

## CalMAN

Introduction

+

Simulated Meter  
SimulatedSource  
Samsung 2017 QLED  
CustomWorkflow →  
Description  
INT  
Intro

## Welcome to the HT Enthusiast Extended Workflow

v17.0.0

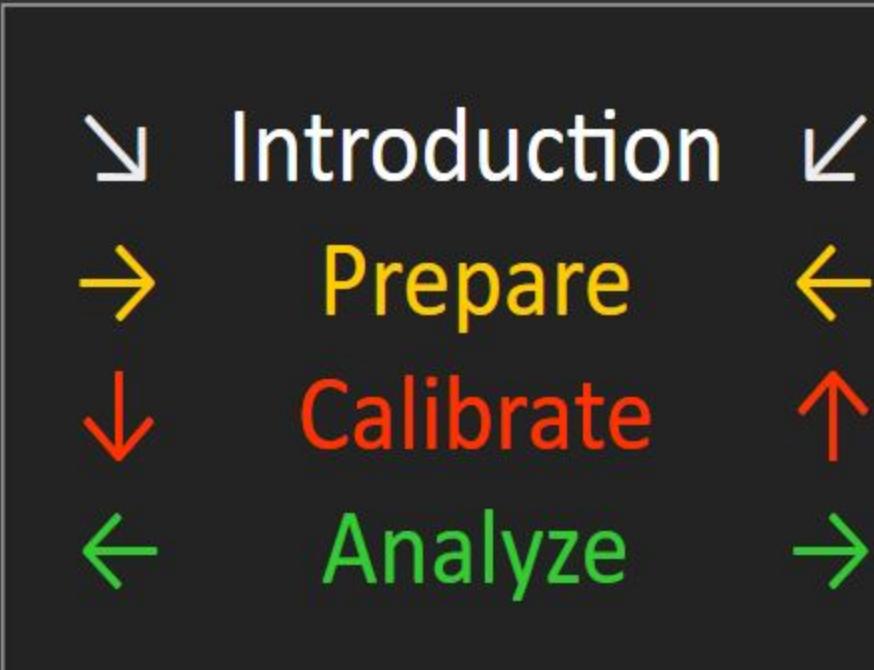
## Featuring ...

- ▶ Home layout outlines the workflow structure with full access
- ▶ Comprehensive Notes Management - access button always at bottom right
- ▶ Integrated hardware configuration, session setup and dynamic range assessment layout
- ▶ Comprehensive meter profile analysis and maintenance layout
- ▶ Single layout takes all desired Pre- or Post-calibration readings
- ▶ Expanded Multi-Point Grayscale calibration, pre/post-cal charts, and datagrid layouts
- ▶ CMS Gamut detailed calibration layout
- ▶ Saturation Sweep detailed calibration, pre/post-cal charts, and datagrid layouts
- ▶ 3D Color Cube LUT calibration, detailed charts, and datagrid layouts
- ▶ Gamut Luminance & Color Check cal assessment, pre/post-cal charts and datagrid layouts
- ▶ Layout indicators: Calibration Charts Datagrids
- ▶ High-count calibration points and HDR friendly

 Home  
 Session Setup

## Also featuring navigation for the Mouse Lazy ...

- ▶ Navigation bar shows where you are and takes you where you want to go
- ▶ Calibration scheduling function is integrated with the Nav Bar Next/Back buttons
- ▶ Toggle buttons switch between complementary layouts with one click:
  - between the Calibration layouts and their corresponding Datagrid
  - between the Pre-Calibration Readings and Post-Calibration Readings
  - between corresponding Pre-Calibration and Post-Calibration Details
  - between corresponding Post-Calibration Details and Datagrids
- ▶ And more!

 Session Setup Notes  
 PreCal Read Next


CalMAN HDR10



Next »

Intro

HOME

Prepare

Session Setup

PreCal Read

Calibrate

↑ Gry

↑ CMS

↑ Sat

↑ LUT

↑ Lum

↑ CCk

PostCal Read

Analyze

↓ Gry

↓ Sat

↓ Lum

↓ CCk

↓ LUT

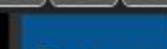
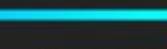
↓ Final Check

**CaIMAN**

Workflow Description

Simulated Meter  
Simulated

Source

Samsung 2017 QLED  
CustomDCC  
⚙️  
?

Nav Bar

Return

INT

Home

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Next »

Intro



HOME

Prepare

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Setup

PreCal

Read

Calibrate

Multi-Point and 2-Point

↑ Gry

↑ CMS

↑ Sat

Full &amp; Minimal

→ ↓ LUT

↓ Lum

↓ CCK

PostCal

Read

Analysis Nav Bar and Next / Back buttons follow

current view:

Datagrids

# Gry

# Sat

# Lum

# CCK

Pre-Cal &amp; Post-Cal Charts → Analyze

← context navigation →

↓ Gry

↓ Sat

↓ Lum

↓ CCK

Charts from Full &amp; Minimal calibration →

↓ LUT

Final

Check

WORKFLOW OVERVIEW

The HT Enthusiast Extended Workflow aims at providing all the possible calibration options in an accessible user-friendly manner.

The workflow is divided into four sections or zones with a corresponding color for the three working zones.

- 1) ► **Introduction:** Provides general information about the workflow and its features, and random access to all layouts
- 2) ► **Preparation Zone:** Enter session and device setup information , take pre-calibration readings for reference, plan the dynamic aspects of the session (contrast, brightness, etc.)
- 3) ► **Calibration Zone:** Contains the calibration layouts with matching datagrids, and the post-calibration readings layout for all views except the 2-Point Grayscale and 3D Color Cube LUT
- 4) ► **Analysis Zone:** Has detailed charts and datagrids for all views in the pre- and post-calibration states (except the 3D Color Cube LUT which feeds off the calibration layout) and a final check layout for dynamic range fine-tuning with a session summary

ACTIVE CALIBRATION VIEWS

- 2-Point Grayscale
- Multi-point Grayscale
- Saturation Sweeps, also used for basic CMS calibration
- Gamut Luminance
- Color Checker with option for Slim Datagrid
- 3D Color Cube LUT with tabs for Full-feature and Minimal
- Use Minimal layout tab for hopefully faster AutoCal.
- All active calibration layouts except 2-Point have full-screen datagrids.
- Use the Slim high-content Color Checker datagrid for faster processing of hundreds of colors.

Layout indicators:

↑ Calibration

∫ Charts

# Datagrids

**Show Outline**ANALYSIS CHARTS

Except the 2-Point Grayscale and 3D Color Cube LUT, there are pre-calibration and post-calibration detail chart layouts for each active calibration view.

You can toggle between them by clicking the ↑ PreCal or ↑ PstCal button in the Nav Bar (they super-impose when the layout switches so just keep clicking to go back and forth). Other ↑ buttons in the Nav Bar perform similar toggling duties.

Unlike in the other color views, the CIE chart in the Color Checker pre- and post-calibration chart layouts is a display option accessible by checking the CIE Chart option.

Supplementing the charts are analysisdatagrid layouts with both pre- and post-calibration data for each active calibration view. You can access them using the #Datagrid buttons.

KEY LAYOUTS

**Home** - has a layout map for getting the lay of the land and a fully loaded navigation matrix for access to all layouts.

**Session Setup** - Integrates calibration options, initial settings & notes, and hardware/device configuration.

**Pre-Calibration Readings, Post-Calibration Readings** - these identically configured layouts are master controls for the pre- and post-calibration states with combined and selective reading of all views. They feed all the detail charts and datagrids. You can toggle between the pre- and post-cal reading layouts, and between a reading layout and its corresponding detail layouts, in the Nav Bar (↑ PreCal and ↑ PstCal) and the explicit toolbar buttons.

**Final Check** - Analyzes and fine-tunes the dynamic range aspect and provides a comprehensive calibration summary.

NAVIGATION BAR

Displays the normal layout sequence with instant access across views and zones

Current Layout Context

Next / Back in workflow sequence and / or buttons for navigation to related layouts

Red arrow indicates position in workflow

Screen Uniformity ScUni ← context navigation →

Normal workflow sequence

PreCal Read

Calibrate

Multi-Point and 2-Point

↑ Gry

↑ CMS

↑ Sat

Full &amp; Minimal

→ ↓ LUT

↓ Lum

↓ CCK

PostCal

Read

Analysis Nav Bar and Next / Back buttons follow

current view:

Datagrids

Pre-Cal &amp; Post-Cal Charts → Analyze

← context navigation →

↓ Gry

↓ Sat

↓ Lum

↓ CCK

Charts from Full &amp; Minimal calibration →

↓ LUT

Final

Check

← context navigation →

↓ Gry

↓ Sat

↓ Lum

↓ CCK

Final Check

← context navigation →

↓ Gry

↓ Sat

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↓ CCK

Final Check

← context navigation →

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Final Check

← context navigation →

↓ Gry

↓ Sat

↓ Lum

↓ CCK

Final Check

← context navigation →

↓ Gry

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Final Check

← context navigation →

↓ Gry

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Final Check

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Final Check

← context navigation →

↓ Gry

↓ Sat

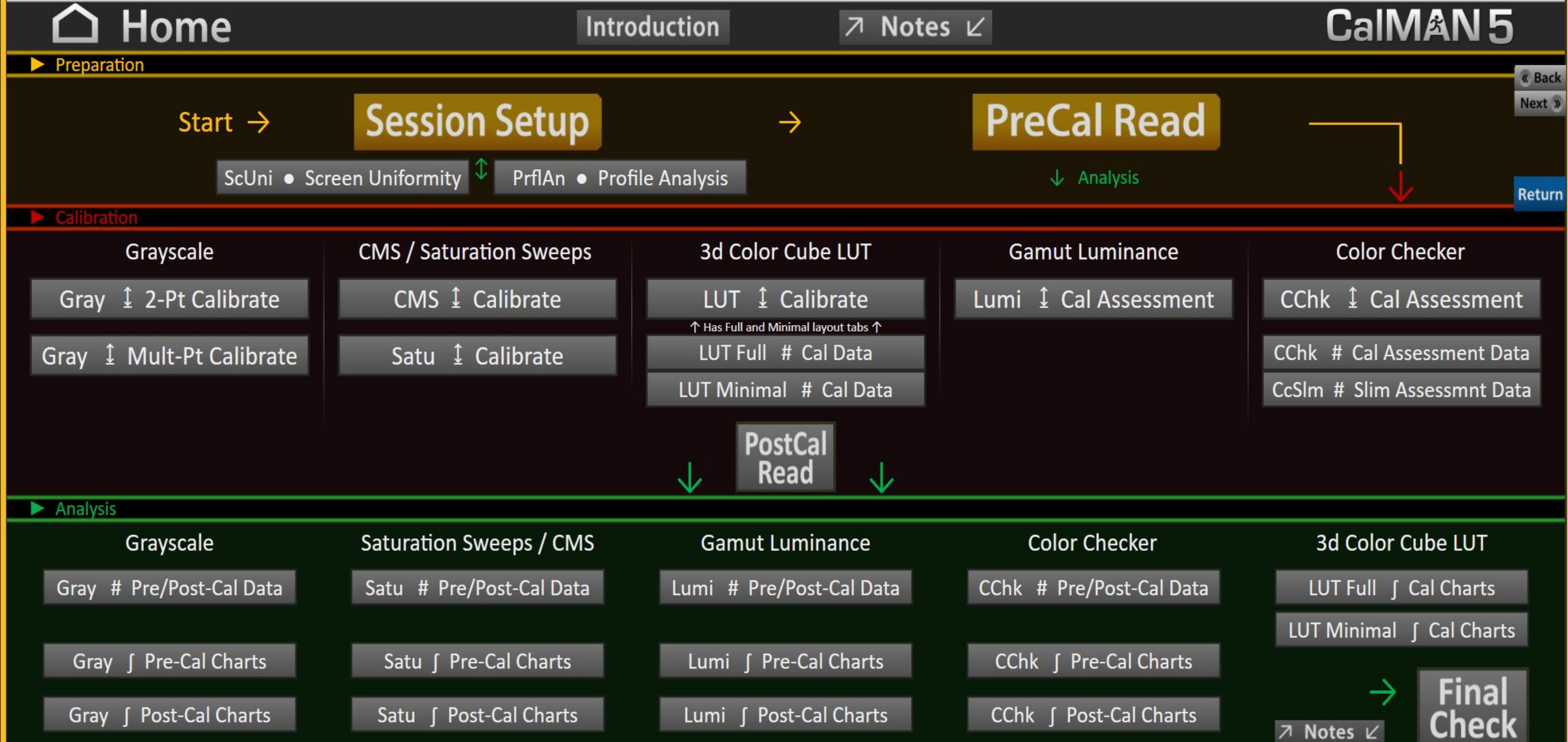
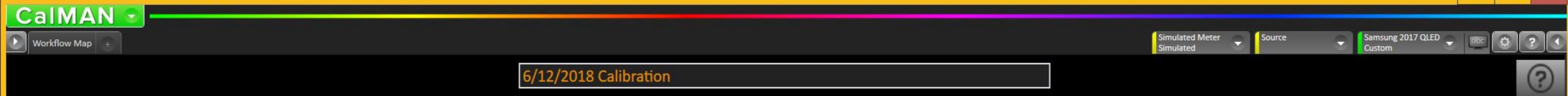
↓ Lum

↓ CCK

Final Check

← context navigation →





Layout indicators: ↑ Calibration ∫ Charts # Datagrids

PreCal Read → Notes ↵

« Back Next »

## CalMAN 5

Notes Management

Simulated Meter  
LCD Direct View

Source

Direct Display Control



## Setup Notes

## Calibration Notes

## Pre-Calibration Notes

REF

Notes

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Calibrate

↑ Gry

↑ Sat

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PostCal  
Read

Analyze

ʃ Gry

ʃ Sat

ʃ Lum

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ʃ LUT

Final  
Check

Return

## Calibration Description / Goals

## Color Notes

## Post-Calibration Notes

PreCal Read

Session Setup

Home

Final Check

**CalMAN**

**(A) Session Options**

Session Setup | Setup Help | +

6/12/2018 Calibration

Start New Session

Setup Notes

Session Info

More Options

Use u'v' CIE Charts

Luminance Unit: cd/m<sup>2</sup>

Input Level: Video (16-235)

Stimulus Unit: Percent

DeltaE Formula: dE2000 JNDab

Colorspace Target: D65, HD BT.709

Gamma Formula: ITU BT.1886

Display • 75Q9FN

cd/m<sup>2</sup> Blk fL Target Black and White cd/m<sup>2</sup> Wht fL Target Gamma

0.0001 3E-05 100 29.2 1

**(B) Display Settings**

AV Mode: Cal Day 100 nits

Color Temp: Warm 2

Contrast: 36

Sharpness: 0

Brightness: 1

Color: 26

Backlight: 9

Tint: 15

TV Gamma: 0

Cut Gain

Red: 0 2

Green: 0 3

Blue: 1 2

**(C) Hardware Configuration**

**① Meter**

Find → Manage Kill All

Mode: Simulated

**② Pattern Source**

Find → Manage Kill All

Size: Constant APL 18

Source

Delay: 0.5

**③ Display / Processor**

Find → Manage Kill All

Slot: Custom

Samsung 2017 QLED

Samsung - 2017 QLED 9600 baud COM 3

Gray Levels: SDR

**(D) Meter Setup**

Position the meter as required for the projector or flat panel to insure accurate measurements when taking readings.

**Projector**: Diagram showing a projector pointing at a screen with a meter positioned in front of it.

**Flat Panel**: Diagram showing a flat panel display with a meter positioned in front of it.

**(E) Dynamic Range**

- Select a suitable set of gray data points and check the gamma level across the full grayscale based on the current settings, and adjust the display's various level controls to get a suitable lowest and highest value, tweaking available Backlight, Luminance and such, and Brightness for Black level & Contrast for White.
- Select a clipping set of data points to check there is no clipping of the three primaries below and above the White level.

DDC: 13 Point 5/10% step 5-100%

**Gamma**

Level	Gamma
5	2.35
10	2.40
20	2.42
50	2.43
100	2.43

cd/m<sup>2</sup> White / Black 100 / 0

Level: 5 Target

Gamma 0: 2.4

CCT: 0 6503

Y: 0 0.088

Final Check

Setup

DDC

Notes

5 10 15 20 25 30 40 50 60 70 80 90 100

Back Next

**CalMAN**

Session Setup | Setup Help | + | Simulated Meter | Source | Samsung 2017 QLED Custom | DDC | Setup | ? | Back | Next | Notes

### (A) Session Options

Start New Session | Session Info | More Options | X

Setup Notes

Calibration Description / Goals

Notes ↕

Display • 75Q9FN

cd/m <sup>2</sup>	Blk	Target Black and White	fL	cd/m <sup>2</sup>	Wht	Target	Gamma
0.0001	3E-05	100	29.2	1			

### (B) Display Settings

AV Mode: Cal Day 100 nits

Color Temp	Warm 2	Contrast	36	Cut		Gain	
Sharpness	0	Brightness	1	Red	0	2	
Color	26	Backlight	9	Green	0	3	
Tint	15	TV Gamma	0	Blue	1	2	

### Display Controls

Expert Mode (Cal Day/Night) X

HDR [ ]

Picture Mode: Movie

Picture Size: 16x9

Fit to Screen: On

Backlight: 10

Brightness: 1

Contrast: 33

Sharpness: 0

Color: 25

Tint (G/R): 15

Apply Picture Settings: All Sources

Digital Clean View: Off

Auto Motion Plus: Custom

Local Dimming: Low

Reset Mode X DDC

X DDC 13 Point 5/10% step 5-100%

Gamma

cd/m <sup>2</sup>	White / Black	
100 / 0		
Level	5	Target
Gamma 0	2.4	
CCT 0	6503	
Y 0	0.088	
Setup		

X DDC

**CalMAN**

**(A) Session Options**

Session Setup 6/12/2018 Calibration Start New Session

Setup Notes

Calibration Description / Goals

Notes

Display • 75Q9FN

cd/m <sup>2</sup>	Blk	Target Black and White	cd/m <sup>2</sup>	Wht	Target Gamma
0.0001	3E-05	100	29.2	1	

**(B) Display Settings**

AV Mode Cal Day 100 nits

Color Temp	Contrast	Cut	Gain
Warm 2	36	Red	2
Sharpness	Brightness	Green	3
0	1	Blue	2
Color	Backlight		
26	9		
Tint	TV Gamma		
15	0		

**(C) Hardware Configuration**

Meter Settings

Reference Meter Simulated Meter - 12345678

Advanced Options

Target Meter Simulated Meter - 12345678

Advanced Options

Source

Source - 1

Stimulus Level: 100

Prompt for pattern changes

Profile Information

Current Profile None

Add Profile

Display Type

	I	X	Y	Z
X	0	1	0	0
Y	0	0	1	0
Z	0	0	0	1

Screen Uniformity Profile Analysis

PRP Setup

Back Next ScUni PrfAn HOME Prepare ScUni PrfAn PreCal Read Calibrate Gry CMS Sat LUT Lum CCk PostCal Read Analyze Final Check Setup

5 10 15 20 25 30 40 50 60 70 80 90 100 Back Next Notes

**CaIMAN**

Session Setup | Setup Help | + | Simulated Meter | Simulated | Source | Samsung 2017 QLED Custom | DDC | Notes | ? |

## Setting Up the Session

[Return](#)

### (A) CalMAN Session Options

Enter the session description & calibration options in the corresponding dropdowns and text boxes

- Click [Session Info] to enter additional information
- Click [More Options] to open the options panel - the red [X] can be used to close it
- Click the checkmark above/below [Big] to expand the note next to it

### (B) Display Settings

Enter the initial display settings to use for the calibration in the corresponding boxes - you can provide alternates in the Pre- and Post-Calibration layouts

### (C) Hardware Configuration

1. To start calibrating your display/processor, first connect your meter.
  - a) Click the meter [Find] button and select your meter.
  - b) Select the Target Display Type.
2. Connect to your reference pattern source generator.
  - a) Click the source [Find] button, and select your Source.
  - b) Select the pattern window size and resolution.
3. Connect to your display/processor.
  - a) Click the display [Find] button and select your display or processor.
  - b) Click [DDC] to show the Direct Display Control panel when appropriate
4. Click the corresponding [Configure] button for more options.
5. Click on Profile to select, edit or create a meter profile.

### (D) Meter Positioning

- 1a. For projectors position the meter facing the projection screen, far enough away from the screen to avoid reading the meter's own shadow (see illustration on the left). Continue to take readings.
- 1b. Press the read continuous button to take measurements of a white window while moving the meter up/down/left/right, until the Y Max reading is largest. When Y Max is highest, click Stop.
2. For flat panels position the meter on the center of the screen (see illustration on the right). You do not need to take readings for this placement.
3. You can also read the White level CCT based on the current settings - adjust the display's color temperature to best match the target CCT.

[Return](#)

### (E) Dynamic Range

#### Overall Range

Adjust the Backlight control (for LED) to get the desired compromise between black and white levels: less Backlight = deeper black but lower white level, more Backlight = brighter white but higher black level too.

#### White Level

Data Points: select Clipping or Clipping with Peak White.  
Adjust the Contrast to maximize the white level without clipping any of the three primaries.

#### Gamma Level

Data Points: select a full set of grayscale points for this.  
Check the gamma level across the full grayscale based on the current settings, and adjust the display's gamma control to get a good match, tweaking with the Brightness for Black level & Contrast for White.

5 10 15 20 25 30 40 50 60 70 80 90 100 | Home | Next | Notes |

# CalMAN

Screen Uniformity

Rows 3 Columns 3 Left to right ↑Session Setup

0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0

Gray Levels 4 Point 25% step 25-100% Type Grayscale Target Y 3.7118 Read 0 ΔE 0

25 50 75 100

Simulated Meter Simulated Source Samsung 2017 QLED Custom DDC Notes

PRP ScUni

Setup HOME Prepare Setup Calibrate Analyze

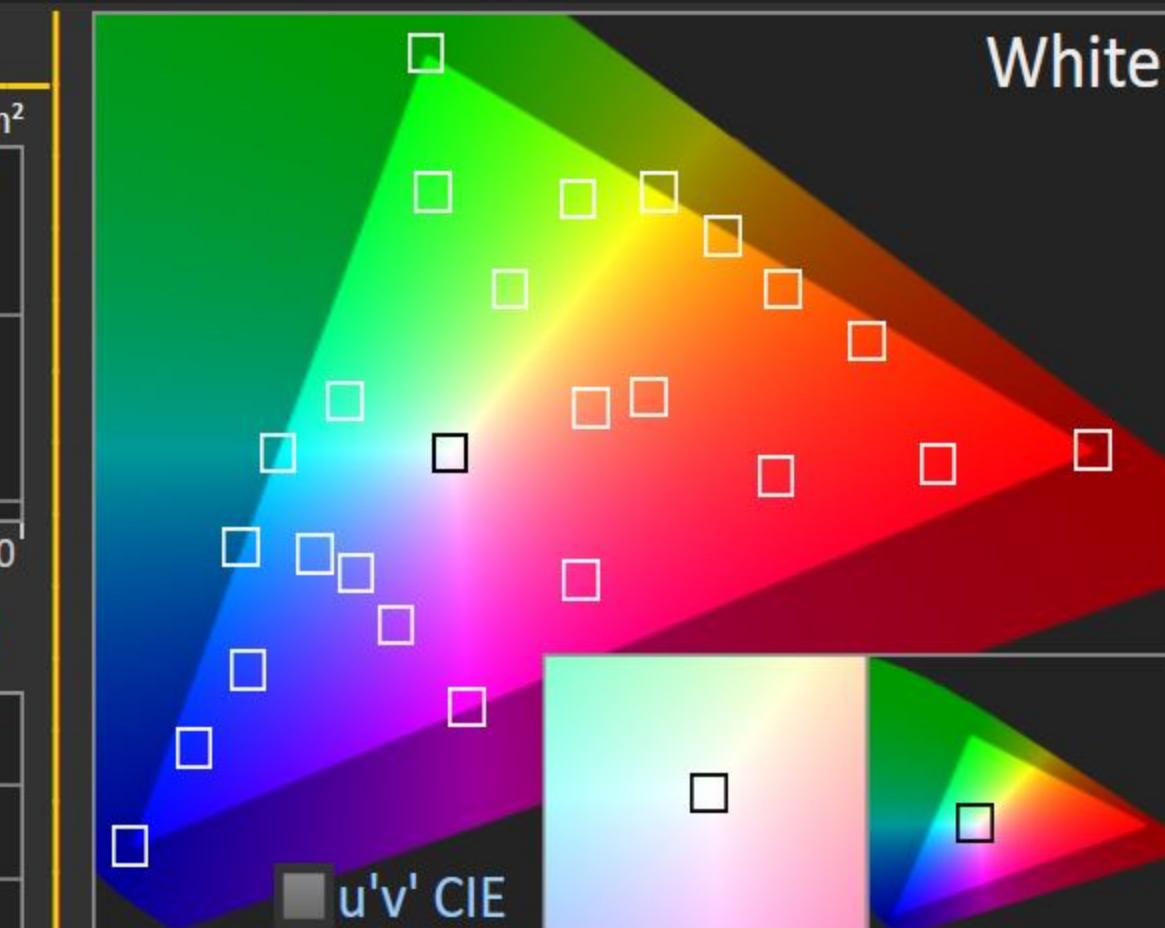
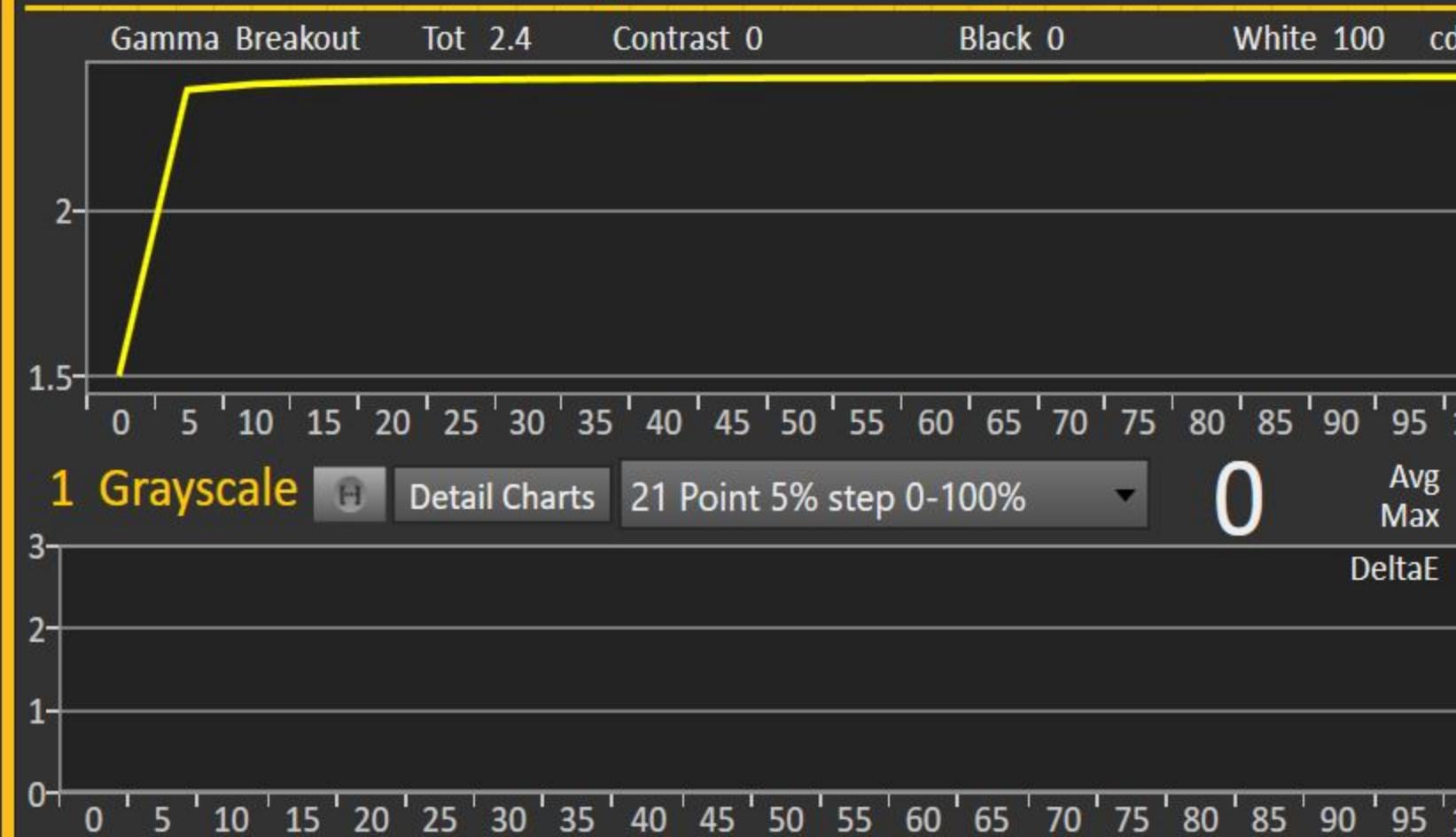




CalMAN

Pre-Cal Readings

6/12/2018 Calibration



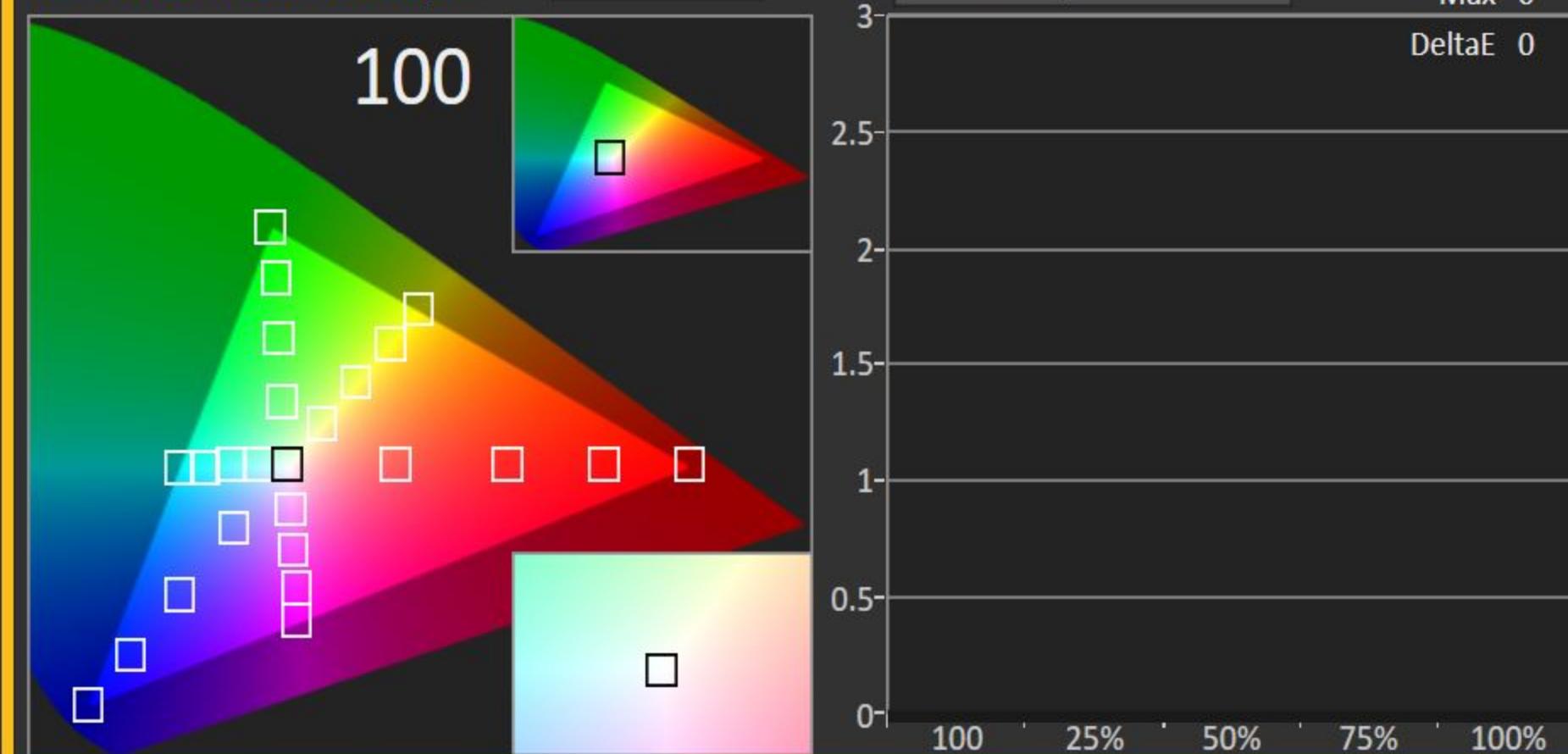
- 100% Magenta
- 100% Blue
- 100% Red
- Magenta
- Red
- Blue
- Yellow Green
- Moderate Red
- Orange
- Blue Flower
- Blue Sky
- Dark Skin
- Gray 5
- Gray 8

A color calibration chart titled "Colorimetric Color Matching". The left side lists color patches with their names: 100% Yellow, 100% Cyan, 100% Green, Cyan, Yellow, Green, Orange Yellow, Purple, Purplish Blue, Bluish Green, Foliage, Light Skin, Gray 35, Gray 65, and White. The right side shows a grayscale gradient from black to white. Below the chart, a legend indicates "Hues" with a dropdown arrow, and a color bar at the bottom shows DeltaE 0, Avg 0, Max 0, and Cal.

Color Patch	DeltaE 0	Avg 0	Max 0	Cal
100% Yellow	0	0	0	Cal
100% Cyan	0	0	0	Cal
100% Green	0	0	0	Cal
Cyan	0	0	0	Cal
Yellow	0	0	0	Cal
Green	0	0	0	Cal
Orange Yellow	0	0	0	Cal
Purple	0	0	0	Cal
Purplish Blue	0	0	0	Cal
Bluish Green	0	0	0	Cal
Foliage	0	0	0	Cal
Light Skin	0	0	0	Cal
Gray 35	0	0	0	Cal
Gray 65	0	0	0	Cal
White	0	0	0	Cal

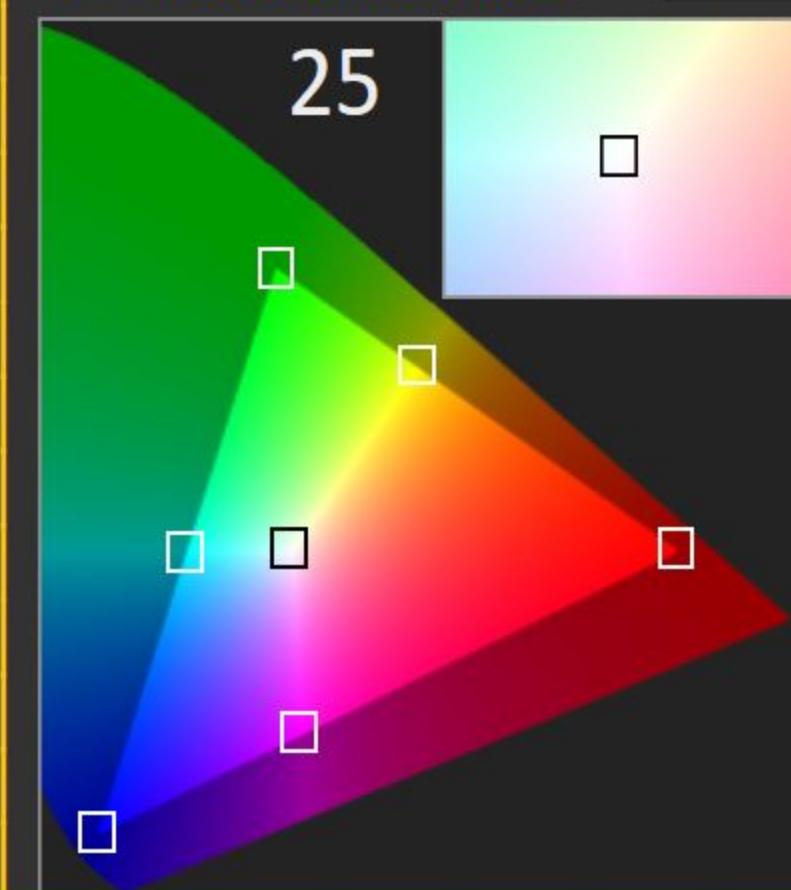
## 2 Saturation Sweeps

 Detail Cha



3 Gamut Luminance

 Detail Charts



Charts 4 Point 25% step 25-100% ▾

Avg 0  
Max 0

Select Colors >

 **I Gry**

Cal Day 100 nits

## Contrast

TV Ga

mma

Red

## Green Blue

## Brightness

10 of 10

color

Gain

100

## Display Slot

## Custom

Use [...] mid-screen or below to read all series  
or select one from the individual series above

Final  
Check

## CaIMAN

2 Pt Grayscale

+

Simulated Meter  
SimulatedSource  
SourceSamsung 2017 QLED  
Custom

DDC

?

&lt;

## ≡ 2-Point Grayscale Calibration ≡

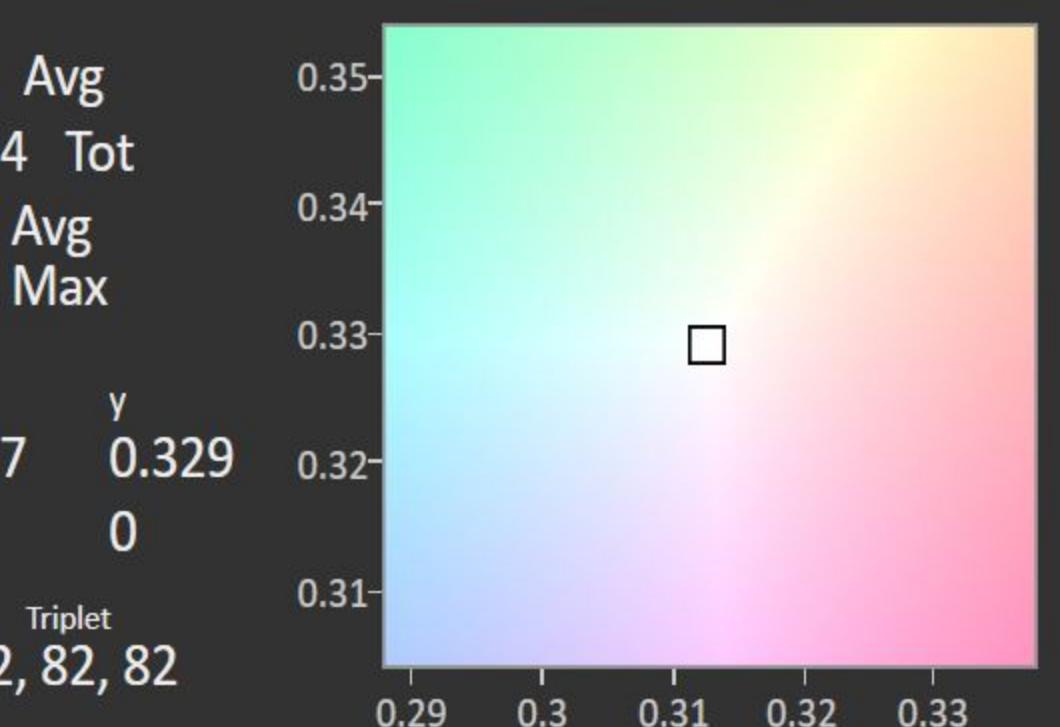
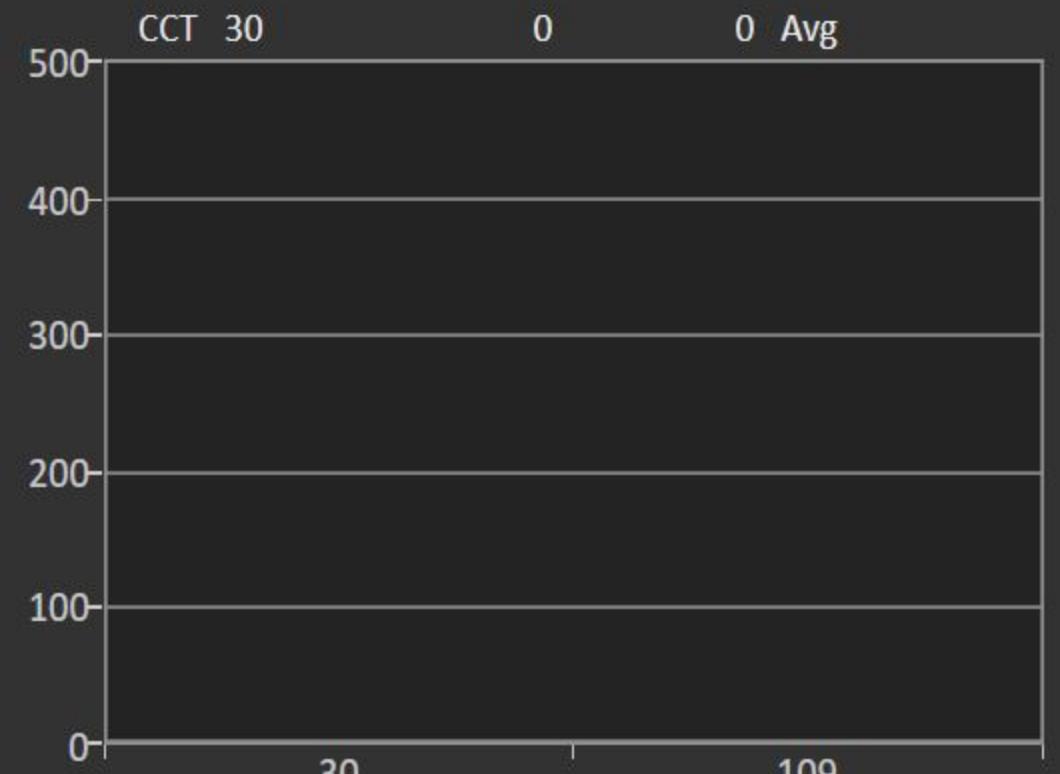
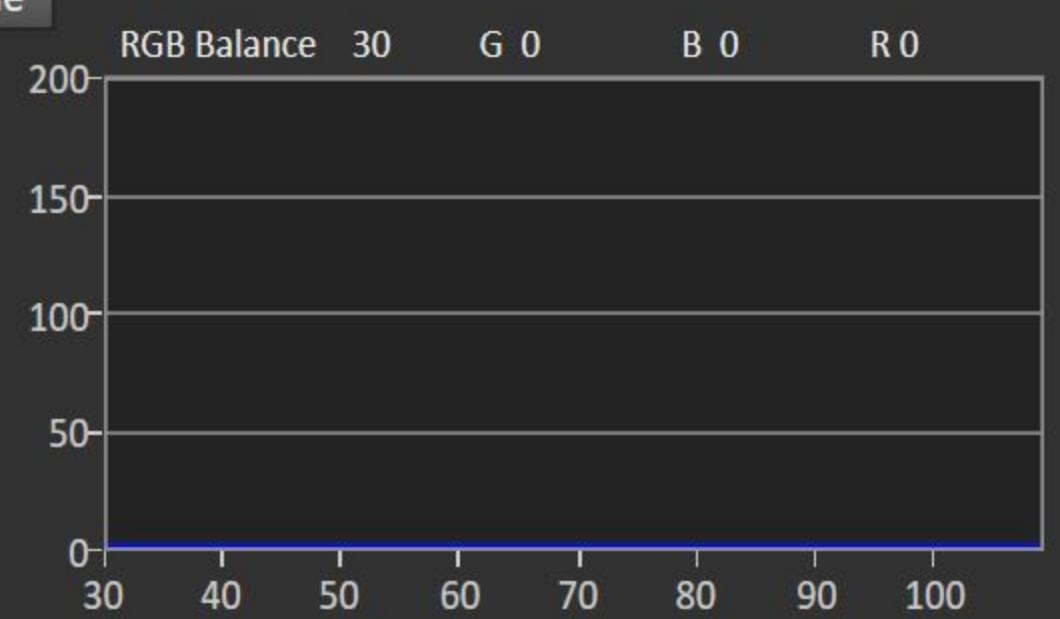
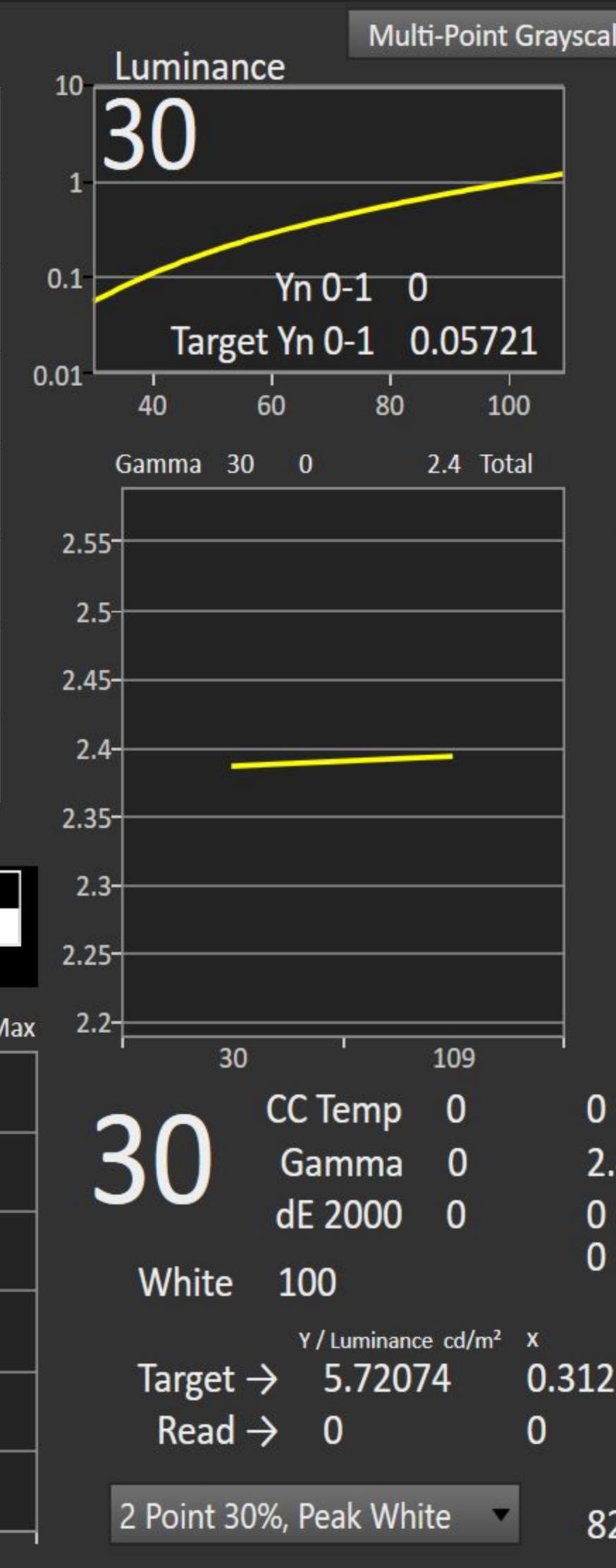
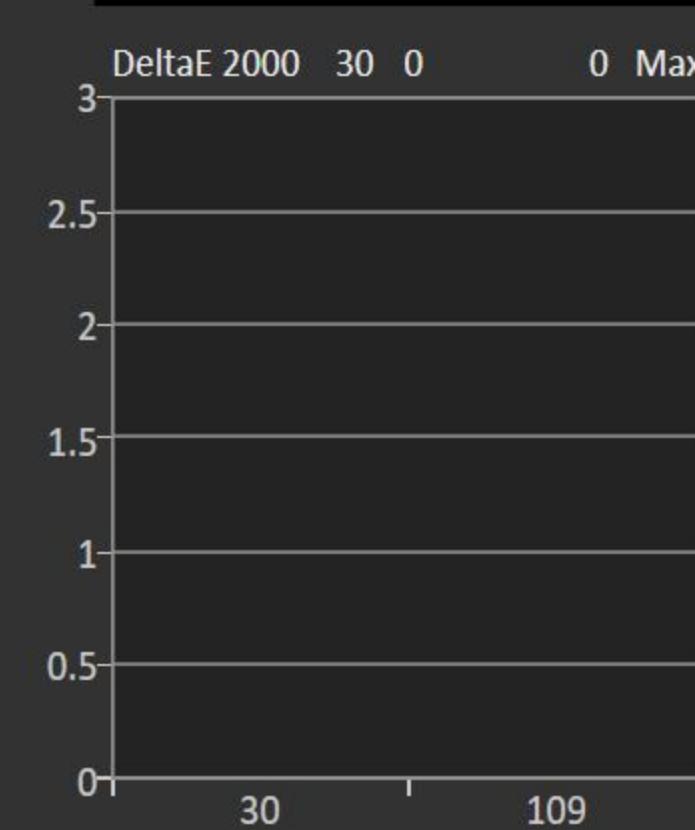
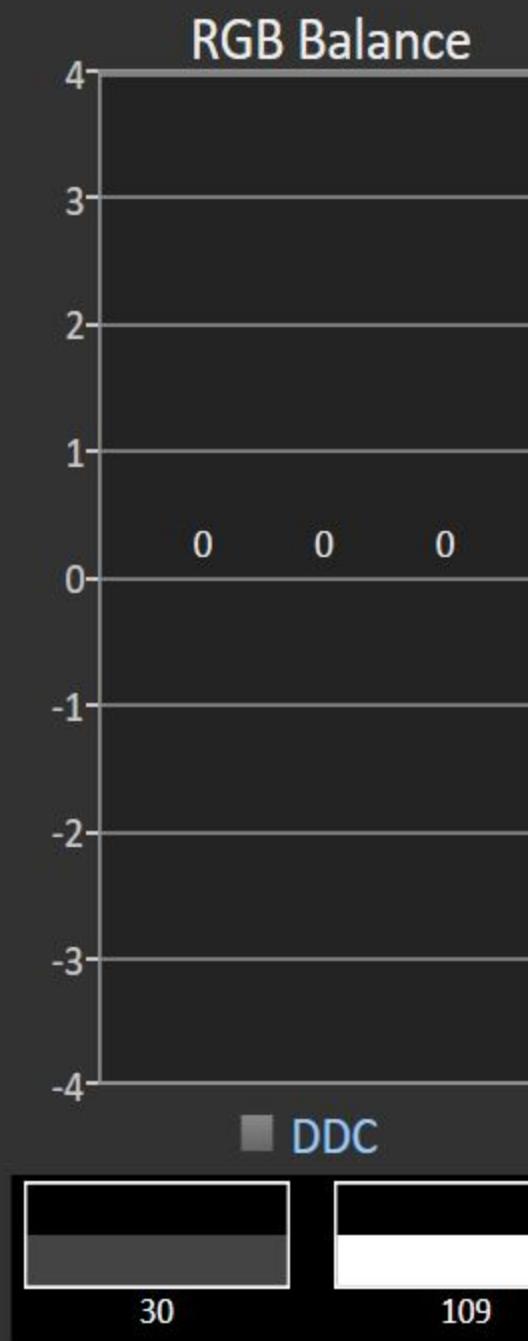
## Grayscale 2-Point Adjust

1. Reduce the Red, Green, and/or Blue (RGB) High controls to the lowest measured R, G, or B after the initial measurement of bright grayscale pattern. Continue doing this until you balance RGB to a deltaE of 3 or below (chart below).
2. Balance the RGB Low controls (if provided), while measuring a dark grayscale pattern.
3. Re-measure both bright grayscale and dark grayscale until both RGB High and RGB Low are balanced and DeltaE is under 3.

## Selecting Points:

- **30% and 80%:** Use these levels if you only have access to a two point grayscale adjustment
- **30% and 100%:** Use these levels if you will be completing a multipoint adjustment afterwards and do not have access to a Peak White pattern.
- **30% and Peak White:** Use these levels if your display does not clip and you will be completing a multipoint calibration and want the best possible results.

	30	109
RGB Triplet	82, 82, 82	255, 255, 255
Red index	82.0000	255.0000
Green index	82.0000	255.0000
Blue index	82.0000	255.0000
X	0.0000	0.0000
Y cd/m <sup>2</sup>	0.0000	0.0000
Z	0.0000	0.0000
Xn 0-1	0.0000	0.0000
Yn 0-1	0.0000	0.0000
Zn 0-1	0.0000	0.0000
Stimulus Percent	0.3014	1.0913
RED Stim%:0-1	0.3014	1.0913
GRN Stim%:0-1	0.3014	1.0913
BLU Stim%:0-1	0.3014	1.0913



- ? CAL
- Gray
- 2-Pnt
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- Final Check
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Notes

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## CaIMAN

2 Pt Grayscale

## ≡ 2-Point Grayscale Calibration ≡

## Display Controls

Tint (G/R)

Apply Picture Settings

Digital Clean View

Auto Motion Plus

Local Dimming

Contrast Enhancer

HDR+ Mode

Color Tone

R-Gain

G-Gain

B-Gain

R-Offset

G-Offset

B-Offset

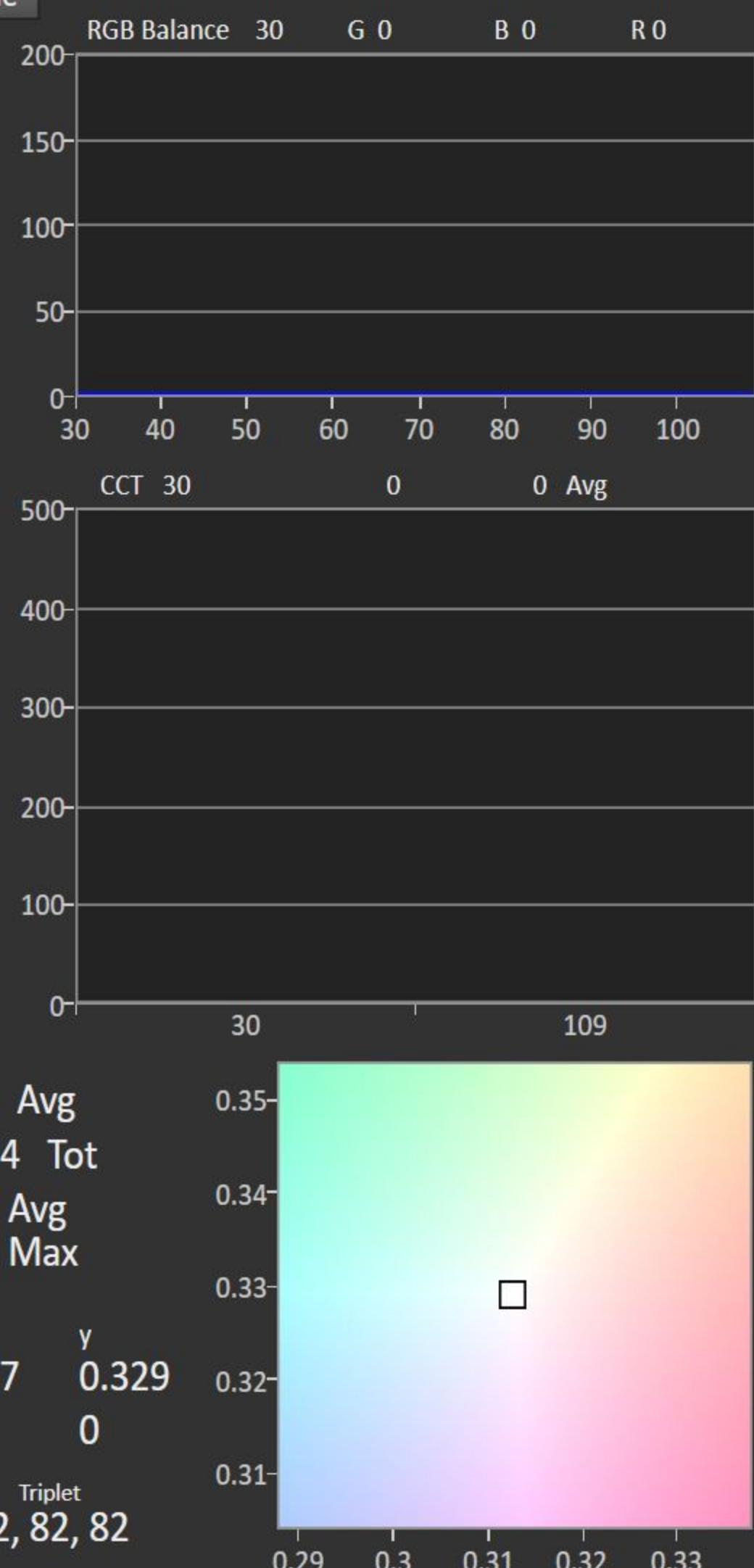
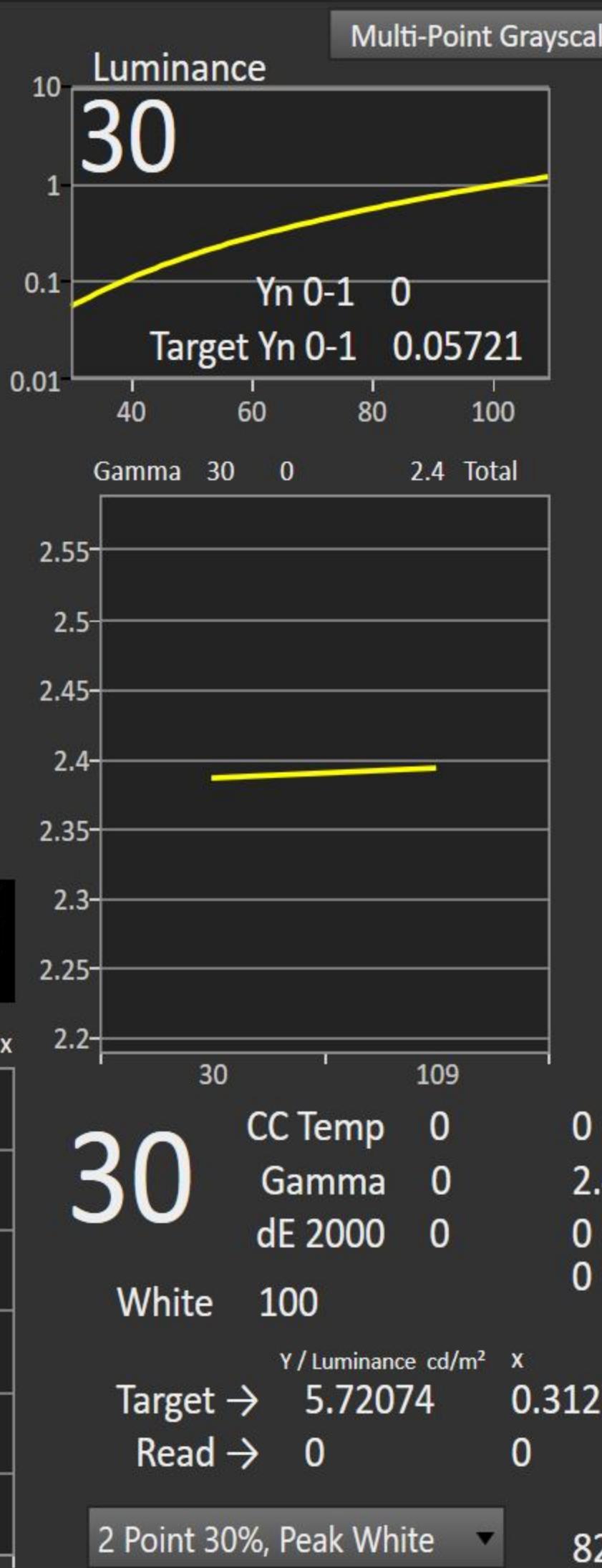
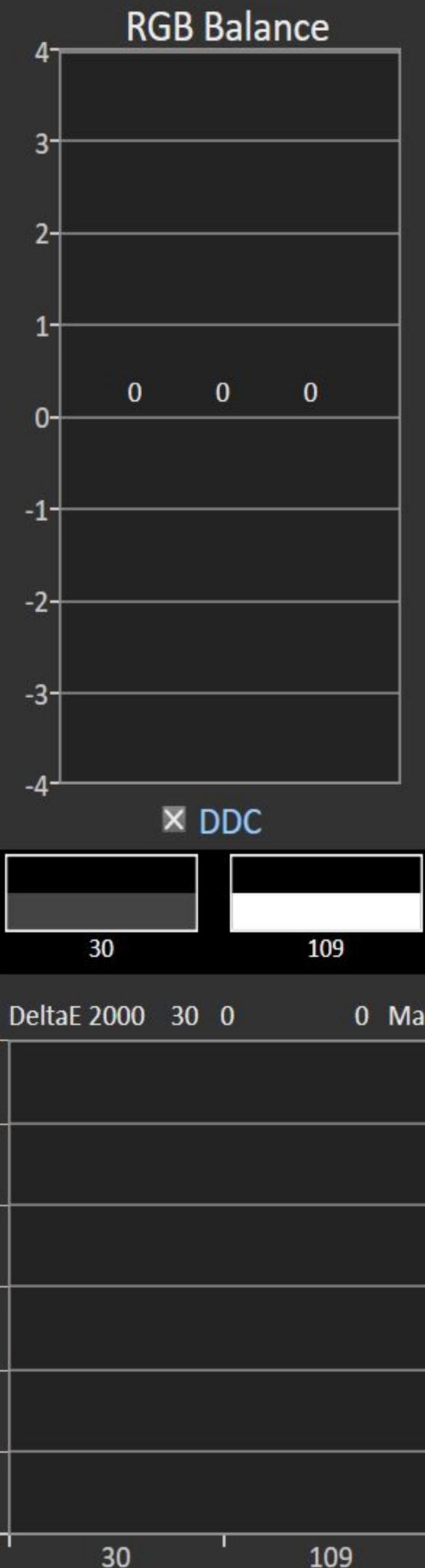
20pt White Balance

Gamma

RGB Only Mode

Color Space Settings

HDMI Black Level



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## CaIMAN





**CaIMAN**

Multi-Point Grayscale | Simulated Meter | Source | Samsung 2017 QLED Custom | DDC | Settings | Help | Back | Next | Notes

≡ Multi-Point Grayscale Calibration | CCT | EOTF | Luminance | ← Chart Mode | Comparator | 2-Pt Grayscale | X Datagrid | Click grid to select it then click Configure to select data | Configure | ?

	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	CAL
RGB Triplet	27, 27, 27	38, 38, 38	49, 49, 49	60, 60, 60	71, 71, 71	82, 82, 82	93, 93, 93	104, 104, 104	115, 115, 115	126, 126, 126	136, 136, 136	147, 147, 147	158, 158, 158	169, 169, 169	180, 180, 180	191, 191	Adjst
Target Y cd/m <sup>2</sup>	0.0877	0.4304	1.1112	2.1890	3.7118	5.7207	8.2523	11.3393	15.0123	19.2991	23.7512	29.2818	35.4987	42.4243	50.0800	58.4863	M-Pnt
Y cd/m <sup>2</sup>	0.3677	0.8577	1.6115	2.6633	4.1215	5.8055	8.0360	10.6755	13.6739	17.2320	20.7537	25.3987	30.2980	36.0972	42.2316	49.0303	« Back
Target x:CIE31	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	Next »
x: CIE31	0.3132	0.3105	0.3129	0.3136	0.3136	0.3152	0.3113	0.3143	0.3124	0.3119	0.3099	0.3145	0.3109	0.3132	0.3127	0.3135	↑ 2-Pt
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	Session Setup
y: CIE31	0.3304	0.3285	0.3281	0.3263	0.3311	0.3269	0.3282	0.3293	0.3291	0.3291	0.3290	0.3302	0.3290	0.3304	0.3308	0.3307	HOME Prepare
Target CCT	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	Session Setup
CCT	6467.0000	6627.0000	6500.0000	6472.0000	6442.0000	6384.0000	6589.0000	6415.0000	6522.0000	6546.0000	6659.0000	6401.0000	6603.0000	6467.0000	6491.0000	6447.0000	PreCal Read

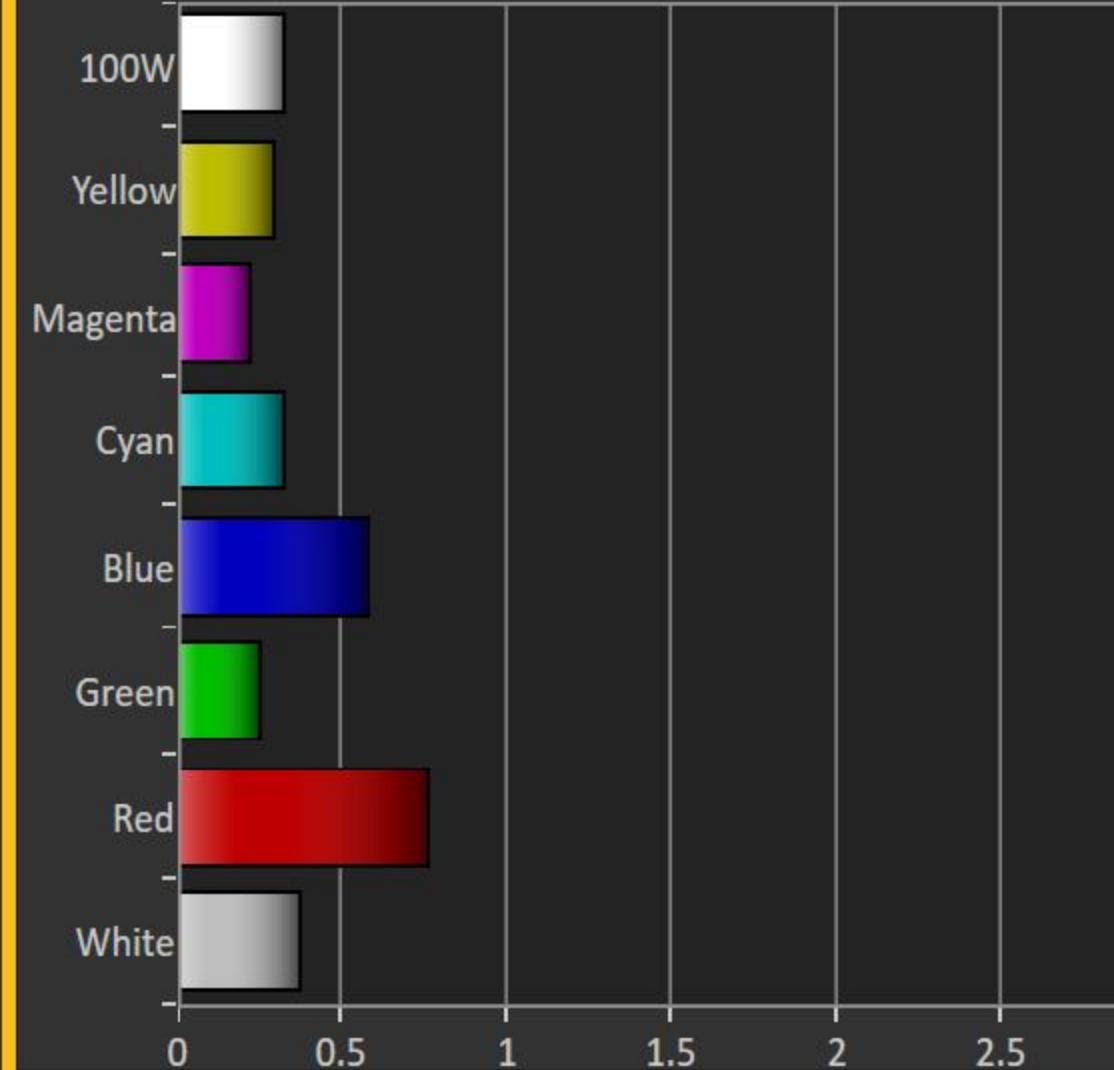
Calibrate | ↑ 2-Pt | ↓ CMS | ↓ Sat | ↓ LUT | ↓ Lum | ↓ CCk | PostCal Read | Analyze | ↴ Post | ↴ Final Check | M-Pnt | ↑ 2-Pt

## CaIMAN

CMS Gamut

## ≡ CMS Gamut Calibration ≡

Delta E 2000



Datagrid

## Summary

Delta E 2000

Avg 0.39

Max 0.76

Delta L

Avg 0.156

Max 0.413

Delta H

Avg 0.466

Max 1.38

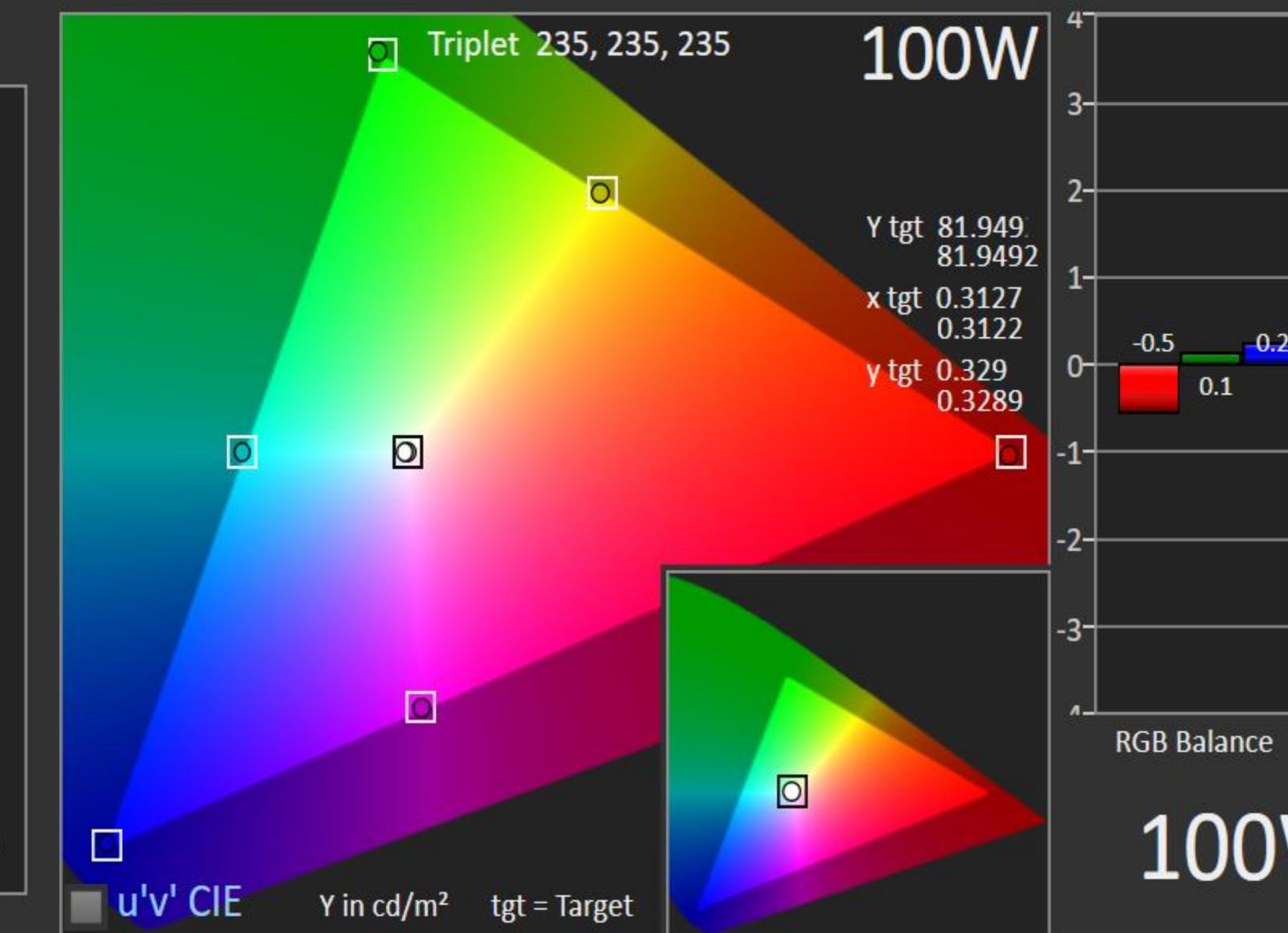
Delta C

Avg 0.7364

Max 2.827

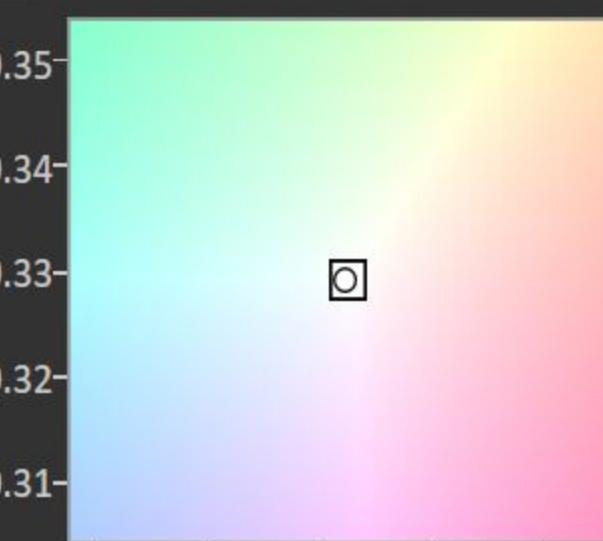
Black 0

White 81.9

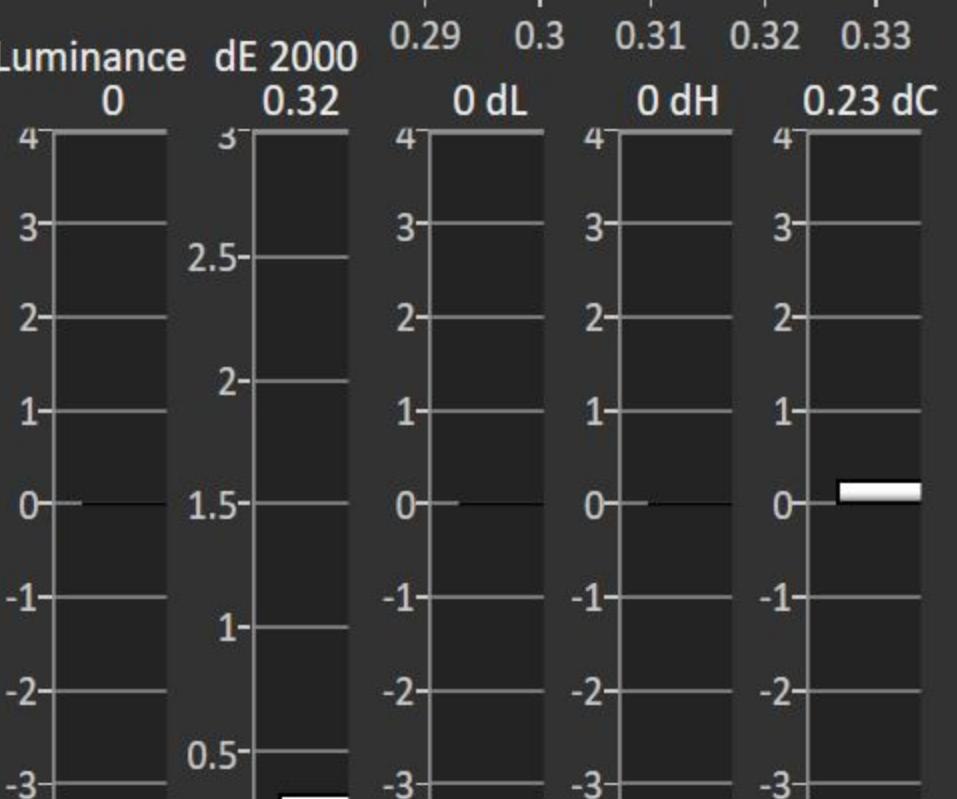


	Red	Green	Blue
Red	26	25	10
Green	57	27	29
Blue	5	25	5
Cyan	27	0	0
Magenta	0	3	0
Yellow	0	1	1

Reset CMS



Delta C, H, L | Gamut Lum Abs | Gamut Lum Rel | RGB Balance | ← Chart Mode

CAL  
CMS« Back  
Next »HOME  
Prepare

Session Setup

PreCal Read

Calibrate

↑ Gry  
CMS

↑ Sat

↑ LUT

↑ Lum

↑ CCk

PostCal Read

Analyze

Post

Final Check

CMS

Notes

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**CaIMAN**

**Gamut Saturation Calibration**

**Delta E 2000**

**Summary**

- Delta E 2000**: Avg 0.88, Max 2.43
- Delta L**: Avg 4.014, Max 7.897
- Delta H**: Avg 0.519, Max 2.097
- Delta C**: Avg 2.3006, Max 8.439
- Black**: 0
- White**: 80.94

**Datagrid**

**Triplet 180, 123, 123**

**25%**

**Y tgt**: 24.875, 21.8133  
**x tgt**: 0.4021, 0.3928  
**y tgt**: 0.3293, 0.3318

**Red**: 26, 25, 10  
**Green**: 57, 27, 29  
**Blue**: 5, 25, 5  
**Cyan**: 27, 0, 0  
**Magenta**: 0, 3, 0  
**Yellow**: 0, 1, 1

**Reset CMS**

**25%**

**u'v' CIE**, **Y in cd/m<sup>2</sup>**, **tgt = Target**

**RGB Balance**

**Delta C, H, L**: Max 8.439, Avg 2.301

**Delta H**: Max 2.097, Avg 0.519

**Delta L**: Max 7.897, Avg 4.014

**Gamut Lum Abs**

**Gamut Lum Rel**

**RGB Balance**

**Luminance**: -12.31, **dE 2000**: 1.7, **-3.13 dL**, **0.79 dH**, **-3.35 dC**

**Display Slot**: Custom, **Sweep Level**: BT.709 25% Sweep, **Notes**

**For classic CMS set to 75%/100% Only**

**Home**, **Prepare**, **Session Setup**, **PreCal Read**, **Calibrate**, **↑ Gry**, **↓ CMS**, **1 Sat**, **↑ LUT**, **↓ Lum**, **↑ CCk**, **PostCal Read**, **Analyze**, **∫ Post**, **Final Check**, **Satur**

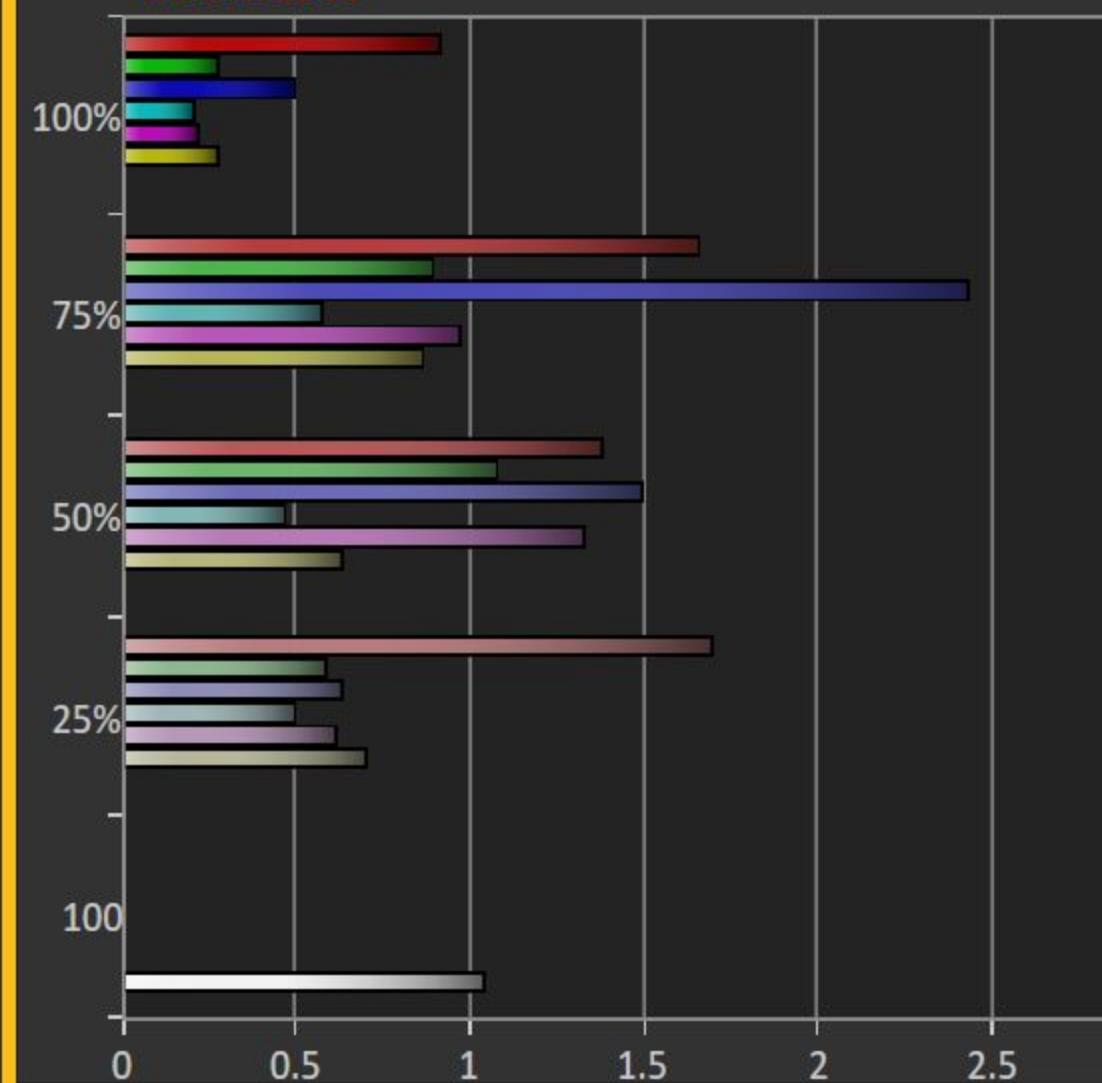
## CaIMAN

Gamut Saturation



## ≡ Gamut Saturation Calibration ≡

Delta E 2000



Datagrid

## Summary

Delta E 2000

Avg 0.88

Max 2.43

Delta L

Avg 4.014

Max 7.897

Delta H

Avg 0.519

Max 2.097

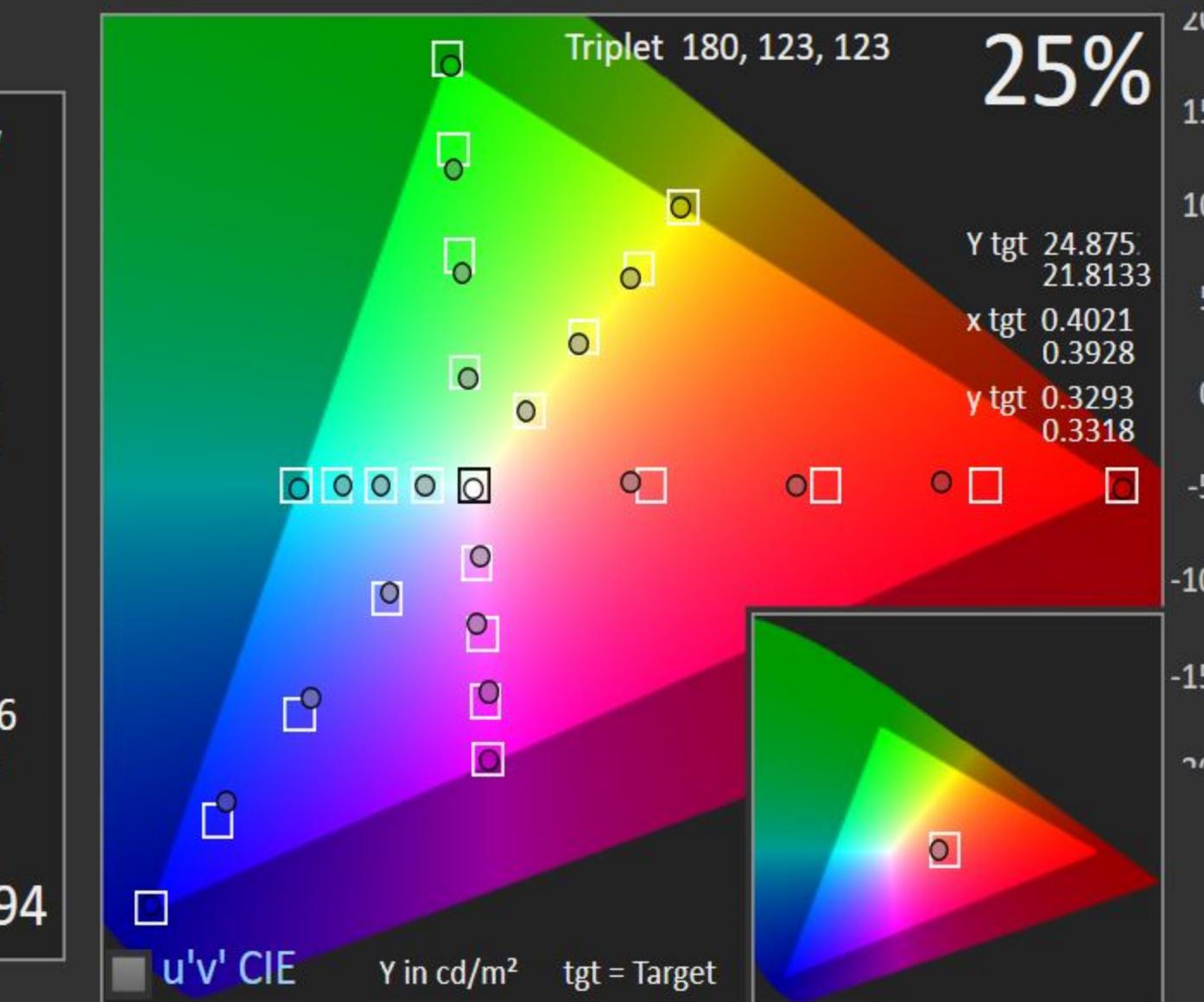
Delta C

Avg 2.3006

Max 8.439

Black 0

White 80.94

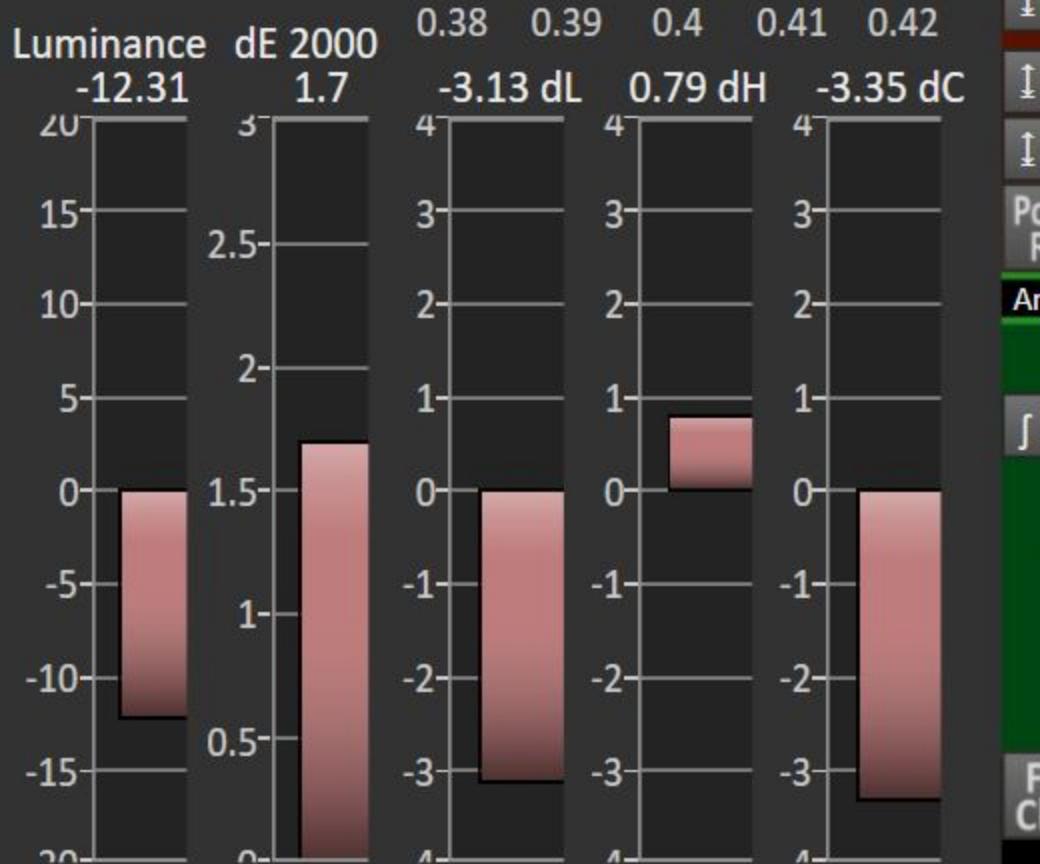
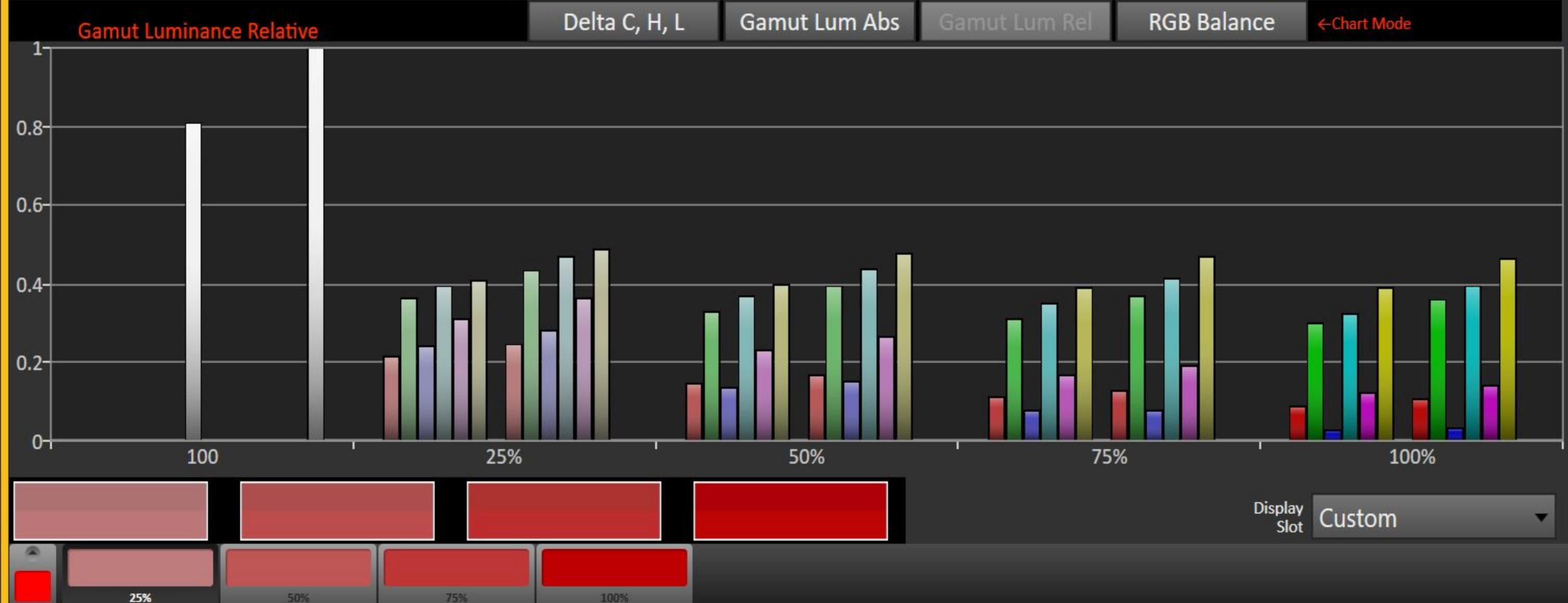
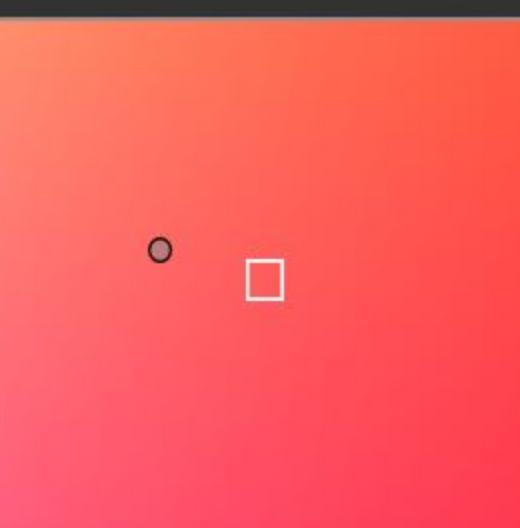


25%

25%

	Red	Green	Blue
Red	26	25	10
Green	57	27	29
Blue	5	25	5
Cyan	27	0	0
Magenta	0	3	0
Yellow	0	1	1

Reset CMS



Sweep Level BT.709 25% Sweep  
For classic CMS set to 75%/100% Only

CAL Satur

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HOME Prepare Session Setup PreCal Read

Calibrate ↑ Gry ↑ CMS ↑ Sat

↑ LUT ↑ Lum ↑ CCk PostCal Read Analyze

↑ Post

Final Check

Satur

Notes

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**CaIMAN**

Gamut Saturation +

Simulated Meter Simulated Source Samsung 2017 QLED Custom DDC Settings ?

≡ Gamut Saturation Calibration × Datagrid Configure Click datagrid outside bottom right corner to select it then click Configure to select data

	25%	50%	75%	100%
RGB Triplet	180, 123, 123	180, 90, 90	180, 64, 64	180, 16, 16
Target Y cd/m <sup>2</sup>	24.8752	16.5612	12.7670	10.6499
Y cd/m <sup>2</sup>	21.8133	14.7609	11.4817	8.9005
Target x:CIE31	0.4021	0.4914	0.5709	0.6400
x: CIE31	0.3928	0.4756	0.5492	0.6398
Target y:CIE31	0.3293	0.3295	0.3298	0.3300
y: CIE31	0.3318	0.3299	0.3312	0.3268
Target CCT	2988.5245	1774.3037	2100.2272	3096.5526
CCT	3266.0000	1853.0000	1891.0000	3219.0000

« Back Next »

HOME Prepare Session Setup PreCal Read Calibrate ↑ Gry ↑ CMS ↑ Sat ↑ LUT ↑ Lum ↑ CCk PostCal Read Analyze ↓ Post Final Check Satur Notes

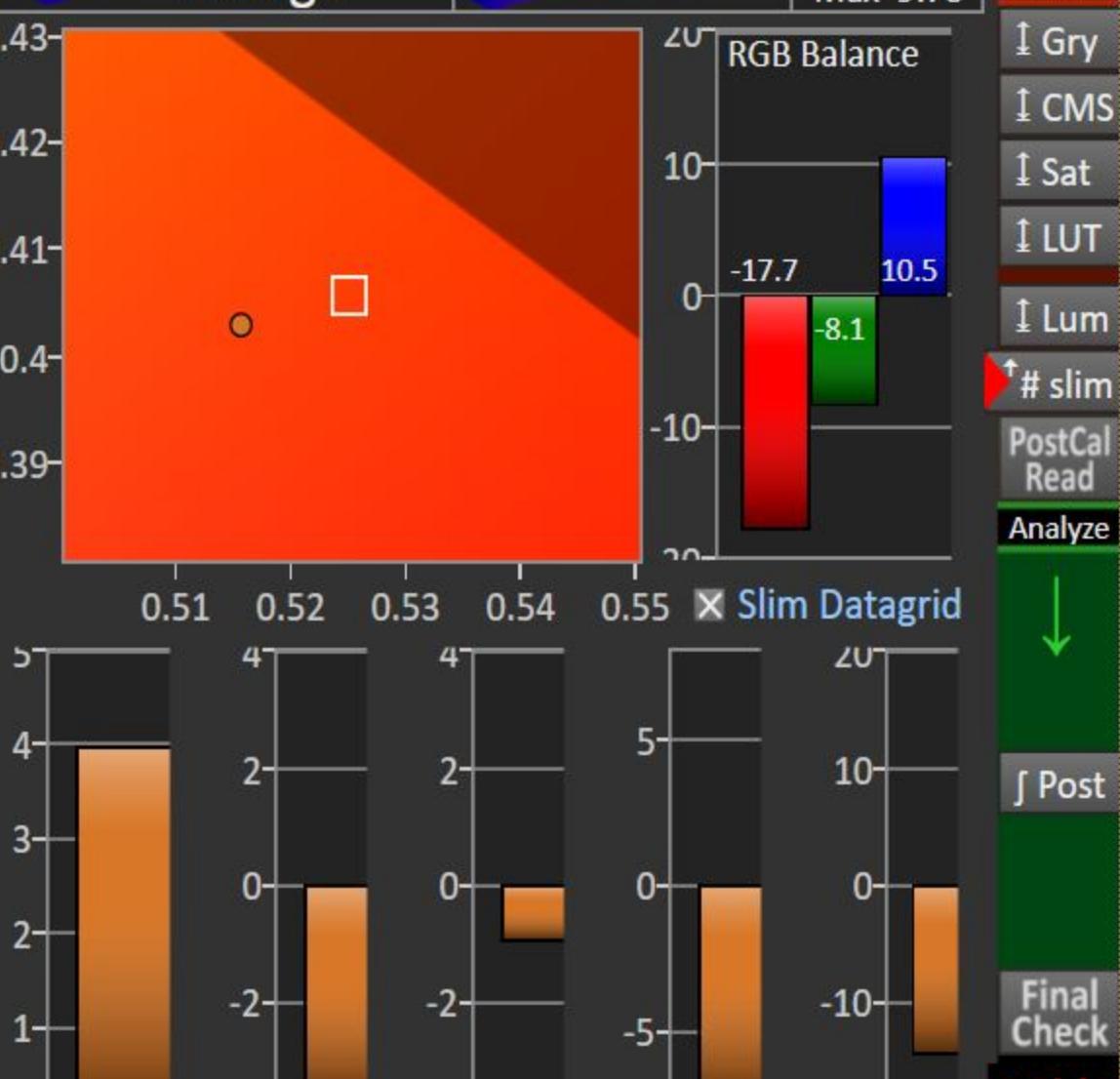
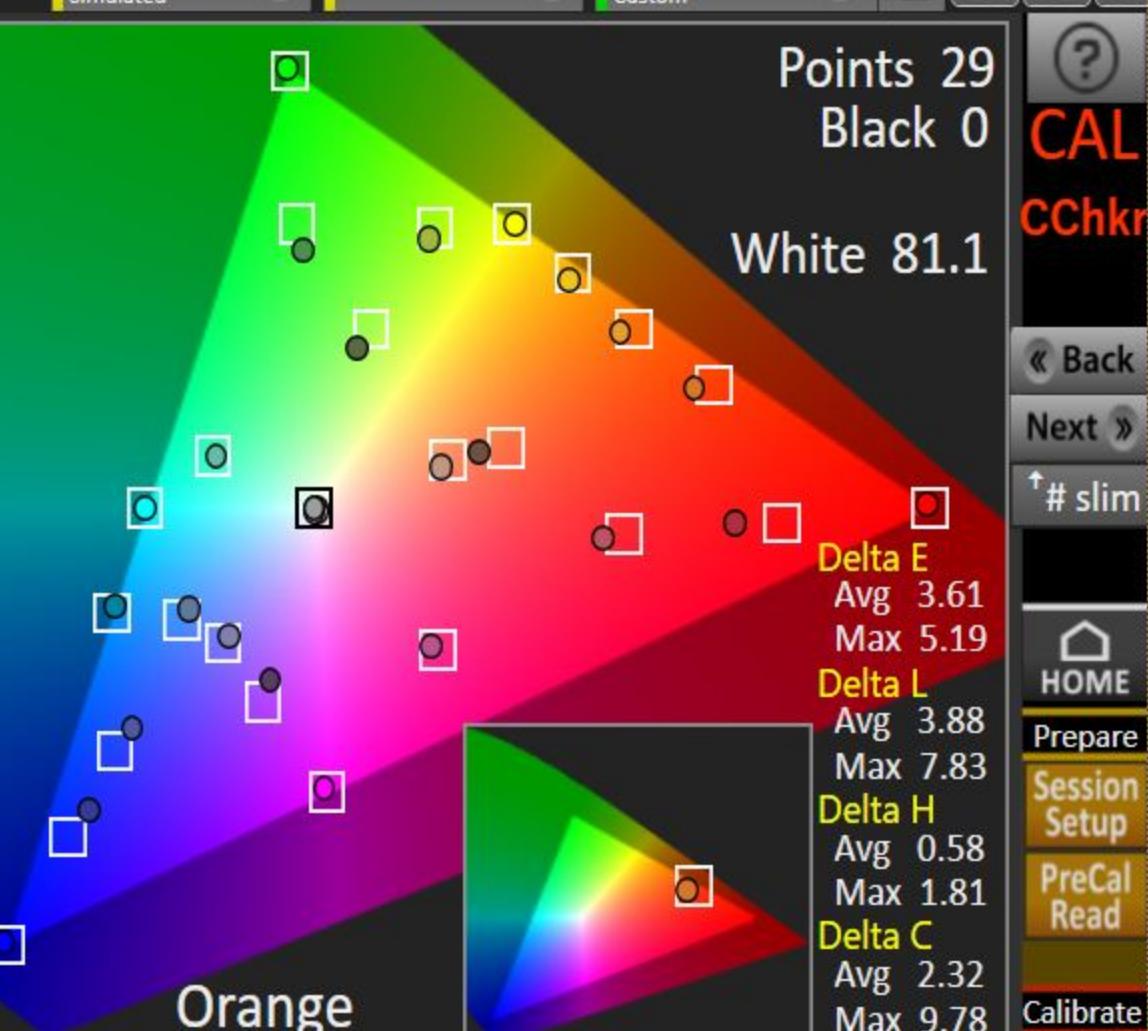
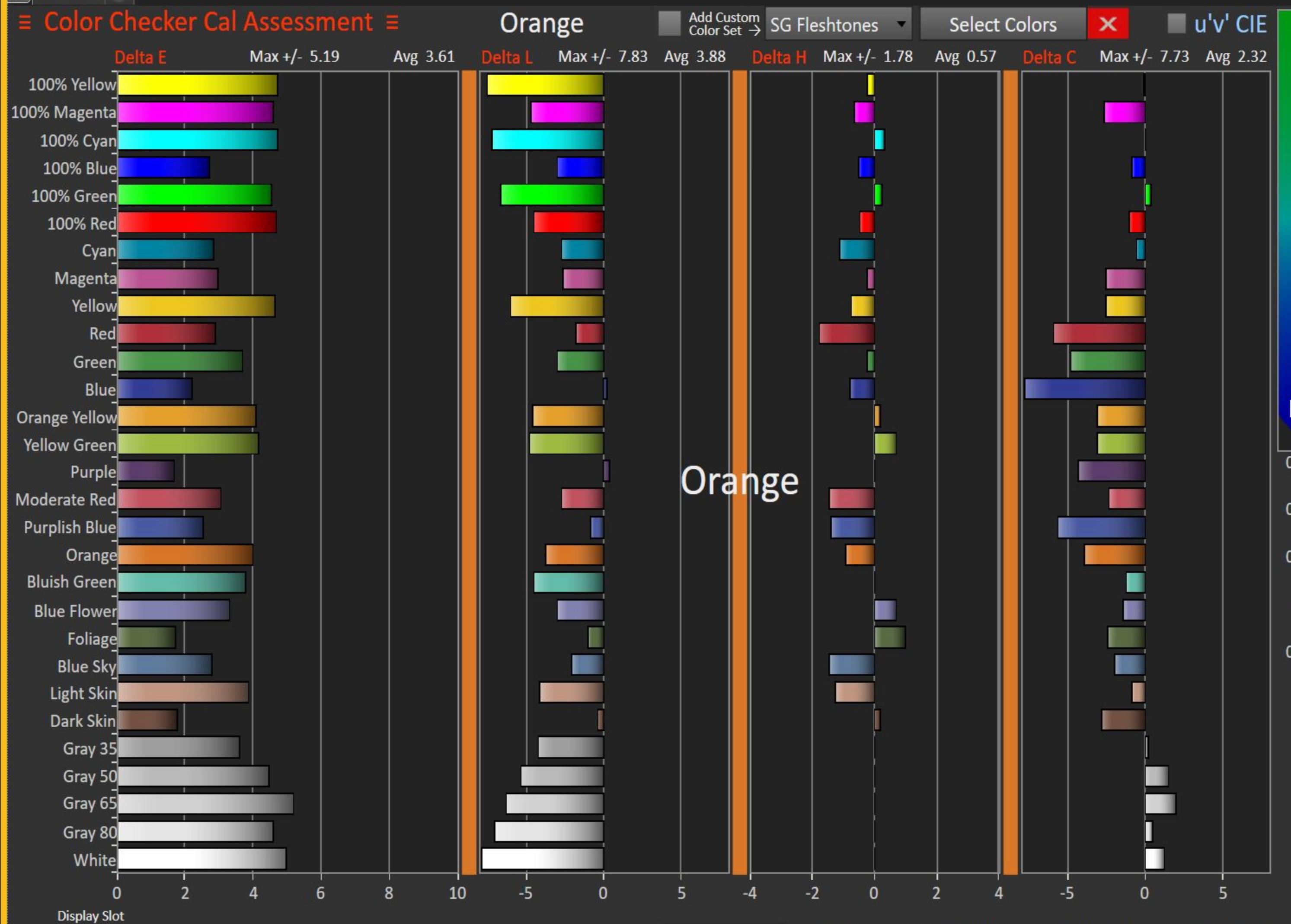
25% 50% 75% 100%

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CalMAN

Color Checker +



## Custom

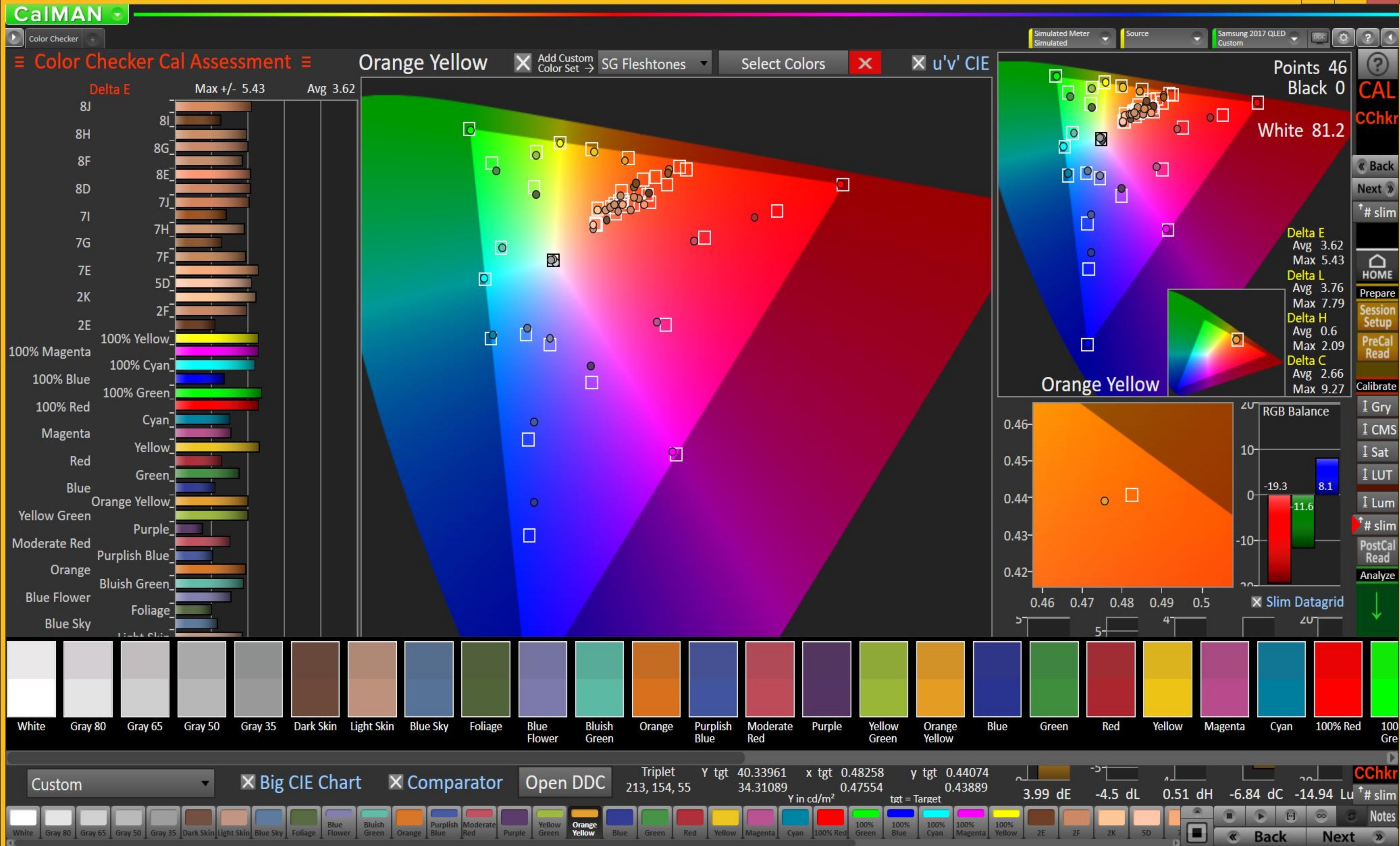
Big CIE Cha

Comparative

Open DDC

Triplet Y tgt 26.28017 x tgt 0.52522 y tgt 0.40554  
 202, 119, 51 22.51545 0.51576 0.40265  
 Y in cd/m<sup>2</sup> tgt = Target





## CaIMAN

Datagrid

Simulated Meter  
SimulatedSource  
SourceSamsung 2017 QLED  
Custom

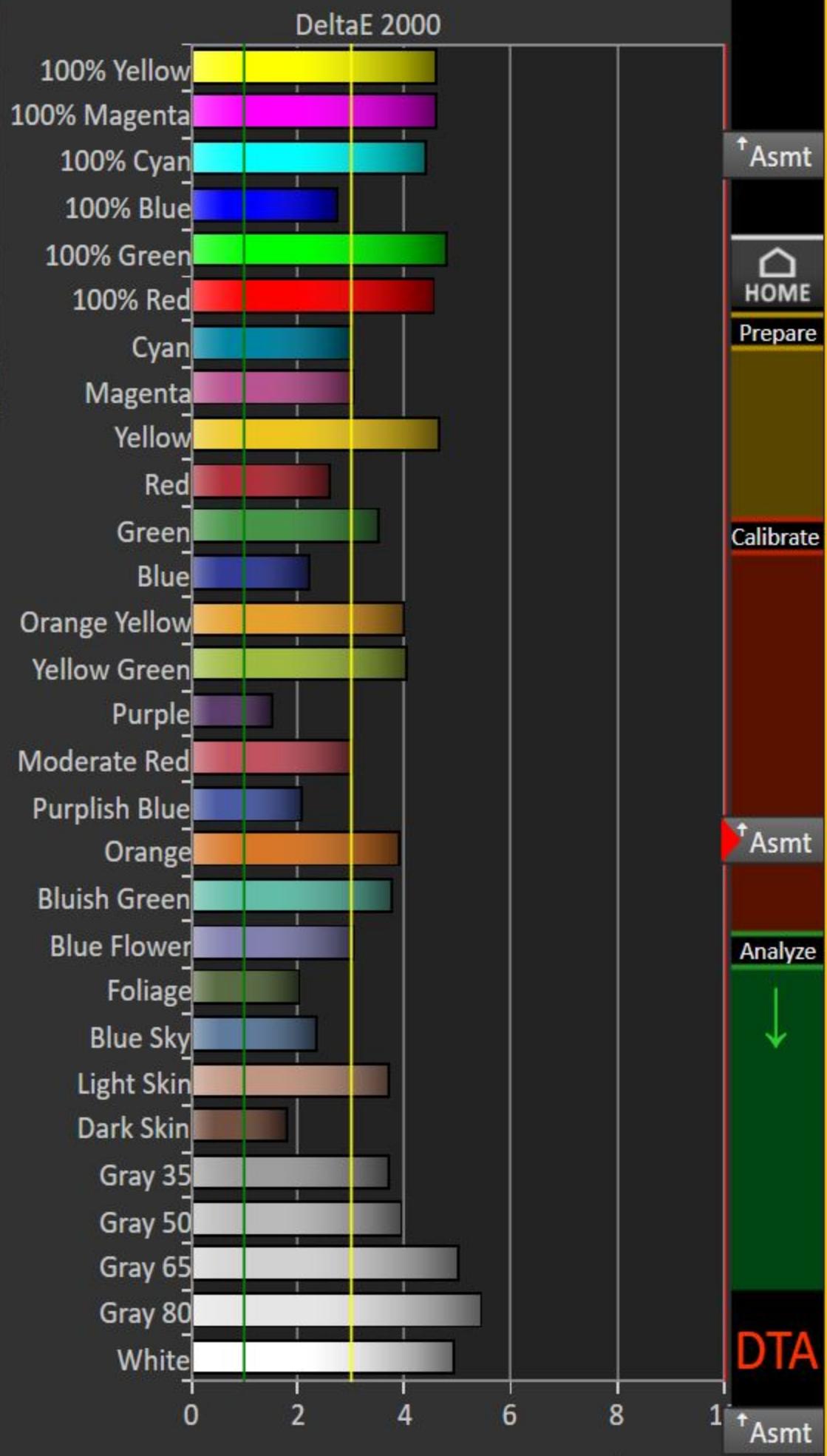
## ≡ Color Checker Assessment Data ≡

Color Notes

Post-Cal Notes

CAL  
CChkr

	White	Gray 80	Gray 65	Gray 50	Gray 35	Dark Skin	Light Skin	Blue Sky	Foliage	Blue Flower	Bluish Green	Orange	Purplish Blue
RGB Triplet	235, 235, 235	213, 213, 213	196, 196, 196	176, 176, 176	152, 152, 152	115, 86, 73	182, 145, 128	97, 121, 150	93, 108, 73	128, 126, 167	101, 178, 161	202, 119, 51	80, 95, 156
Target Y cd/m <sup>2</sup>	100.0000	77.6285	62.5608	47.2103	32.0212	8.1891	32.6031	16.5635	11.0615	21.0539	39.6941	26.2802	9.8808
Y cd/m <sup>2</sup>	81.1847	63.1312	51.4006	39.8048	27.6954	7.8927	27.9680	15.0371	10.3112	18.6193	33.7527	22.6909	9.2505
Target x:CIE31	0.3127	0.3127	0.3127	0.3127	0.3127	0.4144	0.3841	0.2445	0.3428	0.2648	0.2594	0.5252	0.2089
x: CIE31	0.3142	0.3137	0.3139	0.3136	0.3102	0.4006	0.3790	0.2496	0.3394	0.2672	0.2615	0.5119	0.2191
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3660	0.3579	0.2597	0.4389	0.2464	0.3622	0.4055	0.1791
y: CIE31	0.3281	0.3255	0.3260	0.3313	0.3303	0.3621	0.3555	0.2654	0.4260	0.2512	0.3626	0.4068	0.1901
Target CCT	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	3103.9968	3767.4359	19367.0915	5231.6803	18108.1855	8967.3264	1997.5908	-1622057.95
CCT	6426.0000	6475.0000	6458.0000	6441.0000	6629.0000	3379.0000	3893.0000	16934.0000	5309.0000	16248.0000	8841.0000	2107.0000	10548589.00



## CaIMAN

Datagrid 1 Datagrid 2 +

Simulated Meter Simulated Source Samsung 2017 QLED Custom DDC Settings ?

## ≡ Color Checker Assessment Data Slim 1 ≡

Color Notes

Post-Cal Notes

CAL

	White	Gray 80	Gray 65	Gray 50	Gray 35	Dark Skin	Light Skin	Blue Sky	Foliage	Blue Flower	Bluish Green	Orange	Purplish Blue	Moderate Red	Purple	Yellow Green	Orange Yellow	Blue	Green	Red	Yellow	Magenta
X	77.7617	60.8357	49.4892	37.6735	26.0150	8.7324	29.8159	14.1392	8.2151	19.8067	24.3421	28.5510	10.6621	22.1243	7.0291	26.2951	37.1758	6.9096	11.4141	15.9360	45.6255	22.8386
Y cd/m <sup>2</sup>	81.1847	63.1312	51.4006	39.8048	27.6954	7.8927	27.9680	15.0371	10.3112	18.6193	33.7527	22.6909	9.2505	14.8077	5.3213	34.6393	34.3109	5.0227	18.2414	9.4706	47.4931	14.9582
Z	88.5054	69.9655	56.7598	42.6643	30.1460	5.1745	20.8958	27.4780	5.6771	35.6996	34.9902	4.5339	28.7477	10.6637	11.7222	9.1752	6.6895	23.5128	7.6283	4.2024	8.0720	23.2227
Target x:CIE31	0.3127	0.3127	0.3127	0.3127	0.3127	0.4144	0.3841	0.2445	0.3428	0.2648	0.2594	0.5252	0.2089	0.4779	0.2858	0.3780	0.4826	0.1830	0.3045	0.5616	0.4514	0.3799
x: CIE31	0.3142	0.3137	0.3139	0.3136	0.3102	0.4006	0.3790	0.2496	0.3394	0.2672	0.2615	0.5119	0.2191	0.4648	0.2920	0.3751	0.4755	0.1949	0.3061	0.5382	0.4509	0.3743
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3660	0.3579	0.2597	0.4389	0.2464	0.3622	0.4055	0.1791	0.3124	0.2094	0.5019	0.4407	0.1252	0.5051	0.3198	0.4749	0.2412
y: CIE31	0.3281	0.3255	0.3260	0.3313	0.3303	0.3621	0.3555	0.2654	0.4260	0.2512	0.3626	0.4068	0.1901	0.3111	0.2211	0.4941	0.4389	0.1417	0.4893	0.3199	0.4693	0.2451
Target Y	100.0000	77.6285	62.5608	47.2103	32.0212	8.1891	32.6031	16.5635	11.0615	21.0539	39.6941	26.2802	9.8808	16.7058	5.2067	40.8403	40.3396	4.9345	20.7984	10.3590	57.5783	16.9603
Y	81.1847	63.1312	51.4006	39.8048	27.6954	7.8927	27.9680	15.0371	10.3112	18.6193	33.7527	22.6909	9.2505	14.8077	5.3213	34.6393	34.3109	5.0227	18.2414	9.4706	47.4931	14.9582
Sat: L*u*v*	1.7324	2.8697	2.4210	1.2435	1.7142	24.4002	32.7687	31.5343	24.8819	36.4764	38.4484	85.5411	55.1164	72.7534	29.6453	65.2957	80.3992	60.3741	52.8226	85.6019	83.0838	59.4682
Hue: L*u*v*	349.3327	319.2728	324.2394	101.0821	172.0196	32.2246	33.5565	245.2095	107.7408	267.1377	167.8589	33.0574	261.6613	6.5776	293.2642	100.8221	49.0358	264.3895	127.3927	10.0914	65.5734	334.326
L*	92.2138	83.5114	76.9210	69.3302	59.6125	33.7583	59.8598	45.6850	38.3952	50.2388	64.7658	54.7526	36.4622	45.3696	27.6313	65.4669	65.2086	26.7994	49.7876	36.8750	74.5041	45.5769
Gamma Point: Flat	2.9562	4.4198	3.4220	2.9512	2.7079	3.2170	4.6408	3.8823	2.6337	4.5571	3.6289	9.2458	5.3627	6.9709	3.4031	3.4002	10.3774	5.6951	3.1401	6.3981	10.9099	6.1128

↑ Asmt

HOME  
Prepare

Calibrate

↑ Asmt  
↑ Data2

Analyze

DTA

↑ Asmt

↑ Datagrid 2 Notes ↵

## CalMAN

		Color Checker Assessment Data Slim 2															Post-Cal Notes				
		Color Notes																			
		White	Gray 80	Gray 65	Gray 50	Gray 35	Dark Skin	Light Skin	Blue Sky	Foliage	Blue Flower	Bluish Green	Orange	Purplish Blue	Moderate Red	Purple	Yellow Green	Orange Yellow	Blue	Green	Red
Sat: L*a*b*		1.2045	2.2146	1.8814	0.9326	1.2784	17.3873	20.0226	20.0516	23.3040	26.0955	30.6877	60.5608	40.7159	45.1528	29.5313	58.5537	63.0661	52.1465	48.1697	53.29
Hue: L*a*b*		356.7276	332.9552	336.6197	123.7432	179.1336	50.1556	50.4359	267.2768	125.0784	294.7425	175.7652	60.4221	291.6343	17.5624	317.5994	115.6558	75.6569	297.6469	139.9713	26.21
ΔE 2000		4.9271	5.4267	5.0377	3.9299	3.7159	1.8038	3.6934	2.3638	2.0132	3.0783	3.7497	3.9216	2.0768	3.0055	1.5045	4.0426	3.9925	2.2284	3.5196	2.60
dE2000 LuminanceCompensated		1.7347	2.9200	2.5416	1.0713	1.8382	1.5950	0.8374	0.9644	1.3877	0.8881	0.4013	1.3860	1.5151	1.2199	1.5800	0.8487	0.8720	2.3146	1.2719	1.79
ΔE 1976:L*u*v*		7.9766	7.6568	6.7396	5.1463	4.1213	4.3498	6.2117	4.9700	3.9039	5.4719	5.8087	13.1867	8.3451	10.5633	3.6662	8.4730	10.0004	7.6617	7.9731	13.71
ΔE 1976:L*a*b*		7.8788	7.4362	6.5651	5.0802	3.9599	3.0509	4.7940	3.2667	3.7319	4.1107	5.1259	8.7765	5.3487	5.7081	3.4999	7.9566	8.2063	7.7016	7.1138	7.45
ΔE 1994 L*:±		-7.7862	-7.0987	-6.2897	-4.9938	-3.7479	-0.6153	-3.9784	-2.0202	-1.2887	-2.7696	-4.4853	-3.5495	-1.1655	-2.5176	0.3155	-4.5970	-4.5021	0.2521	-2.9406	-1.60
ΔE 1994 Sat:±		1.2045	2.2146	1.8814	0.9326	1.2784	-2.9882	-2.6603	-2.5601	-3.4949	-3.0259	-2.4474	-7.9569	-5.1830	-4.9571	-3.4416	-6.4759	-6.8418	-7.6772	-6.4753	-7.07
ΔE 1994 Hue:±		0.0000	0.0000	0.0000	0.0000	0.0000	-0.0051	-0.2781	-0.1901	0.2282	-0.2668	-0.4091	1.0559	0.6220	-1.2929	0.5522	0.4886	0.5146	-0.5586	0.1723	-1.70
Signed dE94 L LuminanceCompensated		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Signed dE94 C LuminanceCompensated		1.2045	2.2146	1.8814	0.9326	1.2784	-2.7393	-1.5300	-1.8430	-2.8747	-1.8571	-0.7040	-4.6838	-4.1854	-2.9824	-3.6818	-3.0024	-3.1697	-8.0317	-4.1373	-5.30
Signed dE94 H LuminanceCompensated		0.0000	0.0000	0.0000	0.0000	0.0000	-0.0051	-0.2711	-0.1871	0.2255	-0.2614	-0.3982	1.0304	0.6152	-1.2672	0.5542	0.4754	0.5009	-0.5602	0.1686	-1.68

Datagrid 1 Datagrid 2 + Simulated Meter Simulated Source Samsung 2017 QLED Custom DDC Settings ?   
 Asmt Data1 Analyze DTA Asmt  
 HOME Prepare Calibrate  
 ↑ Asmt ↑ Data1 Analyze ↓  
 ↑ Asmt  
 ↑ Notes ← ↑ Datagrid 1



## CaIMAN

3D Color Cube LUT 3D Cube LUT Minimal +

Simulated Meter Simulated Source Samsung 2017 QLED Custom DDC Settings ? Back Next

## ≡ 3D Color Cube LUT Calibration - Full ≡

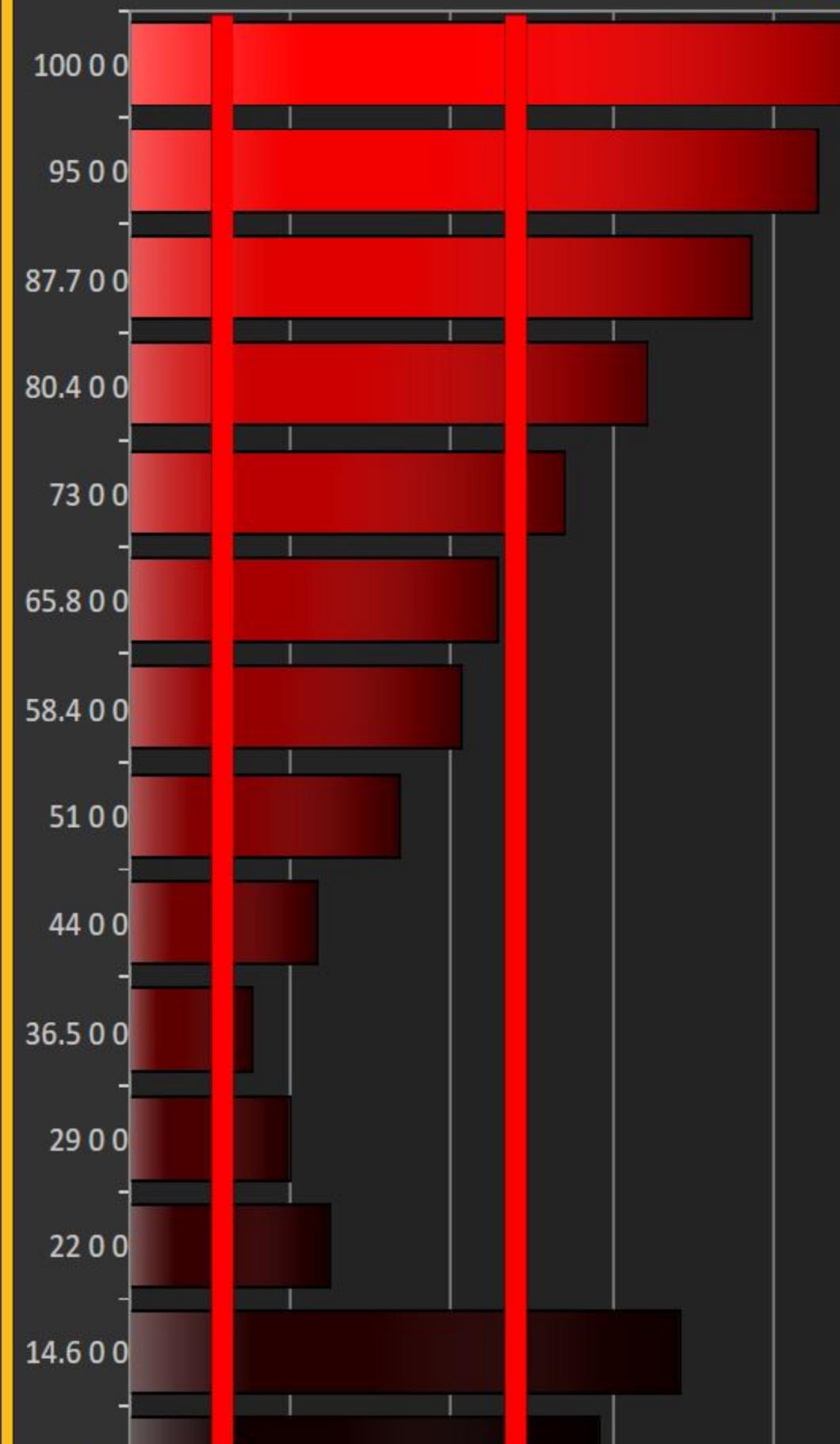
Delta E 2000

Go to Minimal 3D LUT

Datagrid

Points 195

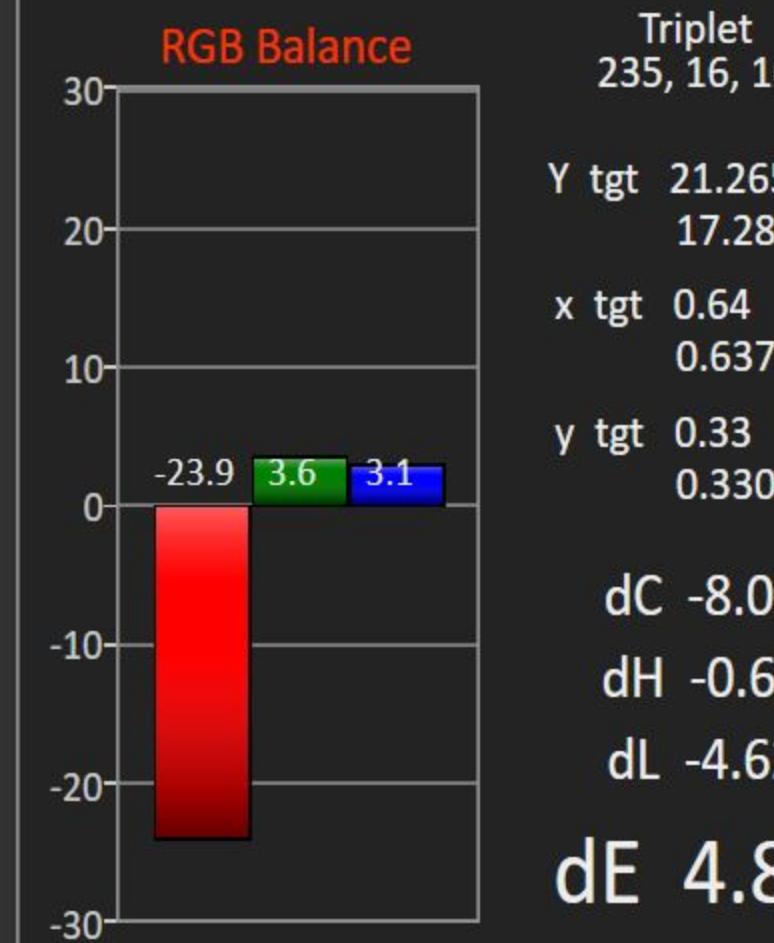
Virtual LUT



## Summary

Delta C 3.74 Avg 16.11 Max  
 Delta H 0.45 Avg 1.27 Max  
 Delta L 2.05 Avg 4.62 Max  
 Delta E 2.59 Avg 4.84 Max  
 @ 100 0 0

## RGB Balance



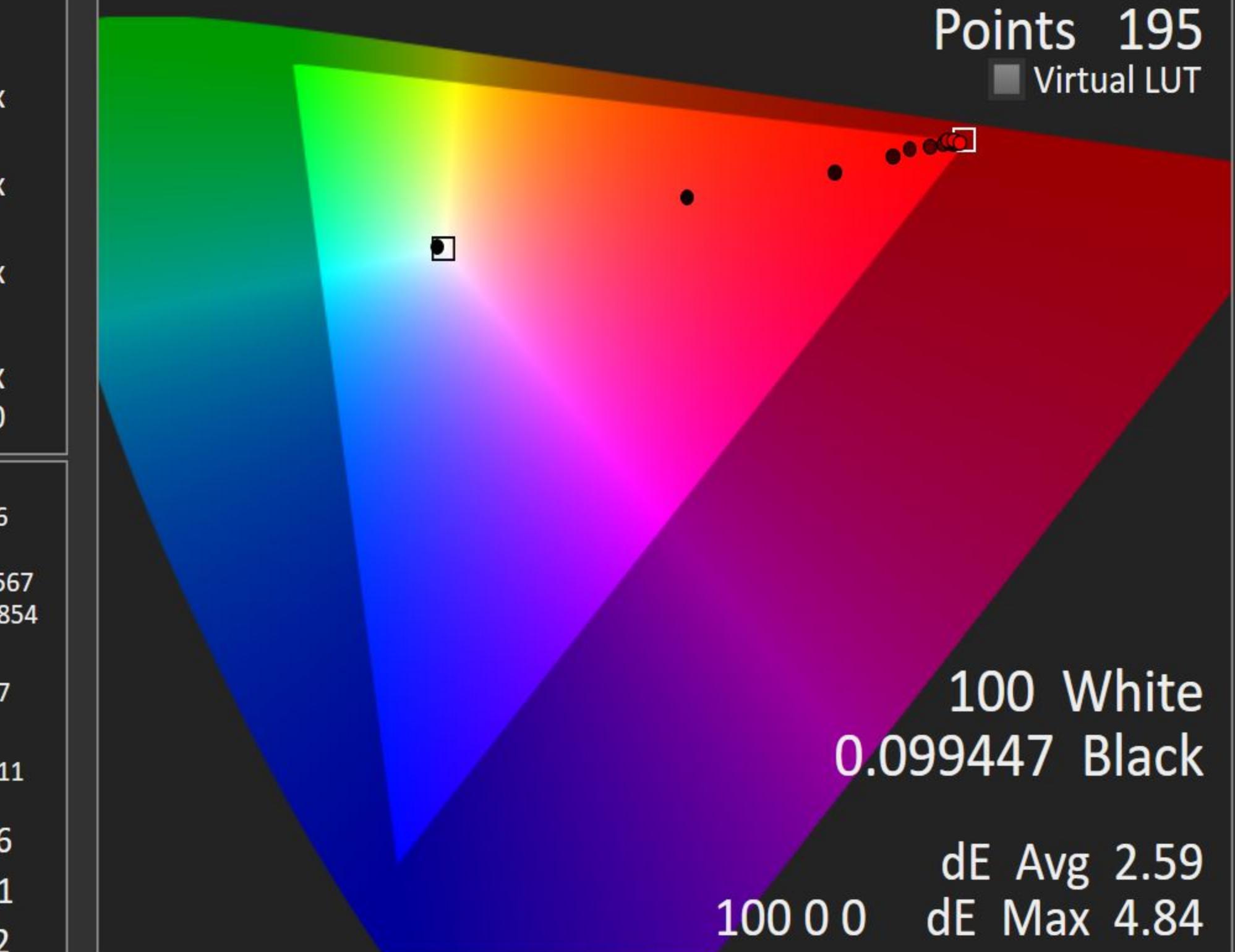
dE 4.84

Triplet  
235, 16, 16Y tgt 21.26567  
17.28854x tgt 0.64  
0.6377y tgt 0.33  
0.33011

dC -8.06

dH -0.61

dL -4.62



X u'v' CIE

X Color Bars

X Big Comparator

Inner Data Points

Luminance Level Points

Red

Green

Blue

Cyan

Magenta

Yellow

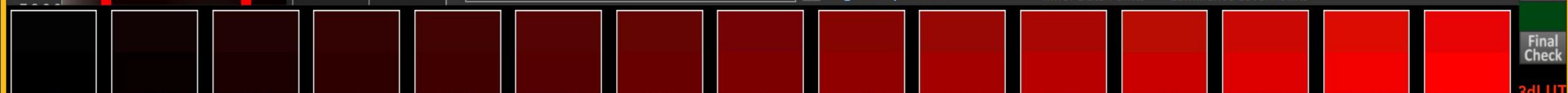
White

Ramp

Chrt

Final Check

3dLUT



## CaIMAN

3D Color Cube LUT | 3D Cube LUT Minimal | +

Simulated Meter  
SimulatedSource  
Samsung 2017 QLED  
CustomDDC  
⚙️  
?

≡ 3D Color Cube LUT Calibration - Minimal ≡

Go to Full 3D LUT

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## Summary

Points 195

Black 0.098604

White 100

dE Avg 2.49

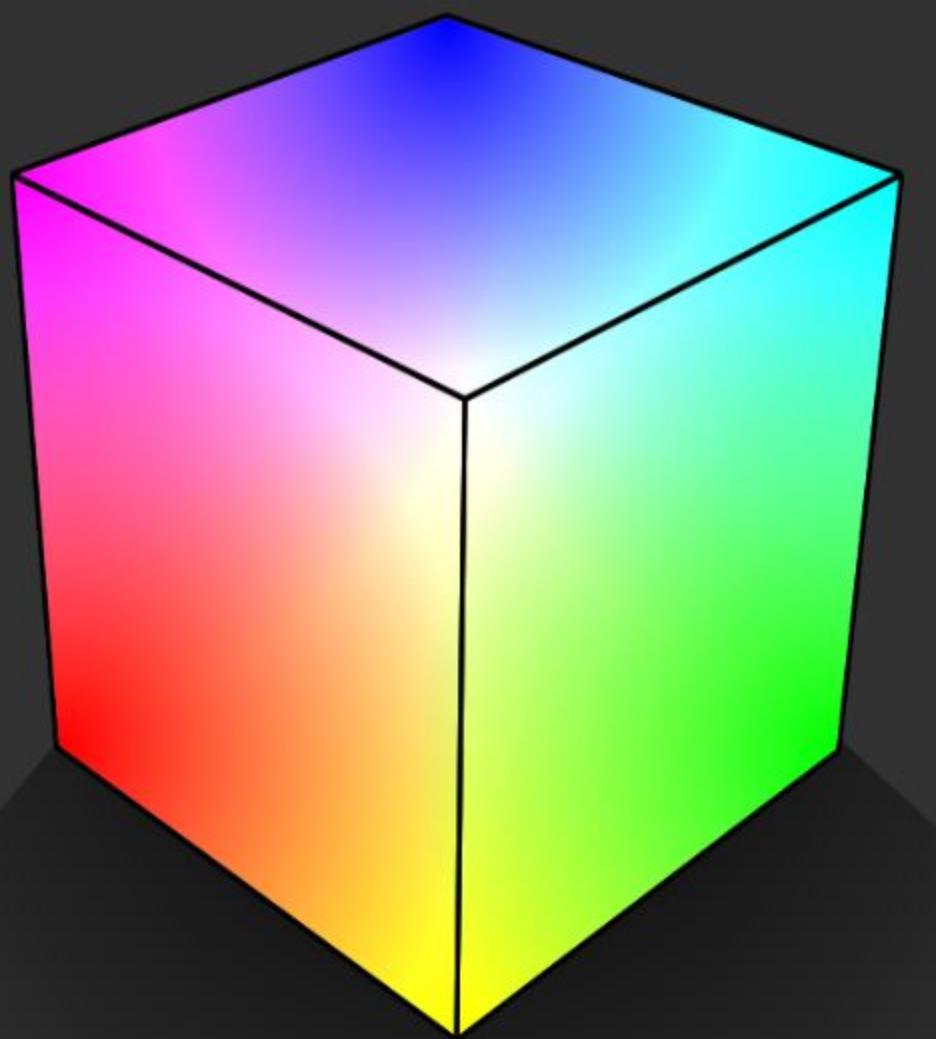
dE Max 4.57 @ 100 0 0

dE 4.57 @ 100 0 0

dL -4.37 dH -0.04 dC -7.72

## RGB Balance

R -23 G 6.4 B 1.8



View charts in the Analysis section

Go to Charts



Read Cube Ramp

## Luminance Level Points

15 Points per side, SMPTE (0-100)

## Inner Data Points

...

## Display Slot

Custom

## Selected LUT

3dLUT



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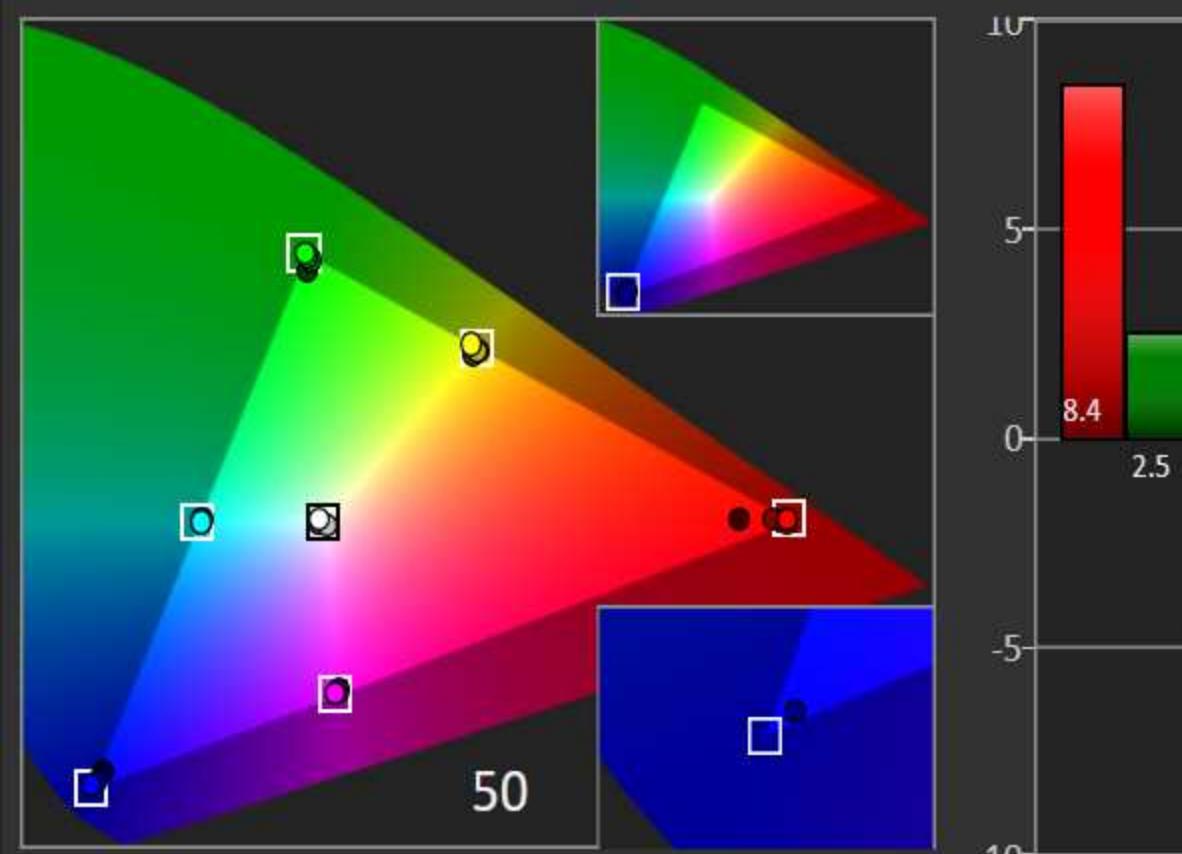




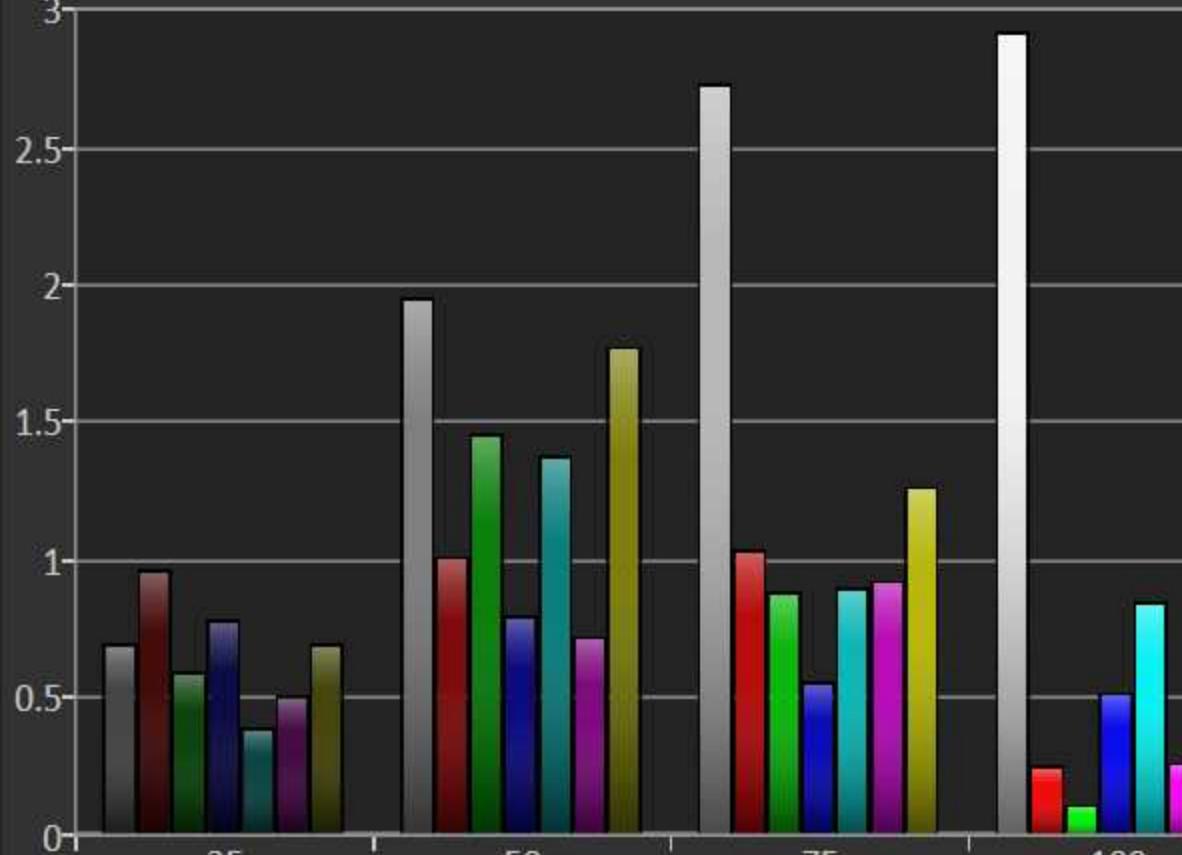
CalMAN

Post-Calibration +

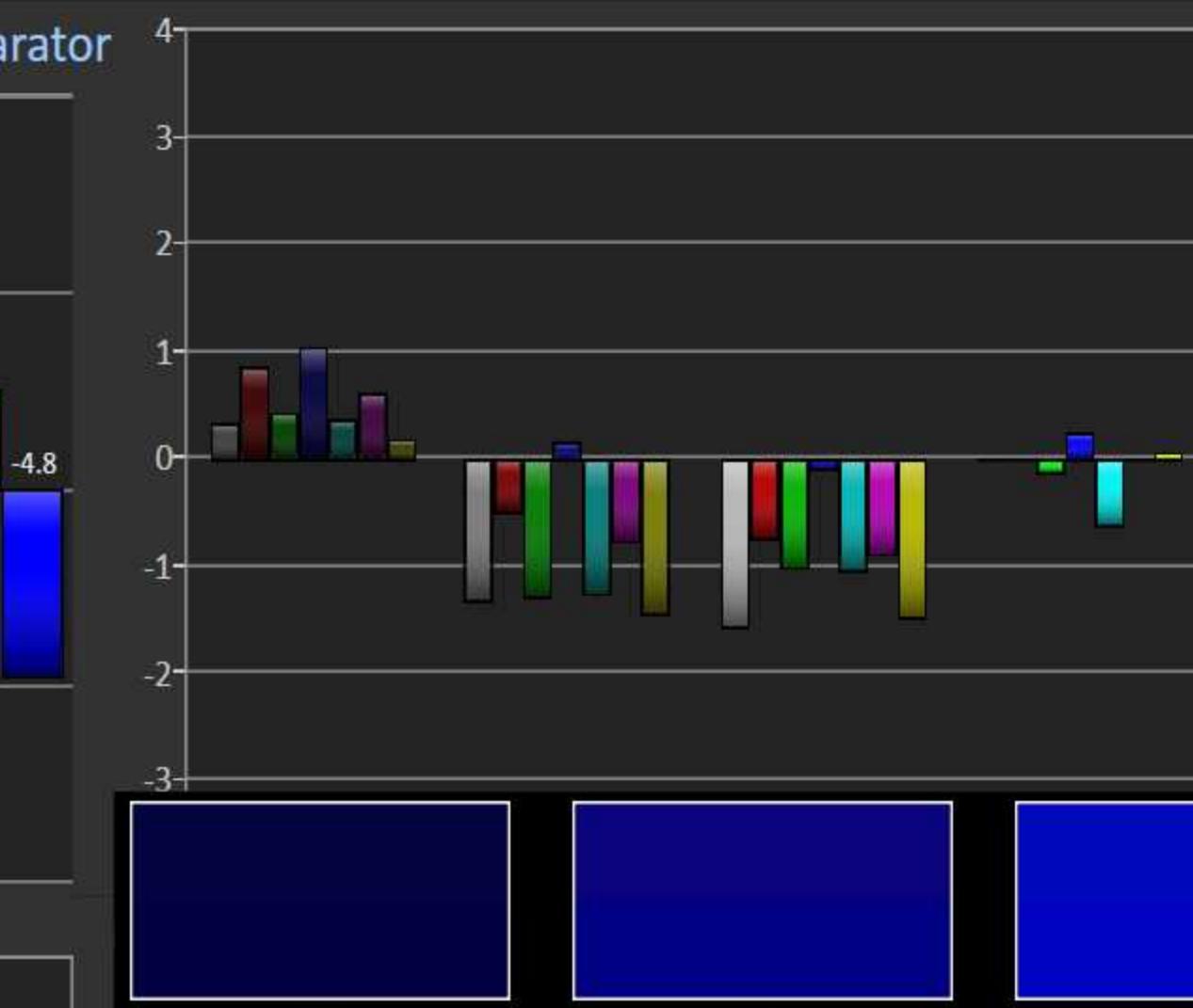
≡ Post-Cal Gamut Luminance Detail ≡    Comparat



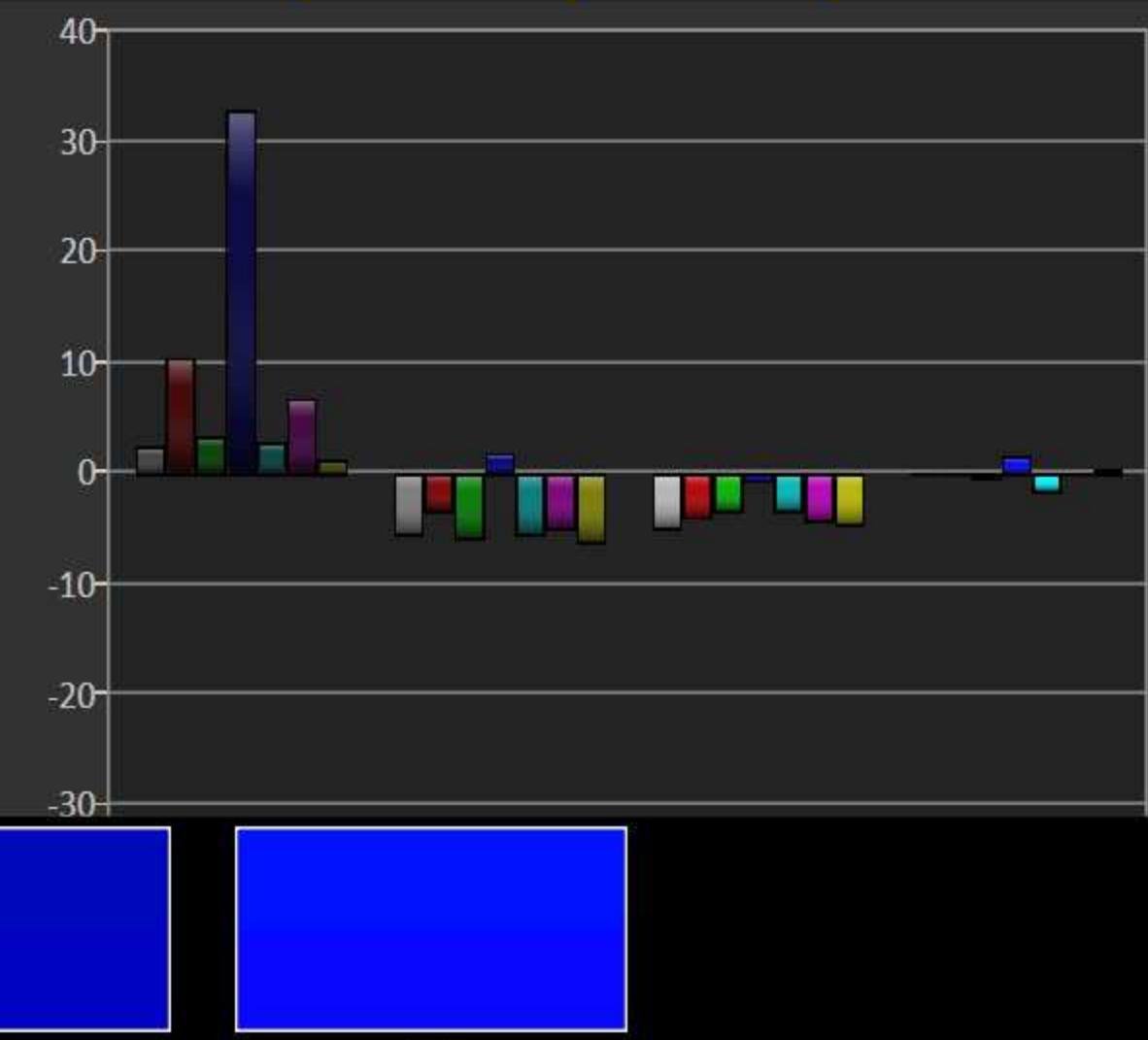
Avg 1 Max 2.9



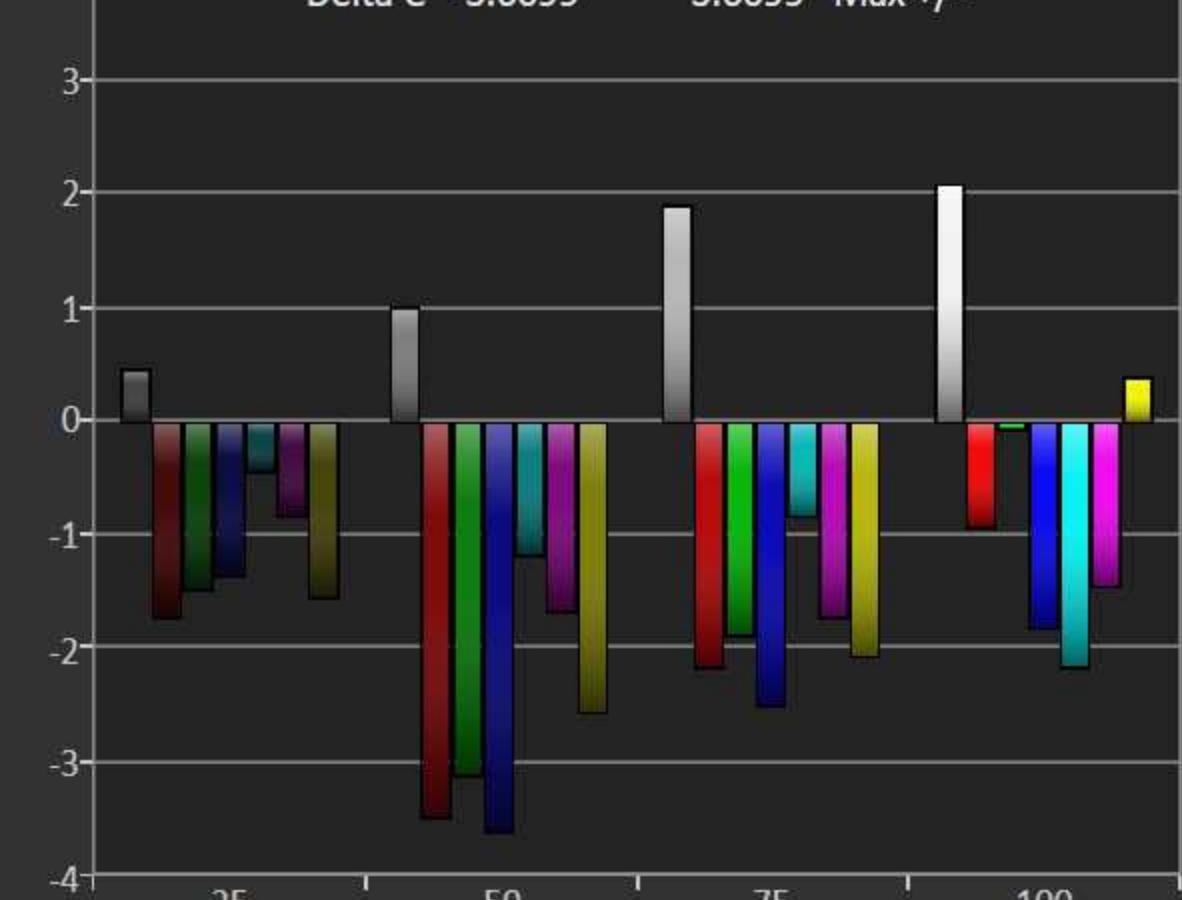
A horizontal row of five digital displays. The first display is smaller and shows the value '25'. The subsequent four displays are larger and show the values '50', '75', and '100' respectively. Each display has a small blue square icon at the bottom left.



25 50  
Max +/- 2.1517 -0.0897 Delta H



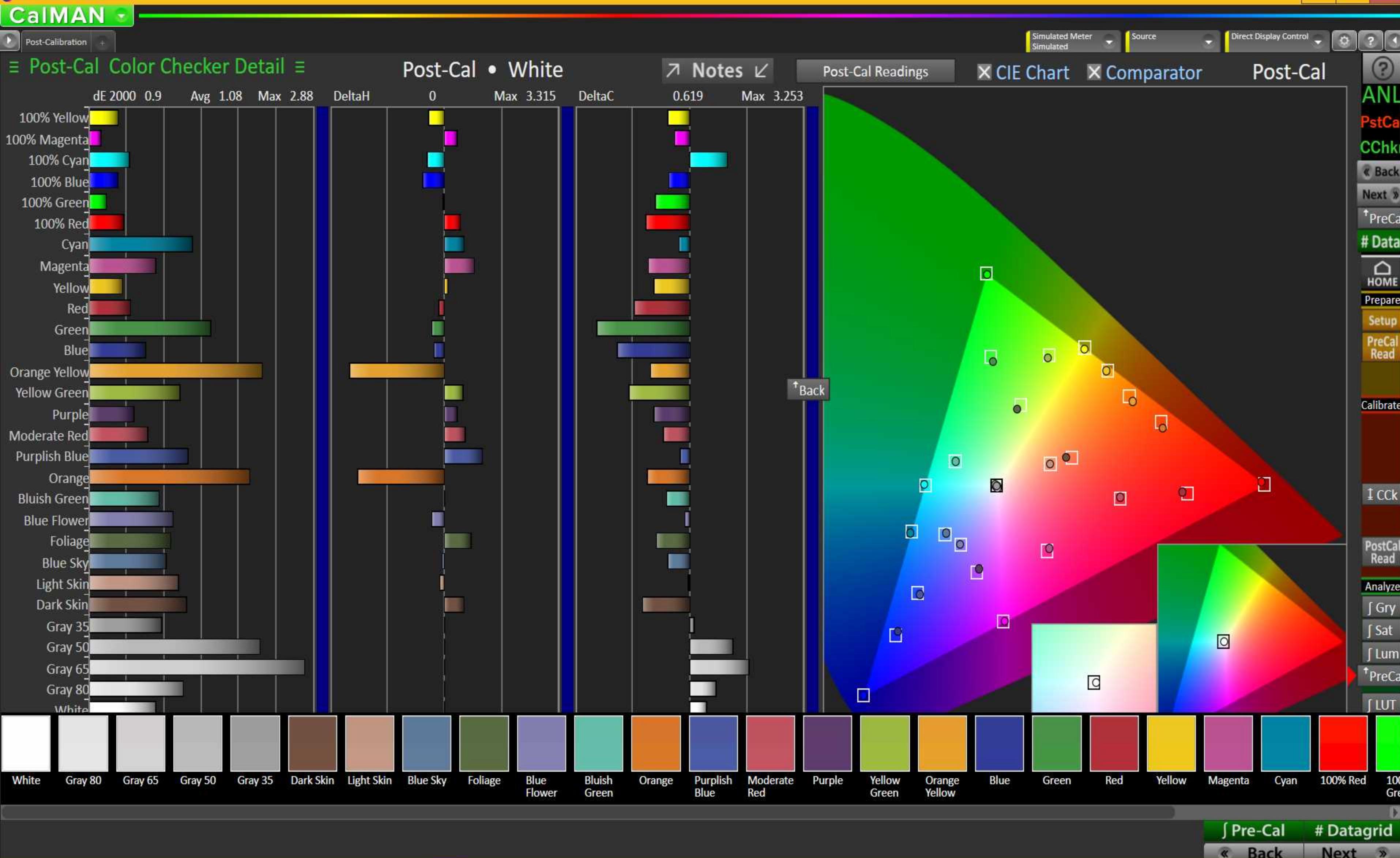
| Delta C -3.6099 3.6099 Max +/-



J Pre-Cal # Datagrid

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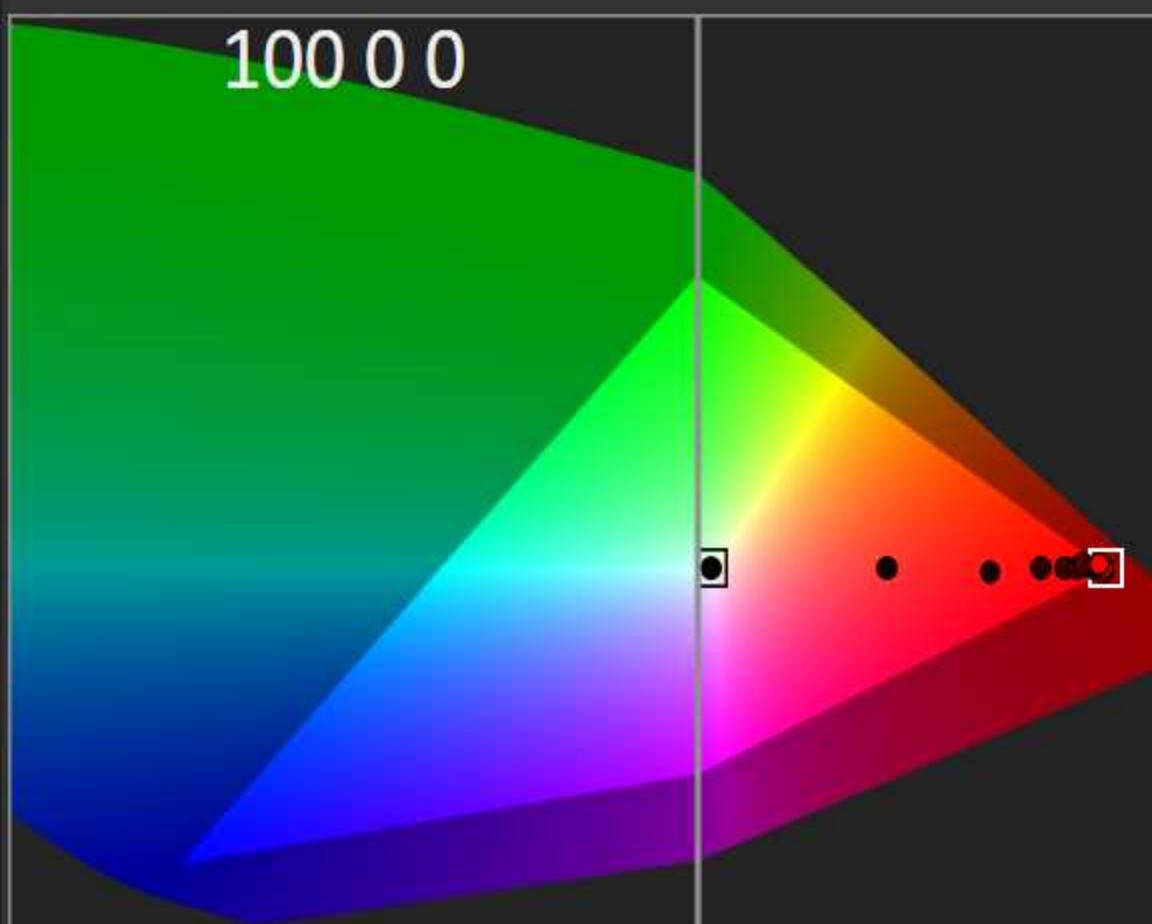


## CalMAN

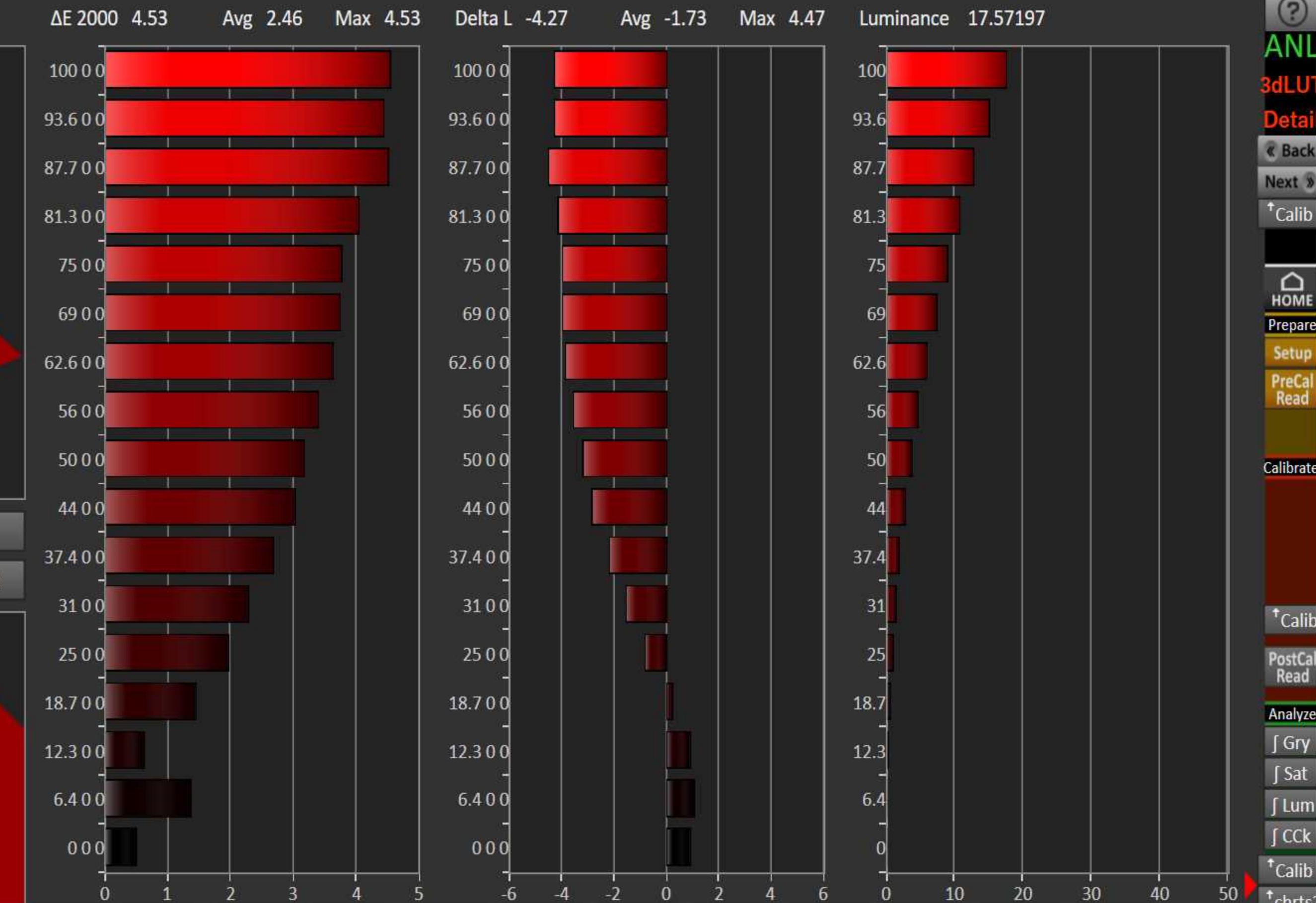
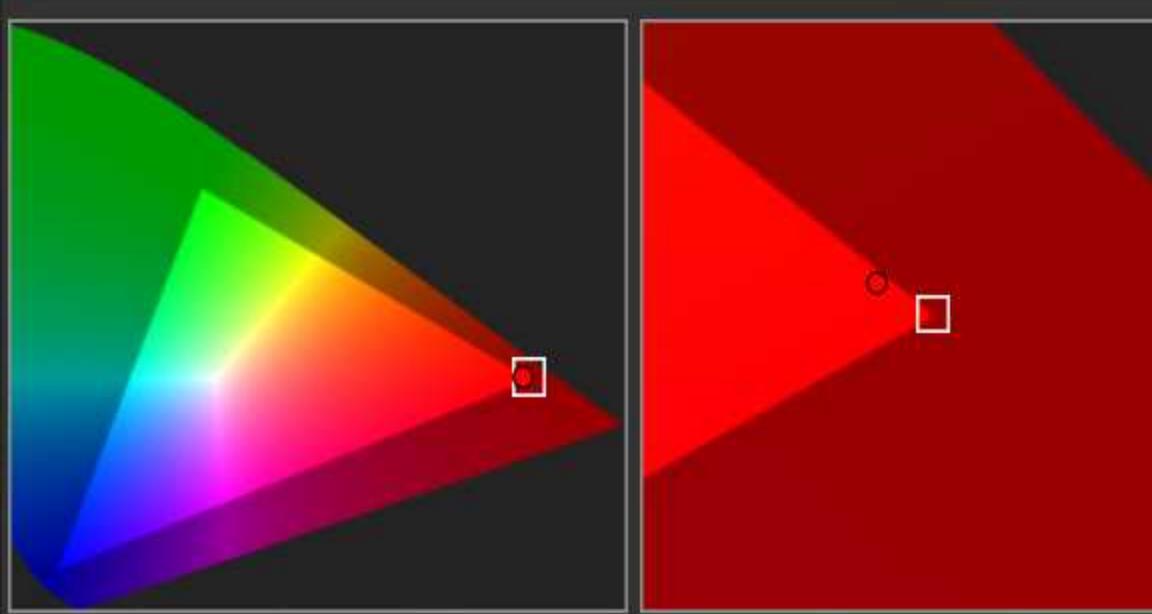
DeltaE DeltaL Lminance DeltaE DeltaH DeltaC +

Simulated Meter Simulated Source Direct Display Control ?

## ≡ 3D Color Cube LUT Full Calibration Detail 1 ≡



Red Green Blue White  
Cyan Magenta Yellow ↑ Charts 2



?

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∫ Gry

∫ Sat

∫ Lum

∫ CCK

↑ Calib

↑ chrt2

Final

Check

CAL

↑ Calib

# Datagrid

Notes ↴

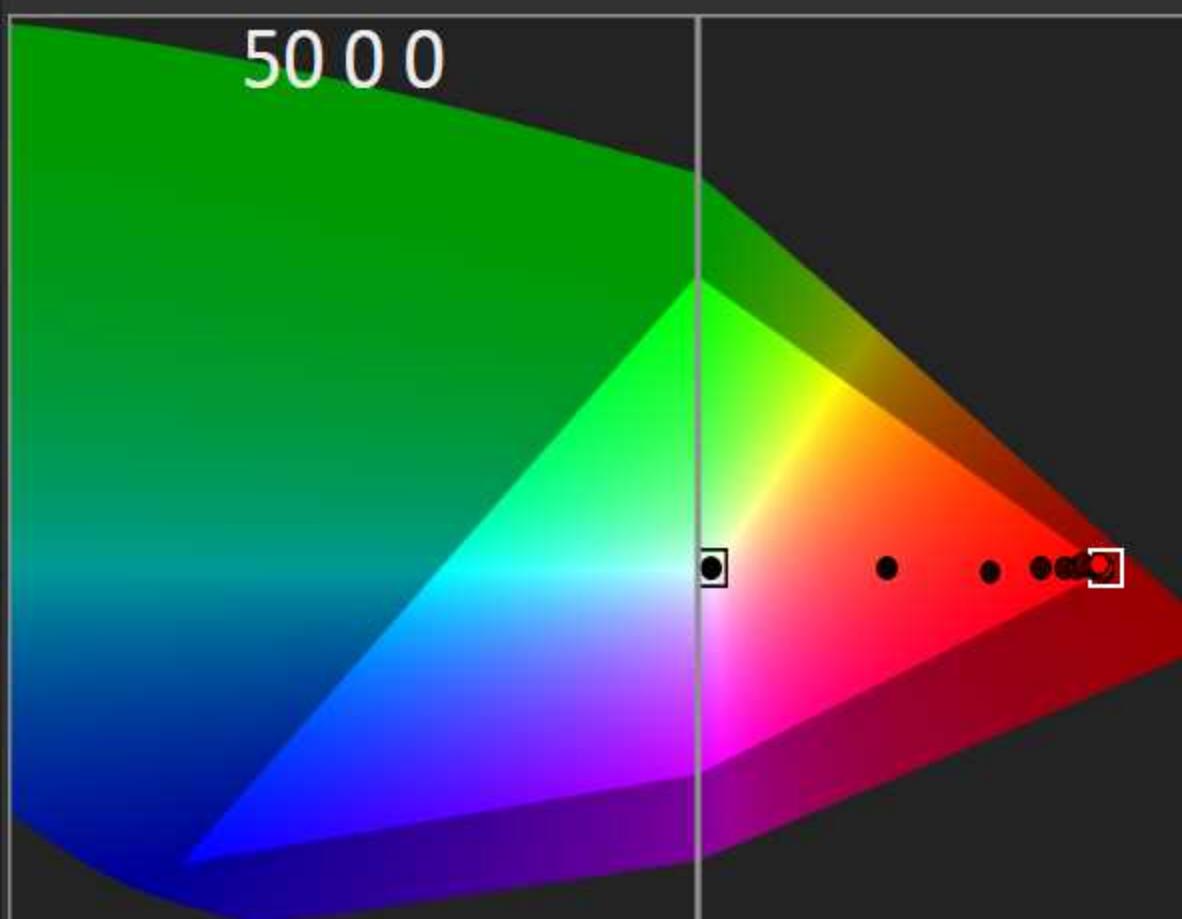
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## CalMAN

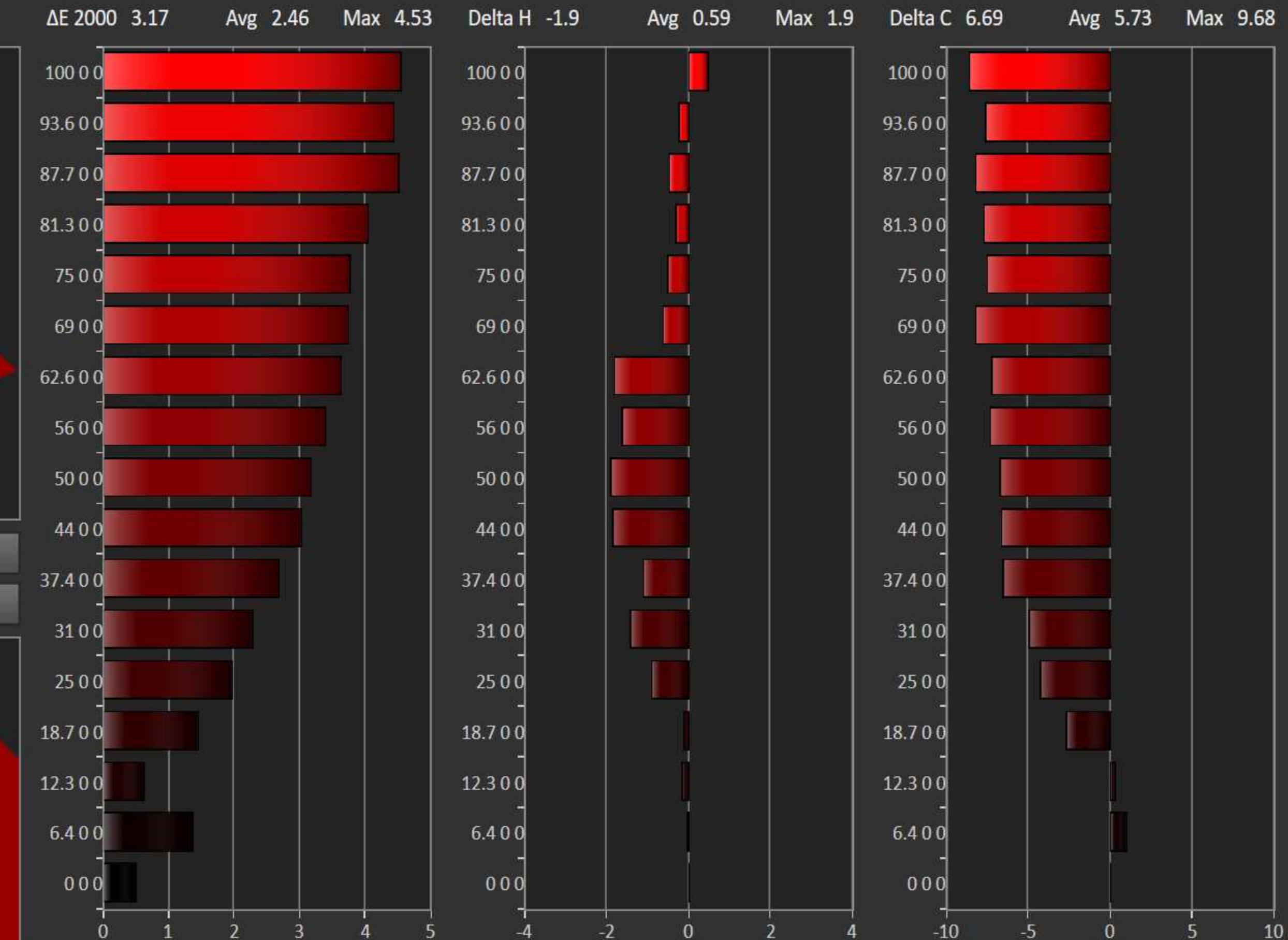
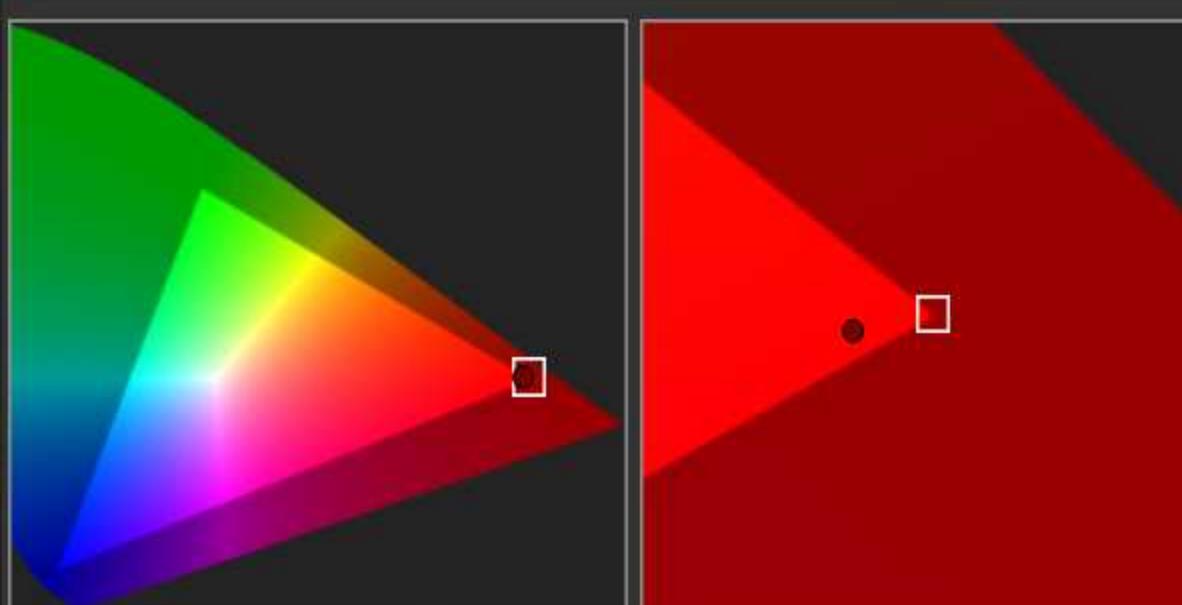
DeltaE DeltaL Luminance DeltaE DeltaH DeltaC +

Simulated Meter Simulated Source Direct Display Control ?

## ≡ 3D Color Cube LUT Full Calibration Detail 2 ≡



Red      Green      Blue      White  
Cyan      Magenta      Yellow



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## CalMAN

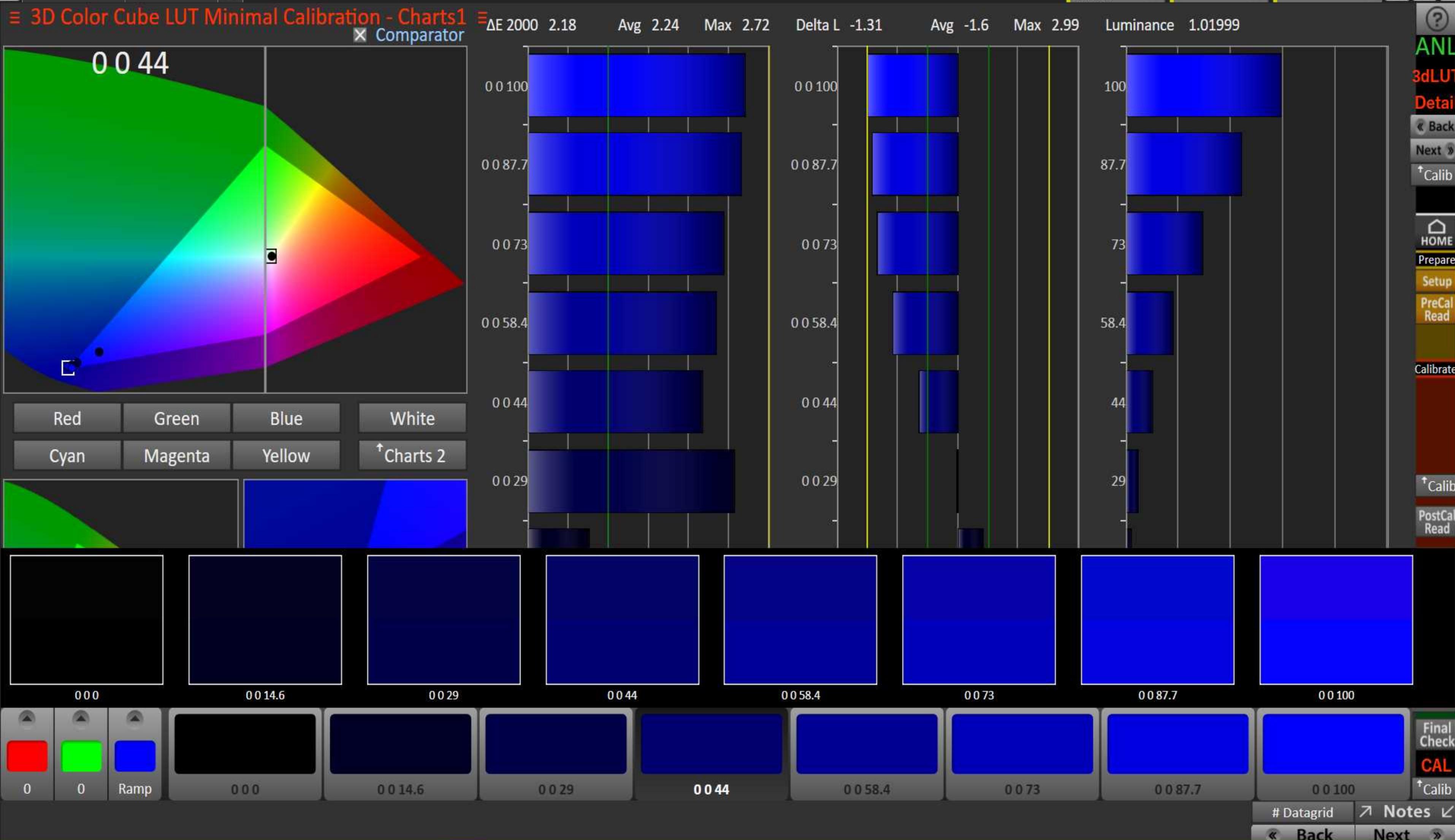
DeltaE DeltaL Lminance DeltaE DeltaH DeltaC +

Simulated Meter  
Simulated

Source

Direct Display Control

?



## CaIMAN

Final Check

+

Simulated Meter  
Simulated

Source

Direct Display Control

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## Session Final Check

6/13/2018 Calibration

AV Mode - Cal Day 100 nits

## Contrast Verification

Data Points: select Clipping or Clipping with Peak White:

Clipping with Peak White

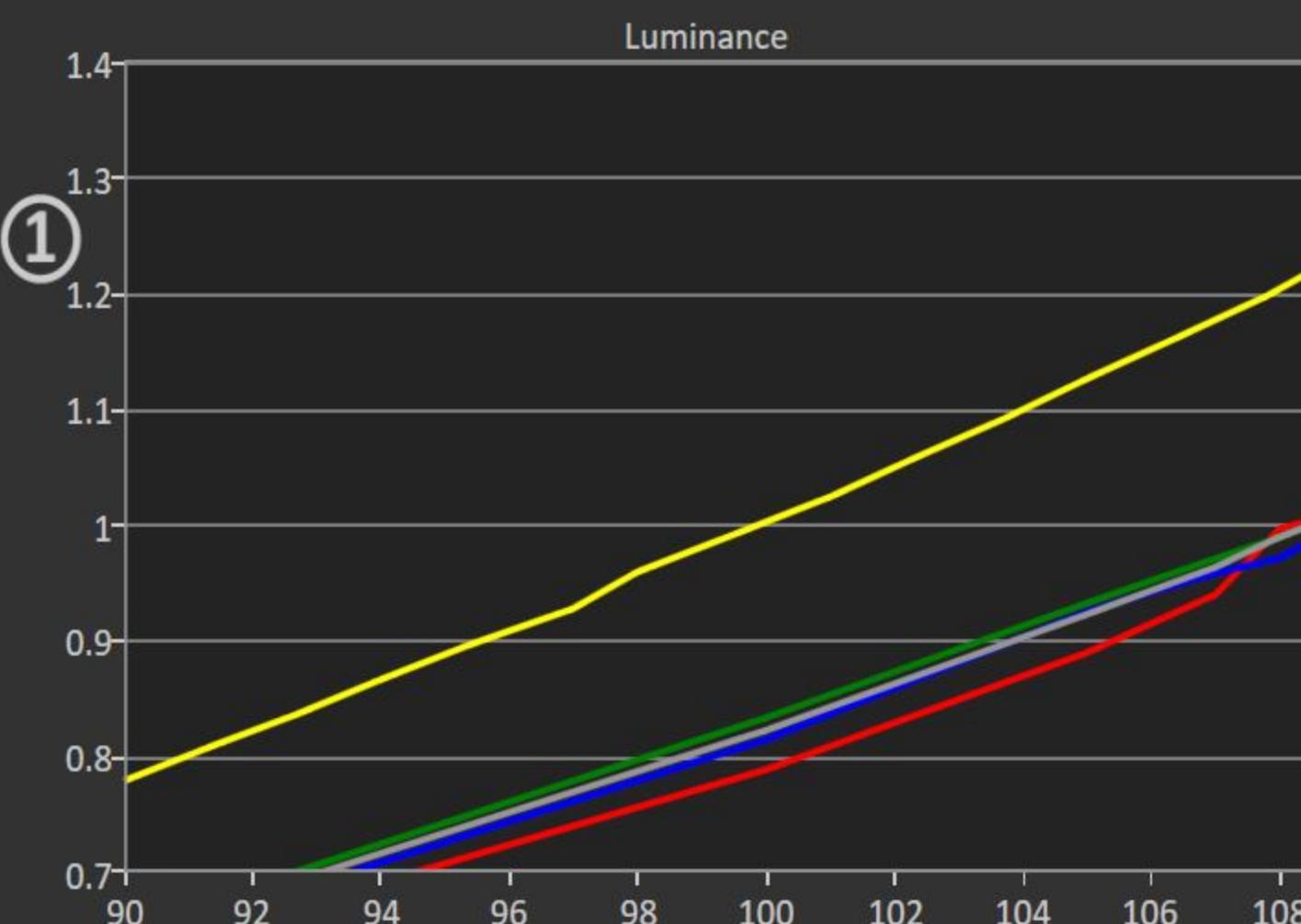
- ① Adjust the Backlight, Brightness and Contrast controls to optimize the white level so it doesn't clip any of the primaries.

## Gamma Level Verification

Data Points: select a full set of grayscale points, e.g. 11:

Clipping with Peak White

- ② Check / adjust the gamma level across the full grayscale. Use the Backlight, Brightness, Contrast and Gamma controls to make this adjustment.



## Post-Calibration Notes

↗ Notes ↘

Save ➞

Contrast  
Brightness  
BacklightTV Gamma  
Color  
TintRed  
Green  
Blue  
Gain  
CutNotes  
Final  
Check  
Final

## CaIMAN

Grayscale Datagrids

Simulated Meter  
Simulated

Source

Direct Display Control

?

## ≡ Pre-Cal Multi-Point Grayscale Data ≡

## Pre-Cal

ANL

	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
RGB Triplet	16, 16, 16	27, 27, 27	38, 38, 38	49, 49, 49	60, 60, 60	71, 71, 71	82, 82, 82	93, 93, 93	104, 104, 104	115, 115, 115	126, 126, 126	136, 136, 136	147, 147, 147	158, 158, 158	169, 169, 169	180, 180, 180	191, 191, 191	202, 202, 202	213, 2
Target Y cd/m²	0.0001	0.0877	0.4304	1.1112	2.1890	3.7118	5.7207	8.2523	11.3393	15.0123	19.2991	23.7512	29.2818	35.4987	42.4243	50.0800	58.4863	67.6628	77.62
Y cd/m²	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Target x:CIE31	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	
x: CIE31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	
y: CIE31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Target CCT	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	
CCT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

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PreCal

PostCal

HOME

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PreCal Read

Calibrate

↑ Gry

## ≡ Post-Cal Multi-Point Grayscale Data ≡

## Post-Cal

ANL

	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
RGB Triplet	16, 16, 16	27, 27, 27	38, 38, 38	49, 49, 49	60, 60, 60	71, 71, 71	82, 82, 82	93, 93, 93	104, 104, 104	115, 115, 115	126, 126, 126	136, 136, 136	147, 147, 147	158, 158, 158	169, 169, 169	180, 180, 180	191, 191, 191	202, 202, 202	213, 2
Target Y cd/m²	0.0001	0.0877	0.4304	1.1112	2.1890	3.7118	5.7207	8.2523	11.3393	15.0123	19.2991	23.7512	29.2818	35.4987	42.4243	50.0800	58.4863	67.6628	77.62
Y cd/m²	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Target x:CIE31	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	0.3127	
x: CIE31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Target y:CIE31	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	0.3290	
y: CIE31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Target CCT	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	6503.4440	
CCT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

PostCal Read

Datagrid

↑ Gry

# Sat

# Lum

# CCk

Final Check

DTA

Notes

Click Change Selection then right-click on eitherdatagrid chart (ESCAPE the context menu) to show possible selections

Change Selection X

↳ Pre-Cal    ↳ Post-Cal

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CalMAN 5 CalMAN Enthusiast for Home Video

Saturation Datagrids + Simulated Meter LCD Direct View Source Direct Display Control ? ANL

### ≡ Pre-Cal Saturation Sweeps Data ≡

	25%	50%	75%	100%
RGB Triplet	180, 123, 123	180, 90, 90	180, 64, 64	180, 16, 16
Target x:CIE31	0.3908	0.4698	0.5474	0.6400
x: CIE31	0.3929	0.4780	0.5485	0.6341
Target y:CIE31	0.3292	0.3295	0.3297	0.3300
y: CIE31	0.3295	0.3272	0.3318	0.3323
Target Y	6.7425	4.5733	3.4772	2.7058
Y	6.2916	4.2752	3.3548	2.6404
Gamma Point: Flat	4.8983	6.3818	7.3125	8.2318
ΔE 2000	1.5453	1.6107	0.8911	0.7375
dE2000 LuminanceCompensated	0.3074	0.9149	0.5316	0.4753
ΔE 1994 L*:±	-1.7418	-1.4910	-0.7272	-0.4573
ΔE 1994 Sat:±	0.0149	1.6318	-0.7311	-2.9259
ΔE 1994 Hue:±	0.1202	-0.5134	0.9302	-0.1209
Signed dE94 L LuminanceCompensated	0.0000	0.0000	0.0000	0.0000
Signed dE94 C LuminanceCompensated	0.6388	2.6665	0.0121	-2.2353
Signed dE94 H LuminanceCompensated	0.1189	-0.5076	0.9247	-0.1205

### ≡ Post-Cal Saturation Sweeps Data ≡

	25%	50%	75%	100%
RGB Triplet	180, 123, 123	180, 90, 90	180, 64, 64	180, 16, 16
Target x:CIE31	0.3908	0.4698	0.5475	0.6400
x: CIE31	0.3956	0.4744	0.5493	0.6371
Target y:CIE31	0.3292	0.3295	0.3297	0.3300
y: CIE31	0.3287	0.3309	0.3291	0.3293
Target Y	6.7656	4.5888	3.4890	2.7151
Y	6.3458	4.3233	3.3032	2.6238
Gamma Point: Flat	4.8781	6.3513	7.3843	8.2682
ΔE 2000	1.5205	1.3931	1.0562	0.9321
dE2000 LuminanceCompensated	0.7908	0.5512	0.1658	0.6366
ΔE 1994 L*:±	-1.6132	-1.3202	-1.1072	-0.6384
ΔE 1994 Sat:±	1.1230	0.0921	-0.5612	-2.2197
ΔE 1994 Hue:±	-0.1148	0.7136	-0.1205	-1.1030
Signed dE94 L LuminanceCompensated	0.0000	0.0000	0.0000	0.0000
Signed dE94 C LuminanceCompensated	1.7009	1.0083	0.5705	-1.2556
Signed dE94 H LuminanceCompensated	-0.1136	0.7065	-0.1194	-1.0967

Pre-Cal      Click Change Selection then right-click on eitherdatagrid chart (ESCape the context menu) to show possible selections      Post-Cal

Change Selection X

25% 50% 75% 100% 25% 50% 75% 100% Notes

J Pre-Cal J Post-Cal

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HOME Prepare PreCal Read Calibrate PostCal Read Datagrid # Gry # Sat # Lum # CCK Final Check DTA Notes

Color Check Datagrids +
Simulated Meter LCD Direct View
Source
Direct Display Control
?

≡ Pre-Cal Color Checker Data ≡
Pre-Cal
≡ Post-Cal Color Checker Data ≡

White
Gray 80
Gray 65
Gray 50
Gray 35
Dark Skin
Light Skin
Blue Sky
Foliage
Blue Flower
Bluish Green
Orange
Purplish Blue
Moderate Red
Purple
Yellow Gre

RGB Triplet
235, 235, 235
213, 213, 213
196, 196, 196
176, 176, 176
152, 152, 152
115, 86, 73
182, 145, 128
97, 121, 150
93, 108, 73
128, 126, 167
101, 178, 161
202, 119, 51
80, 95, 156
182, 88, 99
95, 69, 108
152, 176,

Target x:CIE31
0.3127
0.3127
0.3127
0.3127
0.3127
0.4006
0.3757
0.2511
0.3404
0.2701
0.2625
0.5089
0.2181
0.4574
0.2898
0.3763

x: CIE31
0.3114
0.3103
0.3121
0.3124
0.3114
0.4040
0.3802
0.2494
0.3407
0.2708
0.2617
0.5128
0.2171
0.4661
0.2899
0.3760

Target y:CIE31
0.3290
0.3290
0.3290
0.3290
0.3290
0.3629
0.3554
0.2679
0.4265
0.2554
0.3584
0.4096
0.1945
0.3125
0.2221
0.4916

y: CIE31
0.3280
0.3294
0.3295
0.3300
0.3306
0.3598
0.3543
0.2666
0.4273
0.2523
0.3609
0.4063
0.1902
0.3127
0.2234
0.4924

Target Y
23.6718
18.8519
15.5333
12.0729
8.5391
2.5473
8.6447
4.7411
3.3279
5.8708
10.2477
6.9752
2.9807
4.6046
1.7108
10.5436

Y
23.6718
18.6454
15.1301
11.6388
8.0013
2.3030
8.1124
4.3514
3.0509
5.4257
9.7691
6.6576
2.7135
4.3339
1.5651
10.0170

Gamma Point: Flat
2.2000
2.3345
2.3548
2.3287
2.3472
3.0564
4.1149
3.6088
2.4507
4.1852
3.0747
8.8507
5.1189
6.6357
3.2680
2.8562

ΔE 2000
0.6791
2.0503
0.9468
1.1176
2.1090
1.9326
1.8908
1.9130
1.6152
2.0500
1.1518
1.4750
1.7846
1.4617
1.2681
1.1597

dE2000 LuminanceCompensated
0.6791
2.0357
0.7466
0.7687
1.5368
1.2603
1.4011
0.2936
0.0969
1.1962
0.6092
1.0656
0.9895
0.8314
0.2199
0.1252

ΔE 1994 L\*:±
0.0000
-0.3940
-0.8798
-1.1245
-1.7713
-1.8238
-1.7382
-1.9129
-1.7227
-1.8905
-1.3877
-1.1899
-1.7915
-1.3439
-1.4121
-1.5000

ΔE 1994 Sat:±
0.6509
1.4365
0.5077
0.5540
1.0788
0.1340
1.0243
-0.0973
-0.5453
0.7832
0.7137
-0.1409
0.5545
1.3800
-1.4370
-0.8015

ΔE 1994 Hue:±
0.0000
0.0000
0.0000
0.0000
0.0000
-1.1845
-1.1599
-0.1369
-0.0487
1.0589
-0.5079
-1.6749
0.9334
0.6440
-0.0679
0.2016

Signed dE94 L LuminanceCompensated
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000

White
Gray 80
Gray 65
Gray 50
Gray 35
Dark Skin
Light Skin
Blue Sky
Foliage
Blue Flower
Bluish Green
Orange
Purplish Blue
Moderate Red
Purple
Yellow Gre

RGB Triplet
235, 235, 235
213, 213, 213
196, 196, 196
176, 176, 176
152, 152, 152
115, 86, 73
182, 145, 128
97, 121, 150
93, 108, 73
128, 126, 167
101, 178, 161
202, 119, 51
80, 95, 156
182, 88, 99
95, 69, 108
152, 176,

Target x:CIE31
0.3127
0.3127
0.3127
0.3127
0.3127
0.4006
0.3757
0.2511
0.3404
0.2701
0.2625
0.5090
0.2181
0.4574
0.2898
0.3763

x: CIE31
0.3101
0.3116
0.3135
0.3112
0.3116
0.4019
0.3826
0.2481
0.3406
0.2698
0.2609
0.5155
0.2186
0.4591
0.2897
0.3785

Target y:CIE31
0.3290
0.3290
0.3290
0.3290
0.3290
0.3629
0.3554
0.2679
0.4265
0.2554
0.3584
0.4096
0.1945
0.3125
0.2221
0.4916

y: CIE31
0.3279
0.3306
0.3256
0.3307
0.3298
0.3590
0.3541
0.2673
0.4251
0.2507
0.3583
0.4029
0.1919
0.3160
0.2252
0.4899

Target Y
23.7017
18.8756
15.5528
12.0880
8.5497
2.5504
8.6555
4.7469
3.3320
5.8781
10.2605
6.9839
2.9843
4.6103
1.7128
10.5567

Y
23.7017
18.6125
14.9954
11.6001
7.9993
2.3094
8.0700
4.3648
3.0106
5.3675
9.6883
6.5528
2.7374
4.3707
1.5718
9.9516

Gamma Point: Flat
2.2000
2.3713
2.4148
2.3448
2.3506
3.0543
4.1409
3.6047
2.4685
4.2204
3.1097
8.9740
5.1006
6.6064
3.2642
2.8836

ΔE 2000
1.4857
1.9371
2.8806
2.0892
1.8079
1.9244
2.3832
2.0553
1.9455
2.3206
1.2849
2.5135
1.6963
1.4707
1.4188
1.4694

dE2000 LuminanceCompensated
1.4857
1.9120
2.7650
1.8792
1.0420
1.2037
1.9773
0.9018
0.2073
1.3496
0.3387
2.0880
0.9226
0.7841
0.5583
0.5190

ΔE 1994 L\*:±
0.0000
-0.5019
-1.2189
-1.2642
-1.8113
-1.7956
-1.9132
-1.8722
-2.0055
-2.1742
-1.6623
-1.6221
-1.6498
-1.1849
-1.3639
-1.7260

ΔE 1994 Sat:±
1.2339
1.3608
2.1105
1.3265
0.7130
-0.2952
1.7818
-0.0807
-1.2170
1.2730
0.0845
-0.0599
-0.0074
-1.2251
-2.1409
-1.6424

ΔE 1994 Hue:±
0.0000
0.0000
0.0000
0.0000
0.0000
-1.2337
-1.5709
-0.8892
-0.1413
1.0309
0.2664
-3.3229
1.0207
1.3115
-0.2319
-0.9729

Signed dE94 L LuminanceCompensated
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000

Click Change Selection then right-click on either datagrid chart (ESCAPE the context menu) to show possible selections
Change Selection X
Notes
DTA
Pre-Cal
Post-Cal
Back
Next
ANL
CCK
PostCal Read
Datagrid
# Gry
# Sat
# Lum
# CCK
Final Check