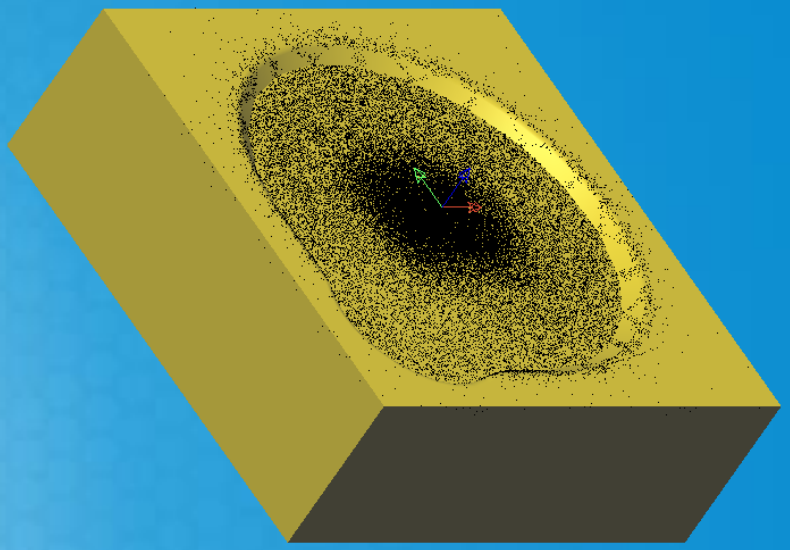
LUXEON Versat 2020 140 Amber Bin0/Amber Bin1 Optical Rayset Readme

October 7th, 2019



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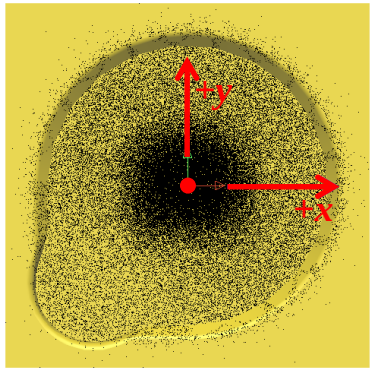
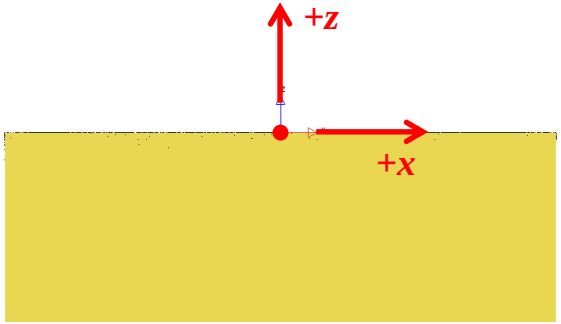
Coordinate system

Top view



Side view



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

xy center == center of light emitting area

z=0 plane == top edge of light emitting area

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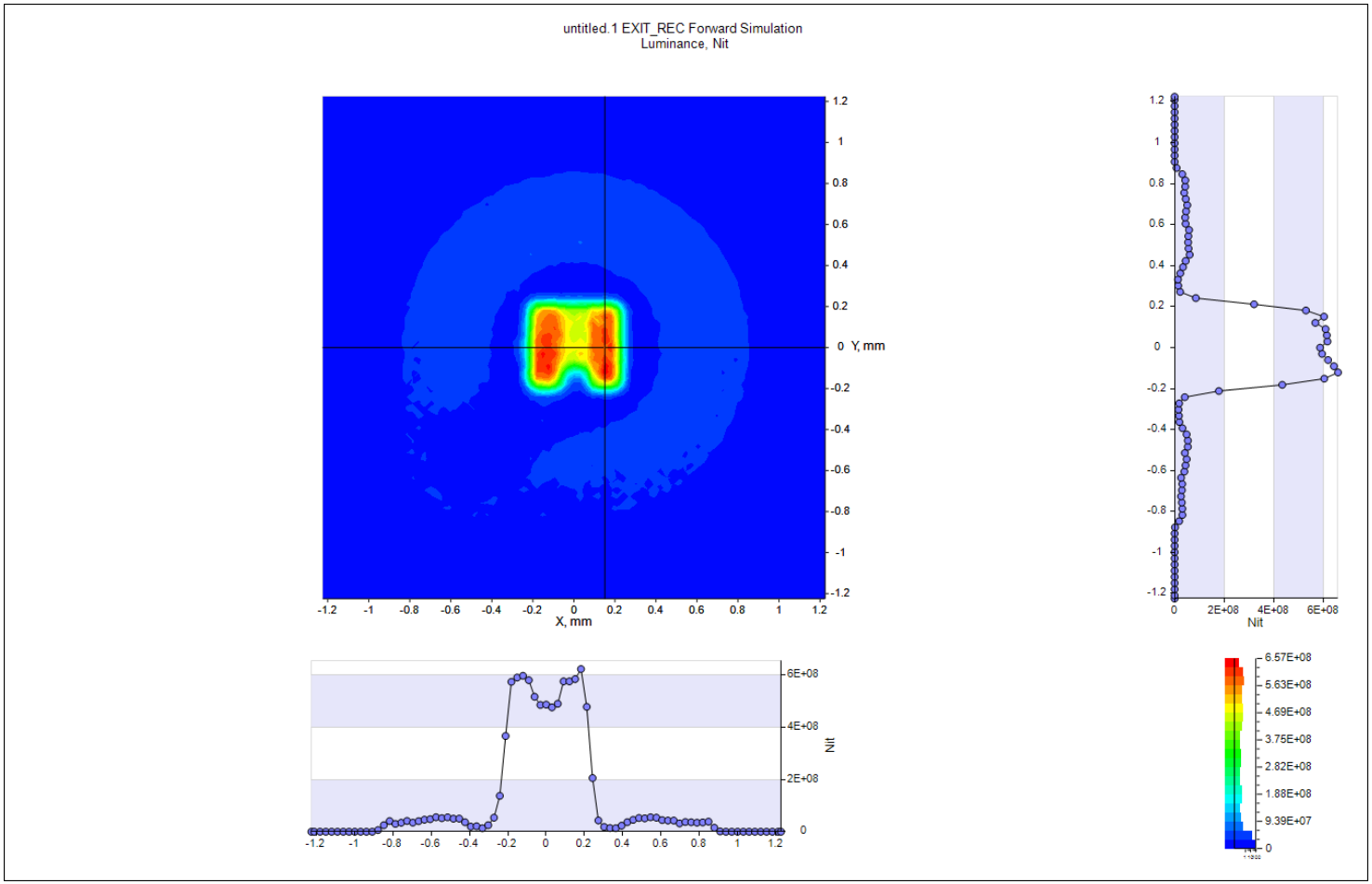
Source size



The two orthogonal lines in the luminance image mark the reference planes of the two luminance cross sections.

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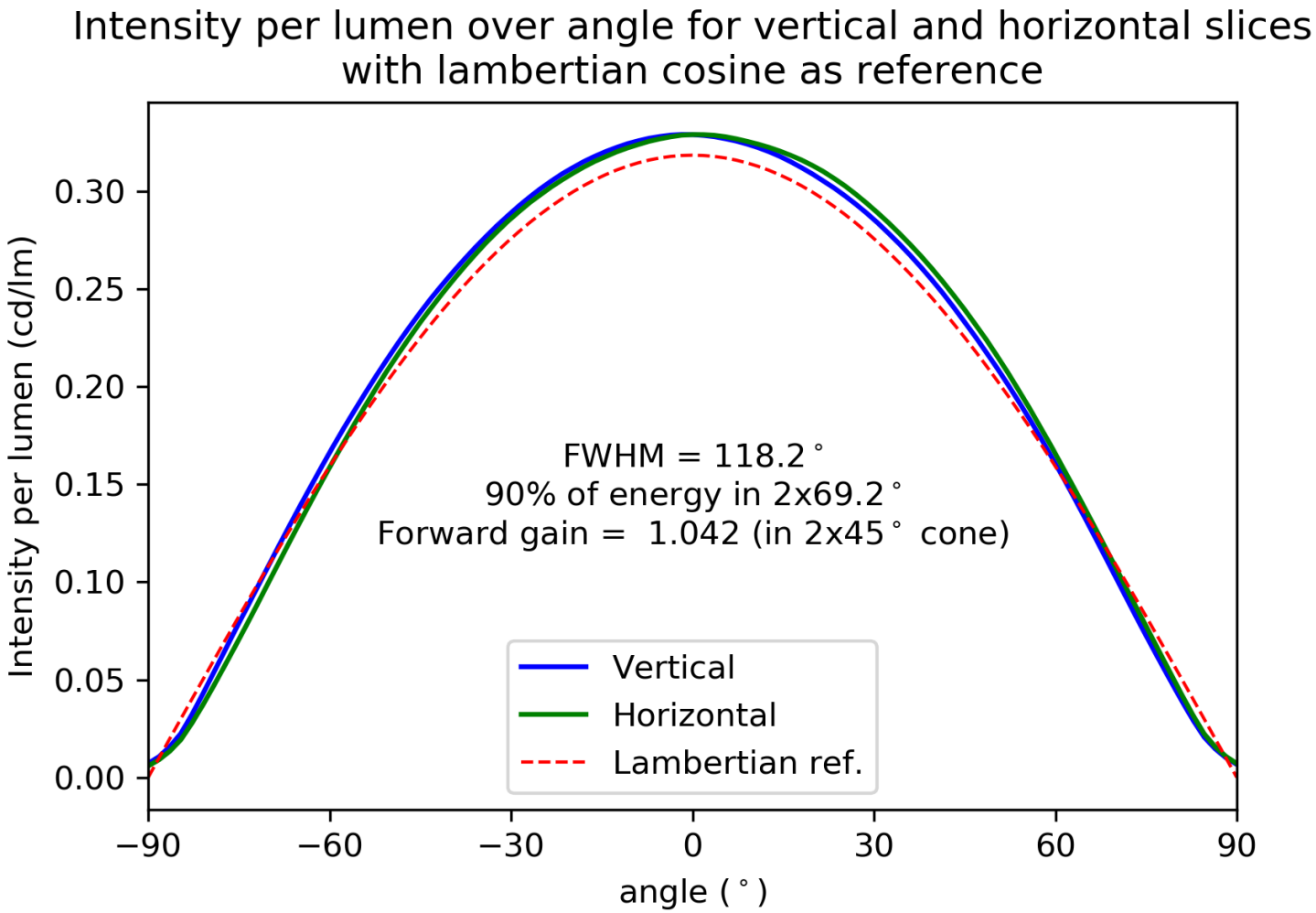
Luminous intensity distribution



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Download File Nomenclature (see next slide)

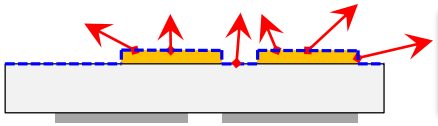
Example

LUXEON_Altilon_SMD2_1x4_gen4plus_20190206_20Mray_proj_Z_spectral_LT.ray

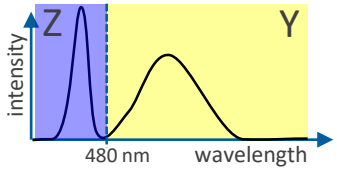
Product Name

Reference Date
helps identifying underlying dataset

Number of rays
e.g. 20 M = 20 · 10^6 rays



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



Spectral range

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

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

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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

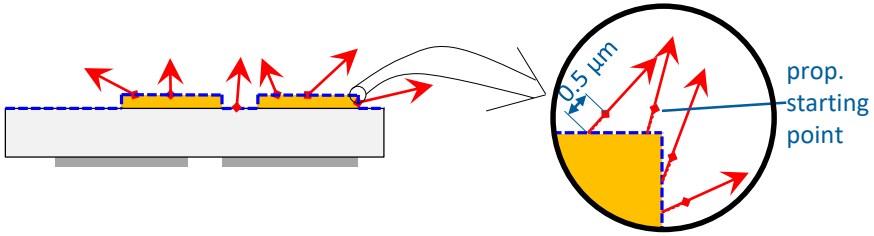
For projected raysets, the following procedure is applied for obtaining the starting points:

(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.



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LUXEON Versat 2020 140 Amber Bin 0

Link to download folder

https://raysets.lumileds.com/index.php/s/nofY7cDmY3L3iox

Files available for download

Prosource

	LUXEON_Versat_2020_140_Amber_20191007_1179.rs8	56.9 MB	

LightTools

Projected rayset:	LUXEON_Versat_2020_140_Amber_bin0_20191007_20MRays_proj_LT.ray	534 MB	20MRays
Spectral projected rayset:	LUXEON_Versat_2020_140_Amber_bin0_20191007_20MRays_proj_spectral_LT.ray	610 MB	20MRays

ASAP/LucidShape

Projected rayset:	LUXEON_Versat_2020_140_Amber_bin0_20191007_20MRays_proj_ASAP.dis	534 MB	20MRays

OPTIS SPEOS

Spectral projected rayset:	LUXEON_Versat_2020_140_Amber_bin0_20191007_20MRays_proj_spectral_Speos.ray	610 MB	20MRays

Zemax

Projected rayset:	LUXEON_Versat_2020_140_Amber_bin0_20191007_20MRays_proj_zemax.dat	534 MB	20MRays

Spectrum

	LUXEON_Versat_2020_140_Amber_bin0_20191007_spectrum.txt	17.4 kB	

CAD

STEP:	LUXEON_Versat_2020_140_Amber_20191007_geometry.STEP	228 kB	
IGES:	LUXEON_Versat_2020_140_Amber_20191007_geometry.IGS	363 kB	

Far Field

ies:	LUXEON_Versat_2020_140_Amber_bin0_20191007_20MRays.ies	10.8 kB	

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LUXEON Versat 2020 140 Amber Bin 1

Link to download folder

https://raysets.lumileds.com/index.php/s/6tFQiZ6qFt9Qzm9

Files available for download

Prosource

	LUXEON_Versat_2020_140_Amber_20191007_1179.rs8	56.9 MB	

LightTools

Projected rayset:	LUXEON_Versat_2020_140_Amber_bin1_20191007_20MRays_proj_LT.ray	534 MB	20MRays
Spectral projected rayset:	LUXEON_Versat_2020_140_Amber_bin1_20191007_20MRays_proj_spectral_LT.ray	610 MB	20MRays

ASAP/LucidShape

Projected rayset:	LUXEON_Versat_2020_140_Amber_bin1_20191007_20MRays_proj_ASAP.dis	534 MB	20MRays

OPTIS SPEOS

Spectral projected rayset:	LUXEON_Versat_2020_140_Amber_bin1_20191007_20MRays_proj_spectral_Speos.ray	610 MB	20MRays

Zemax

Projected rayset:	LUXEON_Versat_2020_140_Amber_bin1_20191007_20MRays_proj_zemax.dat	534 MB	20MRays

Spectrum

	LUXEON_Versat_2020_140_Amber_bin1_20191007_spectrum.txt	9.72 kB	

CAD

STEP:	LUXEON_Versat_2020_140_Amber_20191007_geometry.STEP	228 kB	
IGES:	LUXEON_Versat_2020_140_Amber_20191007_geometry.IGS	363 kB	

Far Field

ies:	LUXEON_Versat_2020_140_Amber_bin1_20191007_20MRays.ies	10.8 kB	

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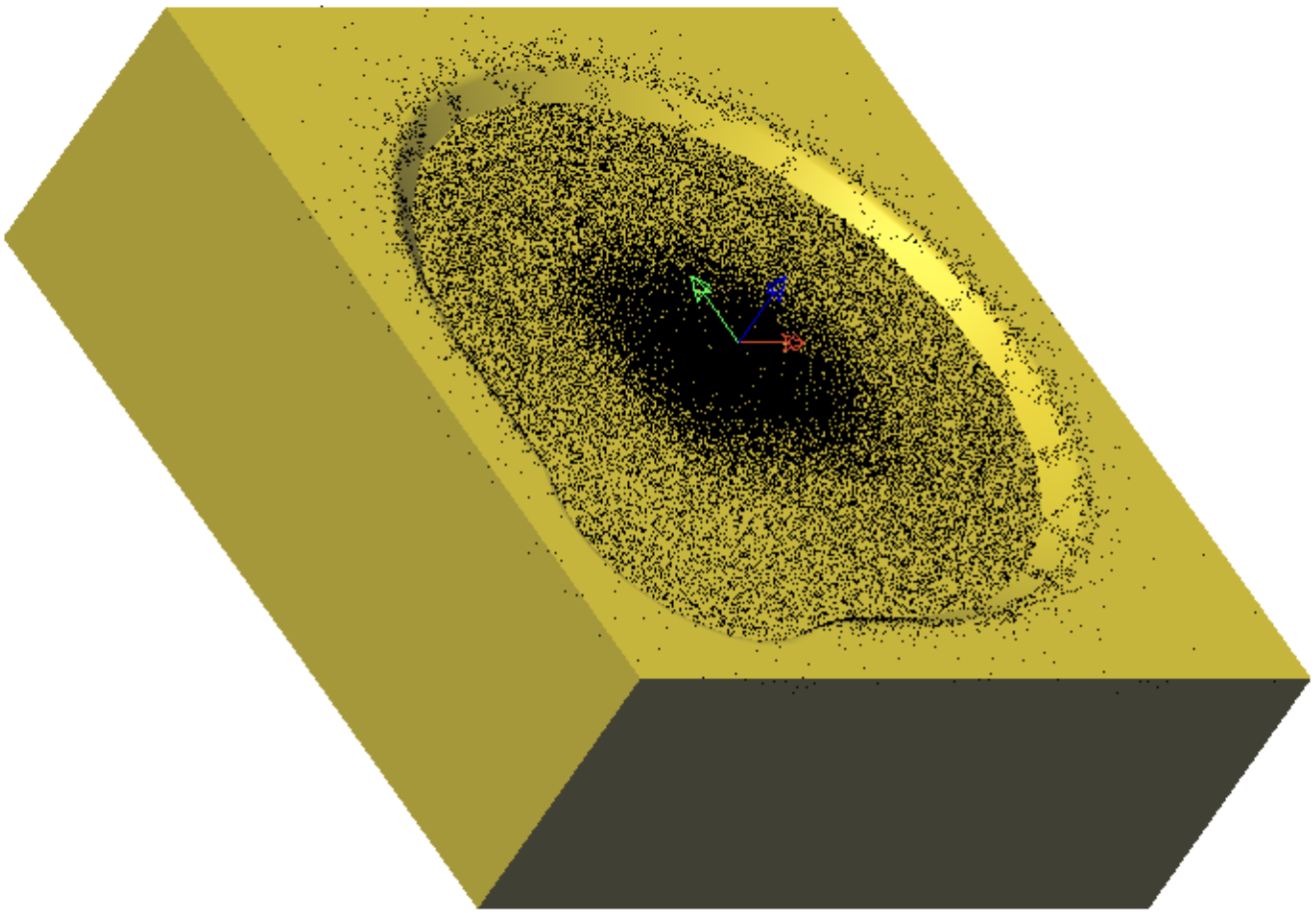
LUXEON Versat 2020 140 Amber Bin0/Amber Bin1

3D CAD view + ray starting points



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Lumileds ref.: 1179_LUXEON Versat 2020 140 Amber Bin0/Amber Bin1_20191007

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