LUMATIC LAB / SOFTWARE DOCUMENTATION

LUT COMPATIBILITY & EXPORT GUIDE

How to load, select, inspect and export 3D .cube LUTs safely.

DOCUMENT: 03 / LUT GUIDE
APPLICATION: Lumatic Lab B&W Lite
VERSION: 2.6.1
FORMAT: A4 portrait
LANGUAGE: British English

DOCUMENT CONTROL

This guide describes the supplied B&W Lite v2.6.1 HTML application. Interface labels and behaviour are based on inspection of that build. It is not a promise that every browser or computer will behave identically.

A practical reference for photographers working with monochrome conversion, creative toning and 3D LUT export.

IMPORTANT — 3D LUT LIMITATIONS

A 3D LUT records global colour transformations. It cannot record image-specific or spatial effects such as vignettes, film grain, masks, local adjustments or processing that depends on image position or content. Complete Look LUT export includes applicable global colour and tonal transformations only. It cannot guarantee an identical reproduction of every effect visible in the edited photograph.

1. What a 3D LUT does

A three-dimensional Look-Up Table (3D LUT) maps an input RGB triplet to an output RGB triplet. It is useful for carrying a repeatable global colour transformation between compatible applications. It does not store image pixels, layers, masks, local corrections or editing history.

B&W Lite generates 33 × 33 × 33 LUTs. This grid contains 35,937 colour entries. The application accepts 3D .cube LUTs with edge lengths from 2 through 33; no dimension may exceed 33.

2. Supported input files

Requirement	B&W Lite v2.6.1
File extension	.cube
LUT type	3D LUT only; 1D LUT files are not supported.
Edge length	2 to 33 entries per dimension; maximum 33 × 33 × 33.
File size	12 MB maximum per LUT file.
Stack capacity	Up to 100 LUTs.
Data rows	Exactly N × N × N RGB triplets for the declared LUT_3D_SIZE.
RGB values	Finite numeric values between 0 and 1.
Domain	DOMAIN_MIN and DOMAIN_MAX are recognised when valid.

The parser recognises comments, TITLE, LUT_3D_SIZE, DOMAIN_MIN and DOMAIN_MAX. The file must declare one valid LUT_3D_SIZE and contain the exact number of data rows. Duplicate size declarations, missing size declarations, malformed rows, invalid ranges or an incorrect row count cause rejection.

3. Loading and selecting LUTs

- Choose LOAD INTO STACK or drag .cube files onto the LUT Stack panel.
- The file picker allows multiple LUT files to be selected together. This is multiple-LUT loading, not multiple-image processing.
- A successfully loaded LUT is added to the stack. If no LUT was active, the first newly loaded LUT becomes selected.
- Select one stack item to preview it after the B&W Lite conversion.
- Use RENAME to change the displayed stack name, or CLEAR STACK to remove all stack entries.

IMPORTANT STACK BEHAVIOUR

Multiple LUTs may be kept in the stack, but only the selected LUT is applied to the preview and Complete Look export. The application does not sequentially combine every LUT in the list.

4. The two export choices

B&W Conversion LUT

Exports the B&W Lite global transform and current global adjustments. These include channel mix, contrast, selected toning and strength, tonal curve and split-toning settings. It does not include the selected LUT Stack item.

Complete Look LUT

Exports the B&W Lite global transform and current global adjustments, then samples the currently selected LUT after that transform. The export asks for confirmation and repeats the spatial-effect limitation before continuing. If no LUT is selected, there is no stack LUT to include.

Both exports are 33 × 33 × 33 .cube files. They are generated from the global transform rather than from the particular photograph's pixel content. The source image name is used as the basis for the exported filename.

5. What the Complete Look export cannot contain

The Complete Look export is not a complete record of the edited photograph. A conventional 3D LUT has no way to know where a pixel sits in a photograph or what objects, masks or local selections were used. It therefore cannot store or reproduce effects that depend on image position or content.

- Vignettes and other position-dependent effects.
- Film grain or texture overlays.
- Masks and local adjustments.
- Object-aware or content-aware processing.
- Any effect that is not represented by the application's global RGB-to-RGB transformation.

A LUT can reproduce the global colour mapping for compatible RGB input values, but the result may still differ between host applications because of differences in colour management, input/output profiles, LUT interpolation, range handling and processing order.

6. Practical validation

- Export the Complete Look LUT from a known test image and settings state.
- Load that LUT into the intended destination application.
- Apply it to the same source image using a comparable RGB range and colour-management setup.
- Compare the result against B&W Lite's visible global look. Check shadows, midtones, highlights and colour transitions.
- Do not expect spatial or image-specific effects to match; these are outside the LUT's capabilities.
- Keep the original PNG export when an exact rendered image is required.

7. Common LUT problems

Message / symptom	Likely cause / response
UNSUPPORTED: NO .CUBE FILES	The selected files do not have the .cube extension.
MAXIMUM LUT SIZE IS 33^3	The file declares an edge length greater than 33 or less than 2.
LUT FILE SIZE LIMIT: 12 MB	The file is larger than the application's per-file limit.
MISSING LUT_3D_SIZE	The file does not declare a 3D LUT size.
BAD DATA COUNT	The number of RGB rows does not equal N^3.
DATA OUT OF RANGE	An RGB value is non-numeric, non-finite or outside 0–1.
STACK FULL	The 100-entry stack limit has been reached.
Complete Look export unavailable	A selected LUT reference is unavailable; select a valid stack item or clear the invalid selection.

8. LUT terminology

Edge length: the number of sample points along each of the red, green and blue axes. 33^3: 33 × 33 × 33, or 35,937 entries. 3D .cube: a common text-based file format for a three-dimensional RGB lookup table. Global transform: a mapping applied to RGB values without reference to the pixel's location in the image.