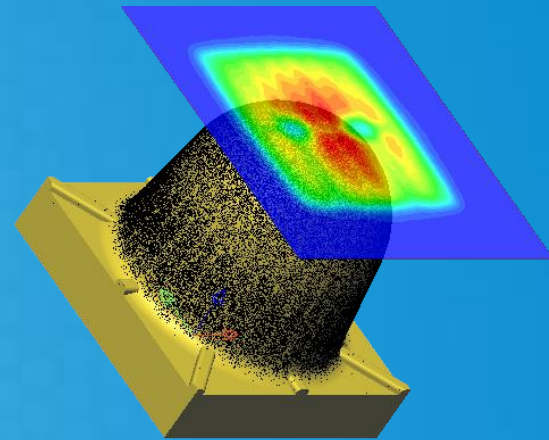


LUXEON IR Domed for Automotive 50D Optical Rayset Readme

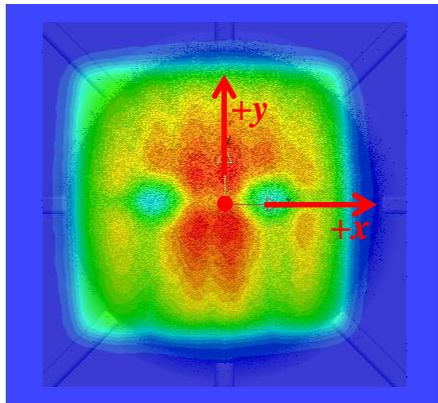
November 7th, 2019



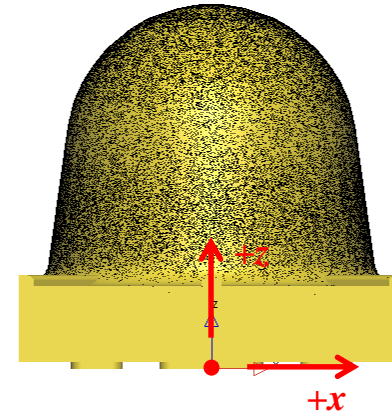
LUXEON IR Domed for Automotive 50D

Coordinate System

Top view



Side view



**CAD file and rayset files share the same coordinate system,
the origin is marked by the red dot in the sketches above:**

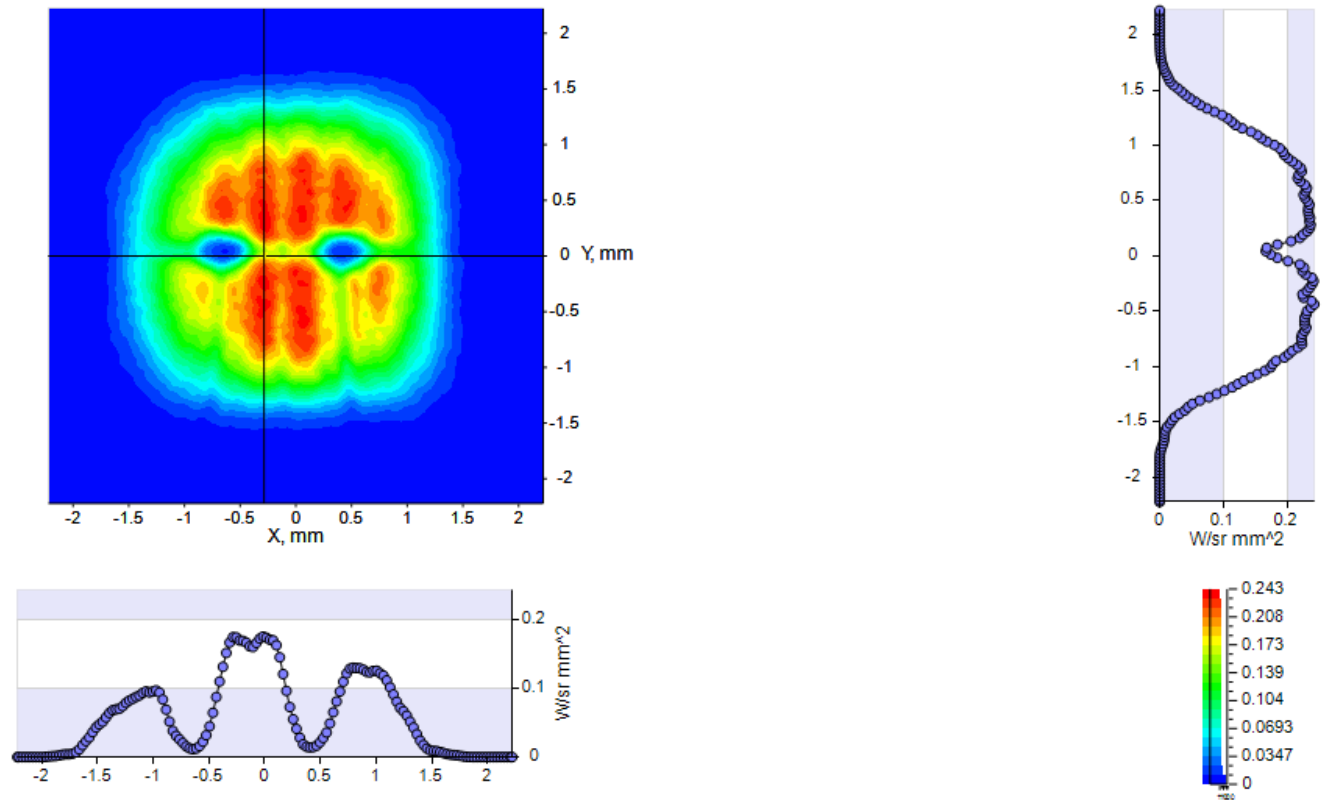
xy center == center of package

z=0 plane == bottom of package

LUXEON IR Domed for Automotive 50D

Virtual Image of Chip at Z=-1.46 mm

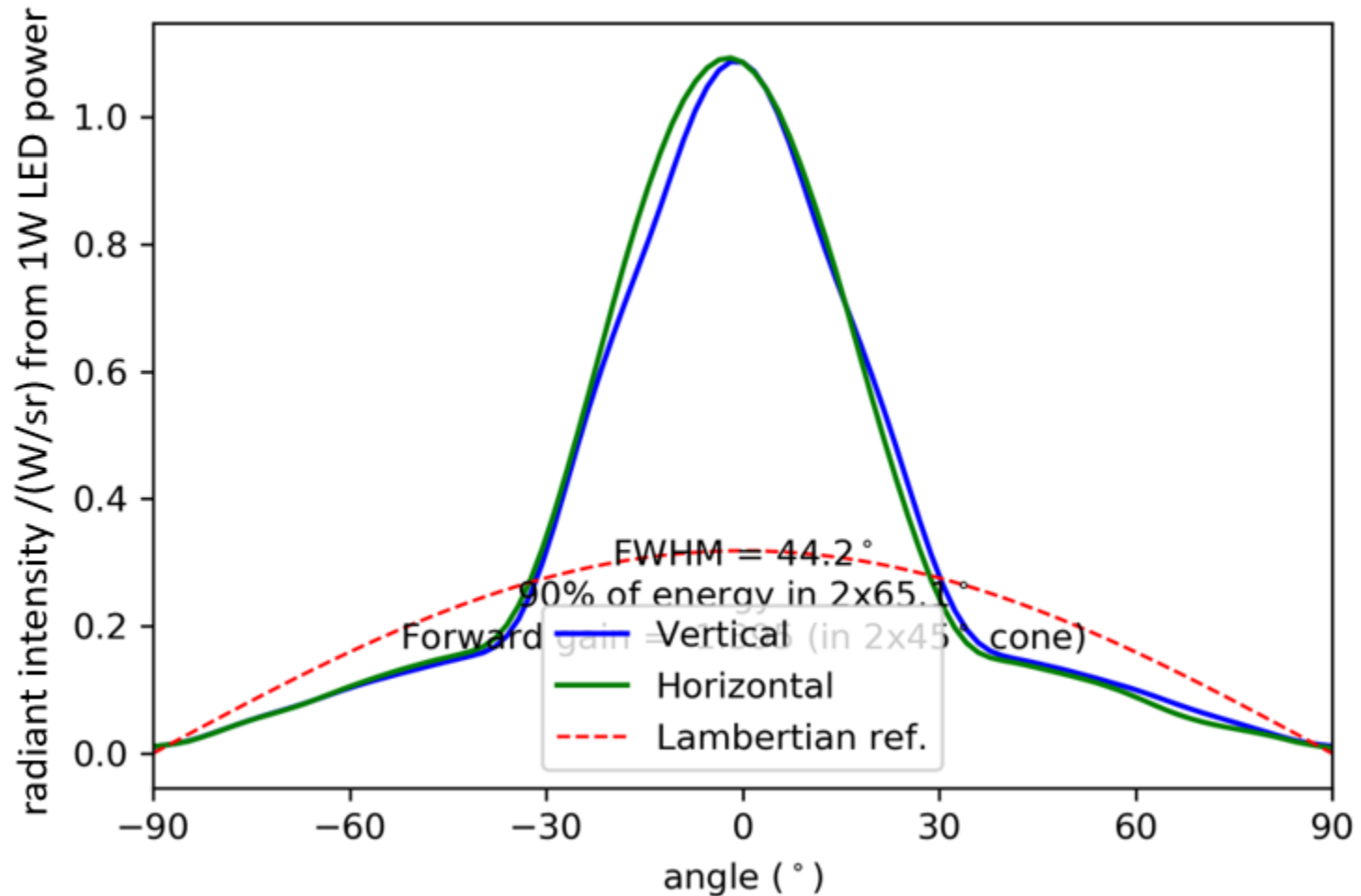
untitled.2 EXIT_REC Forward Simulation
Radiance, W/sr mm²



LUXEON IR Domed for Automotive 50D

Radiant Intensity Distribution

radiant intensity profiles from 1W LED power



Download File Nomenclature (see next slide)

Example

LUXEON_Altilon_SMD2_1x4_gen4plus_20190206_20Mray_proj_Z_spectral_LT.ray

Product Name

Reference Date

helps identifying underlying dataset

Number of rays

e.g. 20 M = $20 \cdot 10^6$ rays

Ray starting points

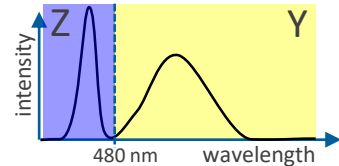
'proj' indicates that ray starting points have been **projected** onto the CAD surface (---).

Spectral range

$\begin{Bmatrix} Y \\ Z \\ - \end{Bmatrix} = \begin{Bmatrix} \text{only yellow} \\ \text{only blue} \\ \text{full} \end{Bmatrix}$ spectrum taken into account

Spectral Information

$\begin{Bmatrix} \text{spectral} \\ - \end{Bmatrix} = \text{individual rays } \begin{Bmatrix} \text{do} \\ \text{don't} \end{Bmatrix} \text{ carry wavelength information}$



Target Software Package

LightTools (LT), ASAP, Zemax, ...

File Extension

Additional Application Notes

Randomization

In some cases, reducing the number of rays in a rayset might be desirable. In order to facilitate the generation of reduced raysets, **all raysets mentioned in this readme file are randomized**. Hence, a rayset having 5 million rays (5M) can simply be generated by taking the first 5M rays from 20M rayset.

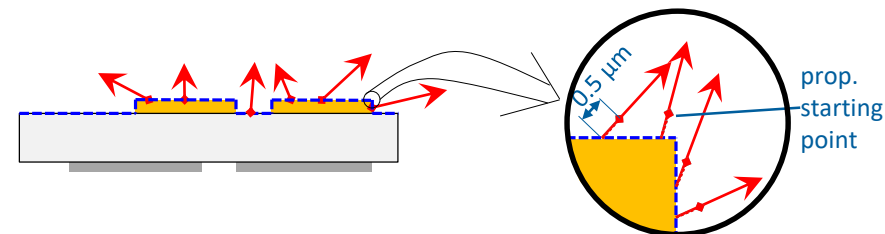
Projected Raysets: Propagated ray starting points

For projected raysets, the following procedure is applied for obtaining the starting points:

- (1) Project rays on CAD surface (---) → ray starting points
- (2) Propagate rays by 0.5 μm → propagated starting points (•)

All raysets mentioned in this readme file provide propagated starting points.

If raytracing includes the LED CAD, unpropagated rays are prone to be blocked at the surface. Rays with propagated starting points should not suffer from this problem.



LUXEON IR Domed For Automotive 50D

Link to download folder

<https://raysets.lumileds.com/index.php/s/PTf84xs8Wexyo3p>

Files available for download

Prosource

RS8	LUXEON_IR_Domed_Automotive_50D_20191107_1176.rs8	37.2 MB	
-----	--	---------	--

LightTools

Projected	LUXEON_IR_Domed_Automotive_50D_20191107_20MRays_proj_LT.ray	534 MB	20MRays
Spectral projected	LUXEON_IR_Domed_Automotive_50D_20191107_20MRays_proj_spectral_LT.ray	610 MB	20MRays

ASAP & LucidShape

Projected	LUXEON_IR_Domed_Automotive_50D_20191107_20MRays_proj_ASAP.dis	534 MB	20MRays
-----------	---	--------	-------------------------

OPTIS SPEOS

Spectral projected	LUXEON_IR_Domed_Automotive_50D_20191107_20MRays_proj_spectral_Speos.ray	610 MB	20MRays
--------------------	---	--------	-------------------------

Zemax

Projected	LUXEON_IR_Domed_Automotive_50D_20191107_20MRays_proj_zemax.dat	534 MB	20MRays
-----------	--	--------	-------------------------

Far Field

IES	LUXEON_IR_Domed_Automotive_50D_20191107_20MRays.ies	10.1 kB	
-----	---	---------	--

Spectrum

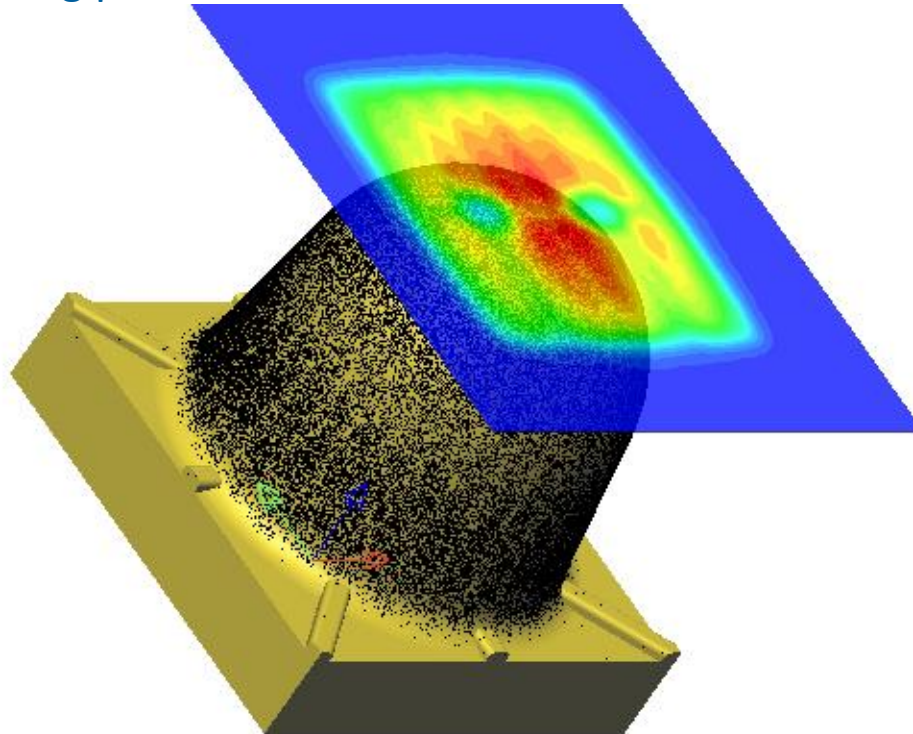
Spectrum	Spectrum_IRAuto_940_25DC_1A.txt	17.4 kB	
----------	---------------------------------	---------	--

CAD

STEP	LUXEON_IR_Domed_Automotive_50D_20191107_Dummy_for_Raysets.stp	467 kB	
IGES	LUXEON_IR_Domed_Automotive_50D_20191107_Dummy_for_Raysets.IGS	376 kB	

LUXEON IR Domed for Automotive 50D

3D CAD view + ray starting points



Lumileds ref.: SJ001176_LUXEON IR Domed For Automotive 50D_20191107



Neither Lumileds Holding B.V. nor its affiliates shall be liable for any kind of loss of data or any other damages, direct, indirect or consequential, resulting from the use of the provided information and data. Although Lumileds Holding B.V. and/or its affiliates have attempted to provide the most accurate information and data, the materials and services information and data are provided “as is,” and neither Lumileds Holding B.V. nor its affiliates warrants or guarantees the contents and correctness of the provided information and data. Lumileds Holding B.V. and its affiliates reserve the right to make changes without notice. You as user agree to this disclaimer and user agreement with the use of the provided materials, information and data. A listing of Lumileds product/patent coverage may be accessed at lumileds.com/patents.