spectrum and the typical flux; the user has to adapt the flux setting in the software.
In addition the spectrum is included in the package as *.txt file in ASCII format. Units for wavelength are nm.

Lighttools

This rayfile package contains additionally the LED as a Lighttools library element.
This provides the following information:
- link to rayfile with 100k rays, the rayfile should be placed in the same folder as the Lighttools file
- CAD model
- rayfile and CAD model are grouped. In case the grouping is resolved, the correct positioning of rayfile vs. CAD model must be ensured
- typical spectrum of the LED

For importing the library element into an existing Lighttools project, please consider the following:
- File → Restore Library… → select path and file
- indicate scaling factor: "1"
- indicate position: e.g. "XYZ 0,0,0"
- indicate z axis direction: e.g. "XYZ 0,0,1"
- indicate y axis direction: e.g. "XYZ 0,1,0"

The typical radiometric spectrum in ASCII format *.sre is included in the package.
Units for wavelength are nm.

Lucidshape

The provided rayfiles for Lucidshape are in binary format. Flux is set to a default of 1; the user has to adapt the flux setting in the software.
The typical radiometric spectrum in ASCII format *.txt is included in the package.
Units for wavelength are nm.

Simulux

The provided rayfiles for Simulux are in binary format. The rayfiles contain as wavelength information the peak emission wavelength of the LED. Flux is set to a default of 1; the user has to adapt the flux setting in the software.
The typical radiometric spectrum in ASCII format *.txt is included in the package.
Units for wavelength are nm.

Speos/Optis

The provided rayfiles for Speos/Optis are in binary format. The rayfile contains the typical color spectrum and the typical Luminous flux. In addition the spectrum is included in the package as *.spectrum file in ASCII format.

TracePro, Photopia

The provided rayfiles for TracePro and Photopia are in binary format. The rayfiles contain as wavelength information the peak emission wavelength of the LED. Flux is set to a default of 1; the user has to adapt the flux setting in the software.
The typical radiometric spectrum in ASCII format *.txt is included in the package.
Units for wavelength are nm.

Zemax

The provided rayfiles for Zemax are in binary format. In addition a sample file is included in the package showing the recommended settings and placement of rayfiles and CAD model. The sample file contains the typical Luminous flux of the LED and the typical spectrum (see "sources" tab in the object properties dialog box). Additionally, the radiometric color spectrum is included as *.spc file in the package.

6. Provided files

file type	file name
rayfile	rayfile_GD_CSSPM1_14_[number of rays]_[YYYYMMDD]_[data format].[extension]
CAD geometry	GX_ CSSPM1 _[YYYYMMDD]_geometry.IGS GX_ CSSPM1 _[YYYYMMDD]_geometry.STEP GX_ CSSPM1 _[YYYYMMDD]_geometry.SLDPRT
library elements	GD_CSSPM1_14_[YYYYMMDD]_sample_[data format].[extension]
spectrum	GD_CSxPM1_14_[YYYYMMDD]_spectrum.[extension]
information (this file)	GD_CSSPM1_14_[YYYYMMDD]_info.pdf

7. Disclaimer and User Agreement

OSRAM assumes neither warranty, nor guarantee nor any other liability of any kind for the contents and correctness of the provided rayfile data. The rayfile data has been generated with highest diligence but the provided data may in reality not represent the complete possible variation range of all component parameters. Therefore, in certain cases a deviation between the real emission characteristic and the emission characteristic which is encoded in the provided rayfile data could occur.

OSRAM reserves the right to undertake technical changes of the component without further notification which could lead to changes in the provided rayfile data.

OSRAM assumes no liability of any kind for the loss of data or any other damage resulting from the usage of the provided rayfile data.

The user agrees to this disclaimer and user agreement with the download or usage of the provided files.

8. Revision History

Date	Type	code
2016.07.14	rayfiles generated	JL