Colour Look and Feel Plugins User's Guide
DD-00010-010

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1.2 Feedback and Contact

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1.3 Audience for This Guide

The audience of this guide is assumed to be compositors who have experience with their respective compositing software.

1.4 How to Use This Guide

In this guide every node present in the software plugin is documented with all their input and output values.
Some knowledge of color theory, color spaces and tone curves is recommended.

2 Overview

2.1 Introduction

Colour Look and Feel is a powerful professional technical color mastering plugin set for popular node based compositing software. It provides compositors access to state-of-the-art numerical methods to cope with any technical color mastering challenge posed. The nodes provided explicitly expose full control of their underlying algorithms and are not designed to hold hands.

The plugins are implemented using the standard OpenFX plugin interface and should work across all compositing software supporting this standard.

2.2 Important Note About Color Spaces

The standardized OpenFX[1] plugin interface used by the *Colour Look and Feel* does not explicitly provide information or facilities to obtain the particular RGB color space passed onto the plugins. The standard only specifies that the RGB data is linear but no further tone curves are specified.

As such the *Colour Look and Feel* allows nodes to accept XYZ as well as RGB data of varying color spaces for their inputs and outputs. This input and output color space can be selected for each node individually and is set to sRGB by default.

2.3 Common White Point Selection Parameters

White points can be defined using one of multiple methods in all of the nodes of the *Colour Look and Feel*. The following methods are available:

Illuminant
: Select a white point using a standard illuminant. Currently supports most standard CIE illuminants, see 2.4 for further detail.

Color
: Select a white point using a color value.

Tristimulus
: Select a white point using a tristimulus value *xy*. This can be used to specify non-standard illuminants.

The selected white point is handled independently of the node color space.

2.4 Illuminants

The following illuminants are available with their CIE 1931 2° standard observer tristimulus values.

[1] https://openeffects.org/

Standard	Name	CCT
CIE 15:2004	CIE A	2856K
	CIE B	4874K
CIE 15:2004	CIE C	6774K
CIE 15:2004	CIE D50	5003K
CIE 15:2004	CIE D55	5503K
CIE 15:2004	CIE D65	6504K
CIE 15:2004	CIE D75	7504K
	CIE D93	9305K
	CIE E	5454K
CIE 15:2004	CIE F1	6430K
CIE 15:2004	CIE F2	4230K
CIE 15:2004	CIE F3	3450K
CIE 15:2004	CIE F3.1	2932K
CIE 15:2004	CIE F3.2	3965K
CIE 15:2004	CIE F3.3	6280K
CIE 15:2004	CIE F3.4	2904K
CIE 15:2004	CIE F3.5	4086K
CIE 15:2004	CIE F3.6	4894K
CIE 15:2004	CIE F3.7	2979K
CIE 15:2004	CIE F3.8	4006K
CIE 15:2004	CIE F3.9	4853K
CIE 15:2004	CIE F3.10	5000K
CIE 15:2004	CIE F3.11	5854K
CIE 15:2004	CIE F3.12	2984K
CIE 15:2004	CIE F3.13	3896K
CIE 15:2004	CIE F3.14	5045K
CIE 15:2004	CIE F3.15	6509K
CIE 15:2004	CIE F4	2940K
CIE 15:2004	CIE F5	6350K
CIE 15:2004	CIE F6	4150K
CIE 15:2004	CIE F7	6500K
CIE 15:2004	CIE F8	5000K
CIE 15:2004	CIE F9	4150K
CIE 15:2004	CIE F10	5000K
CIE 15:2004	CIE F11	4000K
CIE 15:2004	CIE F12	3000K
CIE 15:2004	CIE HP1	1959K
CIE 15:2004	CIE HP2	2506K
CIE 15:2004	CIE HP3	3144K
CIE 15:2004	CIE HP4	4002K
CIE 15:2004	CIE HP5	4039K
CIE 15:2018	CIE LED-B1	2733K
CIE 15:2018	CIE LED-B2	2998K
CIE 15:2018	CIE LED-B3	4103K
CIE 15:2018	CIE LED-B4	5109K
CIE 15:2018	CIE LED-B5	6598K
CIE 15:2018	CIE LED-BH1	2851K
CIE 15:2018	CIE LED-RGB1	2840K
CIE 15:2018	CIE LED-V1	2724K
CIE 15:2018	CIE LED-V2	4070K

3 Node Documentation

3.1 CLF_LinearChroma - Linear Chromatic Adaptation

Internal Identifier: `de.adelsbach.clf.LinearChroma`

This node provides linear chromatic adaptation methods, given a source and target illuminant value. The node accepts RGBA data and outputs RGBA data, the alpha channel is passed through unchanged.

The following parameters are available:

Input/Output
Input output color space, see 2.2 for more information.

Method
Specifies the linear chromatic adaptation transformer. The following transformers are supported:

VonKries

Bradford

Wassef

Sobagaki

Sharp

CAT02

CAT16

Scaling

Source White Point
Source white point illuminant. Refer to 2.3 for parameter documentation.

Target White Point
Target white point illuminant. Refer to 2.3 for parameter documentation.

3.2 CLF_CMCCAT2000Chroma - CMC CAT2000 Chromatic Adaptation

Internal Identifier: `de.adelsbach.clf.CMCCAT2000Chroma`

This node provides CMC CAT2000 chromatic adaptation. This adaptation method in addition to the source and target white points also takes into account the luminosity of the latter in cd/m^2 as well as a general induction factor. The node accepts RGBA data and outputs RGBA data, the alpha channel is passed through unchanged.

The following parameters are available:

Input/Output
Input output color space, see 2.2 for more information.

Source White Point
Source white point illuminant. Refer to 2.3 for parameter documentation.

Source Luminance
Luminance of the source white point illuminant in cd/m^2.

Target White Point
Target white point illuminant. Refer to 2.3 for parameter documentation.

Target Luminance
Luminance of the target white point illuminant in cd/m^2.

Induction
Induction value for the lighting conditions in the range $[0, 1]$. This is typically 1.0 for average lighting and 0.8 for dim lighting.

3.3 CLF_CMCCAT1997Chroma - CMC CAT1997 Chromatic Adaptation

Internal Identifier: `de.adelsbach.clf.CMCCAT1997Chroma`

This node provides CMC CAT1997 chromatic adaptation. This adaptation method in addition to the source and target white points also takes into account the luminosity of the target in cd/m^2 as well as a general induction factor. The node accepts RGBA data and outputs RGBA data, the alpha channel is passed through unchanged.

The following parameters are available:

Input/Output
: Input output color space, see 2.2 for more information.

Induction
: Induction value for the lighting conditions in the range $[0, 1]$. This is typically 1.0 for average lighting and 0.8 for dim lighting.

Source White Point
: Source white point illuminant. Refer to 2.3 for parameter documentation.

Source Luminance
: Luminance of the source white point illuminant in cd/m^2.

Target White Point
: Target white point illuminant. Refer to 2.3 for parameter documentation.

3.4 CLF_BartlesonChroma - Bartleson Chromatic Adaptation

Internal Identifier: `de.adelsbach.clf.BartlesonChroma`

This node provides Bartleson chromatic adaptation, given a source and target illuminant value. The node accepts RGBA data and outputs RGBA data, the alpha channel is passed through unchanged.

The following parameters are available:

Input/Output
Input output color space, see 2.2 for more information.

Source White Point
Source white point illuminant. Refer to 2.3 for parameter documentation.

Target White Point
Target white point illuminant. Refer to 2.3 for parameter documentation.

3.5 CLF_ZhaiLuoChroma - Zhai Luo Chromatic Adaptation

Internal Identifier: `de.adelsbach.clf.ZhaiLuoChroma`

This node provides Zhai Luo chromatic adaptation, given a source and target illuminant value. The node accepts RGBA data and outputs RGBA data, the alpha channel is passed through unchanged.

The following parameters are available:

Input/Output
Input output color space, see 2.2 for more information.

Method
The adaption matrix to be used, the following options are available:

CAT02

CAT16

Source White Point
Source white point illuminant. Refer to 2.3 for parameter documentation.

Source Adaption Degree
Degree of the source adaptation.

Target White Point
Target white point illuminant. Refer to 2.3 for parameter documentation.

Target Adaption Degree
Degree of the target adaptation.

Baseline White Point
Baseline white point illuminant. Refer to 2.3 for parameter documentation.

Sample White Point
Sample white point illuminant. Refer to 2.3 for parameter documentation.

3.6 CLF_CIE1994Chroma - CIE 1994 Chromatic Adaptation

Internal Identifier: `de.adelsbach.clf.CIE1994Chroma`

This node provides CIE1994 chromatic adaptation, given a source and target illuminant value. The node accepts RGBA data and outputs RGBA data, the alpha channel is passed through unchanged.

The following parameters are available:

Input/Output
Input output color space, see 2.2 for more information.

Noise
Noise factor.

Luminance Factor
Luminance factor.

Source White Point
Source white point illuminant. Refer to 2.3 for parameter documentation.

Source Luminance
Source white luminance in cd/m^2.

Target White Point
Target white point illuminant. Refer to 2.3 for parameter documentation.

Target Luminance
Target white luminance in cd/m^2.

4 Glossary

The following provides brief descriptions of common terms and their meaning in this manual.

Chromatic Adaptation
: Same functionality as *white balance* in cameras. It allows transition of an image between different illuminants such as tungsten (3000K) to daylight (6000K).

Illuminant
: A light source.

Luminosity
: Strength of a light source, generally in SI units of *candela per square meter* $\mathrm{cd/m^2}$.

CCT
: Correlated color temperature, is the radiated light temperature of planckian black body radiator of a given heat.

5 Acknowledgements

This product incorporates the OpenFX API standard:

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