

TracePro Revision History

TracePro 2018 Release (Version 18.2)

- New: Add functionality to update models from RayViz – 5427, 6254
- New: File Sources now contribute to Photo Realistic Rendering – 6381
- Update: Fix error message (Error loading string resource ID = 7922) when attempting to register the TracePro COM interface when not running as administrator.
- Update: Update geometry:block and edit:move to work properly with (view:set-update-system-tree #f)
- Update: Fix the language name displayed in the message box when changing languages
- Update: Fix exception entering data into Surface Source dialog – 7391
- Update: Document how to set the number of increments on the x → INF band – 7389
- Update: Several corrections to Help
- Update: Fix several issues with undo/redo
- Update: Fix internal query function that could lead to a crash due to its use on an improper state of geometric modeler
- Update: Fix crash attempting to select surface after a Boolean Subtract on supplied model – 7397
- Update: Do not reset model units using the units of the sat/oml file when the file is not in mm – 7287
- Update: Fix crash in Korean raytrace due to ill formatted warning message
- Update: Class and User Data can now be applied to surfaces – 7351
- Update: Changes to menu selections on Macros menu:
 - ‘Execute’ was changed to... ‘Load...’
 - ‘Output’ was changed to... ‘Messages/Macros’
- Update: Updates and enhancements to the Help system – 7153, 7383
- Update: Macro documentation updates and fixes – 7394

TracePro Utilities Revisions...

IES/LDT Analysis:

- Update: Fix the issue that labels for the polar and azimuth angles always face the viewer – 7245

Texture Optimizer II:

- New: Add new option in Option dialog for user to specify the temp folder to resolve the issue that when user name contains special character, the optimization process will fail – 7384
- Update: User Interface improvements – 7309, 7310, 7311
- Update: Fix the issue that if the asphere radius is less than 1e-3, fitting the asphere coefficient causes exception
- Update: Fix the issue when exporting dots as real object to TracePro model – 7322

3D Interactive Optimizer:

- New: Add new segment type – Custom Fresnel
- New: Add new option in Option dialog for user to specify the temp folder to resolve the issue that when user name contains special character, the optimization process will fail –7359
- Update: Fix the error when loading a saved io2 file – 7410
- Update: Fix the issue of an object having two extra surfaces that should not exist – 7349
- Update: Fix typos in Help – 7267

Analysis Toolkit:

- New: Irradiance/Illuminance Map – Add option for units in W/m² – 7375

Lighting Toolkit:

- New: Add capability of defining a spec with Max, Min, Average value in Regulation editor – 7390

TracePro 2018 Release (Version 18.1)

- New: Add COM support to TracePro – 7129
- Update: Fix issues with RepTile coincident faces – 2459, 6180, 6276, 6986
- Update: Improvements to RepTile ray trace performance
- Update: Do not allow SolveFor BRDF nor Solve For BTDF for surface properties with Table BSDFs
- Update: Properly convert pixel dimensions to mm when applying RepTile properties – 7140
- Update: Fix incorrect integrated BSDF value of the Table BSDF input – 7368
- Update: Set all negative values of BSDF to zero when retrieving from the database cache – 7356
- Update: Fix ray trace issue involved with the 3D Optimizer
- Update: Fix memory issue in Photorealistic rendering – 7357
- Update: Fix ray display error – rays traced to infinity on PCs with Intel HD Graphics Chips – 7032
- Update: Fix issue with rays terminated by RepTile Error messages – 6276
- Update: Update to ACIS 2018 (file version 28)
 - Fixes to CAD Geometry – 3655, 6662, 6706, 6817
 - Fixes to Display Issues – 5661, 5668, 5923, 6301, 6420, 6839, 7062, 7090, 7158, 6295, 7050
 - Fixes to STEP Translator – 6160, 6212, 7162, 7114
 - Fixes to Inventor Translator – 6916

TracePro Utilities Revisions...

Fluorescence Property Generator:

- New: Add new option of straight line to fit the excitation spectrum curve
- Update: Fix the wrong flag of user data in the exported fluorescence property file

3D Interactive Optimizer:

- New: Add the capability of Irradiance/Illuminance map to do radiance/luminance analysis if the input data is Candela, IES, LDT, text file source or incident ray table
- Update: Fix the issue that an exception occurs when deleting an existing Path
- Update: Fix the issue that when using TypeA and TypeB surfaces to form a lens, an exception occurs
- Update: Fix the issue that when creating Advanced Sweep Object, if the involved circular profile has offset, an exception occurs
- Update: Fix the issue that the peak location for Periodic segment cannot be a function
- Update: Fix the exception error when deleting a XY-polynomial surface
- Update: Fix issue with Send To TracePro not retaining the Surface Property – 7350

Analysis Toolkit:

- Update: Fix the wrong spec. in ECE No.6
- Update: Change the name and the unit of irradiance map to Illuminance map and lux – 7374
- Update: Fix unhandled exception when attempting to view Spectrum Analysis – 7358
- Update: Fix erroneous message regarding wavelengths – 7362

Surface Property Generator:

- New: Add new feature of showing simulated specular signal
- Update: Fix unhandled exception when attempting to save *.txt file – 7361

TracePro 7.8.4 Release

- Update: Only set the position of the main window on program startup to a valid window position. Certain invalid data could lead to an out-of-memory condition in the graphical display.
- Update: Fix Geometry|Insert Part when importing .stp files into an existing model – 7353
- Update: Properly refresh dialog data when the Grid Source dialog is displayed – this is a regression in 7.8.3 – 7352
- Update: Fix display issue on sphere representing the location of file sources after a coordinate transformation – this is a regression in 7.8.3

TracePro 7.8.3 Release

- Update: Fix ray generation for checkerboard grid sources with annular boundaries – 7344
- Update: Improve efficiency in ray generation for file sources
- Update: Fix exception when view was changed when the measure dialog was displayed – 7335
- Update: Fix issue with Photorealistic Rendering in models with bulk scatter – 7249, 7324
- Update: Fix crash if a Scheme command throws an exception during DDE execution of Scheme – this is a regression in 7.8.2 – 7328
- Update: Only refresh visible dialogs
- Update: Add a check for min and max values in the Photorealistic Rendering Options Dialog – 7262
- Update: Properly update the selecting and deselecting of Grid and File Source in the source tree – 7323
- Update: (edit:move...) will always return the bodies that were moved
- Update: Fix access violation in (view:perspective?), (view:eye), etc. -- this is a regression in 7.8.2

TracePro Utilities Revisions...

Texture Optimizer II:

- Update: Save the control points of Density path dialog to saved file – 7332

3D Interactive Optimizer:

- New: Add the capability of reading file saved by 2D Interactive Optimizer
- New: Add new operand – “Scheme” for doing custom task after each iteration, such as saving Incident ray table – 7253
- New: Add new feature of slider wheels – 6856
- Update: Fix the issue that when revolving a profile, the resulting object will have additional surfaces – 7345
- Update: Fix the issue when loading the saved file, the name of target surface is missing – 7296
- Update: Fix the issue that TIR lens cannot successfully generated in TracePro – 7291
- Update: Changed how variable displays and behaves in optimization window – 7295
- Update: Fix the issue that system shows error message when loading a saved biconic surface file – 7341

Analysis Toolkit:

- Update: Correct the wrong calculation for ISOCandela plot’s type A & B

Lighting Toolkit:

- New: Add capability of scaling the flux of the imported data
- Update: Correct the unit used to check ECE No6 regulation from lux to cd

TracePro 7.8.2 Release

- New: Add capability of saving luminance data from Photo Realistic render result
- New: Add command (view:get-view-mode) to retrieve the current view mode
- New: Add the following commands to retrieve Candela distribution option values:
 - (analysis:get-candela-distribution-cdklum)
 - (analysis:get-candela-distribution-smooth)
 - (analysis:get-candela-distribution-smooth-factor)
 - (analysis:get-candela-distribution-horizontal-angles)
 - (analysis:get-candela-symmetry)
- New: Add command (analysis:get-irradiance-symmetry) to retrieve the symmetry condition for the irradiance maps
- New: Add capability of model view as jpg and png formats
- New: Add capability of saving analysis plots as jpg and png formats
- New: Add capability of saving Photorealistic Rendering images as jpg and png formats

New: Add capability to normalize True Color options on an Irradiance/Illuminance Map

New: A new Utility, the Surface Property Generator, has been added

Update: Aspheric sag terms imported in Zemax translator – 7286

Update: Fix issue in (analysis:ray-sorting) of an empty flux view when specifying the sorting wavelength of 0

Update: Fix documentation of smoothing range for Candela Distributions in Candela Options – 7278

Update: Resolve inconsistency between Insert Lens dialog and documentation regarding “center” vs. “vertex” – 1797

Update: Fix incorrect flux on fluorescence rays with bulk scatter – 7303

Update: Write out ray counts as an integer for (raytrace:get-wavelengths ...)

Update: General improvements to exception handling

Update: Properly refresh the analysis data on initial display of the Rectangular and Polar Candela Distribution Plots – 7300

Update: Save the View|Option of view rotation when using the arrow keys as a floating point number – 7298

Update: Fix luminance calculation in photorealistic rendering with Gegenbauer bulk scatter – (part of 7262)

Update: Fix failure to recognize overlapping bodies during ray trace

Update: Update controls properly in Irradiance Map Viewer Options Dialog

Update: Fix translation of Gradient Index and Material Property data in Zemax Translator – 7276

Update: Fix to drawing RepTile geometry for enhanced prisms – 7248

Update: Fix internally found issue that could lead to memory corruption in rare cases involving volume flux calculations and changes to the voxelization

Update: Fix Scheme commands (solid:elliptical-tube ...), (solid:rectangular-tube ...), (solid:tapered-tube ...), and (solid:baffle-vane ...) and improve error handling in these commands

Update: Fix erroneous luminance values for Photorealistic Rendering with Calculated Wavelengths – 7266

Update: Fix exception caught when displaying an irradiance map when CHT or CHS languages are used

Update: Fix the issue of erroneous luminance value when a surface source is defined by Calculated Wavelengths with a scale factor other than unity – 7247

Update: General improvements to macro recording

Update: Fix macro recording bug for creation of rim-ray-reflector

Update: Fix macro recording bug for modification of elliptical 3D-compound-reflector

Update: Modify hip roof texture geometry display to now include the bottom profile

Update: Fix issue in the reading of the irradiance value for an irradiance surface source from an oml file written from RayViz – 7244

Update: Update graphic on Polarization tab of Grid Source dialog box – explicitly state propagation direction of beam

Update: Photorealistic rendering now works with bulk scatter in model – 6745

Update: Improvements to license updating

Update: Fix check for proper file on server when using Help|Update Property Database -- 7229

Update: Fix RepTile display for ring tiles and enhanced prism geometry – 7209

Update: Fixes to macro commands (raytrace:set-grid-irradiance...), (raytrace:set-grid-total-flux ...), and (raytrace:set-grid-flux-per-ray ...) – 7199

Update: Fix to Photorealistic Rendering in model with RepTile – rendering did not agree with Radiance Map from same Eye Position – 7221

Update: Fix crash on submitted model when attempting Photorealistic Rendering in model with RepTile/Texture file with surface property on RepTile geometry – 7216

Update: Help updated for enhanced face selection

Update: Only permit the proper scatter models in the Surface Property Editor for each edition of TracePro – 7212

Update: Combine multiple messages into one for importance sampling and birefringent materials when traced in LC

TracePro Utilities Revisions...

BSDF Converter:

New: Add capability of importing Luminit's proprietary file format – 7273

IES/LDT Analysis:

Update: Change the label text from "Angle of LUX in 50%" to "Full Width XX% Maximum" – 7275

Update: Fix the issue of saving LDT file and its error message erroneously refers to IES file not LDT file – 7285

Surface Source Property Generator:

Update: Fix the issue that when attempt to load TracePro property results in DDE connection error with LC edition – 7240

Texture Optimizer II:

New: Add new FOV coefficient in the Photo Realistic Render target dialog

New: Add new supportive optimization target – Photo Realistic Rendering – 7172

New: Open the accessibility of Boundary editor

New: Add new capability of optimizing inverted dot pattern

New: Add new capability of creating partitions – Import from file

Update: Fix the issue that cannot fill-in dots as cell density when the current dot is Pyramid

Update: Fix the issue that optimization is not working when dot is Polygon or Pyramid

Update: Fix the issue that cannot export Pyramid feature to TracePro

2D Interactive Optimizer:

Update: Fix the error when opening a .sod file with Windows language set to Turkish – 7306

3D Interactive Optimizer:

New: Add Save/Load capability in Tolerance analysis window

New: Add capability of pasting bitmap on all types of surface

New: Add new dialog to setup view manually

New: Add new measure tool in surface editor

New: Add new Tolerancing feature

New: Add option of saving result bitmap's format, bmp, jpg and png are selectable – 7297

New: Add four new path types: Helix path, Free helix path, Square spiral path and Free square spiral path

New: Add capability of multiple source configurations

New: Add capability of picking up value from segment properties – 7227

New: Add new parameter – Rounding radius to the Fresnelized segment to create the rounded corners

New: Add new parameter – Rounding radius to the Periodic segment to create the rounded corners

Update: Fix the issue when edit location of Segment point, the segment does not update to meet the new location of the Segment Point when language is set to Turkish – 7317

Update: Fix the error when loading io2 file with an obsolete conic base line – 7316

Update: Changed the default target of the irradiance profile operand is uniform

Update: Add new button in the Irradiance map option dialog to retrieve the current setting from TracePro

Update: Fix the issue of duplicate variable shown in the optimization dialog

Update: Fix the issue of wrongly interpreting number if Windows Language is set to Spanish (Spain), Decimal Symbol to “,” and Digit Grouping Symbol to “.” – 7304

Update: Fix the issue that the surface name is not changeable when selecting uniformity operand

Update: Fix the issue that the right bound point in the function plot cannot be moved when it was picked up by the left bound point

Update: Fix the issue that the step value is not loaded correctly from file for setting with the user-defined variable and function point

Update: Fix the issue that pick-up of function will be lost when reloaded from file

Update: Fix the issue that pickup won't be updated when optimizing

Update: Fix the bug that using circular or tri-circular as periodic feature causes profile miscalculation

Update: Fix the issue that wrong scheme command sent to TracePro if the surface/object name has “/” in it – 7228

Update: Fix the issue that loading saved io2 file, the function points are not setup correctly – 7224

Update: Fix the issue that always launch Expert edition of TracePro if there is no TracePro existing – 7222

Solar Emulator:

Update: Fix the issue that the Uni-axial Sun tracking parameter parameters are not read when .seu file is loaded – 7277

Analysis Toolkit:

Update: Change the label text from “Angle of LUx in 50%” to “Half Width XX% Maximum” – 7275

Surface Property Generator:

New: Add capability of importing Luminit’s proprietary file format – 7273

Update: Fix the scientific representation of -90.0 degrees in BSDF profile display.

Update: Add a message dialog indication the BSDF integral are calculating when opening the export BSDF dialog

Lighting Toolkit:

New: Add new regulation ECE R87 Daytime Running Lamp

Update: Fix the wrong setting for ECE No.6 and No.50 regulations

Update: Add regulation editor description to help – 7272

TracePro 7.8.1 Release

New: Add an application-wide random number generator accessible through Scheme:
(tracepro:get-random-number)

New: The Face Selector Tool has been enhanced. Previously, the face selector tool selected all faces that had any portion of their bounding box inside the selection region. Now, this tool can also be used to select only the faces whose entire bounding box is inside the selection region. There are two ways the user can implement this. 1.) By creating the selection region in a right-to-left manner. OR 2.) By holding the shift key while creating the selection region.

New: Add new RepTile geometry shape – Pyramid. Allow control of number of faces and angles on pyramid geometry – 6939

New: Enhance (geometry:part) to accept all formats that TracePro can open

Update: Fix crash in property editors when deleting some data

Update: Fix multi-byte conversion issues in the path for CAD file export

Update: Fix temperature interpolation issues on surfaces that contained temperature distributions whose boundary was smaller than the surface boundary

Update: Data directory can now be nulled out with an empty string

Update: Properly truncate ray distribution to match Grid Boundary in a Grid Source with Spatial Gaussian Distribution – uniform flux / weighted position – 7191

Update: Fix uninitialized temperature issue with temperature distributions on surfaces

Update: Restore code to calculate local bounding box for a Coating DLL

Update: Fix raytracing of anisotropic grating where only the azimuth = 0 data was used – 7196

Update: Update macro reference description of (property:apply surface ...)

Update: Fix localZ calculation for irregular cylinders

Update: Allow the application of cylindrical Temperature distributions to irregularly bounded surface sources

Update: Disable origin entry when circular and cylindrical faces match the surface boundaries for Temperature Distribution properties

Update: Fix Help for surface property import/export format

Update: Improve documentation for coincident surfaces – 7164

Update: Disable importing of Zernike polynomials which led to a crash – 7102

Update: Fix Anisotropic surface property with ABg BSDF – the azimuthal variation of the BSDF was ignored – 7079

Update: The macro command (property:remove-importance-targets) now also removes body targets as well as face targets – 7184

Update: Fix in 1D Table BSDF and Asymmetric Table BSDF when used for BTDF beyond the critical angle

Update: Fix for hanging bug with 1D Table BSDF found internally

Update: Change wording in message to handle all types of Surface Properties that cannot be plotted in the Surface Property Viewer – 7155

Update: Fix file format issue of exported LDT files when using different symmetry options in Candela Plots – 7130

Update: Fix bug in Path Sort filtering

Update: Fix internally found bug importing lenses with central obscurations from OSLO

Update: Fix unclear error message when ray tracing with grating with zero grating spacing – 7111

Update: Resolve issue in Check For Updates for Early Access releases

Update: Fix to TIR calculation on a medium with large extinction coefficient – 7132

Update: Update macro reference documentation for example listed for (face:spline) – 3459

Update: Fix typo on syntax line for (entity:selected?) – 7096

Update: Properly update model tree after Boolean Unite operation – 7094

TracePro Utilities Revisions...

BSDF Converter:

Update: Fix the issue that when attempt to export property results in “Action Forbidden! Negative Solved Absorptance!” message – 7160

IES/LDT Analysis:

Update: Fix the issue that when using ultra high resolution display, the UI layout is wrong

Update: Fix the issue of importing LDT file with symmetry option 3: C90-C270 - 7130

Update: Fix the issue that sending Candela result to the IES/LDT tool will result in the error – “Incorrect file format” – 7165

Surface Source Property Generator:

New: Add header and version info in the saved file

New: Add capability of editing spectrum in log scale

Update: Fix the issue that when using ultra high resolution display, the UI layout is wrong

Texture Optimizer II:

New: Add new supported reptile geometry - Pyramid

New: Add new dot pattern – 1D grid

New: Add new boundary operation – Reflection

Update: Remove the option of loading boundary from file which is not completely support

Update: Fix the issue that when 3 continuous worse result occurs, the optimization won't stop

Update: Fix the issue that when loading void bitmap, press Accept button will crash program – 7185

Update: Fix the issue that when minimizing the Dot generator window or Optimization window, the utility crashes

Update: Fix the issue that when deleting or clearing source in the density map editor, the deleted source is still showing

Update: Fix the issue that when finishing density map editor, the main window is behind

Update: Fix the issue that generating dot as density map is not working

3D Interactive Optimizer:

New: Add new features of setting segment length and y-angle

New: Add capability of pasting bitmap in the Candela and Irradiance target editors

New: Add capability of pasting bitmap from a copied file – 7170

New: Add capability of setting map options for each operand

New: Add new features of copying/pasting operand

New: Add “Uniform profile” button in the Irradiance profile definer as a short cut to generate uniform target

New: Add new variable type – Function for the Periodic segment

New: Add a “Point Info” Button in the Surface List Window for displaying the control point is set as pick-up and symmetric

New: Add new properties – “Center feature option” for the Periodic segment

New: Add new properties – “Shift” for the Periodic segment

New: Add new segment properties – “Absorptive” as the flag that ray stopped when hitting it in 2D real-time raytrace

New: Add new object type – “Advanced Sweep Object” – 7163

New: Add new capability of generating a thin sheet object in TracePro by extruding a path

New: Add capability of saving visible flag in Object Window and Output flag in Optimization window in the saved file

New: Add Post-after-scheme row in the Optimization window

New: Add new periodic feature – Trapezium

New: Add new method for pasting bitmap – Vector mode

New: Add new support to asymmetric profile for a biaxial object

New: Add sorting of wavelength in the Irradiance map option

Update: Fix the issue that when modifying object the surface list is not updated if there is any newly added surface

Update: Fix the issue that generated object doesn’t agree with surface view – 7195

Update: Fix the issue that changing position in property window cannot be undo/redo

Update: Fix the issue that the name of new object always be “Object 0”

Update: Fix the issue that control point sometimes lose the capability of moving – 7014

Update: Fix the issue that when editing Freeform surface – Radial type, if moving control points on base profile to one side, program crashed.

Update: Fix the issue that when setting language and Region to Turkey, loading io2 file throws exception – 7181

Update: Change the default value of opacity to 0.5

Update: Fix the issue that the variable setting with a local position in Conic segment is not saved – 7175

Update: Fix the issue that post-scheme is not working in optimization

Update: Refresh TracePro model tree view after export Object or Surface from Object and Surface Viewer – 7167

Update: Fix the issue that generated ellipsoid in TracePro has different dimension with the setup in 3D Interactive Optimizer – 7091

Update: Fix the issue that fail to generate an Extruded Object in TracePro when Windows Language and Region is set as Spanish – 7112

Update: Fix the issue that the light source’s divergence is incorrect – 7109

Update: Fix the issue that when modifying light source, utility hangs – 7108

Update: Fix the issue when updating model from the Optimization Log window, all disabled variables will be enabled automatically

Update: Fix the issue that selecting control point in variable list will crash program

Update: Fix the issue that after updating variable, the optimization dialog has not been updated as well

Update: Fix the error that loading a saved file crashes utility if the saved file contains control points with ID that is larger than the number of control points

Update: Fix the issue that in pickup mode, selecting a 3D path will deactivate the pickup mode

Update: Fix the issue that Sweep body cannot be copied

Update: Fix the issue that 3D Path is not editable if there are other profiles selected

Update: Fix the issue that when loading a saved file with missing pickup link, an error will show up. Now it will automatically remove the missing pickup from the object

Solar Emulator:

Update: Fix the issue that the result of exporting Sun model has different center of the exported Clear Sky model – 7159

Analysis Toolkit:

New: Add new switchable mode – Multiple document interface

Update: Set the 3D Candela view opened when launching utility

Lighting Toolkit:

Update: Fix Regulation Table output from a Rectangular Iso Candela Plot – 7174

TracePro 7.8.0 Release

New: Path Sort Filtering

New: Adjustable Brightness, Contrast, and Gamma for True Color Plots

New: Add command (raytrace:only-these-sources ...) to support UI capability of right-click/Trace Selection in the Source Tree – 7060

New: Enhancements to the use of Temperature Distribution properties – 7002

New: Add capability to select “hollow” or “solid” when inserting a tube – 7012

New: Add capability to select all object/surfaces with the same name – 7017

New: Add “OK to All” button in Surface Property Editor to respond to Solve For messages – 3740

New: IES TM-25 Ray File format is now supported – 6953

Update: Fix RepTile display for the case with Use Surface Bounds and the Origin for tile(0,0) is not at the center of the surface – 7084

Update: Fix the incorrect luminance value for calculated wavelength in Photo Realistic Rendering

Update: Update documentation to (property:apply-annular-importance-target) and (property:apply-rectangular-importance-target) – 7043

Update: Fix problem of incorrect bulk absorbed flux with bulk scatter and fluorescence property and Fluorescence setting turned Off

Update: Documentation updates to the Macro Reference – 7053

Update: Fix photo-realistic rendering problem with sources with calculated wavelengths

Update: Fix program crash due to stack overflow on a specific customer model – 7068

Update: Fix Surface Property Editor’s incorrect display of Phase Refl after copying or editing a property – 7065

Update: Fix potential crash that could occur when using two-sided surface properties

Update: Fix small memory leak that could occur when switching databases in-session (rare)

Update: Limit raytrace warning messages that are so prevalent that they adversely impact the raytrace time – 6487

Update: Limit conserve energy error messages to 10 for any given property that has conservation of energy issues

Update: Fix database transaction problem that could occur when performing a Solve For on a very large data set – 7058

Update: 3D Irradiance Maps now work on RepTile surfaces

Update: Fix issue with Table BSDF property as part of a composite BSDF

Update: Add an optional argument to the following Scheme command to explicitly turn on or turn off the display: (view:set-display-objects ...), (view:set-display-wcs ...), and (view:set-display-object-wcs ...). Without the optional argument the display flag is toggled.

Update: Fix RepTile Analysis results – some analysis results erroneously include the incident ray with the CAD surface and the RepTile surface. The results should only include the RepTile surface. – 7054

Update: Fix raytracing problem with gratings with ray splitting off and polarization on

Update: Do not allow the creation of direction sensitive surface properties that have the same material property on both sides – 7035

Update: Fix the object name being displayed in the Progress dialog if it was previously changed in-session – 7046

Update: Add scheme command: (tools:measure-distance ...) – 7029

Update: Fix raytracing issue on a surface with a Direction Sensitive Grating and a Temperature Distribution – 7026

Update: Save single zoom window option

Update: Correction to calculation of plane of incidence in BSDF evaluation when ‘Use fixed axis for zero-azimuth for asymmetric scatter’ is not checked

Update: Decouple the asymmetric scatter axis from the grating up vector

Update: Turn on ‘Asymmetric Axis’ page for asymmetrical scatter for grating properties too if an asymmetric scatter model is used

Update: Ensure the grating vector is always available for data entry when a grating property is to be applied – it was turned off for rare cases

Update: In the Surface Property Editor - fix indexing issue into Table BSDF array when a grating is also in the property

Update: Fix file naming when importing CAD files with 4 letter extension (such as *.step)

Update: Fix minor glitch in checking for updates on startup

Update: Fix indexing problem in evaluating surface temperature distributions

Update: Update documentation with regards to Display Selected Rays for Irradiance/Illuminance Maps – 6221

Update: Update documentation for Photorealistic Rendering with regards to brightness, contrast, and gamma – 7025

Update: Fix displaying multiple objects bug – 7033

Update: Fix ray generation for Gaussian Spatial and Angular Distribution in Grid Sources. Some rays were being generated outside the grid boundary – 7030

Update: Fix crash on user-supplied model – 7031

Update: Implement database converter for very old Access property databases – 5052

Update: Keep group nodes intact when inserting a part – 6624, 6945

Update: Improve macro performance by limiting reloading of the system tree to model modifications only – 6828

Update: Fix raytrace error – rays incident on temperature-dependent Grating were not responding to Temperature Distribution – 7020

Update: Documentation fix to corrupted Macro Reference pages – 7018, 7019

Update: Skip message for non-ANSI characters – 6165

Update: Add an optional string parameter to the following macro commands to rename an entity, grid source, or file source:

- (edit:scale ...)
- (edit:move ...)
- (edit:rotate ...)
- (edit:move-grid-source ...)
- (edit:move-file-source ...)
- (edit:rotate-grid-source ...)
- (edit:rotate-file-source ...)

Update: Set ‘Solve For’ in dialog using value in database and automatically use this solve if the property does not conserve energy – 7011

Update: Restore and improve raytrace performance on machines with many cores and using new series of Quadro graphics cards – 7001

Update: Save material property when importing an OSLO file

Update: Enable tooltip on “Set Defaults” button. Add a page in options to reset defaults. – 7000

Update: Installer will proceed with TracePro installation even if Notepad++ is not successfully installed to the (proper) default directory – 6764

Update: Add units to the legend of luminance view in Photorealistic Rendering – 7009

Update: Greatly improve performance of displaying selected paths – 7008

Update: Fix to Photorealistic Rendering raytracing in cases with a Perfect Absorber applied to a RepTile Surface

and/or RepTile Geometry – 6995

Update: Improvements to Grid Source settings in lens design import

Update: Fix incorrect raytrace with octree voxels on customer-supplied model – 6999

TracePro Utilities Revisions...

BSDF Converter:

New: Add support to RPC Photonics Rawdata files

Update: Fix the file support to DiffractMod format – 6983

Fluorescence Property Generator:

New: Add new capability of multiple emission spectra

IES/LDT Analysis:

Update: Fix the issue that the button to save file or close dialog is missing – 7044

Update: Changed the wording “Wanted Intensity (ratio)” to “Intensity (ratio)”

Texture Optimizer II:

Update: Fix the issue that Enhanced Prism cannot be created as real geometries in TracePro correctly

Update: Fix the issue that different sign of CV will cause different sag

Update: Changes the behavior that when changing conic type to any except Free, the “Use Asphere terms?” option will be automatically set to false

Update: Add message to remind users the emitting flux or the collected energies on target plane probably is too low – 7021

Update: Fix the issue that the dots are not loaded when loading position files in the current cells

Update: Fix the issue that saved distribution method cannot be updated to UI when loading the saved file – 6998

Update: Fix the crash when starting optimization if the input parameters are empty – 6998

3D Interactive Optimizer:

New: Add the feature that when user clicking on the variable the corresponding control point will be selected in the surface view

New: Add the capability of Importing/Exporting profile surface from/to file – 7055

New: Add the capability of copying bitmap layer

New: Highlight the worst solution in Optimization Log – 6782

New: Add capability of exporting to /importing from text file for a typeB surface

New: Add new option for converting a symmetric profile to an asymmetric profile

Update: Fix the issue that after added/modified object, the application will go behind when the dialog closed

Update: Fix the issue that For-Next loop cannot allow the start value is negative

Update: Fix the issue that optimization fails when Target Surface Name includes a quotation mark – 6996

Update: Fix the issue that the pickup point is movable

Update: Fix the issue that loading radial freeform surface with pickup will produce error message

Update: Fix the issue that saving bitmap layer, the opacity value will affect the saved bitmap

Update: Improve the responsibility of After-scheme editor

Update: Fix the issue that if the TIR lens is too tall, the generated object is truncated

Update: Fix the issue of calculating beam width if the peak is not at center

Update: Fix the issue that value type will not be recognized correctly for user-define variable

Update: Fix the issue that entering XY Polynomial setup dialog will crash utility

Update: Fix the issue that for some cases, updating property dialog will leave one row empty

Update: Fix the issue if change point value in the irradiance profile target by manual input with path definition, the new data won't be updated

Update: Fix the issue of wrong calculated conic curve if the asphere terms are existing

Update: Fix the issue that after left clicking on the checkbox for a surface (1) the box is NOT checked and (2) the text of the surface name is NOT highlighted in blue – 7039

Update: Fix the issue that right-click on one of the item in optimization log is not doing anything – 7038

Update: Fix the issue that if the material property containing ‘\’ character, TracePro will crash – 7010

Solar Emulator:

New: Add lines for the attentions needed for the exported file source and surface source property – 7098

Update: Fix the wrong rotation direction of the sky source when pupil shape is rectangular

Update: Rewording “Hot limit” to “Tilt limit”

Update: Fix the issue of mapping location on Google map due to IE compatibility issue – 6549

Analysis Toolkit:

New: Add capability of reading binary source file

New: Add capability of reading irradiance map

New: Add new analysis – NEMA Types

New: Add new analysis – “RCG Rectangular Map”

New: Add support to TracePro irradiance map format

Update: Fix saving of new regulation results – 7069

TracePro 7.7.2 Release

Update: Restore (read-event) macro functionality – this is a regression in 7.7.0 – 6992

Update: Fix erroneous ‘does not conserve energy’ message for a grating in the Surface Property Editor – 6993

Update: Label the flux column with either radiometric or photometric units in the Apply Surface Source dialog – 4680

Update: Fix Photorealistic Rendering with RepTile and scattering Surface Property on RepTile geometry – 6902

Update: Replace combo boxes with text boxes in Surface Source Property Editor – 5420

Update: True color options for brightness, contrast, and gamma now use spin controls instead of sliders

Update: Fix bilinear interpolation in ies type A and type B files – 6988

Update: Fix problem with progress dialog for photon tracing in photorendering with surface sources in photometric units.

Update: Improve exception handing during ray tracing

Update: Fix save-as bmp accidentally pops up ies dialog – 6985

Update: Fix save-as bmp problem – 6984

Update: Fix ray history file header with exit surface name – 3575

Update: Save each exit surface ray history to a separate file – 6838

Update: Fix problem in photorealistic rendering where more photons were traced than specified by the user

Update: Display the cancel raytrace warning message from the progress dialog when the option is set

Update: Set last ray direction to null in ray history to avoid errant data

Update: Change default to use axis for asymmetric BSDF properties

Update: Change simulation filename after saving as another document – 6693

TracePro Utilities Revisions...

General:

Update: Fix the truncated text issue – 6956

IES/LDT Analysis:

Update: Fix the issue of displaying incorrect value for Field Integration Lumens – 6978

3D Interactive Optimizer:

Update: Fix the issue that program crashes when input “()” in the after-scheme editor

Update: Fix the issue that when loading a saved conic reflector, the cc and cv values are not correctly

updated

Update: Fix the issue that when moving the segment points for a conic reflector, the control points will move by double distances

Update: Fix the issue that TracePro hangs after sending a biaxial TIR object to TracePro – 6899

Update: Fix the European Decimal Separator issue – 6987

TracePro 7.7.1 Release

Update: Fix problem interpolating customer-supplied 2-sided grating property for edge case – 6976

Update: For measurements involving a surface, allow the surface to be selected in the system tree – 6881

Update: Change grid source beam spatial profile label – 6775

Update: Greatly improve performance in Path Sort Table – 6968

Update: Ensure context file is generated from the correct license in the Troubleshooter – 6970

Update: Fix erroneous flux value for selected rays on a Polar Iso-Candela Plot – 6914

Update: Remove menu item “Open in IES...” for polar iso plot – 6934

Update: Properly remove progress dialog in the event of an exception during raytracing

Update: Fix exception thrown when tracing without a source (this is a regression in 7.7.0) – 6975

Update: Save and restore min rays setting when doing photorealistic rendering

Update: Properly handle user interactive with the color grid control

Update: Fix crash when picking in the Path Sort Table of a model that isn't active when there is an Irradiance Map displayed. Also fix crash for closing the Path Sort Table under similar circumstances.

TracePro Utilities Revisions...

BSDF Converter:

Update: Fix the issue that loading an Imaging Sphere Version:1.5.10.0 BSDF file with all data equal to 0.0, utility crashes – 6964

Update: Fix the issue that the file type of Diffract Mod is not in the list – 6972

IES/LDT Analysis:

Update: Fix the issue that when opening LDT file errors and omissions in display and text – 6973

3D Interactive Optimizer:

Update: Change the method of creating biaxial object to avoid crash when sending to TracePro – 6946

TracePro 7.7.0 Release

New: Candela Viewer

New: Raytrace Mode Prompt

New: Property Database Update

New: Viewing Candela Plots from the Simulation File Manager

New: New Options for Photorealistic Rendering

New: Automotive Lighting Toolkit – this is available as BETA software

Update: Performance improvements for Photorealistic Rendering

Update: The Scheme command (edit:surface-sweep ...) now works with wires and edges

Update: Fix crash that could happen when using an anisotropic property from GSolver – 6937

Update: Fix Progress Dialog which errantly reported pessimistic estimates to complete photon trace for large photorealistic renderings – 6865

Update: Fix rare crash when a ray hits the improper branch of a lemon or apple torus used in RepTile

Update: Change location of online user manual – 6940

Update: Fix torus raytracing issue on submitted model – 6930

Update: Fix normalization of weights in Apply Properties Surface Source when using Surface Source property with discrete wavelengths – 6913

Update: Each property editor's import function will now import all properties within the file, regardless of their type – 3579

Update: Fix hyperbolic reflector UI problem – incorrect values were displayed in dialog box – 6906

Update: Fix loading of IES data for certain Candela options – 6907

Update: Fix crash after changing surface source type in source editor – 6908

Update: The Scheme function (analysis:candela-save-ies ...) has been deprecated. It has been replaced with the following functions:

- (analysis:candela-save-ies-type-a ...)
- (analysis:candela-save-ies-type-b ...)
- (analysis:candela-save-ies-type-c ...)

Update: Overhaul of saving IES files – 6852, 6955

Update: Fix bug associated with Candela options regarding setting contour levels – 6893

Update: Expose better information to user if a file exception occurs. Some examples of this are sharing violations or a full disk.

Update: Fix failure to import GRIN data with the OSLO translator – 1025

Update: Add two scheme commands: (analysis:ray-history-close) and (analysis:polarization-maps-close) – 1119

Update: Documentation update to Scheme Macro Reference descriptions for Path Sort table commands

Update: Fix surface selection when the surface is blocked by an importance target in Render, Wireframe, or Hidden Line view – 6760

Update: Ensure path sort table is properly cleared before each raytrace

Update: Change dialog name to “Path Sort Table” to agree with name on Analysis menu – 6835

Update: Fix issues with updating the status bar on the Select Rays dialog – 6879

Update: Add a retry capability to open sim files on a sharing violation. This is a rare occurrence that was discovered with an aggressive virus-checking program interfering with a long simulation run.

Update: Fix a rare race condition with regards to the static random number generator

Update: The Raytrace Report has been simplified – 6872

Update: Fix GRIN ray tracing error at coincident surfaces – 6887

Update: Ensure all text files saved to disk adhere to the “Save text file in Unicode format” TracePro option

Update: Include model name in header of RGB raw data file from photorealistic rendering

Update: Immediately save oml file to disk after open a CAD translated or lens design translated file

Update: Prevent crash when adding another wavelength, temperature, or incident angle to a property with no scattering – 6877

Update: Enhancements to saved ies format – 6834, 6738

Update: More efficient use of random number generator when generating a random ray direction

Update: Improvements to lens design import of designs with global reference surfaces

Update: Fix OSLO translator bug – OSLO files specifies “tilt, then decenter” but TracePro is translating as “decenter, then tilt” – 4009

Update: Updates to online help – 2652, 4829, 6245, 6842

TracePro Utilities Revisions...

Bitmap Source:

- New: Add new capability of exporting ray file in binary format – 6595
- New: Add option for rays to start from the Scene, Target or a third plane between the Scene and Target – 5779

BSDF Converter:

- New: Add capability of loading data from Diffract MOD – 6894
- Update: Fix the issue that getting error message when attempting to update BSDF-beta plot after entering

ABg values, when no data file is loaded – 6623

IES/LDT Analysis:

New: Add more preset views for the 3D plot – 6935

Update: Fix issue of loading IES TypeA, TypeB, TypeC

Update: Fix issue of erroneously number of horizontal angles – 6952

Update: Increase the accuracy of RCG analysis

Update: Fix the incorrect RCG report in Street light analysis – 6890

Update: Fix the issue when an IES file is loaded, the value that appears in the Emission Field is incorrect (the integrated value should appear instead) – 5583

Texture Optimizer:

Update: Fix issues when language is set to Finnish – 6864

Texture Optimizer II:

New: Add new tool to edit density map

New: Add capability of saving and loading density files

New: Add capability of importing cells from data sheet and TracePro faces

Update: Fix issue that editing density map by sheet is not working correctly

Update: Fix issue that when optimizing dot pattern with many rows, the resulting pattern looks unsmooth

Update: Fix the issue that the last dot won't be read when importing the text file

Update: Fix issue with invalid conversion during optimization – 6880

3D Interactive Optimizer:

New: Add the capability of opening the linked model in TracePro when loading the io2 file – 6784

New: Add the feature of setting step number for a radial symmetric object with asymmetric profile – 6747

New: Add new supported profile – freeform loop

New: Add new supported surface type – freeform radial

New: Add the ability to click on an iteration in the trend chart and have it highlighted in the optimization log – 6783

Update: Fix the issue that pickup on segment point for the Freeform Radial Surface is not working – 6950

Update: Fix the issue that extruded object created from symmetric profile with detailed structure, object only has structure on half the surface – 6943

Update: Fix the issue that extruded object created from asymmetric profile with detailed structure, object has extra geometry – 6944

Update: Fix the issue that when setting operand to Intensity, the optimizer will give an unhandled exception error when trying to start raytrace – 6928

Update: Fix the issue that cannot re-open the saved io2 file with an intensity operand – 6928

Update: Add description for the relationship between the control point locations and the resulting conic constant and curvature – 6848

Update: Fix the issue that an error indicating a conversion error when launching program if the Window region and Language is set to French – 6884

Solar Emulator:

Update: Changed the input of vector data to 3 different fields to make input easier – 6910

TracePro 7.6.4 Release

Update: Improve the Scheme commands (property:apply-importance-target ...) and (property:remove-importance-targets ...) by permitting their use for multiple surface at once. The first parameter can now be either an entity or an entity list.

Update: Fix for opening large binary ray files (larger than 2GB)

Update: Fix rotational symmetry issue with Candela distribution plots – 6857

- Update: Fix to macro recording of file path when recording the saving of a path sort
- Update: Adjust conservation of energy tolerance for diffraction gratings slightly to account for numerical round-off – 4234
- Update: Fix File/Send – 6851
- Update: Fix updating to Display Selected Paths – 6863
- Update: Disable saving as ies or ldt formats from Iso Candela plots. These options are only available from Candela distributions plots. – 6853
- Update: Re-establish tabular file format for Candela distribution files, improve angular resolution of smoothed data, add header information for future use – 4320, 6827
- Update: Restore the use of an energy conservation tolerance for diffraction gratings (this is a regression from 7.4.3)
- Update: Add wavelength weight argument to (raytrace:apply-source-wavelengths ...) – 6833
- Update: Ensure proper menu selections are available for TracePro Standard and TracePro LC
- Update: Fix crash when doing Path Sort Table on rays with GRIN intersections
- Update: Prevent low level attributes from being shared when they should not have been. This could have happened in very rare circumstances.
- Update: Slight performance improvement in radial polynomial calculations

TracePro Utilities Revisions...

General:

- Update: Updates to understand tabular file format of Candela distribution files that was re-established and improved with this release
- Update: Fix the issue that if the length of string sent to TracePro thru DDE exceeds 255, the exceeding string will be dropped

IES/LDT Analysis:

- Update: Fix the issue of importing Polar and Rectangle ISO Candela files from TracePro – 6844, 6867
- Update: Fix the issue when loading the Candela Distribution file saved by TracePro 7.6.3 and the Language setting is French, the operation will fail – 6866

Surface Source Property Generator:

- New: Add a unit selector of mm or nm for wavelength in defining the spectrum range – 6790
- New: Add new capability of displaying CIE chromaticity diagram when mouse is hovering on the color box – 6791
- Update: Fix the issue that cannot export property directly when using imported Candela file – 6843

Texture Optimizer II:

- Update: Fix the broken function of optimizing dot pattern with the current dot positions

3D Interactive Optimizer:

- New: Add new capability of pasting an irradiance map on the uniformity defining dialog
- New: Add “Remove background” button in the uniformity operand definition dialog
- Update: Fix the issue that cannot get the incident Candela profile on a specified surface if TracePro is running in Simulation mode
- Update: Fix the drawing issue with the lens object

TracePro 7.6.3 Release

- Update: Fix Copy/Paste issue when save text as Unicode is selected – 6829
- Update: Efficiency improvement in raytrace for ABg BSDF when g is an integer
- Update: Add Photorealistic Rendering Options to popup menu for all languages --previously it was only there for English
- Update: Fix bug that caused extra simulation files to be errantly created
- Update: Make insert icons work under Geometry menu – 6825

- Update: Fix a tree node bad state that occurred after a specific editing sequence – 6800
- Update: Properly delete property cache after importing from a file – 6824
- Update: Fix crash in non-English versions of TracePro when launching the Candela Options dialog – 6822
- Update: Improve raytrace performance of rotationally symmetric aspheric surfaces – 6796
- Update: An optional argument has been added to the macro command (raytrace:add-file-source ...) to define a wavelength when the file source doesn't contain wavelength information – 5341
- Update: The macro command (raytrace:set-wavelengths ...) can now set the wavelength weights for file sources

TracePro Utilities Revisions...

IES/LDT Analysis:

- Update: Fix issue that the orientation of the export file source & surface source property doesn't match the loaded IES file – 6446

3D Interactive Optimizer:

- Update: Fix the issue that when changing ray type the cell of surface is not editable if the selected operand is Beam width
- Update: Fix the issue that when creating a radial symmetric object with an initial TIR profile, an error indicating null array occurs
- Update: Fix the issue that cannot modify the position of bitmap
- Update: Fix the issue that if the material catalog name contains colon, the property will be missing when loaded – 6821
- Update: Fix the issue that fail in optimization due to new Candela distribution format – 6820

Solar Emulator:

- Update: Fix the issue that error occurred after starting analysis – 6823

Analysis Toolkit:

- Update: Fix the issue that the feature of spectrum analysis is failed due to new incident ray table format – 6826

TracePro 7.6.2 Release

- New: Add the capability of displaying Luminance value when moving mouse over a Photorealistic Rendered image
- New: Add the capability of adjusting the gamma value of the rendering result
- New: Add the capability of saving raw data including r,g,b and luminance as a text file
- New: Macro commands added for Photorealistic Rendering Setup dialog
- Update: Fix issue with sweeping a planar surface with Sweep Angle – 6815
- Update: Fixes to Auto Level settings in Simulation File Manager / Irradiance Viewer – 6802, 6803
- Update: Simulation File Manager / Irradiance Viewer Options – auto levels setting are now available for editing – 6804
- Update: Improve calculation of default brightness level for Photorealistic Rendering – 6814
- Update: Fix performance issue in volume flux calculation – 6812
- Update: Fix errant message in progress dialog – 6797
- Update: A valid orientation vector is not required if a 2-sided surface property is isotropic – 6806
- Update: Fix issue with applying a 2-sided surface property
- Update: Context file for requesting a license is now saved to the desktop instead of the ProgramData folder
- Update: Improvements to OSLO translator
- Update: Fix raytracing error on submitted lens. Moving this lens in-session and re-raytracing produced incorrect raytrace results – 6770
- Update: Enable GRIN raytracing to aspheric surfaces
- Update: Improve the brightness calculation of a photorealistic rendered image

Update: Improve calculation of missing aperture semi-diameter on imported lenses
Update: Improve handing of ray files with bad wavelengths which previously confused the ray counters – 6755
Update: Do not allow saving of IES or LDT files unless the Analysis Units are set to Photometric – 6762
Update: Fix the irradiance map surface outline to properly account for the scale – 6758
Update: Fix an access violation tracing surface sources on objects that have been removed from the ray trace
Update: Fix an issue on the Polar Iso Candela Plot where the Total Flux is incorrect in some circumstances – 6416
Update: For models with multiple instances of the same file source, read that file from disk only once – 6754
Update: Fix an error in calculating the bulk scatter in RGB mode
Update: Lost flux in an object (e.g. due to bulk scatter) was not correctly reported in the flux report. This is now fixed. – 6635

TracePro Utilities Revisions...

BSDF Converter:

Update: Fix the issue that cannot read the SPEOS anisotropic bsdf file – 6099
Update: Fix the issue that cannot auto-detect the file type if the extensions are all .txt – 6543, 6544

Surface Source Property Generator:

Update: Fix the issue of failing to export property when the loaded spg file contains multiple profiles – 6813

Texture Optimizer II:

New: Add Polygon shape support
Update: Fix the issue when importing texture file in the current cells but there are not cells existing, program crashes
Update: Fix the issue when importing texture file in uniform cells, program crashes
Update: Fix the issue that program crash when adding cell with blank boundary
Update: Fix the issue that program crash when the combined cell has the same position with current existing cell
Update: Fix the issue that uv mapping method is missing in the Export Real Geometry dialog
Update: Fix the issue that program hangs when after select optimization from Action menu when Dot Preview is selected – 6810

3D Interactive Optimizer:

Update: Fix the crash when copying a radial symmetric object
Update: Fix the crash when drawing a radial symmetric object with an across profile
Update: Improve the abridged after-scheme command window in after-scheme editor – 6746
Update: Fix the issue that surface property not applied to surfaces when surface is the result of setting “Steps” in the Object dialog – 6741
Update: Fix the issue that program crash if the weight value of an operand is empty – 6808
Update: Fix the bugs when selecting missing ray as the target of intensity operand – 6794

Analysis Toolkit:

Update: Correct the tip text for the Exit button

TracePro 7.6.1 Release

Update: Fix a file opening error with models containing irradiance surface sources – this is a regression in 7.6.0 – 6751

TracePro 7.6.0 Release

New: For a complete description of all new features in TracePro 7.6, please refer to the update guide on the TracePro Manuals webpage

- New: Add macro command (analysis:sort-path-sort-columns ...) to sort on the columns of a Path Sort Table – 6701
- Update: Fix Solve For calculation in Surface Property Editor for 1DABg BSDF model – 6715
- Update: Performance improvement of rotational symmetry calculation for Candela plots – 6440
- Update: Fix incorrect result for volume flux with a grid source inside object – 6708
- Update: Save max photons setting for photorealistic rendering to the OML file – 6740
- Update: Fix message that gives incorrect wavelength – 6737
- Update: Fix raytrace error in repeated raytrace of RepTile DMD – 6725
- Update: Fix issue with smoothing on Polar Iso Candela plots – 6735
- Update: Fix raytrace error for RepTile with “Use Surface Bounds” set as RepTile bounds – 6694
- Update: Explicitly set directory for Simulation File Manger to make sure it can be loaded
- Update: Ensure deactivated license keys are resolved before upgrading the key, don’t list remote keys with the licenses removed, and include server name for remote deactivated keys
- Update: (insert:lens-element ...) macro now contains support for “Decenter of Second Surface Relative to the First” and “Tilt of Second Surface Relative to the First” – 6674

TracePro Utilities Revisions...

BSDF Converter:

- Update: Fix the issue of failing to load Radiant Imaging ISSA file saved in older version – 6508
- Update: Fix the issue with handling large data files – 6616
- Update: Fix the issue of failing to load the .BSDF file when Language is set to Turkish – 6660

IES/LDT Analysis:

- Update: Fix the incorrect orientation setup of the Street Light Analysis – 6685

Texture Optimizer II:

- New: Add capability of saving position file in XYZ format for UV mode
- Update: Fix the issue that an error shows when expert real geometry to a surface in TracePro – 6724
- Update: Fix the incorrect geometry parameter error message when trying to enter values for any parameter while Pointed cone is selected as the dot shape – 6723
- Update: Improves the speed of generating dots
- Update: Fix the issue of incorrectly filling density/target in cells as a path

3D Interactive Optimizer:

- New: Add capability of scaling surface
- New: Add new after-scheme command: raytraceflag
- New: Add the display of total flux on the irradiance map when viewing it on the Log history window
- New: Add new supportive surface type – freeform surface
- New: Add new after-scheme commands: export_surface_as_surface and export_surface_as_wirebody
- New: Add capability of displaying rays in different color
- New: Add capability of deleting rays in selected color
- Update: Fix the issue that if conic constant changed to zero, the curve won’t be generated in some cases
- Update: Fix the issue that when copying an object with surface that has duplicated name, the copied object refers to wrong object
- Update: Fix the issue that when changing segment type from conic to spline, program crashes in some cases
- Update: Add example to commands unite, subtract and intersect to clarify the difference between the object ID and object name – 6563

Solar Emulator:

- New: Add capability of defining the rotational axis for Sun tracking options: Uni-axial and Aim to Sun
- New: Add the display of Sun attitude and Azimuth angle in the 3D preview window

TracePro 7.5.7 Release

Info: No changes from TracePro 7.5.6

TracePro Utilities Revisions...

3D Interactive Optimizer:

Update: Fix the issue that a file saved with a cSegLoop will not open – this is a regression in 7.5.5 – 6720

TracePro 7.5.6 Release

Update: Enhancements to license troubleshooter – clearer messages and more information in emails sent back to Lambda Research

Update: Fix bug where deactivated keys were not listed in the troubleshooter – 6718

Update: Fix copy/paste issue with irradiance sources – 6717

Update: Improve parsing and handling of OSLO commands in OSLO importer

Update: Fix insert lens issue with 90 degree rotated cylindrical face – 6713

Update: Fix crash in fluorescence raytracing when levels were so low that no fluorescent rays were created at certain wavelengths – 6714

Update: Fix smoothing factor issue on some Candela plots – this is a regression in 7.5.5 – 6716

Update: Internal improvements to licensing and the Troubleshooter

Update: Change grid source Gaussian Spatial Profile label – 6710

Update: Fix issue with launching license tool

Update: Fix Rectangular Iso Candela plot color map – this is a regression in 7.5.5 – 6704

Update: Fix luminance viewer with photometric units – 6703

Update: Modify menu obtained from right-clicking in the system tree is only available for objects created from TracePro dialogs

TracePro Utilities Revisions...

General:

Update: Change the temp folder to \AppData\Local\Temp which is Microsoft compliant – 6705

IES/LDT Analysis:

Update: Correct the message string to improve the clarity of the error message when the loaded IES file doesn't have the Lamp size info in its file header – 6601

2D Interactive Optimizer:

Update: Fix the issue that fails to optimize when windows Region and Language is set to German – 6711

3D Interactive Optimizer:

Update: Add icons in surface window of Y-Z and Z-Y view when a 2D profile is displayed – 6287

Update: Fix the issue that fails to build geometry in TracePro when Language is set to Italian – 6515

Update: Fix the wrong behavior when changing curvature on an angled conic segment

Update: Modify the description about how to define a light source in the object view – 6445

Update: Add description to the periodic segment in the on-line help – 6696

TracePro 7.5.5 Release

New: Added the Scheme command: (view:set-update-system-tree ...)

New: Added the following Scheme commands: – 6668, 6669

(edit:set-model-window-size ...)

(edit:get-model-window-size)

(analysis:candela-set-window-size ...)

(analysis:candela-get-window-size ...)

- Update: Restore proper names to Tools | Change Language submenu -- this is a regression in 7.5.2
- Update: Fix issue with Photorealistic Rendering image when surface source is using calculated wavelengths – 6686
- Update: Add “Set Default” button in Irradiance Viewer Options dialog – 6687
- Update: Fix issue with saving Polar ISO Candela data when Contour plotting was selected
- Update: Fix crash in Photorealistic Rendering that appears when making an object, that contains a surface source, invisible
- Update: Fix erroneous raytrace results in case with RepTile/Texture using Surface Bounds – 6694
- Update: Make Simulation File Manager dialog resizable – 6692
- Update: Fix default file extension in File|Save As... – 6689
- Update: Disable Save menu pick for the irradiance viewer – 6688
- Update: Fix crash when performing a Boolean Subtract when the subtracted body has a surface source – 6683
- Update: Fix color issue in Photorealistic Rendering – 6682
- Update: Fix reported crash in Table BSDF – 6691
- Update: Efficiency improvement for optical aspheres
- Update: Fix crash in Photorealistic Rendering – 6681
- Update: Improve memory management in Photorealistic Rendering – 6413
- Update: Add warning to Volume Flux when a fluorescence property exists – 4664
- Update: Have Export Rays consider the Ray Sorting selection for Flux Display Range – 4839
- Update: Improve performance in system, source, and radiance calculation tree controls
- Update: Several enhancements to the license troubleshooter

TracePro Utilities Revisions...

Surface Source Property Generator:

- New: Add new capability of loading Candela file and IES file as radiation pattern

Texture Optimizer II:

- New: Add new preference setting for dithering boundary dots
- New: Add capability of updating density value by the real generated density value during optimization
- New: Add new button to retrieve the center position of the current boundary in the Scale boundary dialog
- New: Enable the cell profile display even unchecked the cell display option
- New: Add new feature of Gaussian smoothing in the density/target value editors
- New: Enable the display of mouse position in the density/target filling dialogs
- Update: Fix the issue that when generating dots, the progress bar is glitter
- Update: Fix the issue that after rebuilding cells, the selected cell is the old one
- Update: Fix the issue that in the optimization dialog, the popup menu on the target map is not functional
- Update: Fix the issue that when start optimization with the current texture file, program will crash
- Update: Fix the issue that the target map only can display in gray scale
- Update: Fix the crash when filling density map if there is no any path defined
- Update: Fix the issue that when aborting optimization during the phase of generating dots, program will crash

3D Interactive Optimizer:

- New: Add new tool for logging the DDE commands
- New: Add capability of creating Fresnel profile on a curved baseline
- Update: Fix the issue that sending to TracePro results in error messages when Region and Language is set to German – 6697
- Update: Add descriptions about Fresnelization in on-line help – 6698
- Update: Fix the issue that one row of facet will be missing to tweak as curved when rotating a TIR profile

Update: Fix the issue that when there are invalid values obtained during optimization, viewing trend chart will hang the program - 6666

Update: Fix the issue that when reducing the number of Asphere terms, the program will crash

Solar Emulator:

New: Add spectrum info for both Sun model and Sky model

New: Add option of ray sampling method for Sky model generation

New: Add new feature that export Sky model as a surface source property

Update: Fix the issue that the slider won't update with the simulation – 6200

TracePro 7.5.4 Release

New: Add option to troubleshooter to set server name when network key is on a different subnet. – 6572

Update: Fix reported irradiance value for surface sources in Property Report

Update: Fix application of irradiance surface source property to multiple faces at once

Update: Change define source menu item order to make it consistent across TracePro – 6667

Update: Improvements to source tree performance

Update: Fix irradiance value round off problem in UI of grid or surface sources. Models saved from this version forward will not have this problem. – 6661

Update: Improve macro recording of inserting/modifying grid sources to a more efficient way

Update: Fix internally found crash when interacting with the Surface Source Editor and multiple documents

Update: Fix drag/drop issue in the system tree that lead to a crash – 6664

Update: Fix for incorrect flux in Table BSDF – 6658

Update: Improvements to memory allocation when a large number of sources are used

Update: Performance improvement. After inserting a Ray File into the model and performing a ray trace, the file was inefficiently read twice. We now only read the file once. – 6596

Update: Fix issue with exclude flag errantly toggling in the source tree when modifying a source – 6655

Update: Fix Source Editor issue where a modification to a source could delete the wavelengths on the source – 6657

Update: Improve messages and cleanup previously downloaded installers when running Check For Updates

Update: For all Property Editors, catalog names are case insensitive while property names are case sensitive. Ensure combo boxes in the UI adhere to this.

TracePro Utilities Revisions...

Texture Optimizer II:

New: Add new capability of placing dots on UV surface and creating dots as real geometries

Update: Fix the issue that the progress bar generates repeatedly when launching the density path dialog

Solar Emulator:

New: Add new capability of exporting sky model in multiple wavelengths

TracePro 7.5.3 Release

New: BrightView diffuser surface properties are in database shipping with this release

Update: Fix Check For Updates message that referred to a new update as “Early Access” instead of stating the new version number – this is a regression in 7.5.2

Update: Fix errant error message when adding a new property to the database through the Property Editors – this is a regression in 7.5.2 – 6653

Update: Fix incorrect Incident Ray Table on coincident surface in submitted model – 6638

Update: The conservation of energy message was erroneously displayed for some properties in the Surface Property Editor. This is now fixed. – 6649

Update: Fix UI in Rotate Source dialog so all required data can be entered for a customized rotation – 6651

- Update: Fix macro recording of (edit:rotate-grid-source ...) and (edit:rotate-file-source ...). The angle being recorded was incorrect. – 6652
- Update: Fix problem in OSLO translator for ISO Symmetric Asphere -- this is a regression in 7.5.2
- Update: Fix crash when deleting an object with a surface source on it -- this is a regression in 7.5.2 – 6650
- Update: Ensure all name comparisons in the property database are case sensitive
- Update: Permit newly created fluorescence properties to be edited in the Fluorescence Property Editor
- Update: Provide the proper behavior in Display Selected Rays mode when navigating the Incident Ray Table with the up and down arrow keys – 6619
- Update: Fix to (analysis:refresh) command to ensure all Candela plots properly refresh – 6648
- Update: Only allow positive scale factors in Scale Selection dialog box – 6646
- Update: Enhancements to Check For Updates regarding license checking and messages to the user

TracePro Utilities Revisions...

3D Interactive Optimizer:

- Update: Fix the issue that the user-defined operand is not working

TracePro 7.5.2 Release

- New: Add the following Scheme command to clear the output window – 6642
(macro:clear-output ...)
- New: Add the following Scheme commands to support Display Selected Paths and Path Sorting – 6634
(analysis:display-selected-paths ...)
(analysis:update-selected-paths ...)
(analysis:get-sort-path-count ...)
(analysis:path-sort-close ...)
- New: A Ray File Wavelength Editor has been added to the Define menu – 4421
- Update: Fix issue with Table BSDF integration
- Update: Improvements to internal caching of property data to minimize database transactions and improve performance
- Update: Properly handle ray tracing invisible objects for Photo Realistic Rendering
- Update: Improve error checking when querying license and put up message box if query fails
- Update: The default model temperature is now used to interpolate surface source properties. 300K was previously used.
- Update: Auditing performance improvement on large models
- Update: Fix incorrect ray trace in Gegenbauer bulk scatter models with g coefficient not equal to zero – 6633
- Update: Performance improvement on models with many sources when all sources have the same number of wavelengths
- Update: ACCOS and Sigma2000 lens design translators have been removed from this release
- Update: Fix Set Defaults in Raytrace Options >> Advanced and Raytrace Options >> Thresholds for all languages. Issues were found due to improper translations in Chs, Cht, Ita, and Esp.
- Update: Double-click to open a file from Windows Explorer now works even if the full path to the filename contains a space – 6628
- Update: Fix crash in Surface Property Solve For with no scatter – 6621
- Update: Improve efficiency when looking for group nodes in system tree
- Update: Fix bug reading fluxtype default from tpdef.ini. The setting was ignored.
- Update: Use correct object and surface names in overlapping body error message. This was incorrect if the names were changed in-session – 6614
- Update: Change naming convention of views in default model view combo box
- Update: Fix issues with Zernike polynomials translation in ACCOS and OSLO translators

Update: Add six more view modes to the View toolbar – 6588
Update: Fix crash in Surface Source dialog – 6612
Update: Use user defined orientation in Irradiance Viewer – 6604
Update: Fix ray sorting crash – 6602
Update: Documentation fix for Predefined Irradiance Map Orientation dialog – 6603
Update: Documentation update for new Merge dialog
Update: Default view mode has been set to yz – 6608
Update: Improved messages while checking for updates

TracePro Utilities Revisions...

Texture Optimizer II:

Update: Fix issue that progress bar is not working in the Path density dialog
Update: Fix the issue that optimization stops at the first iteration when failing to read irradiance map
Update: Fix the crash when updating trend chart when no data exists

3D Interactive Optimizer:

New: Add capability of creating a lightpipe with one end polygon and the other end circular
New: Add new features of Flipping, Translating for surface operation
New: Add new after-scheme command-Applybulk
New: Add capability of creating period pattern on curved segment
New: Add capability of creating lightpipe with one end polygon and the other end circular
Update: Fix the issue when selecting Luminance as the operand, the simulated result cannot be recognized correctly
Update: Fix the issue when there are two Tab in front of keyword, the text color won't be turned to blue
Update: Fix the crash when loading file with conic segment – 6620

Solar Emulator:

New: Add capability of inputting range of sampling wavelength for the Sun model
Update: Fix the issue of no response from TracePro when creating Sun model, the model won't be created and a misleading error message is shown – 6606, 6607
Update: Fix the issue that when pupil is set as rectangular the Sky model traces incorrectly – 6597

TracePro 7.5.1 Release

New: Source Editor now handles all types of sources – 2442, 4543, 5485, 5770, 5827
New: Add Optical Path Length to Incident Ray Tables – 1409
Update: Fix issue with large source files – 6594
Update: Fix macro recording of applying RepTile Property with Use Surface Bounds selected – 6568
Update: Fix (property:apply-reptile...) when using “Use Surface Bounds” to move the origin to the tilted plane automatically
Update: Sort ray file by wavelength when cache is on – 6552
Update: Add default view mode options
Update: Increase wavelength grid size to eliminate need for horizontal scrolling – 6579
Update: Add merge file option to merge new model into a group node – 5385
Update: In the macro command (analysis:set-3d-irradiance-contour ...), if the contour option is turned ON, smoothing is turned ON and gradient display is turned OFF to match the behavior in the UI
Update: For setting 3D Irradiance Map options , do not permit setting the Smoothing or Gradient Display option if the Contour Plot option is ON. This matches the UI behavior.
Update: Fix RepTile display for variable row RepTiles – 6578
Update: Fix program crash attempting to trace rays in model with Parameterized RepTile set to Use Surface Bounds

– 6577

Update: Fix to allow the Solar Emulator to export the correct irradiance values for a solar source – 6569

Update: Improvements to ‘Modify Selection’ in the Source Editor

Update: Fix issue with sending email for licensing purposes – 6566

Update: Allow Source Editor to change multiple combo cells in one edit

Update: Documentation updates for Photorealistic Rendering

Update: Fix crash in Photorealistic Rendering on submitted model – 6557

Update: Allow property with long name over 50 characters – 6558

Update: Changed internal link to user manual website

Update: Add angular convention to Candela text files – 6555

Update: Add width and height to Candela text file header

TracePro Utilities Revisions...

3D Interactive Optimizer:

New: Add new option - Missed ray to range selection for Candela target – 6586

Update: Fix the syntax error in help for the command - var – 6587

Update: Fix the issue that when changing aperture shape from circular to rectangular for a lens object, utility will crash – 6590

Update: Fix issue that opening optimization window crashes program when the conic reflector has control point as variable – 6562

Update: Fix issue that no option available to set the thickness of a lens object – 6576

Update: Add documentation of optimization log window to online help – 6551

Update: Fix the issue that geometry becomes corrupted after transformed – 6503

Update: Fix the issue when creating lens object crashes – 6554

TracePro 7.5.0 Release

New: New type of BSDF: Composite BSDF

New: New type of BSDF: 1D BSDF

New: New BSDF Editor for BSDF properties

New: Add group node related Scheme commands

New: Improved licensing using CodeMeter – 2448, 3538, 3980, 4967, 5408, 5833, 6057, 6058, 6059, 6447, 6478

New: Added “Check For Updates” capability to automatically check for and download newer releases

New: The user can now set the maximum number of photons to trace in the Photorealistic Rendering Setup

New: Add group node icon – 6458

New: Add Scheme commands: (property:get-catalogs ...) and (property:get-properties ...)

New: Add Scheme commands: (property:get-catalogs ...) and (property:get-properties ...)

New: Add Scheme commands: (analysis:display-selected-rays ...), (analysis:get-selected-flux ...), and (analysis:get-selected-size ...) to support Display Selected Rays feature – 5806

Update: When applying a Surface Source to an object, the Surface Source is applied to all surfaces in that object – 6542

Update: Fix tab order in Surface Property tab of Apply properties dialog – 6532

Update: Fix erroneous Luminance Map for case with Lambertian Surface Source property with cone angle less than 90 degrees – 6472

Update: Fix to Irradiance Maops for irradiance type surface sources when “Normalize to: Average Emitted Irradiance” is chosen – 6530

Update: Require the same version of TracePro when reading ray data files

Update: Prevent audit when opening an oml file if the ray data file is not compatible with release

Update: Clean up warning messages associated with ray data importing

Update: Ensure Editor window is visible regardless of previous window placement – 6533

Update: Use 64-bit integer ID internally – 6526 (REMOVE FROM REV HISTORY)

Update: Improve error handling associated with opening ray files

Update: Restrict property type by edition – 6511

Update: Fix unit issue when defining Luminance/Radiance calculation with the model in inches – 6529

Update: Fix UI updating issues and better error handler with Grid Source dialog – 5197, 5604

Update: Macro Recorder now records (raytrace:radiance ...)

Update: Macro Recorder now records (raytrace:all-sources ...)

Update: Replace incorrect Scheme command example about (property:apply-flux-surface-source ...) and when this command is applied to an object, all surfaces of the object will get this Surface Source – 4722

Update: Improved performance in system tree node traversal

Update: Do not record “(view:set-view ...) if “Record window change” is not selected when starting the Macro Recorder

Update: Record newer macro commands: (insert:sphere ...), (insert:cyclone ...), (insert:block ...) when sketching geometry instead of older commands: (solid:sphere ...), (solid:cylinder ...), (solid:cone ...), and (solid:block ...). All sketched geometry can now be modified using the Insert Primitive Solid dialog box.

Update: Increase precision for rotation and translation when Macro recording

Update: Redesigned system tree group nodes to allow duplicated names – 6465

Update: Fix crash during raytracing of Texture RepTile in submitted model – 6501

Update: Fix ray color button initialization issue

Update: Relabel column title in Path Sort Table – 6502

Update: Truncate solar spectrum properly to avoid unwanted solar irradiance

Update: Greatly improve performance on Polygon texture RepTiles -- 6496

Update: Path Sort Table now includes a column for number of surface intersections – 6494

Update: Photorealistic rendering now pays attention to the display flag. During the Photorealistic Rendering process the forward raytrace pays attention to the Raytrace Flag, whereas the backward raytrace pays attention to the Display Flag

Update: When hovering over a photorealistic rendered image, the RGB value are shown in the Status Bar

Update: Reintroduce stitch and geometry healing options – 6489

Update: Fix crash in Photorealistic Rendering which may occur when a surface source is disabled

Update: Update values in the Set View dialog after a Zoom All or Zoom Selection operation

Update: Modify and Delete added back to the top of the popup menu when right-clicking on an object in the system tree (NOTE – Remove this from the Revision History since it was introduced after 7.4.3 was released – it never was released to customers.) – 6480

Update: Clear the ray file cache when needed to improve performance when processing ray files – 6456

Update: Fix crash when closing the Print Preview window

Update: Eliminate the path sort limit on the number of paths – 6468

Update: Update title on help pages – 6451

Update: Update macro reference documentation for (raytrace:set-file-source-rotation ...) and (raytrace:get-file-source-rotation ...) – 6452

Update: Fix issues with regards to Surface Property plotting in the Surface Property Editor

Update: Resolve memory leaks with regards to importing files from TracePro Bridge for SolidWorks

Update: Disable non-applicable buttons in the Surface Property Editor when the property has no grid data

Update: Fix issue regarding property recognition for an Ellipsoid RepTile Property – 6450

Update: Properly toggle the display of working coordinate systems for a multi-selection in the system tree

Update: Fix memory leaks associated with certain database interaction

Update: Sort properties on catalog export and whenever property lists are obtained

Update: Fix a RepTile conversion bug importing RepTile property files from a previous database version

Update: Properly handle the importing of surface properties on files that don't contain "SAVE-DATA" and have extra lines near the end of file

Update: Ensure that a valid SolveName is entered into the database when importing properties

Update: Removed a memory leak associated with the lens design translators

Update: Removed a memory leak associated with RepTile

Update: Change "Data Directory" to "Coating DLL Directory" and only make it available for TracePro Expert – 3190

Update: Add capability to delete a group from the system tree that contains objects, also nodes within a group can be copied to the top level – 5126

Update: Fix documentation for (property:apply-reptile ...) macro. If this macro is used on a non-planar surface, warn the user and continue processing, instead of throwing an error.

Update: Properly record (property:apply-reptile ...) macro when the boundary is set to 'Use Surface Bounds'

Update: Fix the calculated wavelength in the Apply Properties | Fluorescence dialog when the wavelength range is specified as 0 to infinity – 5446

Update: Ensure S and P values match at zero degrees incident angle for polarization dependent properties – 5774

Update: Removed memory leaks associated with database interactions

Update: Improve performance for Display Selected Rays for Incident Ray Tables when multiple rays are selected

Update: Permit processing of the Cancel button when the message window is being flooded with messages – 715

TracePro Utilities Revisions...

General:

New: Added new Utility: Texture Optimizer II

BSDF Converter:

New: Add new capability of importing Radiant imaging (Imaging sphere) file.

Update: Fix the issue when importing Alanod file when Language is Italian – 6444

Surface Source Property Generator:

Update: Add descriptions about Image File Source and Volume File source – 6473

Update: Fix the issue that crashes when choosing Gaussian or Lambertian radiation pattern for generating the Image File Source

Texture Optimizer II:

New: Add new feature of placing dots in UV coordinate

New: Add capabilities of adding/deleting cells

New: Add new capability of placing dots in fix-grid, fix-hex distribution with the specified coefficients

3D Interactive Optimizer:

New: Add feature of moving control point by arrow keys

New: Add feature of increasing/decreasing move step by +/- keys

New: Add new operand of radiance target

New: Add help of import from/export to text file for BSpline surface – 6499

New: Add new option for Flux operand - Normalized

New: Add new after-scheme command - exportsurface

New: Add new segment type - Periodic

New: Add new capability of importing/exporting BSpline surface from/to file – 793, 5376, 5959, 6072

New: Add new after-scheme commands to retrieve position of control point

Update: Fix the issue that when creating reflector object, if the Boolean operation fails when cutting the hexagonal facet, the objects will be removed from TracePro

Update: Fix the issue that the uniformity target is not changed when modifying the default values – 6512

Update: Fix the issue that ray display is wrong – 6528

Update: Change the behavior of moving conic segment when the Conic type is locked to Circular

Update: Increasing the sampling number for Candela profile comparison to improve the accuracy

Update: Fix the issue that when using asymmetric profile to create radial symmetric object, if the profile has any edge on the revolving axis, the object cannot be created in TracePro – 6497

Update: Fix the issue that cannot export multiple lens objects to TracePro – 6497

Update: Fix the issue that Trend chart is displaying data with an "off by one" error for variable scan – 6432

Update: Fix the issue that Biaxial object won't be saved to file

Update: Fix the issue that moving a symmetric profile will crash if there is any non-mirrored control point in it.

Update: Fix the issue that pickup is failing in some cases

Update: Fix the issue that variables for control point on Spline reflector are not appearing in Variable list in Optimization window – 6459

Solar Emulator:

New: Add the new function of loading analysis report

New: Add new capability of adjusting the y axis range of the report

New: Add new Sun tracking mode - Uniaxial-Suntrack

Update: Fix the incorrect expression of Solar altitude in Sky model - Darula and Kittler.