

CalMAN 5

Introduction

Simulated Meter
LCD Direct View

Source

Direct Display Control

Workflow →
Description

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Intro

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Setup

PreCal Read

DyRnge

Calibrate

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↓ Sat

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Final Check

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Welcome to the HT Enthusiast Extended Workflow

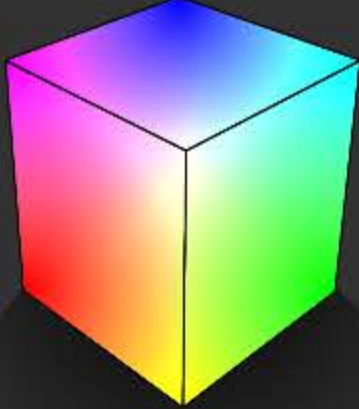
↘ Introduction ↙


→ Prepare ←


↓ Calibrate ↑

← Analyze →









Featuring ...

- ▶ Home layout outlines the workflow structure with full access
- ▶ Comprehensive Notes Management - access button always at bottom right
- ▶ Integrated session setup and hardware configuration layout
- ▶ Single layout takes all desired Pre- or Post-calibration readings
- ▶ Expanded Multi-Point Grayscale calibration and pre/post-cal chart & datagrid layouts
- ▶ Detailed Saturation Sweep calibration and pre/post-cal chart & datagrid layouts
- ▶ Detailed Gamut Luminance calibration and pre/post-cal chart & datagrid layouts
- ▶ Detailed Color Check calibration and pre/post-cal chart & datagrid layouts
- ▶ 3D Color Cube LUT calibration chart & datagrid layouts
- ▶ High-count calibration points friendly
- ▶ Layout indicators: ↓ Calibration ∩ Charts # Datagrids

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!

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Workflow Description

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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 (tabbed Full-feature and Simple)

Saturation Sweeps, also used for basic CMS calibration

Gamut Luminance

Color Checker

3D Color Cube LUT (tabbed Full-feature and Minimal)

Use Simple or Minimal layout tabs for hopefully faster AutoCal.

All active calibration layouts except 2-Point have corresponding detail datagrid layouts accessible via the #data buttons.

Use the Slim high-content Color Checker datagrid for faster processing of hundreds of colors.

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 analysis datagrid layouts with both pre- and post-calibration data for each active calibration view. You can acces 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 acces 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

Other

ScUni

← context navigation →

Datagrid

Other

Gry

Gr-2pt

Sat

Lum

CCK

LUT

Slim

Min

Full & Simple →

Full & Minimal →

Post-Cal →

Data from Full & Minimal calibration →

Navigation Bar

→

←

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Workflow DescriptionWorkflow Outline

CalMAN 5 CalMAN Enthusiast for Home Video

Simulated MeterLCD Direct ViewSourceDirect Display Control

▶ Preparation (PRP)

1 ▶ Session Setup → Screen Uniformity

2 ▶ Pre-Calibration Readings

3 ▶ Dynamic Range Analysis

▶ Calibration (CAL)

4 ▶ 2-Point Grayscale Calibration

5 ▶ Multi-Pt Grayscale Calibration → Datagrid

6 ▶ Saturation Sweeps Calibration → Datagrid

7 ▶ Gamut Luminance Calibration → Datagrid

7 ▶ Gamut Luminance Calibration → Datagrid

8 ▶ Color Checker Calibration → Datagrid (normal & slim versions)

9 ▶ 3D Color Cube LUT Calibration

10 ▶ Post-Calibration Readings

▶ Analysis (ANL)

11 ▶ Multi-Pt Grayscale Post-Cal Charts → Pre-Cal Charts → Datagrids

11 ▶ Multi-Pt Grayscale Post-Cal Charts → Pre-Cal Charts → Datagrids

13 ▶ Gamut Luminance Post-Cal Charts → Pre-Cal Charts → Datagrids

14 ▶ Color Checker Post-Cal Charts → Pre-Cal Charts → Datagrids

15 ▶ 3D Color Cube LUT Calibration Detail Charts (from Full & Minimal calibrations)

16 ▶ Final Check + Summary – Fine Tune the Dynamic Range

Show Description

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

Other

ScUni

← context navigation →

Datagrid

Other

Gry

Gr-2pt

Full & Simple →

↓ Gry

Sat

← context navigation →

↓ Sat

Lum

↓ Lum

CCK

Slim

↓ CCK

LUT

Min

Full & Minimal →

↓ LUT

PostCal Read

Post-Cal →

Analyze

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↓ Lum

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Data from Full & Minimal calibration →

↓ LUTm

↓ LUTf

Final Check

Navigation Bar → ←

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Workflow Map

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1/25/2015 Calibration

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Calibration

Grayscale

Saturation Sweeps / CMS

Gamut Luminance

Color Checker

3d Color Cube LUT

Gray 2-Pt Calibrate

Satu 2 Calibrate

Lumi 2 Calibrate

CChk 2 Calibrate

LUT 2 Calibrate

Gray Mult-Pt Calibrate

Satu # Cal Data

Lumi # Cal Data

CChk # Cal Data

LUT Full # Cal Data

Has Full and Simple layout tabs

Cc-Slm # Slim Cal Data

LUT Minimal # Cal Data

PostCal Read

Analysis

Grayscale

Saturation Sweeps / CMS

Gamut Luminance

Color Checker

3d Color Cube LUT

Gray # Pre/Post-Cal Data

Satu # Pre/Post-Cal Data

Lumi # Pre/Post-Cal Data

CChk # Pre/Post-Cal Data

LUT Full j Cal Charts

Gray j Pre-Cal Charts

Satu j Pre-Cal Charts

Lumi j Pre-Cal Charts

CChk j Pre-Cal Charts

LUT Minimal j Cal Charts

Gray j Post-Cal Charts

Satu j Post-Cal Charts

Lumi j Post-Cal Charts

CChk j Post-Cal Charts

Final Check

Layout indicators: 2 Calibration j Charts # Datagrids

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Workflow MapDescription

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WORKFLOW OVERVIEW

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

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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 (tabbed Full-feature and Simple)

• Saturation Sweeps, also used for basic CMS calibration

• Gamut Luminance

• Color Checker

• 3D Color Cube LUT (tabbed Full-feature and Minimal)

- Use Simple or Minimal layout tabs for hopefully faster AutoCal.

- All active calibration layouts except 2-Point have corresponding detail datagrid layouts accessible via the [↑]dta buttons.

- Use the Slim high-content Color Checker datagrid for faster processing of hundreds of colors.

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 analysis datagrid layouts with both pre- and post-calibration data for each active calibration view. You can access them using the [↑]Data buttons with a similar toggle arrangement as the [↑]PstCal button.

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.

WORKFLOW OUTLINE

▶ Introduction (INT)

A ▶ Title and Features

B ▶ Home Base

▶ Preparation (PRP)

1 ▶ Session Setup → Screen Uniformity

2 ▶ Pre-Calibration Readings

3 ▶ Dynamic Range Analysis

▶ Calibration (CAL)

4 ▶ 2-Point Grayscale Calibration

5 ▶ Multi-Pt Grayscale Calibration → Datagrid

6 ▶ Saturation Sweeps Calibration → Datagrid

7 ▶ Gamut Luminance Calibration → Datagrid

8 ▶ Color Checker Calibration → Datagrid (normal & slim)

9 ▶ 3D Color Cube LUT Calibration

10 ▶ Post-Calibration Readings

▶ Analysis (ANL)

11 ▶ Multi-Pt Grayscale Post-Cal Charts → Pre-Cal Charts → Datagrids

12 ▶ Saturation Sweeps Post-Cal Charts → Pre-Cal Charts → Datagrids

13 ▶ Gamut Luminance Post-Cal Charts → Pre-Cal Charts → Datagrids

14 ▶ Color Checker Post-Cal Charts → Pre-Cal Charts → Datagrids

15 ▶ 3D Color Cube LUT Calibration Detail Charts (2 tabs, normal & slim)

16 ▶ Final Check + Summary – Fine Tune the Dynamic Range

Layout indicators:

↑ Calibration

┌ Charts

Datagrids

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Notes Management

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Calibration Notes

Pre-Calibration Notes

Calibration Description / Goals

Color Notes

Post-Calibration Notes

REF

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Calibrate

↑ Gry

↑ Sat

↑ Lum

↑ CCK

↑ LUT

PostCal Read

Analyze

↓ Gry

↓ Sat

↓ Lum

↓ CCK

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3/12/2015 Calibration

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Calibration Description / Goals

Notes

Display • PRO-70X5FD

Target cd/m2
Black0.01713White100Target Gamma2.2

(B) Display Settings

AV ModeISF Day

Color TempLow

Sharpness2

Color

Tint

Contrast78

Brightness14

Backlight30

TV Gamma-4

Cut

Gain

Red

Green

Blue

(C) Hardware Configuration

1 Meter

Find →Configure

CalMAN Simulated
Profile : None

Mode

2 Source

Find →Configure

Optical player or standalone generator (manual cont
Optical player or standalone generator

Pattern SizeFull 100%Triplet Support: FullTriplets

3 Display or Processor

Find →Configure

Sharp - 2011 Elite (RS-232, Ethernet)
Sharp Elite SOCKET 192.168.1.45:10002

Display SlotISF DayData Points11

DDC

(D) Meter Setup

Position the meter as required for
(1) projector or (2) flat panel to
insure accurate measurements,
(3) taking appropriate readings.

1 Projector

2 Flat Panel

DDC

3 Readings

White / Black in fL
29.19 / 0

Level 0CCT 0 / 6503 Target

500
400
300
200
100
0

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Display • PRO-70X5FD

Target cd/m2

Black0.01713

White100

Target Gamma2.2

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AV ModeISF Day

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Red

Green

Blue

(C) Hardware Configuration

1 Meter

Find →Configure

2 Source

Find →Configure

3 Display or Processor

Find →Configure

DDC

(D) Meter Setup

Position the meter as required for (1) projector or (2) flat panel to insure accurate measurements, (3) taking appropriate readings.

1 Projector

DDC

Display Controls

Brightness15

Contrast80

Color0

Tint0

Sharpness2

Color TemperatureLow

Gamma-18

Backlight30

Gamut RangeStandard

Motion ENhancementOff

Precision Color Plus

Active Contrast

Film ModeOff

Digital Noise ReductionOff

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Lumagen Radiance 3D LUT
CMS 4

DDC

?

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Setting Up the Session

(A) Enter the session description & calibration options in the corresponding drop-downs 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) 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) Find and configure the appropriate (1) meter, (2) source and (3) display devices - more info on right →

(D) Position the meter as required. You can now read the Level 0 (Black) and Level 100 (White) luminance and corresponding CCT based on current settings - more info on right →

(C) Hardware Configuration

- To start calibrating your display/processor, first connect your meter.
 - Click the meter [Find] button and select your meter.
 - Select the Target Display Type.
- Connect to your reference pattern source generator.
 - Click the source [Find] button, and select your Source.
 - Select the pattern window size and resolution.
- Connect to your display/processor.
 - Click the display [Find] button and select your display or processor.
 - Click [DDC] to show the Direct Display Control panel when appropriate
- Click the corresponding [Configure] button for more options.

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(D) Meter Positioning

- 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.
 - 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*.
- 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.
- 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.

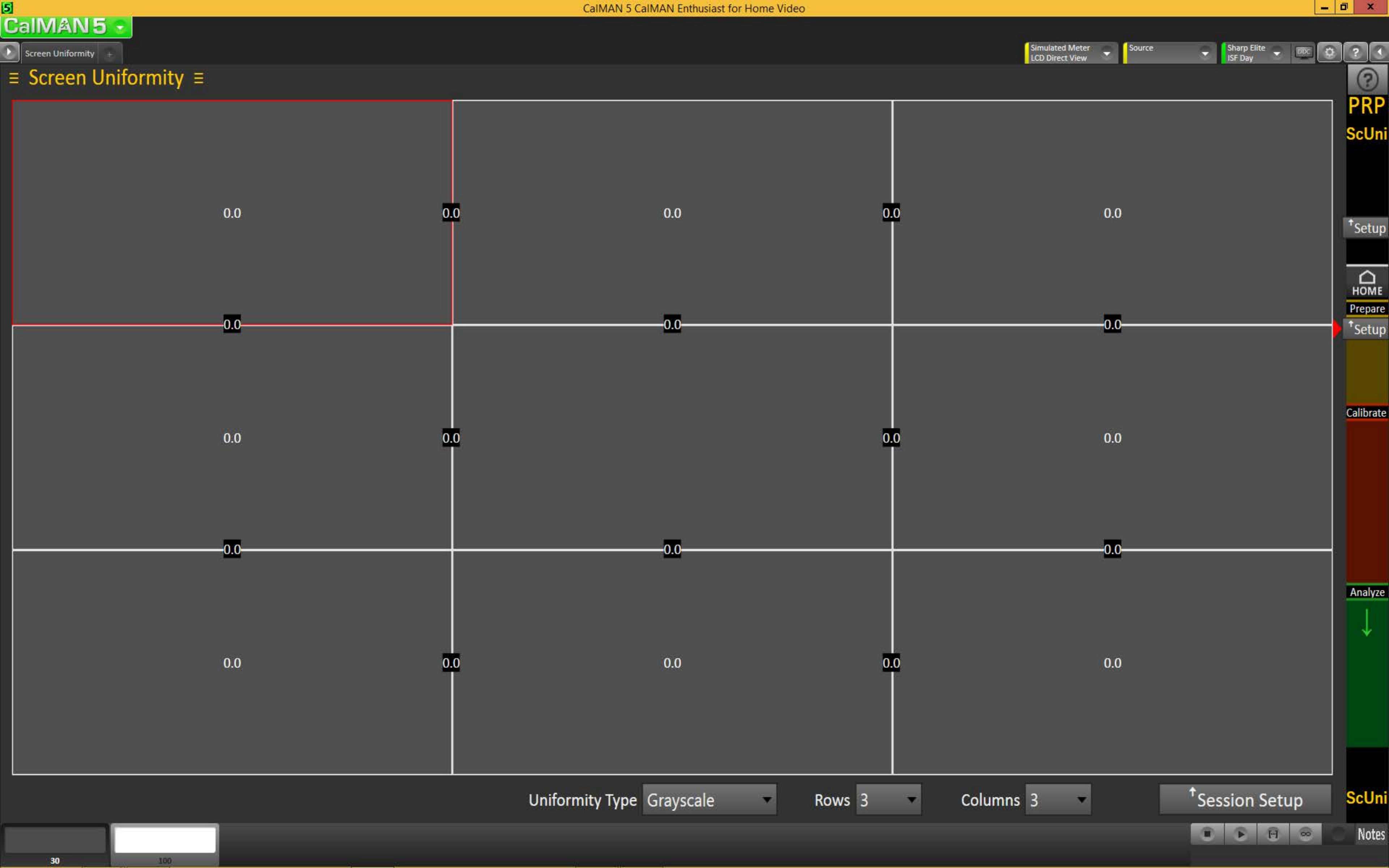
0

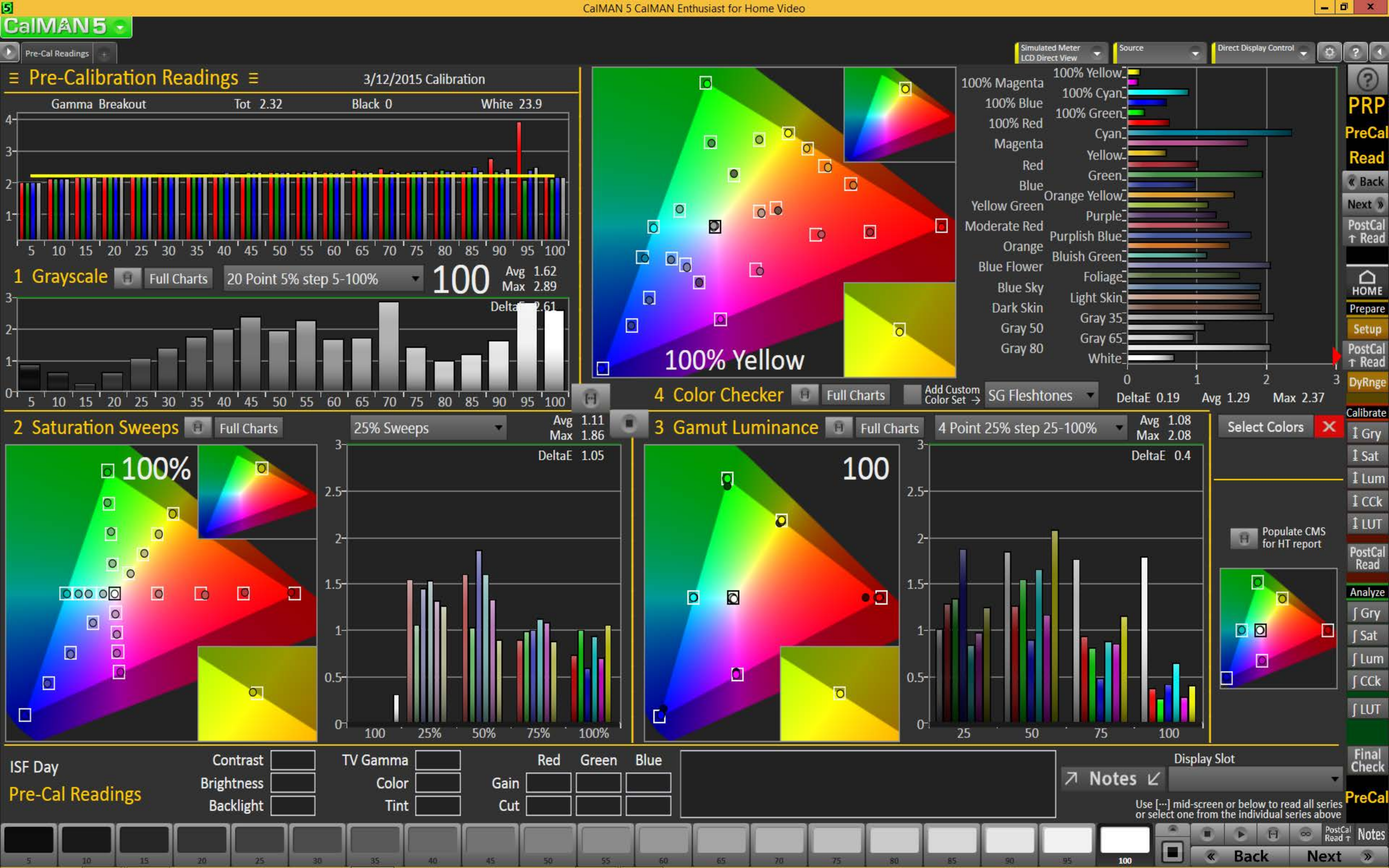
100

Home

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CalMAN 5

Dynamic Range

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.

1

Adjust the Contrast to maximize the white level without clipping any of the three primaries.

Clipping with Peak White

1

Gamma Level

Data Points: select a full set of grayscale points for this.

2

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.

Clipping with Peak White

2

Calibration Notes

Notes

Contrast78

Brightness14

Backlight30

TV Gamma-4

Luminance

Luminance in fL

White23.61

29.14

Gamma

Target2.2

Total2.4

2.41

Display Slot

Click the Read All button [...] to read the Grayscale

90

100

105

107

108

109

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≡ 2-Point Grayscale Calibration ≡

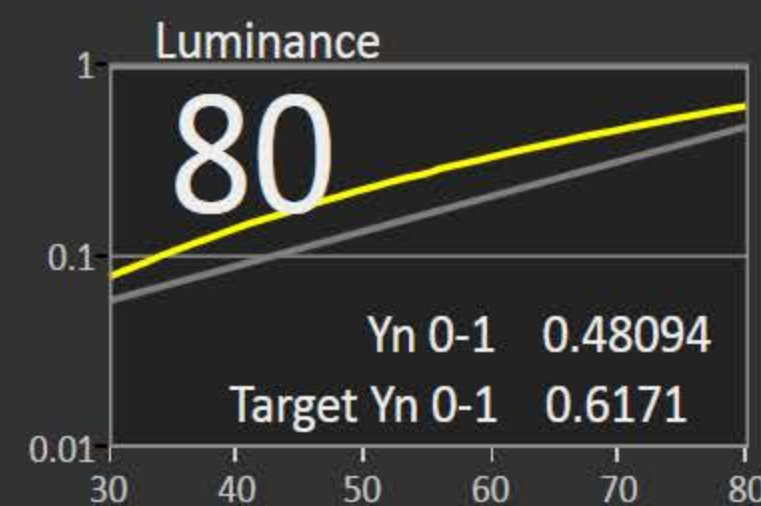
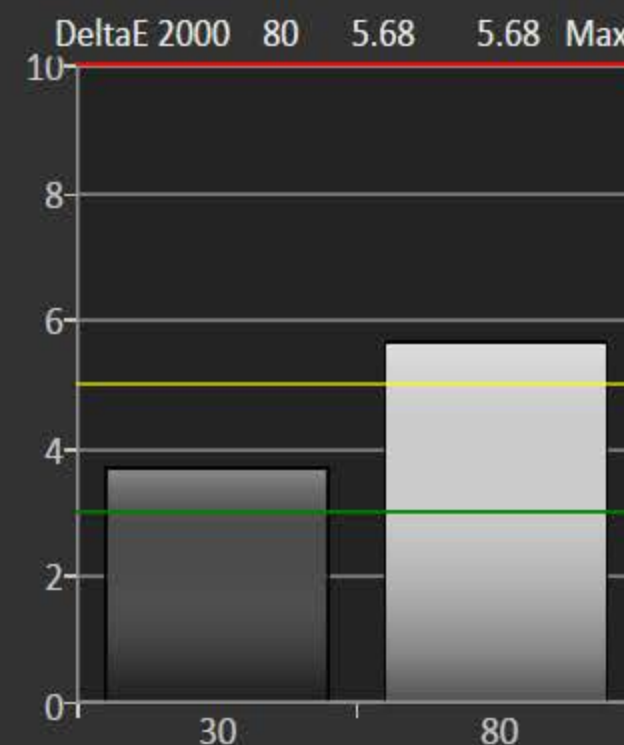
Grayscale 2-Point Adjust

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 ΔE 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 ΔE is under 3.

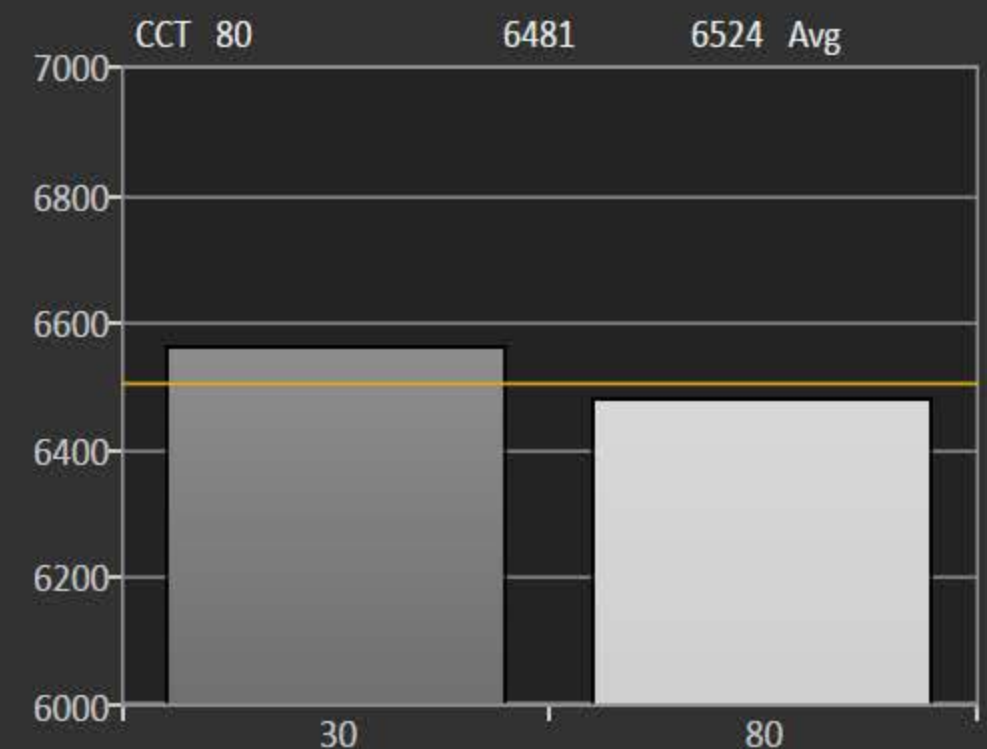
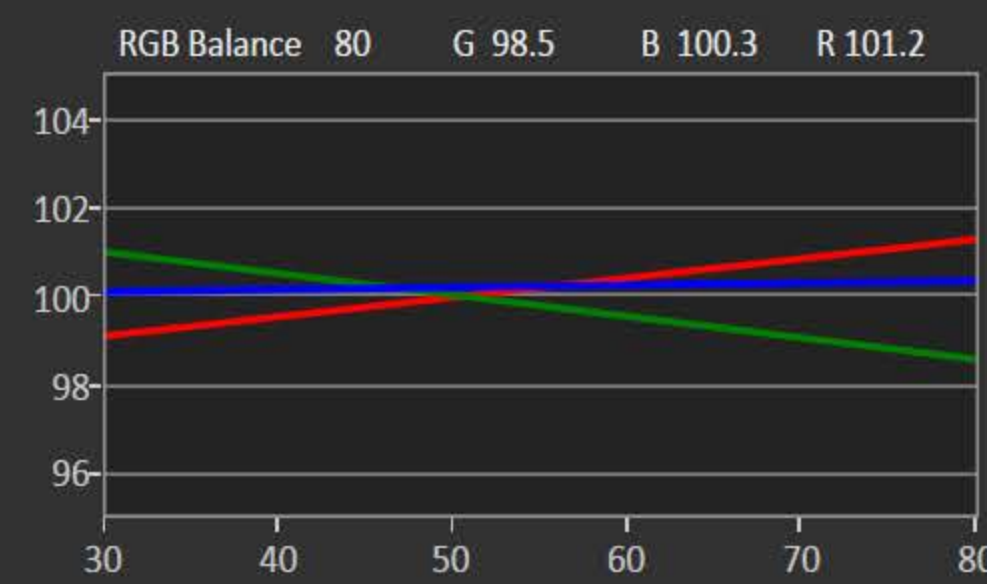
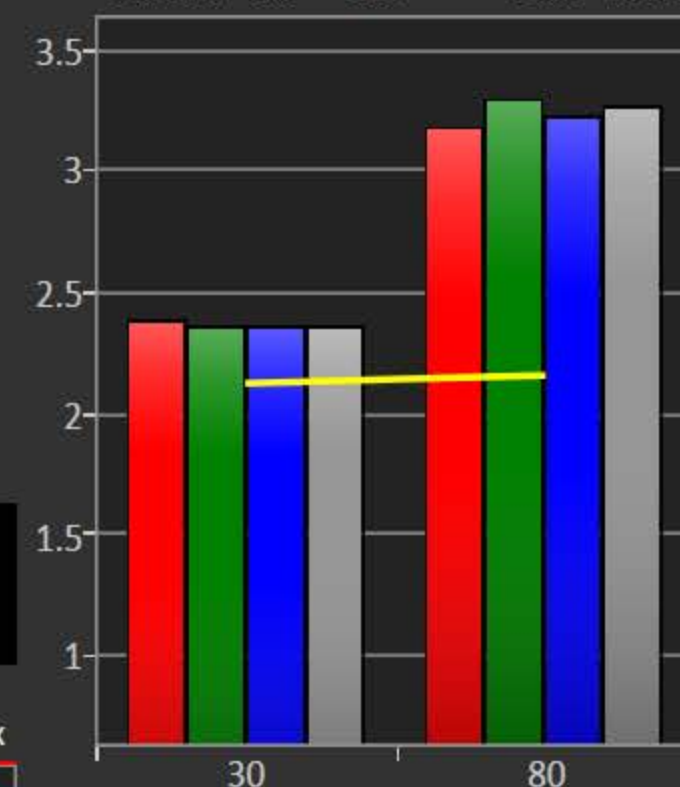
Selecting Points:

- **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	80
RGB Triplet	82, 82, 82	191, 191, 191
Red index	82.0000	191.0000
Green index	82.0000	191.0000
Blue index	82.0000	191.0000
X	5.5384	46.0240
Y cd/m ²	5.8854	48.0940
Z	6.3664	52.7645
Xn 0-1	0.0554	0.4602
Yn 0-1	0.0589	0.4809
Zn 0-1	0.0637	0.5276
Stimulus Percent	0.3014	0.7991
RED Stim%:0-1	0.3014	0.7991
GRN Stim%:0-1	0.3014	0.7991
BLU Stim%:0-1	0.3014	0.7991



Gamma	80	3.45	2.95	Total
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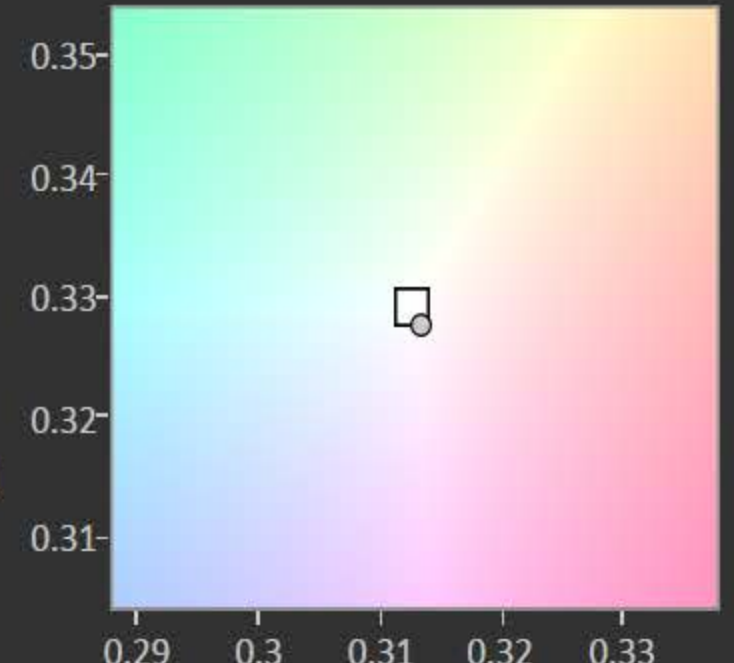
80

White 29.19

	Y / Luminance fL	x	y
Target →	18.01103	0.3127	0.329
Read →	14.03688	0.3133	0.3274

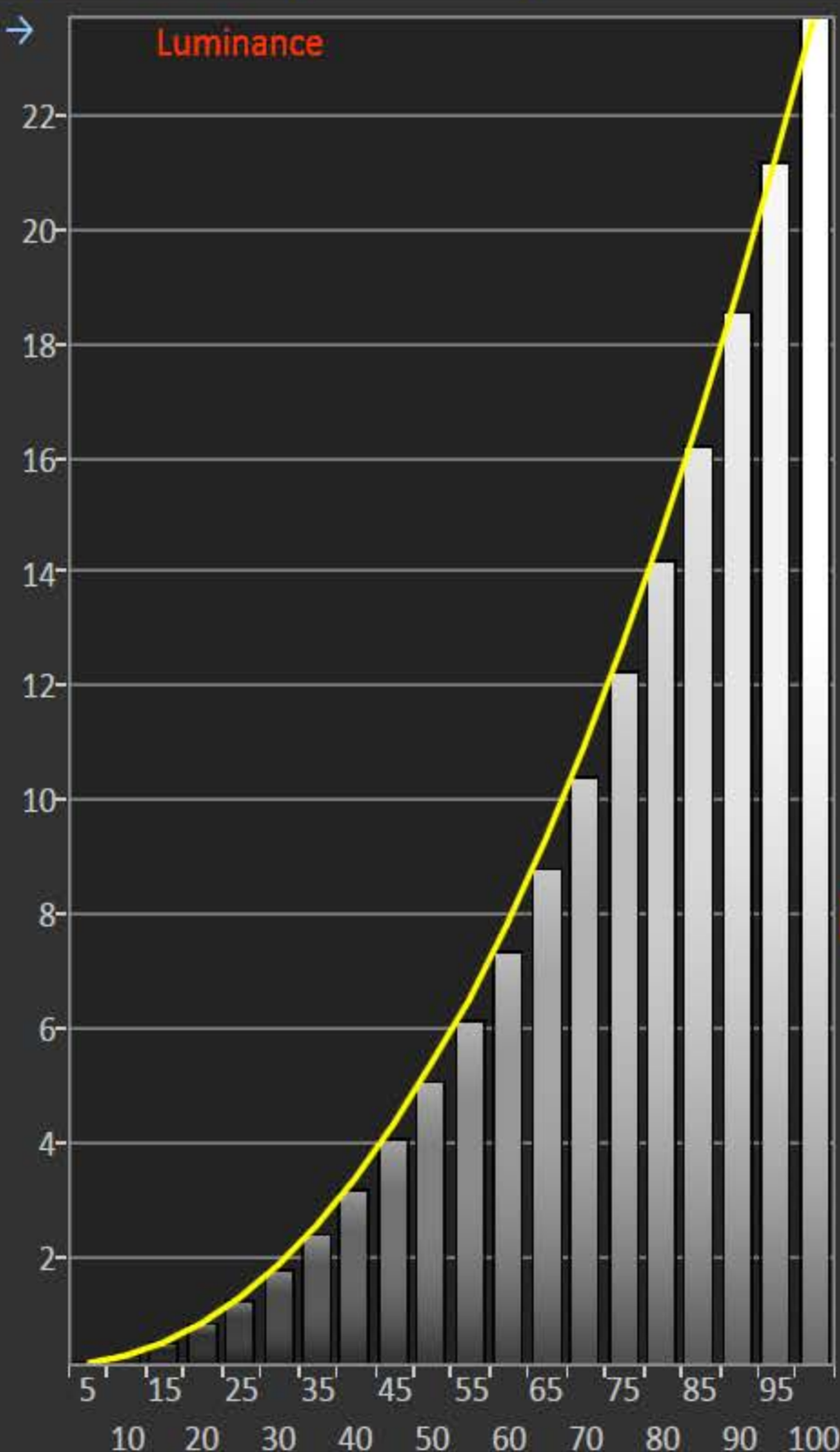
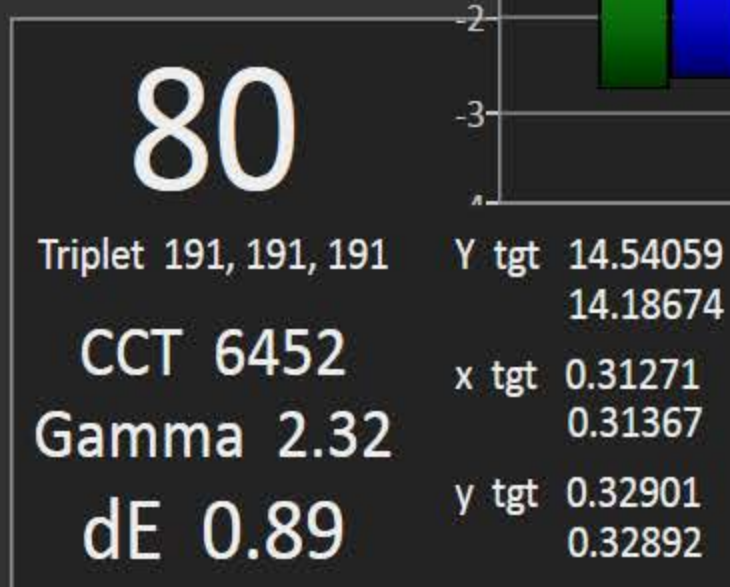
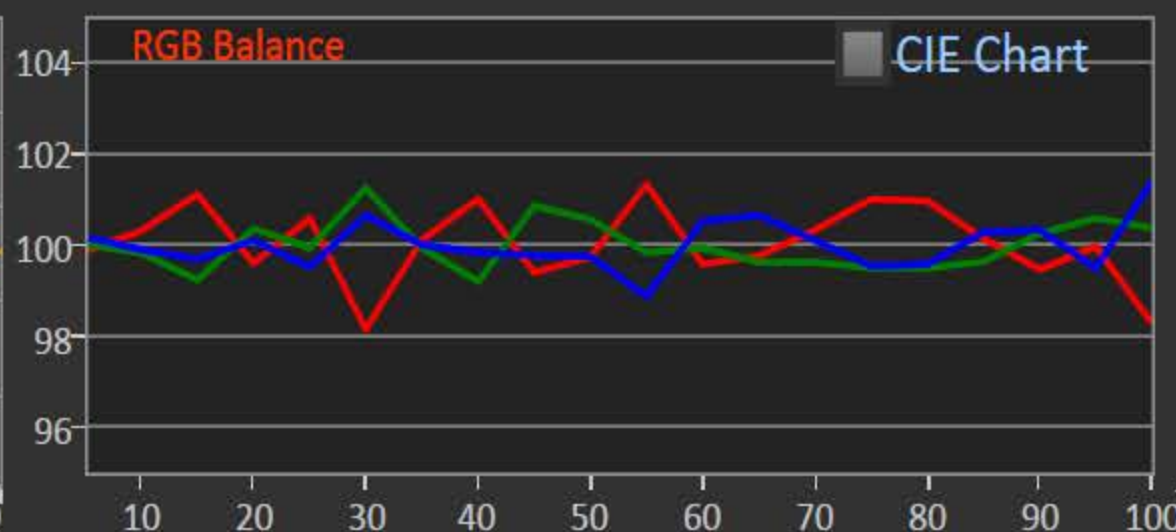
2 Point 30,80%

Triplet
191, 191, 191





■ Logarithmic Y Axis →



Black	0		White	23.6	
Summary					
Delta E		Gamma		CCT	
Avg	1.1	Tgt	2.2	Tgt	6503
@ 45 Max	1.59	Tot	2.25	Avg	6499

Display Slot	Display	Display Type	Display Size	Display Resolution	Display Refresh Rate	Display Color	Display Brightness	Display Contrast	Display Aspect Ratio	Display Orientation	Display Mounting	Display Weight	Display Price
1	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
2	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
3	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
4	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
5	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
6	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
7	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
8	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
9	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
10	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
11	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
12	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
13	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
14	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
15	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
16	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
17	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
18	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
19	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
20	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
21	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
22	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
23	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
24	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
25	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
26	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
27	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd/m²	1000:1	16:9	Portrait	Standard	1.5 kg	\$150
28	15.5"	LED	15.5"	1366 x 768	60 Hz	16.7M	300 cd						

Grayscale Points 20 Point 5% step 5-100%





CalMAN 5

▶

Datagrid

+

Simulated Meter

LCD Direct View

Source

Sharp Elite

ISF Day

EDC

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Multi-Point Calibration Data - Full

Calibration Notes

DeltaE 2000

	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
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, 191	202, 202, 202	213, 213,
Red index	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000	213.0000
Green index	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000	213.0000
Blue index	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000	213.0000
X	0.3436	0.8161	1.5479	2.5631	3.9162	5.5296	7.5876	10.1969	12.9315	16.2504	19.8961	23.8700	28.6303	33.9536	39.9612	45.8805	52.7387	60.1423
Y cd/m²	0.3620	0.8546	1.6035	2.7110	4.1114	5.9066	7.9764	10.6452	13.6963	17.1619	20.8744	25.1164	30.0704	35.6417	41.8967	48.9200	55.3907	63.3693
Z	0.3993	0.9291	1.7462	2.9470	4.4301	6.4471	8.6895	11.6231	14.7871	18.5653	22.4192	27.5289	33.0424	38.9132	45.4994	52.6757	60.5546	69.1467
Xn 0-1	0.0042	0.0101	0.0191	0.0316	0.0483	0.0681	0.0935	0.1257	0.1594	0.2003	0.2452	0.2942	0.3529	0.4185	0.4925	0.5655	0.6500	0.7412
Yn 0-1	0.0045	0.0105	0.0198	0.0334	0.0507	0.0728	0.0983	0.1312	0.1688	0.2115	0.2573	0.3095	0.3706	0.4393	0.5164	0.6029	0.6827	0.7810
Zn 0-1	0.0049	0.0115	0.0215	0.0363	0.0546	0.0795	0.1071	0.1432	0.1822	0.2288	0.2763	0.3393	0.4072	0.4796	0.5608	0.6492	0.7463	0.8522
Stimulus Percent	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493	0.8995
RED Stim%:0-1	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493	0.8995
GRN Stim%:0-1	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493	0.8995
BLU Stim%:0-1	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493	0.8995
Measured Red Stimulus	0.0650	0.1081	0.1536	0.1946	0.2431	0.2819	0.3346	0.3882	0.4301	0.4807	0.5335	0.5768	0.6291	0.6830	0.7390	0.7771	0.8385	0.8891
Measured Green Stimulus	0.0655	0.1069	0.1488	0.1966	0.2413	0.2907	0.3341	0.3828	0.4345	0.4832	0.5287	0.5779	0.6286	0.6806	0.7337	0.7944	0.8367	0.8920
Measured Blue Stimulus	0.0661	0.1071	0.1499	0.1959	0.2402	0.2890	0.3343	0.3847	0.4312	0.4807	0.5255	0.5799	0.6320	0.6822	0.7338	0.7850	0.8390	0.8923
Stimulus	5.0000	10.0000	15.0000	20.0000	25.0000	30.0000	35.0000	40.0000	45.0000	50.0000	55.0000	60.0000	65.0000	70.0000	75.0000	80.0000	85.0000	90.0000
Target X cd/m²	0.2255	0.7222	1.5398	2.7018	4.2262	6.1283	8.4210	11.1159	14.2232	17.7523	21.3339	25.6917	30.4945	35.7495	41.4633	47.6419	54.2915	61.4175
Target Y cd/m²	0.2373	0.7598	1.6201	2.8426	4.4464	6.4476	8.8598	11.6952	14.9644	18.6775	22.4457	27.0306	32.0837	37.6126	43.6241	50.1248	57.1208	64.6182
Target Z cd/m²	0.2584	0.8274	1.7642	3.0955	4.8420	7.0213	9.6481	12.7357	16.2958	20.3392	24.4427	29.4355	34.9382	40.9590	47.5053	54.5843	62.2028	70.3673
Target Xn 0-1	0.0028	0.0089	0.0190	0.0333	0.0521	0.0755	0.1038	0.1370	0.1753	0.2188	0.2629	0.3166	0.3758	0.4406	0.5110	0.5872	0.6691	0.7569
Target Yn 0-1	0.0029	0.0094	0.0200	0.0350	0.0548	0.0795	0.1092	0.1441	0.1844	0.2302	0.2766	0.3331	0.3954	0.4636	0.5376	0.6178	0.7040	0.7964
Target Zn 0-1	0.0032	0.0102	0.0217	0.0382	0.0597	0.0865	0.1189	0.1570	0.2008	0.2507	0.3012	0.3628	0.4306	0.5048	0.5855	0.6727	0.7666	0.8672
TargetGamut:Nrml Y	0.0029	0.0094	0.0200	0.0350	0.0548	0.0795	0.1092	0.1441	0.1844	0.2302	0.2766	0.3331	0.3954	0.4636	0.5376	0.6178	0.7040	0.7964
TargetRED:Lin0-1	0.0029	0.0094	0.0200	0.0350	0.0548	0.0795	0.1092	0.1441	0.1844	0.2302	0.2766	0.3331	0.3954	0.4636	0.5376	0.6178	0.7040	0.7964
TargetGRN:Lin0-1	0.0029	0.0094	0.0200	0.0350	0.0548	0.0795	0.1092	0.1441	0.1844	0.2302	0.2766	0.3331	0.3954	0.4636	0.5376	0.6178	0.7040	0.7964
TargetBLU:Lin0-1	0.0029	0.0094	0.0200	0.0350	0.0548	0.0795	0.1092	0.1441	0.1844	0.2302	0.2766	0.3331	0.3954	0.4636	0.5376	0.6178	0.7040	0.7964

Calib

HOME

Prepare

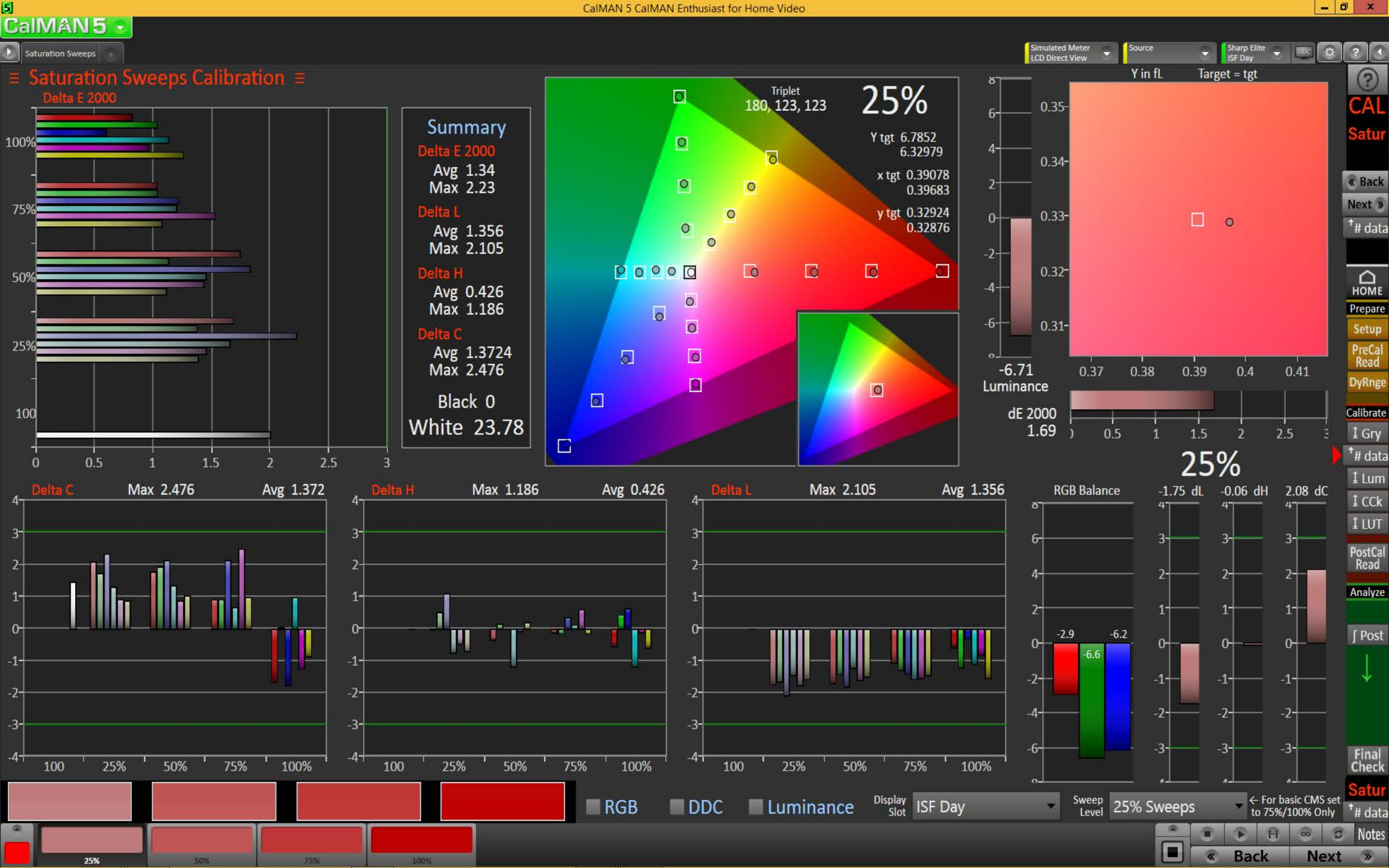
Calibrate

Analyze

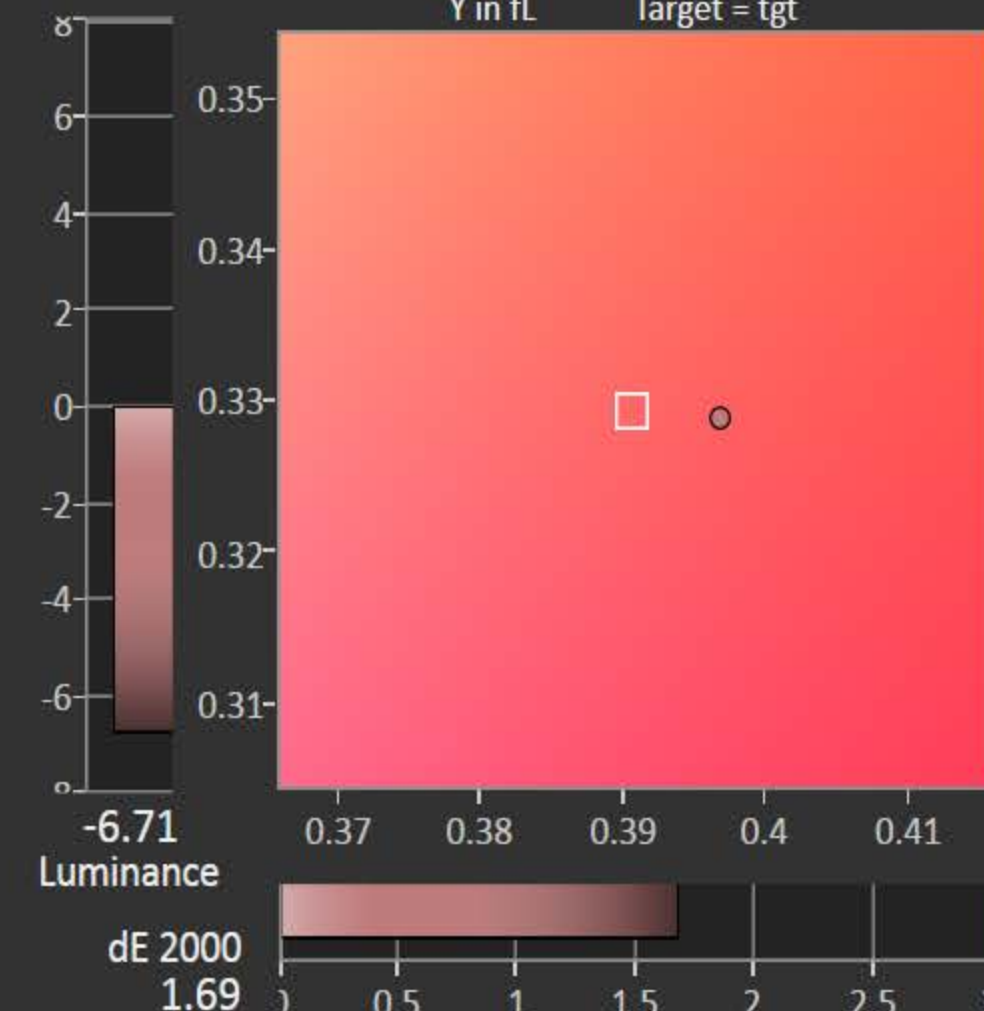
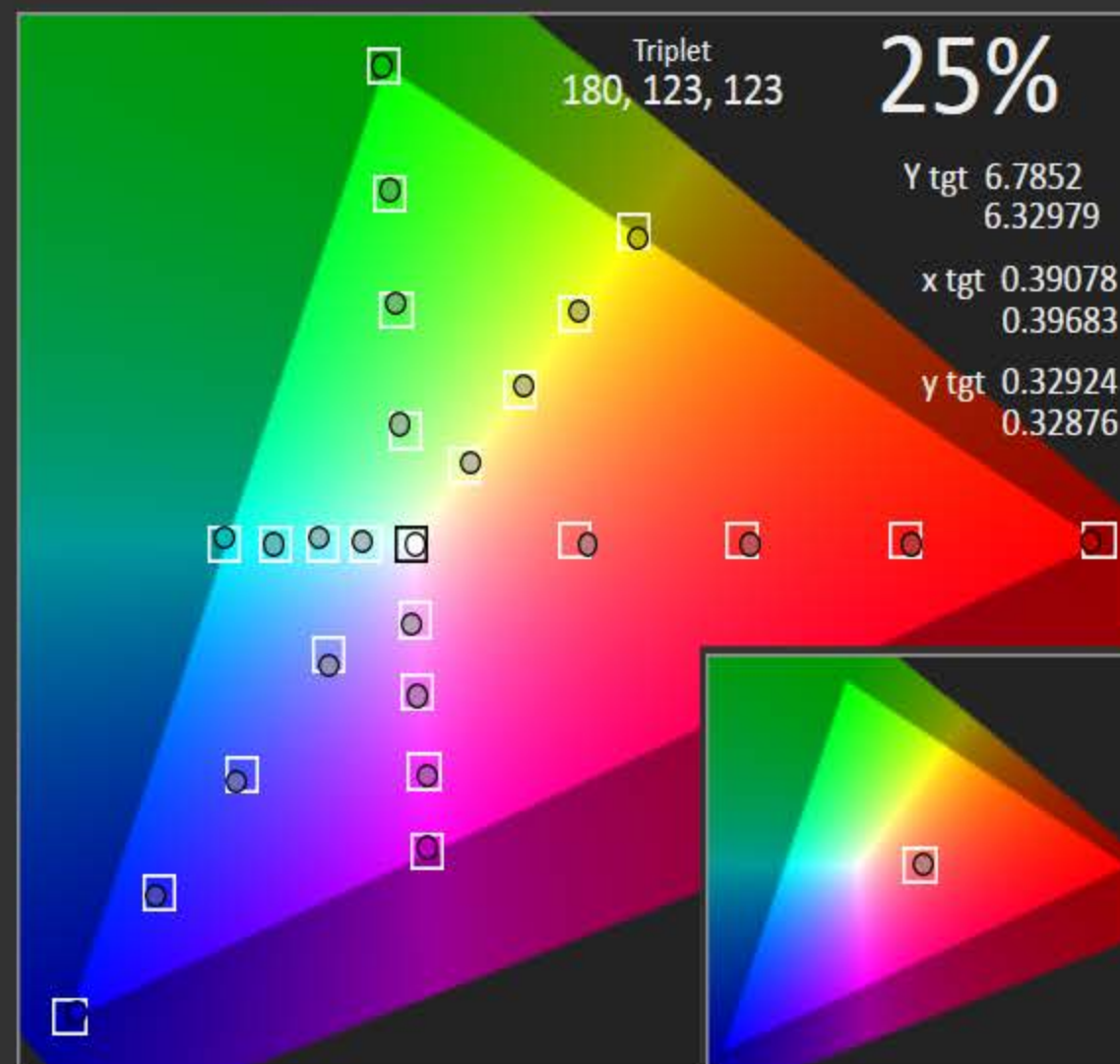
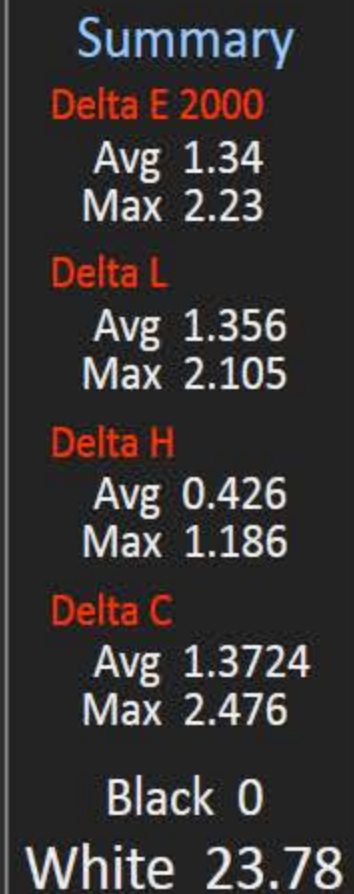
DTA

Notes



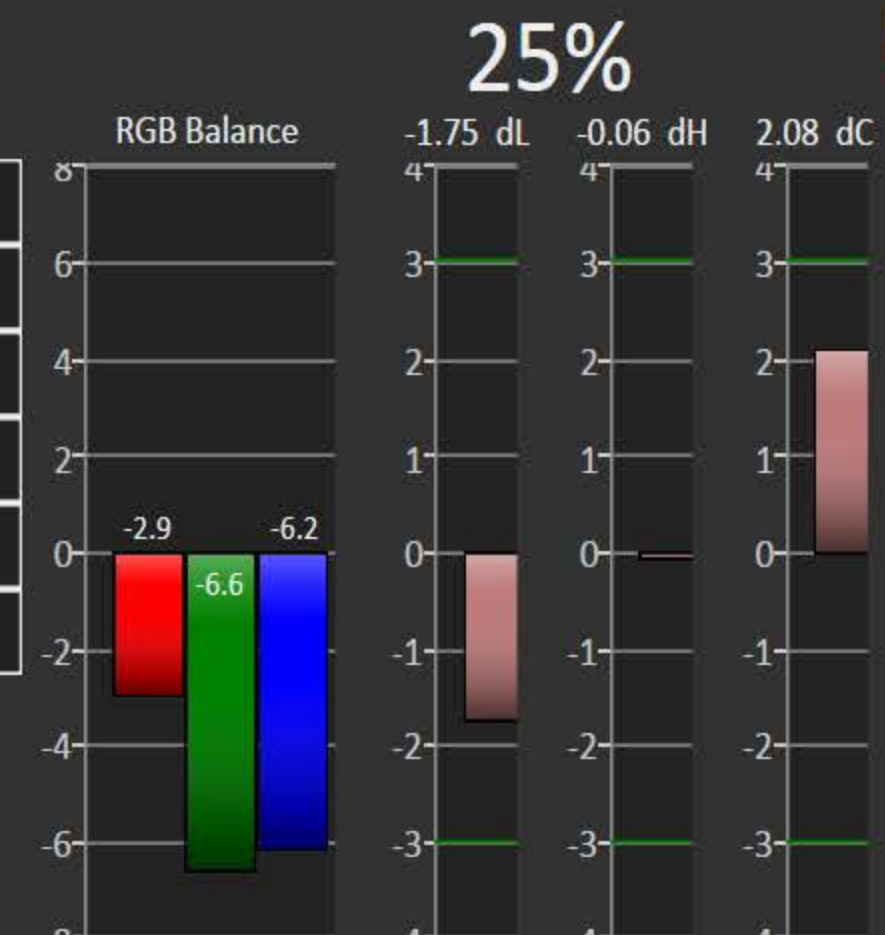


Delta E 2000



	Hue	Saturation	Luminance
Red	26	35	30
Green	32	45	30
Blue	42	36	38
Cyan	25	43	20
Magenta	36	37	25
Yellow	22	34	38

■ RGB ✕ DDC ■ Luminance



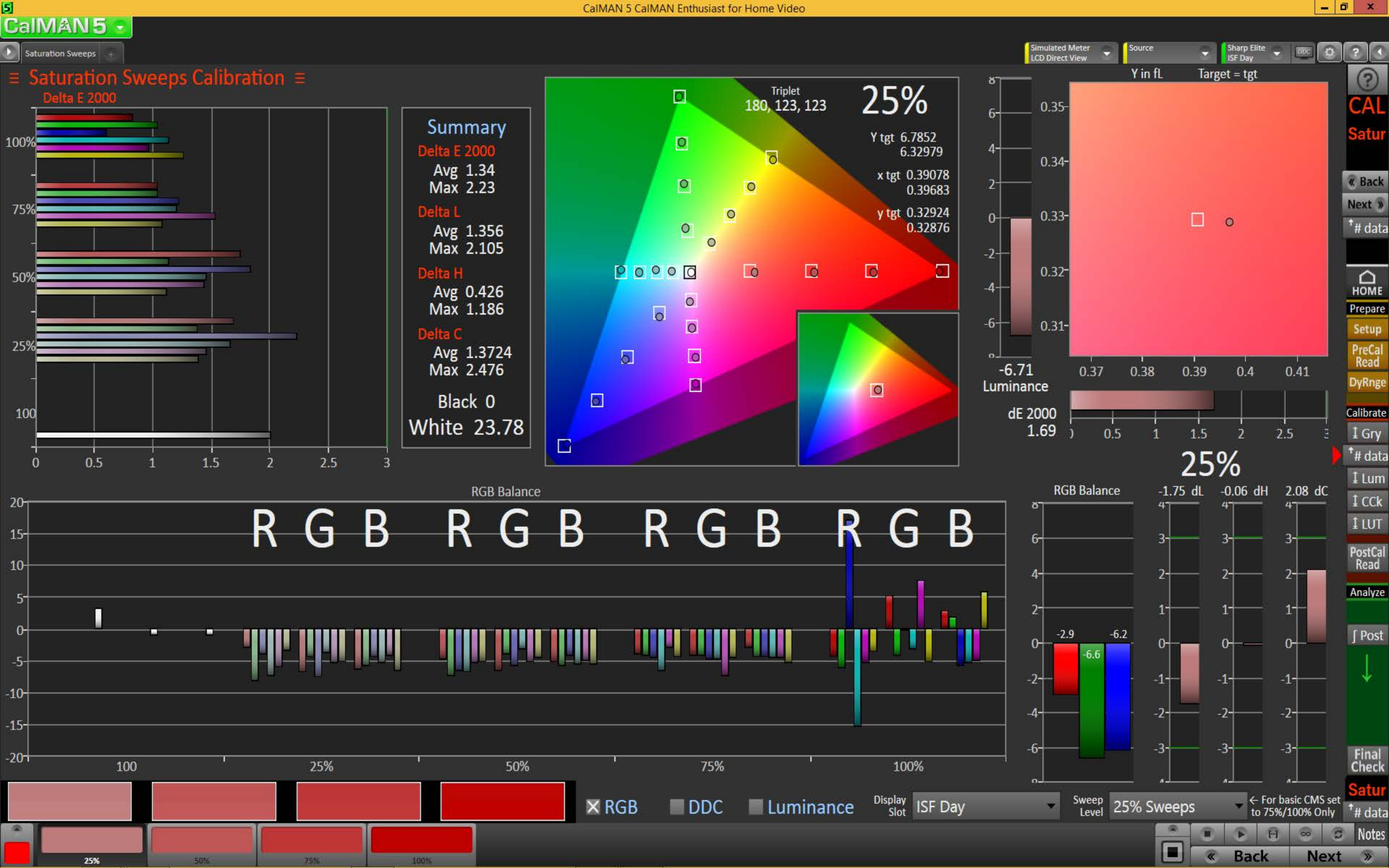
← For basic CMS set to 75%/100% Only

↑ # data

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CalMAN 5

▶ Datagrid +

Simulated Meter
LCD Direct View

Source

Sharp Elite
ISF Day

EDC

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≡ Saturation Sweep Calibration Data ≡

Color Notes

Post-Calibration Notes

25%

25%

50%

75%

100%

	25%	50%	75%	100%
RGB Triplet	180, 123, 123	180, 90, 90	180, 64, 64	180, 16, 16
Red index	180.0000	180.0000	180.0000	180.0000
Green index	123.0000	90.0000	64.0000	16.0000
Blue index	123.0000	90.0000	64.0000	16.0000
X	26.1781	21.1347	19.0102	17.3522
Y cd/m²	21.6875	14.5817	11.3566	9.0300
Z	18.1028	8.7492	4.1698	0.9128
Xn 0-1	0.3213	0.2594	0.2333	0.2129
Yn 0-1	0.2661	0.1789	0.1394	0.1108
Zn 0-1	0.2222	0.1074	0.0512	0.0112
Stimulus Percent	0.7489	0.7489	0.7489	0.7489
RED Stim%:0-1	0.7489	0.7489	0.7489	0.7489
GRN Stim%:0-1	0.4886	0.3379	0.2192	0.0000
BLU Stim%:0-1	0.4886	0.3379	0.2192	0.0000
Measured Red Stimulus	0.7381	0.7319	0.7348	0.7334
Measured Green Stimulus	0.4667	0.3181	0.2078	0.0382
Measured Blue Stimulus	0.4681	0.3227	0.2111	0.0241
Stimulus	75.0000	75.0000	75.0000	75.0000
Target X cd/m²	27.5925	22.4852	19.9066	18.0944
Target Y cd/m²	23.2479	15.7680	11.9889	9.3299
Target Z cd/m²	19.7692	9.6034	4.4653	0.8482
Target Xn 0-1	0.3386	0.2759	0.2443	0.2221
Target Yn 0-1	0.2853	0.1935	0.1471	0.1145
Target Zn 0-1	0.2426	0.1179	0.0548	0.0104
TargetGamut:Nrml Y	0.5377	0.5378	0.5379	0.5380
TargetRED:Lin0-1	0.5378	0.5380	0.5382	0.5384
TargetGRN:Lin0-1	0.2171	0.1005	0.0415	0.0000
TargetBLU:Lin0-1	0.2171	0.1005	0.0415	0.0000
TargetGamut:Nrml MaxY	0.5306	0.3598	0.2735	0.2128
Target x:CIE31	0.3908	0.4698	0.5475	0.6400
Target y:CIE31	0.3292	0.3295	0.3297	0.3300
Target z:CIE31	0.2800	0.2007	0.1228	0.0300
Target Y	6.7852	4.6021	3.4001	2.7221

⬆

25%

50%

75%

100%

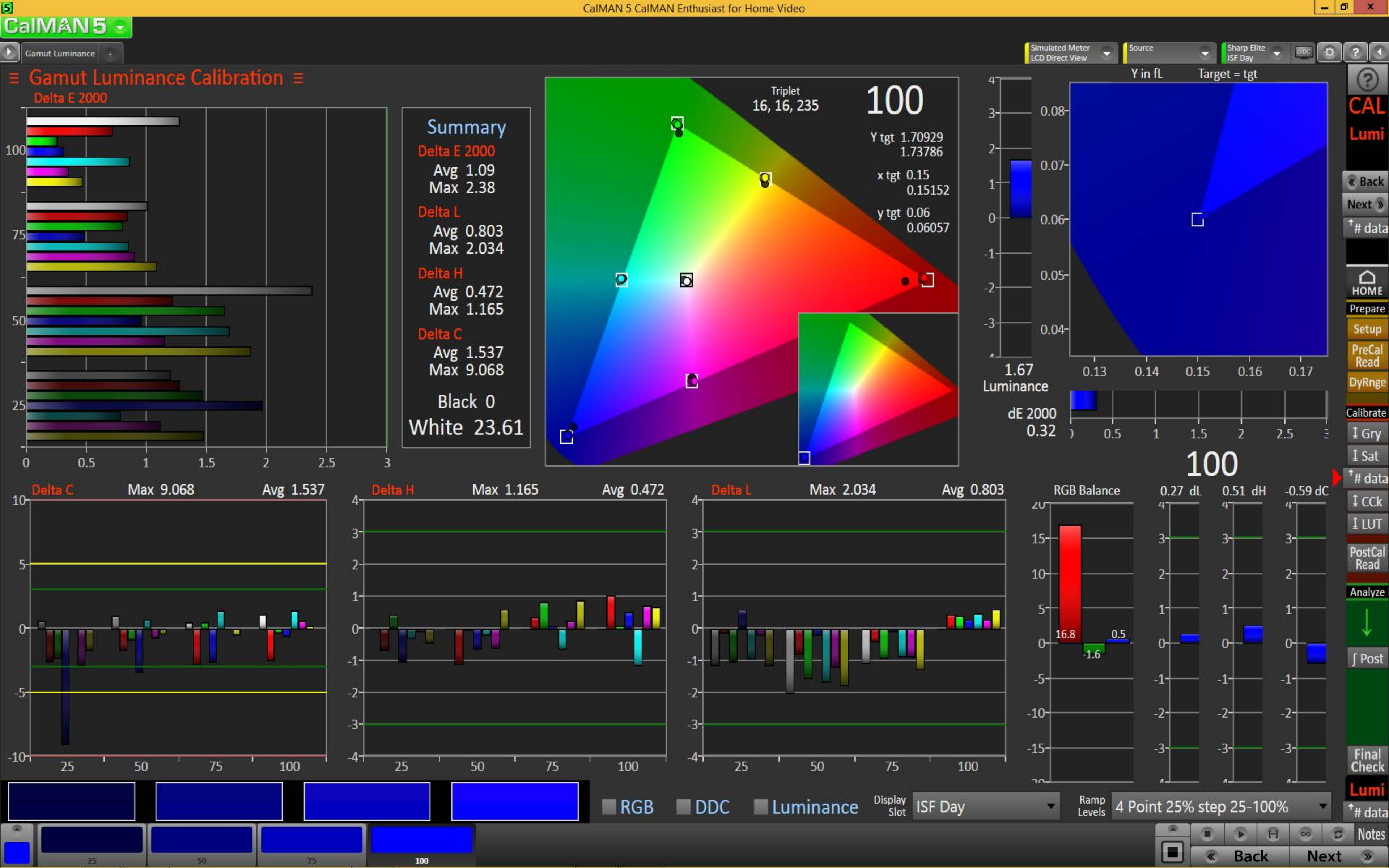
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DTA

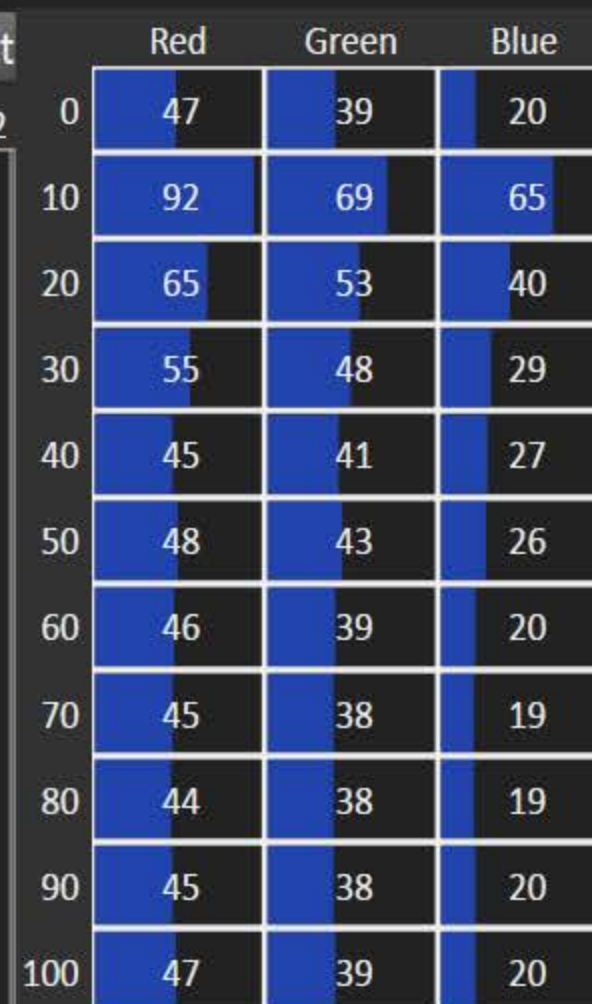
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↗ Notes ↖





✕ Add Custom Color Set → SG Fleshtones ▼ Select

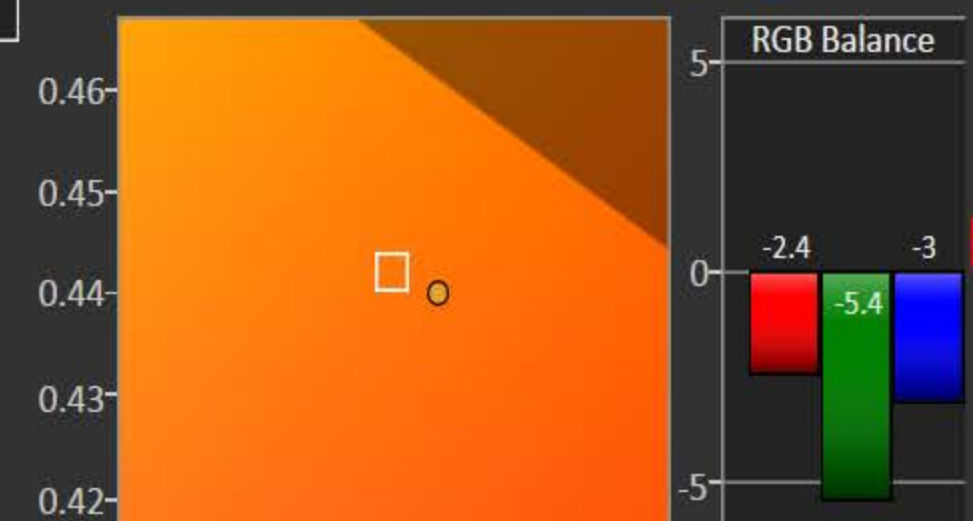


	Hue	Saturation	Luminance
Red	26	35	30
Green	32	45	30
Blue	42	36	38
Cyan	25	43	20
Magenta	36	37	25
Yellow	22	34	38

Reset CMS

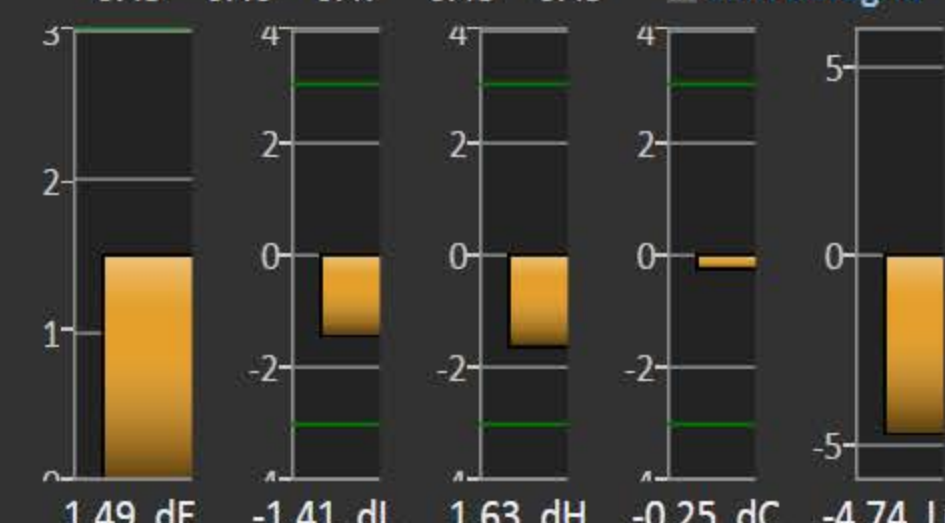


Orange Yellow



Reset Grayscale

Triplet	Y tgt	10.48582	x tgt	0.47135	y tgt	0.44198
213, 154, 55		9.98865		0.47538		0.43974



Display Slot

ISF Day

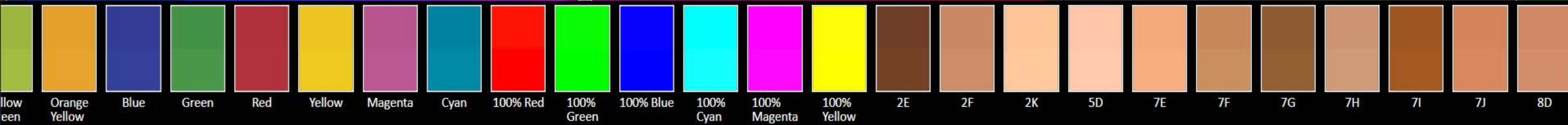
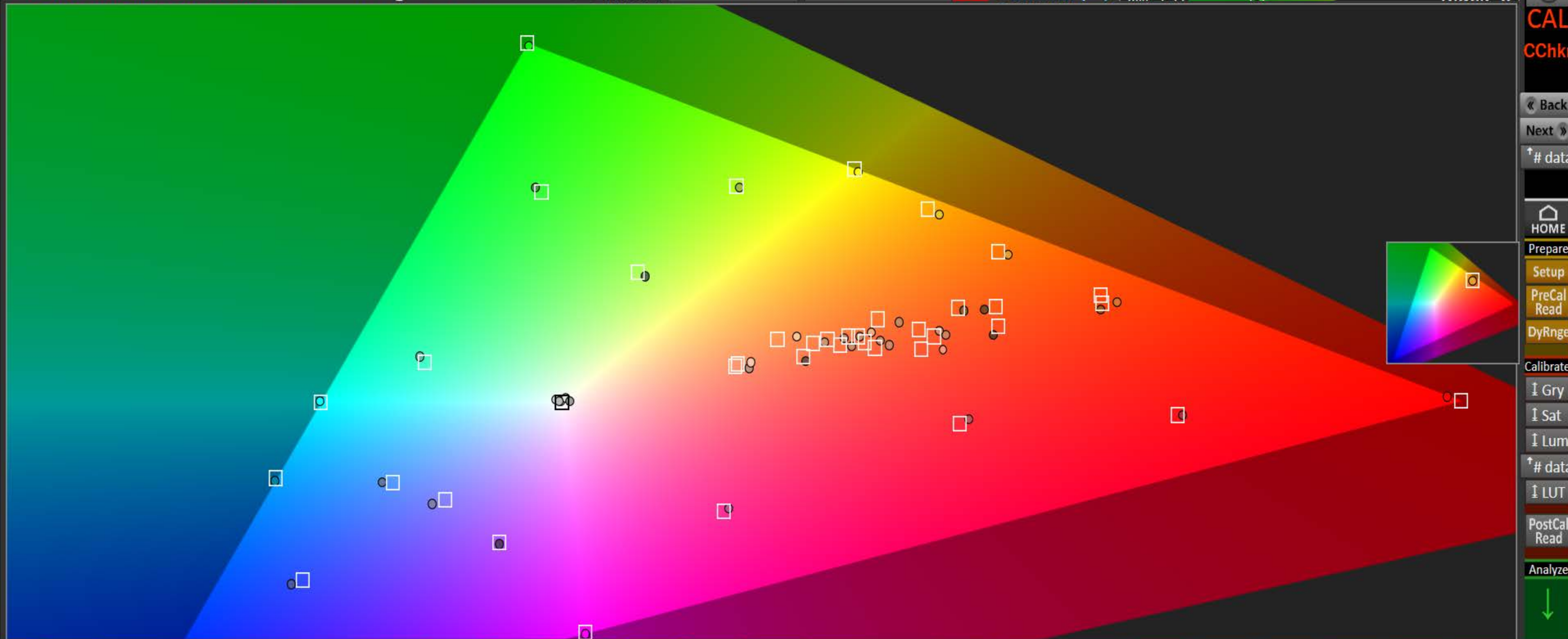
■ Big CIE Chart

■ Comparator

☒ DDC

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Datagrid

+

Simulated Meter
LCD Direct View

Source

Sharp Elite
ISF Day

EDC

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≡ Color Checker Calibration Data ≡

Color Notes

Post-Cal Notes

	White	Gray 80	Gray 65	Gray 50	Gray 35	Dark Skin	Light Skin	Blue Sky	Foliage	Blue Flower	Bluish Green	Orange
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
Red index	235.0000	213.0000	196.0000	176.0000	152.0000	115.0000	182.0000	97.0000	93.0000	128.0000	101.0000	202.0000
Green index	235.0000	213.0000	196.0000	176.0000	152.0000	86.0000	145.0000	121.0000	108.0000	126.0000	178.0000	119.0000
Blue index	235.0000	213.0000	196.0000	176.0000	152.0000	73.0000	128.0000	150.0000	73.0000	167.0000	161.0000	51.0000
X	77.7876	61.0123	48.7507	37.2750	26.2986	8.8506	29.7102	13.8782	8.3596	19.5980	24.1784	28.5901
Y cd/m²	82.1361	64.3887	51.9605	39.4948	27.5258	7.9453	27.6665	15.0250	10.3422	18.5965	33.7162	22.4271
Z	89.2255	68.9156	56.5328	42.8874	29.6140	5.2680	20.6814	27.1974	5.6761	35.7189	34.8715	4.5304
Xn 0-1	0.9471	0.7428	0.5935	0.4538	0.3202	0.1078	0.3617	0.1690	0.1018	0.2386	0.2944	0.3481
Yn 0-1	1.0000	0.7839	0.6326	0.4808	0.3351	0.0967	0.3368	0.1829	0.1259	0.2264	0.4105	0.2730
Zn 0-1	1.0863	0.8390	0.6883	0.5221	0.3605	0.0641	0.2518	0.3311	0.0691	0.4349	0.4246	0.0552
Stimulus Percent	1.0000	0.8995	0.8219	0.7306	0.6210	0.4521	0.7580	0.6119	0.4201	0.6895	0.7397	0.8493
RED Stim%:0-1	1.0000	0.8995	0.8219	0.7306	0.6210	0.4521	0.7580	0.3699	0.3516	0.5114	0.3881	0.8493
GRN Stim%:0-1	1.0000	0.8995	0.8219	0.7306	0.6210	0.3196	0.5890	0.4795	0.4201	0.5023	0.7397	0.4703
BLU Stim%:0-1	1.0000	0.8995	0.8219	0.7306	0.6210	0.2603	0.5114	0.6119	0.2603	0.6895	0.6621	0.1598
Measured Red Stimulus	0.9955	0.8929	0.7931	0.7040	0.6062	0.4331	0.7432	0.3391	0.3400	0.4792	0.3549	0.8362
Measured Green Stimulus	1.0015	0.8938	0.8125	0.7129	0.5984	0.3019	0.5620	0.4622	0.3969	0.4826	0.7255	0.4435
Measured Blue Stimulus	0.9986	0.8847	0.8074	0.7096	0.5960	0.2496	0.4891	0.5888	0.2472	0.6721	0.6376	0.1584
Stimulus	100.0000	90.0000	82.0000	73.0000	62.0000	45.0000	76.0000	61.0000	42.0000	69.0000	74.0000	85.0000
Target X cd/m²	78.0677	62.1702	51.2246	39.8115	28.1565	9.7534	31.7028	15.4150	9.2109	21.5388	26.0441	30.0674
Target Y cd/m²	82.1361	65.4102	53.8941	41.8863	29.6239	8.8345	29.9907	16.4457	11.5427	20.3655	35.5530	24.1982
Target Z cd/m²	89.4437	71.2297	58.6890	45.6128	32.2595	5.7588	22.6880	29.5304	6.3079	37.8280	37.6084	4.8081
Target Xn 0-1	0.9505	0.7569	0.6237	0.4847	0.3428	0.1187	0.3860	0.1877	0.1121	0.2622	0.3171	0.3661
Target Yn 0-1	1.0000	0.7964	0.6562	0.5100	0.3607	0.1076	0.3651	0.2002	0.1405	0.2479	0.4329	0.2946
Target Zn 0-1	1.0890	0.8672	0.7145	0.5553	0.3928	0.0701	0.2762	0.3595	0.0768	0.4606	0.4579	0.0585
TargetGamut:Nrml Y	1.0000	0.7964	0.6562	0.5100	0.3607	0.1845	0.5518	0.3496	0.1581	0.4508	0.5237	0.7040
TargetRED:Lin0-1	1.0000	0.7964	0.6562	0.5100	0.3607	0.1845	0.5518	0.1212	0.1091	0.2390	0.1339	0.7042
TargetGRN:Lin0-1	1.0000	0.7964	0.6562	0.5100	0.3607	0.0896	0.3224	0.2087	0.1581	0.2301	0.5237	0.2003
TargetBLU:Lin0-1	1.0000	0.7964	0.6562	0.5100	0.3607	0.0588	0.2390	0.3496	0.0588	0.4508	0.4134	0.0221
TargetGamut:Nrml MaxY	1.0000	1.0000	1.0000	1.0000	1.0000	0.5830	0.6618	0.5727	0.8887	0.5501	0.8265	0.4185
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
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

DeltaE 2000

8J

8I

8H

8G

8F

8E

8D

7J

7I

7H

7G

7F

7E

5D

2K

2F

2E

100% Yellow

100% Magenta

100% Cyan

100% Blue

100% Green

100% Red

Cyan

Magenta

Yellow

Red

Green

Blue

Orange Yellow

Yellow Green

Purple

Moderate Red

Purplish Blue

Orange

Bluish Green

Blue Flower

Foliage

Blue Sky

Dark Skin

Gray 35

Gray 50

Gray 65

White

0

1

2

↑ Calib

HOME

Prepare

Calibrate

↑ Calib

Analyze

DTA

↑ Calib

Notes

CalMAN 5

▶

Datagrid 1

Datagrid 2

+

Simulated Meter

LCD Direct View

Source

Sharp Elite

ISF Day

DPIC

⚙

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◀

≡

Color Checker Calibration Data Slim 1

≡

Color Notes

Post-Cal Notes

?

CAL

↑ Calib

HOME

Prepare

Calibrate

↑ Calib

↑ Data2

Analyze

↓

DTA

↑ Calib

↑ Datagrid 2

Notes

CalMAN 5

Datagrid 1

Datagrid 2

+

Simulated Meter

LCD Direct View

Source

Sharp Elite

ISF Day

DDC

?

←

≡

Color Checker Calibration Data Slim 2

≡

Color Notes

Post-Cal 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*	0.6204	1.1593	1.8513	0.9303	0.8218	18.7440	21.8571	21.1287	24.3426	27.5350	33.4025	64.9653	42.8658	46.0133	31.0631	61.3556	67.4832	55.9636	52.4745	57.061
Hue: L*a*b*	164.7903	113.9296	178.4161	170.8863	42.9229	48.2994	48.6241	262.6798	122.7681	292.8029	175.6531	59.1127	288.5398	19.3151	316.5401	114.7720	75.9567	296.9754	140.9788	26.011
ΔE 2000	0.8943	1.2856	2.7354	1.8713	1.9329	1.8356	2.1905	2.3949	2.2349	2.2533	1.5523	2.4757	1.7313	1.7813	1.3230	1.5597	1.4886	1.1909	1.8820	1.047
dE2000 LuminanceCompensated	0.8943	1.2375	2.6131	1.3438	1.0373	0.8165	1.4478	1.3305	0.6898	1.1012	1.2019	1.8120	0.6255	0.8422	0.0729	0.1357	1.0418	0.3478	0.4536	0.209
ΔE 1976:L*u*v*	0.8511	1.7930	2.9008	2.1911	2.4166	2.3631	3.1746	2.5055	3.1548	2.9023	2.8180	4.3853	2.0968	2.8442	2.2136	2.8697	2.9167	2.9388	2.3024	2.423
ΔE 1976:L*a*b*	0.6204	1.2886	2.2173	2.0248	2.1597	2.1639	2.6944	2.4323	2.8037	2.4610	2.6401	3.5029	1.9542	2.3289	1.8427	2.4876	2.1710	1.7639	2.0810	1.457
ΔE 1994 L*:±	0.0000	-0.5626	-1.2202	-1.7984	-1.9972	-1.9166	-2.1996	-2.0134	-2.1679	-2.1742	-1.5380	-1.9310	-1.8627	-1.5326	-1.6117	-1.9809	-1.4143	-1.4571	-1.9714	-1.121
ΔE 1994 Sat:±	0.6204	1.1593	1.8513	0.9303	0.8218	-0.5372	1.0392	-0.1402	-1.5899	0.5388	1.9196	-0.4863	-0.1473	-1.0134	-0.8934	-1.4824	-0.2522	-0.9319	-0.2732	-0.865
ΔE 1994 Hue:±	0.0000	0.0000	0.0000	0.0000	0.0000	-0.8490	-1.1583	-1.3574	-0.7958	-1.0192	-0.9590	-2.8818	-0.5723	1.4310	-0.0055	-0.2588	-1.6278	0.3461	0.6077	0.343
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	0.000
Signed dE94 C LuminanceCompensated	0.6204	1.1593	1.8513	0.9303	0.8218	0.1327	1.5915	0.4909	-0.6577	1.3442	2.4714	1.1511	1.2309	0.0590	0.1727	-0.0772	0.8357	0.8273	1.1648	0.263
Signed dE94 H LuminanceCompensated	0.0000	0.0000	0.0000	0.0000	0.0000	-0.8341	-1.1428	-1.3371	-0.7814	-1.0038	-0.9506	-2.8455	-0.5631	1.4146	-0.0054	-0.2558	-1.6146	0.3407	0.5994	0.339

↑ Calib

HOME

Prepare

Calibrate

↑ Calib

↑ Data1

Analyze

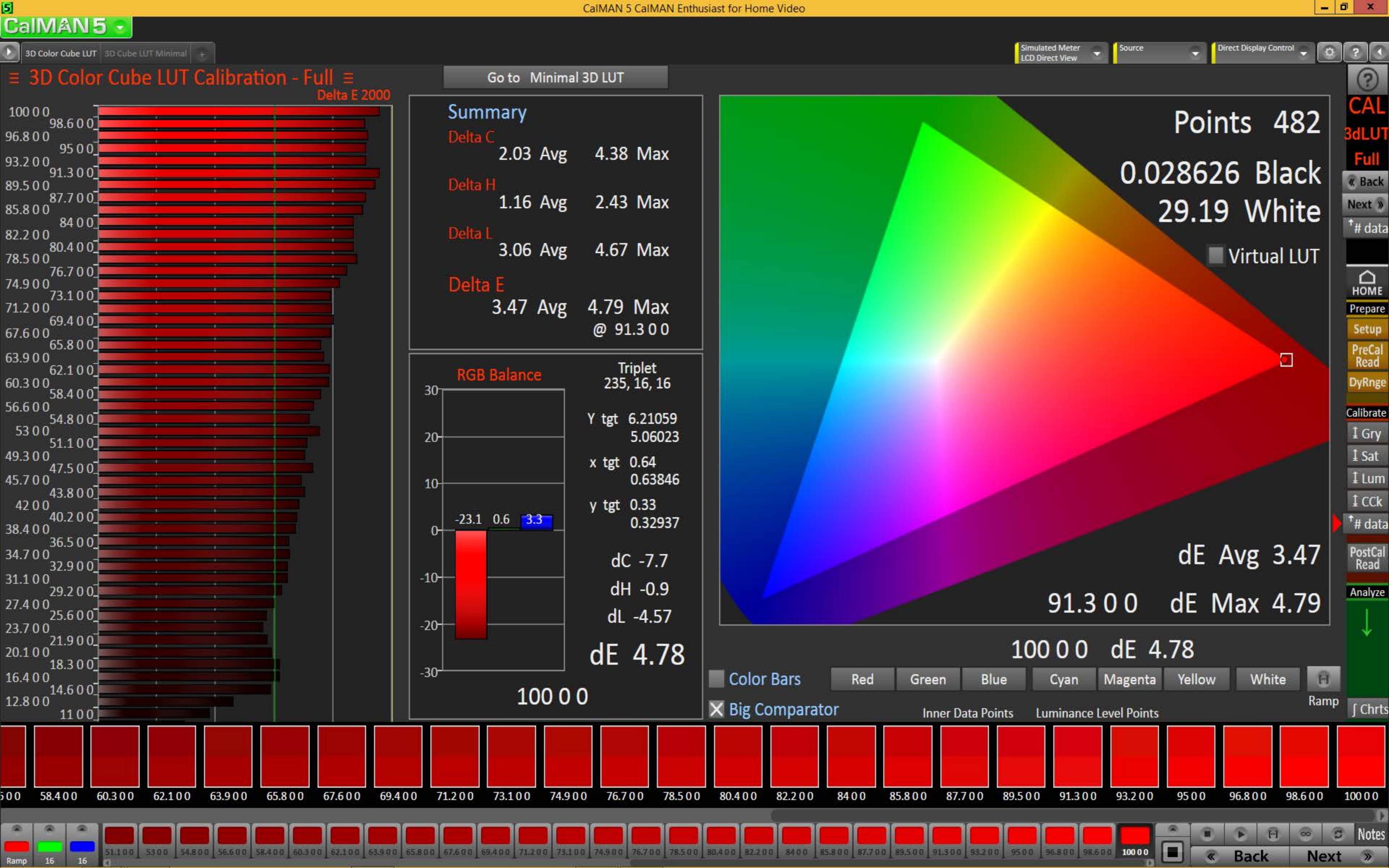
DTA

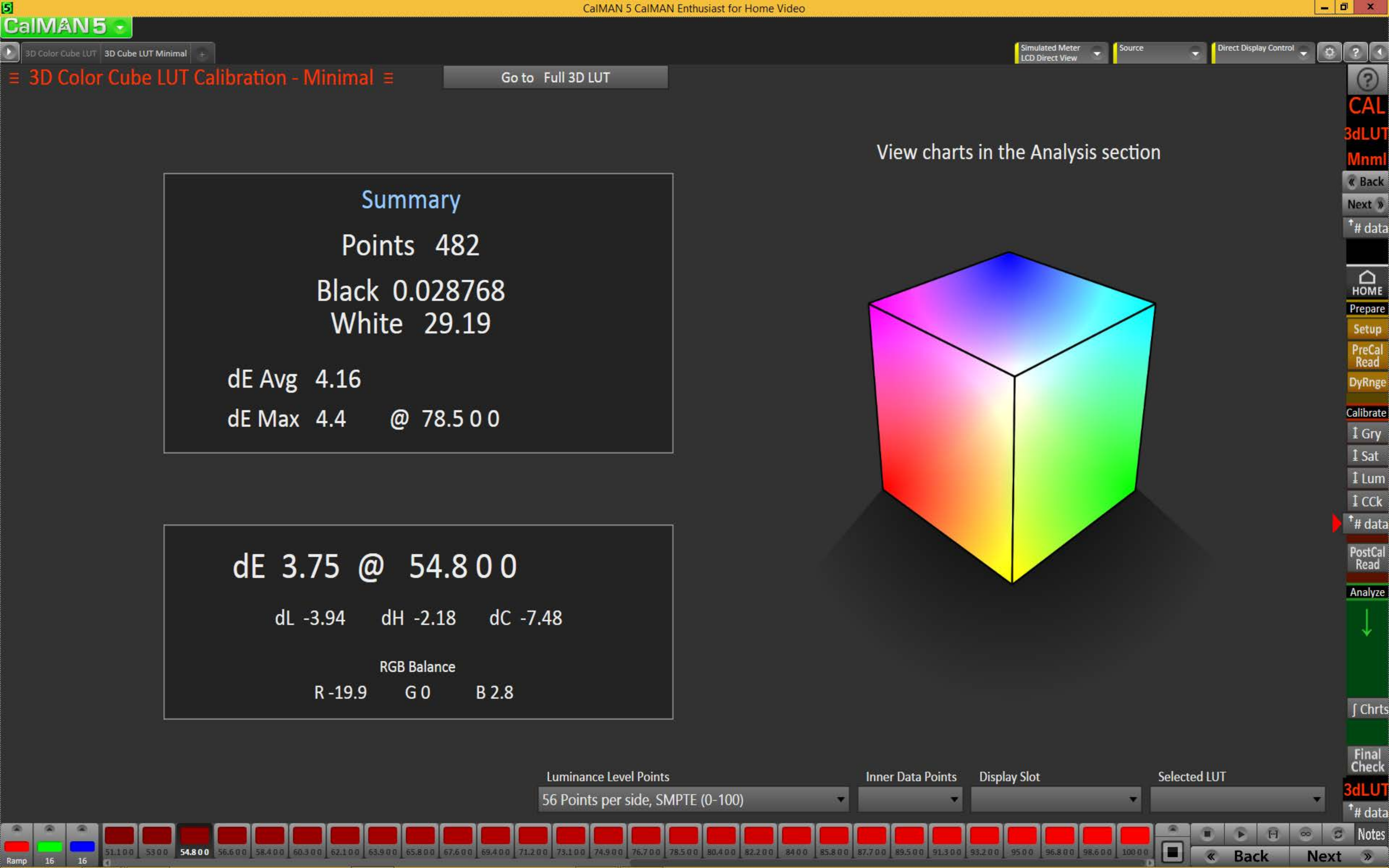
↑ Calib

↑ Datagrid 1

Notes







CalMAN 5

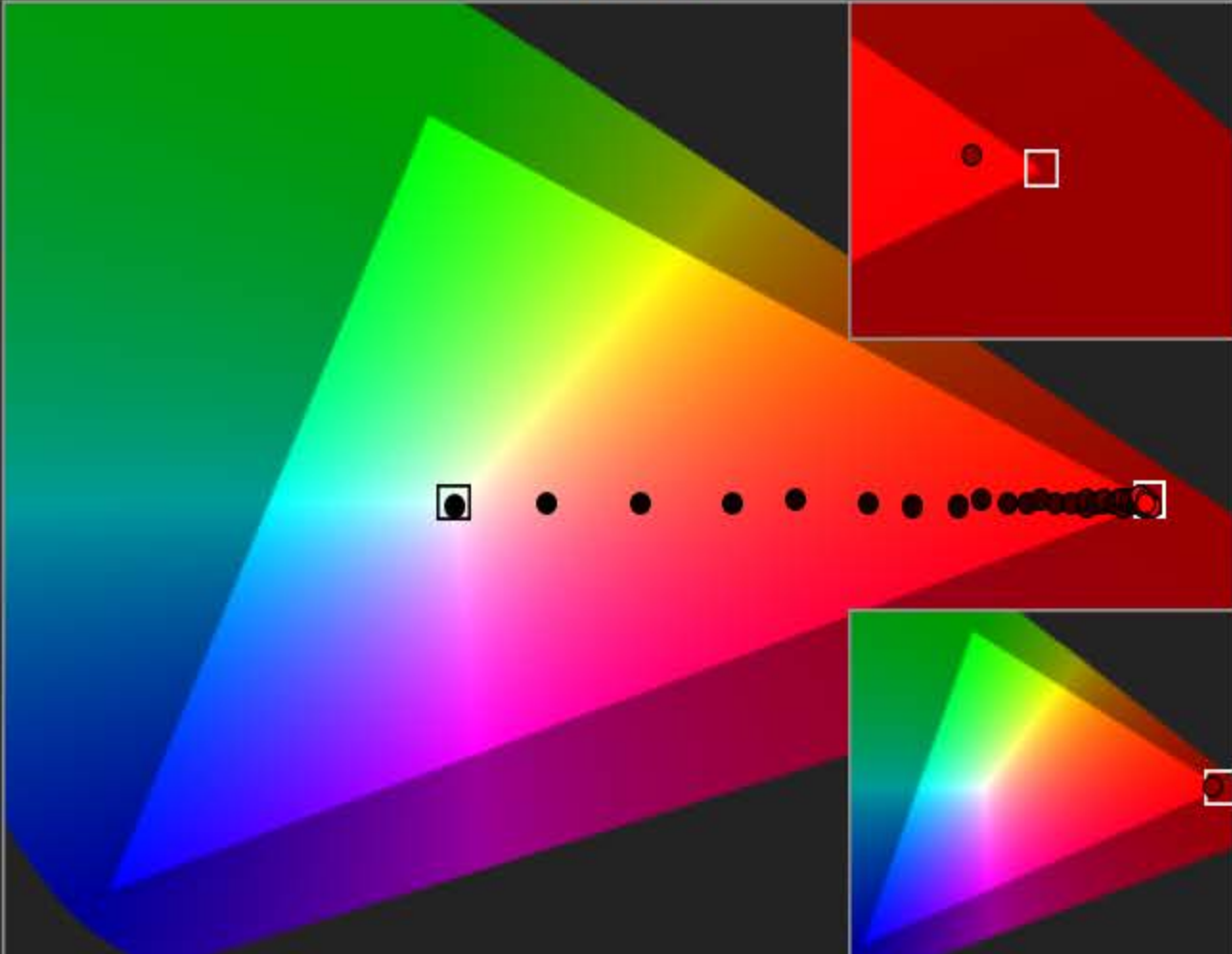
Datagrid

3D Color Cube LUT Calibration Data - Full

Color Notes

Post-Calibration Notes

54.800



White

Red

Green

Blue

Cyan

Magenta

Yellow

Ramp

16

16

36.500

38.400

40.200

42.00

43.800

45.700

47.500

49.300

51.100

53.00

54.800

56.600

58.400

60.300

62.100

63.900

65.800

67.600

69.400

71.200

Detail

Charts

Notes

Simulated Meter

LCD Direct View

Source

Direct Display Control

?

?

?

	000	1.800	3.700	5.500	7.300	9.100	11.00	12.800	14.600	16.400	18.300	20.10
RGB Triplet	16, 16, 16	20, 16, 16	24, 16, 16	28, 16, 16	32, 16, 16	36, 16, 16	40, 16, 16	44, 16, 16	48, 16, 16	52, 16, 16	56, 16, 16	60, 16
Red index	16.0000	20.0000	24.0000	28.0000	32.0000	36.0000	40.0000	44.0000	48.0000	52.0000	56.0000	60.00
Green index	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.00
Blue index	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.0000	16.00
X	0.0934	0.1233	0.1648	0.2194	0.2833	0.3652	0.4581	0.5686	0.6927	0.8291	0.9795	1.156
Y cd/m²	0.0981	0.1135	0.1361	0.1629	0.1982	0.2364	0.2826	0.3383	0.4084	0.4736	0.5545	0.649
Z	0.1081	0.1088	0.1117	0.1129	0.1174	0.1191	0.1253	0.1285	0.1351	0.1432	0.1487	0.158
Xn 0-1	0.0009	0.0012	0.0016	0.0022	0.0028	0.0037	0.0046	0.0057	0.0069	0.0083	0.0098	0.011
Yn 0-1	0.0010	0.0011	0.0014	0.0016	0.0020	0.0024	0.0028	0.0034	0.0041	0.0047	0.0055	0.006
Zn 0-1	0.0011	0.0011	0.0011	0.0011	0.0012	0.0012	0.0013	0.0013	0.0014	0.0014	0.0015	0.001
Stimulus Percent	0.0000	0.0183	0.0365	0.0548	0.0731	0.0913	0.1096	0.1279	0.1461	0.1644	0.1826	0.200
RED Stim%:0-1	0.0000	0.0183	0.0365	0.0548	0.0731	0.0913	0.1096	0.1279	0.1461	0.1644	0.1826	0.200
GRN Stim%:0-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
BLU Stim%:0-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
Measured Red Stimulus	0.0240	0.0365	0.0495	0.0635	0.0764	0.0912	0.1052	0.1198	0.1336	0.1480	0.1619	0.176
Measured Green Stimulus	0.0239	0.0239	0.0244	0.0239	0.0248	0.0232	0.0226	0.0220	0.0244	0.0225	0.0238	0.025
Measured Blue Stimulus	0.0242	0.0241	0.0242	0.0240	0.0242	0.0239	0.0244	0.0240	0.0239	0.0245	0.0241	0.024
Stimulus	0.0000	2.0000	3.7000	5.5000	7.3000	9.0000	11.0000	13.0000	14.6000	16.4000	18.3000	20.00
Target X cd/m²	0.0163	0.0559	0.0967	0.1569	0.2379	0.3405	0.4655	0.6136	0.7854	0.9815	1.2024	1.448
Target Y cd/m²	0.0171	0.0288	0.0498	0.0809	0.1227	0.1756	0.2400	0.3164	0.4050	0.5061	0.6200	0.746
Target Z cd/m²	0.0187	0.0026	0.0045	0.0074	0.0112	0.0160	0.0218	0.0288	0.0368	0.0460	0.0564	0.067
Target Xn 0-1	0.0002	0.0006	0.0010	0.0016	0.0024	0.0034	0.0047	0.0061	0.0079	0.0098	0.0120	0.014
Target Yn 0-1	0.0002	0.0003	0.0005	0.0008	0.0012	0.0018	0.0024	0.0032	0.0040	0.0051	0.0062	0.007
Target Zn 0-1	0.0002	0.0000	0.0000	0.0001	0.0001	0.0002	0.0002	0.0003	0.0004	0.0005	0.0006	0.000
TargetGamut:Nrml Y	0.0002	0.0014	0.0023	0.0038	0.0058	0.0083	0.0113	0.0149	0.0190	0.0238	0.0291	0.035
TargetRED:Lin0-1	0.0002	0.0014	0.0023	0.0038	0.0058	0.0083	0.0113	0.0149	0.0190	0.0238	0.0292	0.035
TargetGRN:Lin0-1	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
TargetBLU:Lin0-1	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
TargetGamut:Nrml MaxY	1.0000	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.212
Target x:CIE31	0.3127	0.6400	0.6400	0.6400	0.6400	0.6400	0.6400	0.6400	0.6400	0.6400	0.6400	0.640
Target y:CIE31	0.3290	0.3300	0.3300	0.3300	0.3300	0.3300	0.3300	0.3300	0.3300	0.3300	0.3300	0.330

?

CAL 3dLUT Full

↑Calib

HOME

Prepare

Calibrate

↑Calib

Analyze

Charts

DTA

↑Calib

CalMAN 5

Post-Cal Readings

3/12/2015 Calibration

Gamma Breakout

Tot 2.28

Black 0.02895

White 23.6

1 Grayscale

Full Charts

21 Point 5% step 0-100%

100

Avg 1.85

Max 3.97

DeltaE 3.97

4 Color Checker

Full Charts

Add Custom Color Set → SG Fleshtones

DeltaE 0.23

Avg 1.5

Max 3

100% Yellow

100% Magenta

100% Blue

100% Red

Magenta

Red

Blue

Yellow Green

Moderate Red

Orange

Blue Flower

Blue Sky

Dark Skin

Gray 35

Gray 50

Gray 80

100% Yellow

100% Cyan

100% Green

Cyan

Yellow

Green

Orange Yellow

Purple

Purplish Blue

Bluish Green

Foliage

Light Skin

Gray 65

White

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

Cyan

100% Red

100% Green

ISF Day

Post-Cal Readings

Contrast

Brightness

Backlight

TV Gamma

Color

Tint

Red

Green

Blue

Gain

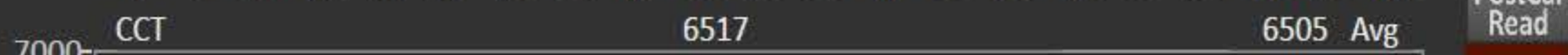
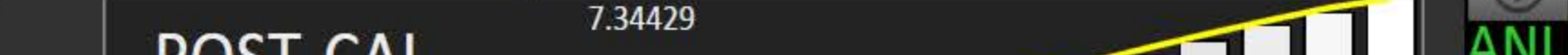
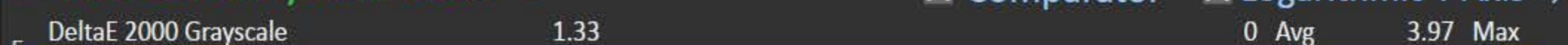
Cut

Display Slot

Notes

Back

Next

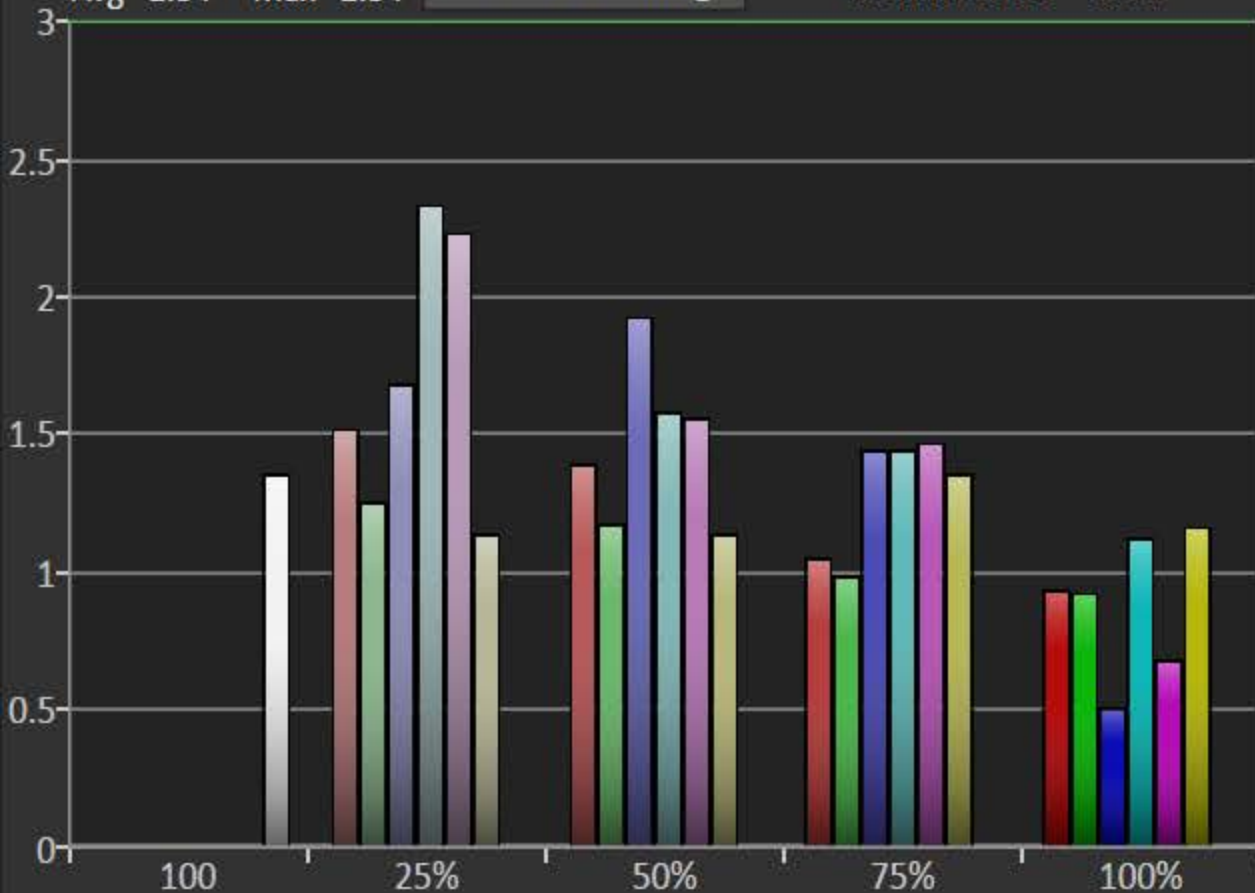


■ Comparator



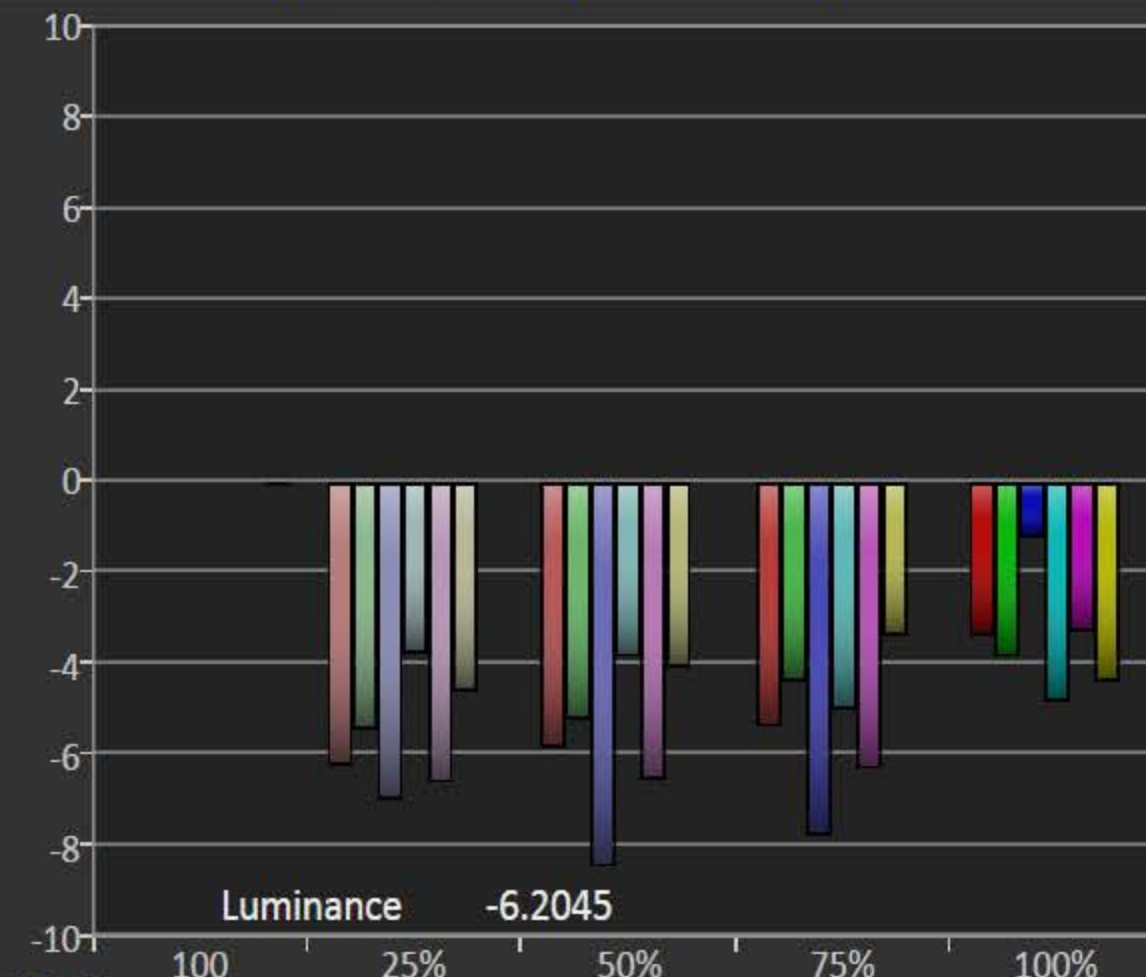
25%

Avg	1.34	Max	2.34	Post-Cal Readings	DeltaE 2000	1.52
-----	------	-----	------	-------------------	-------------	------

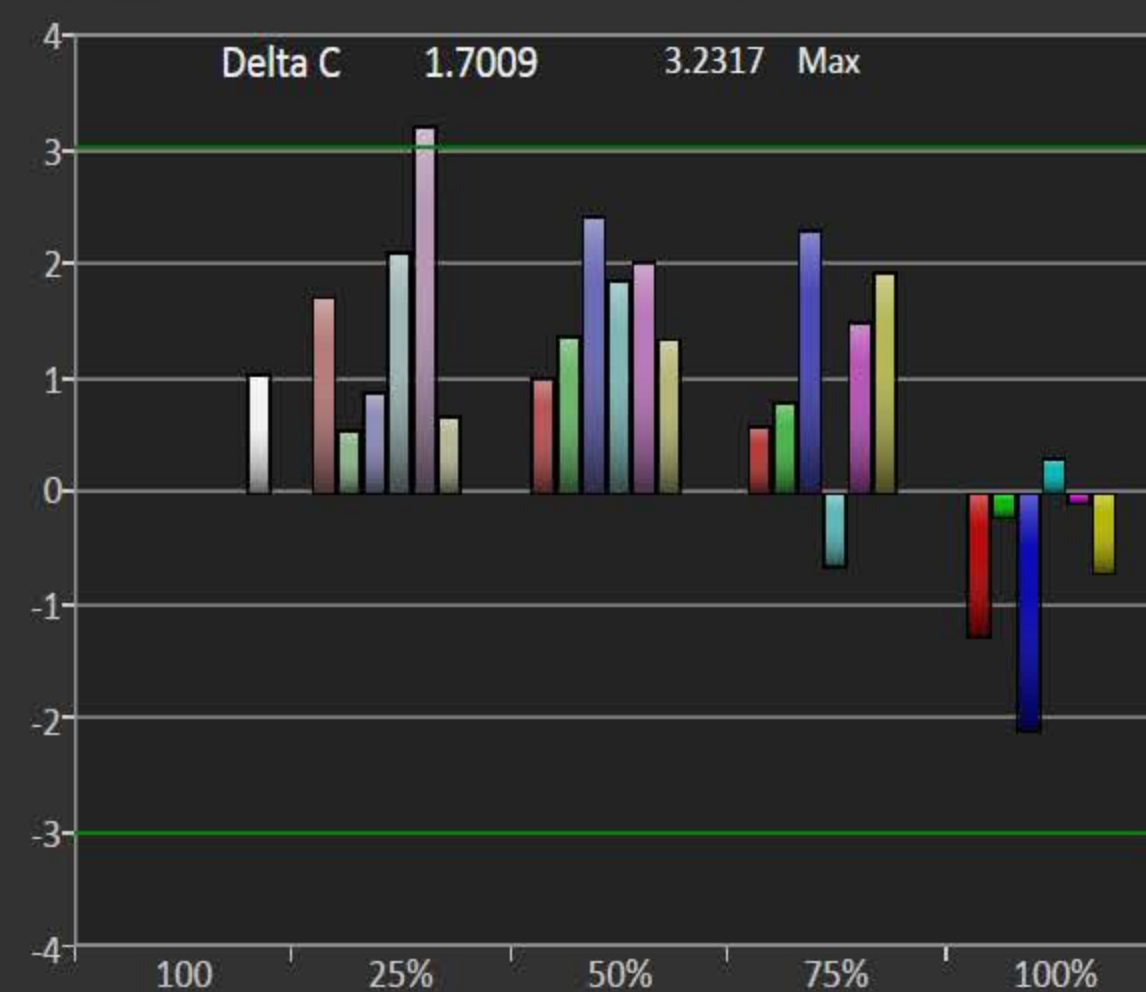


Post-Cal

25%



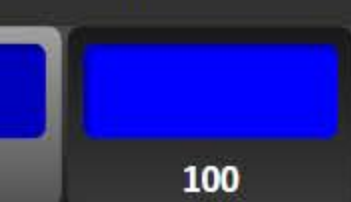
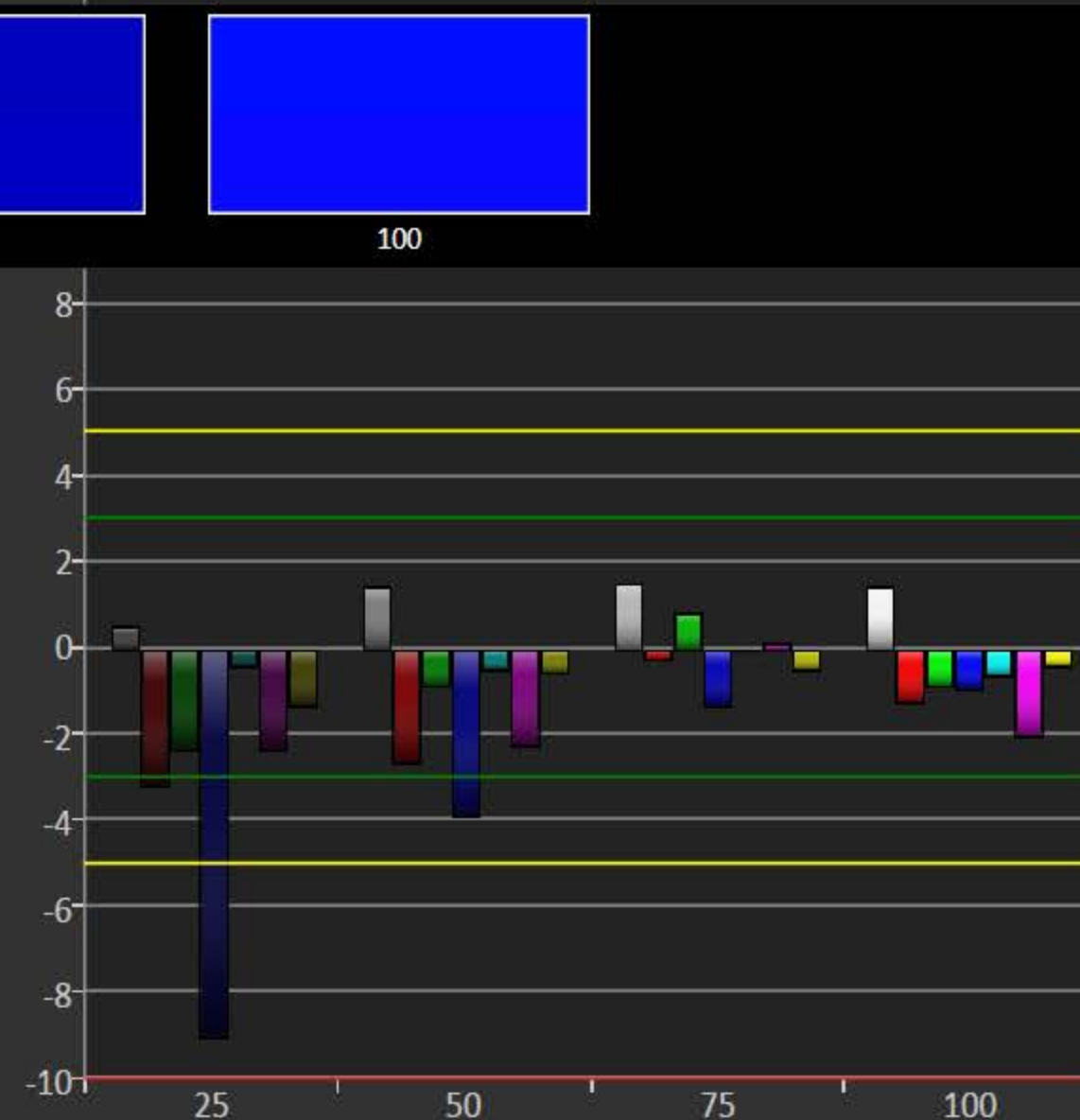
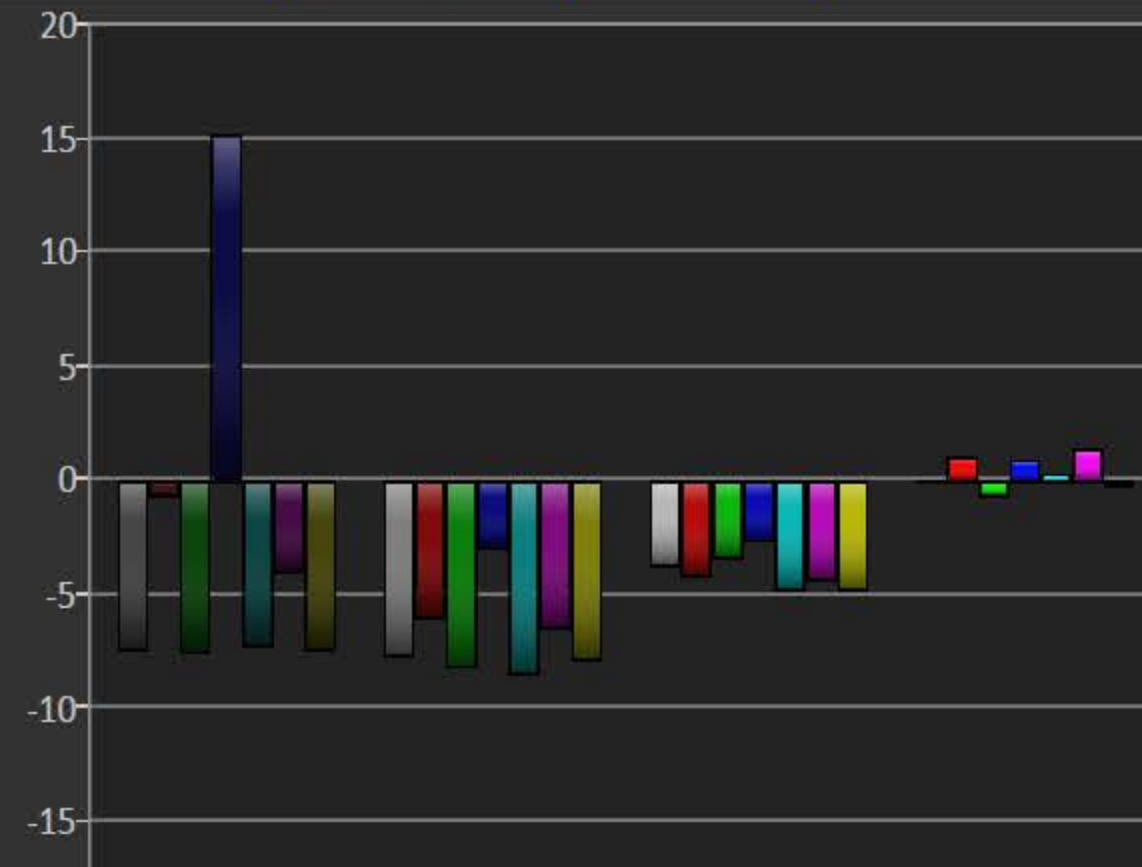
Post-Cal



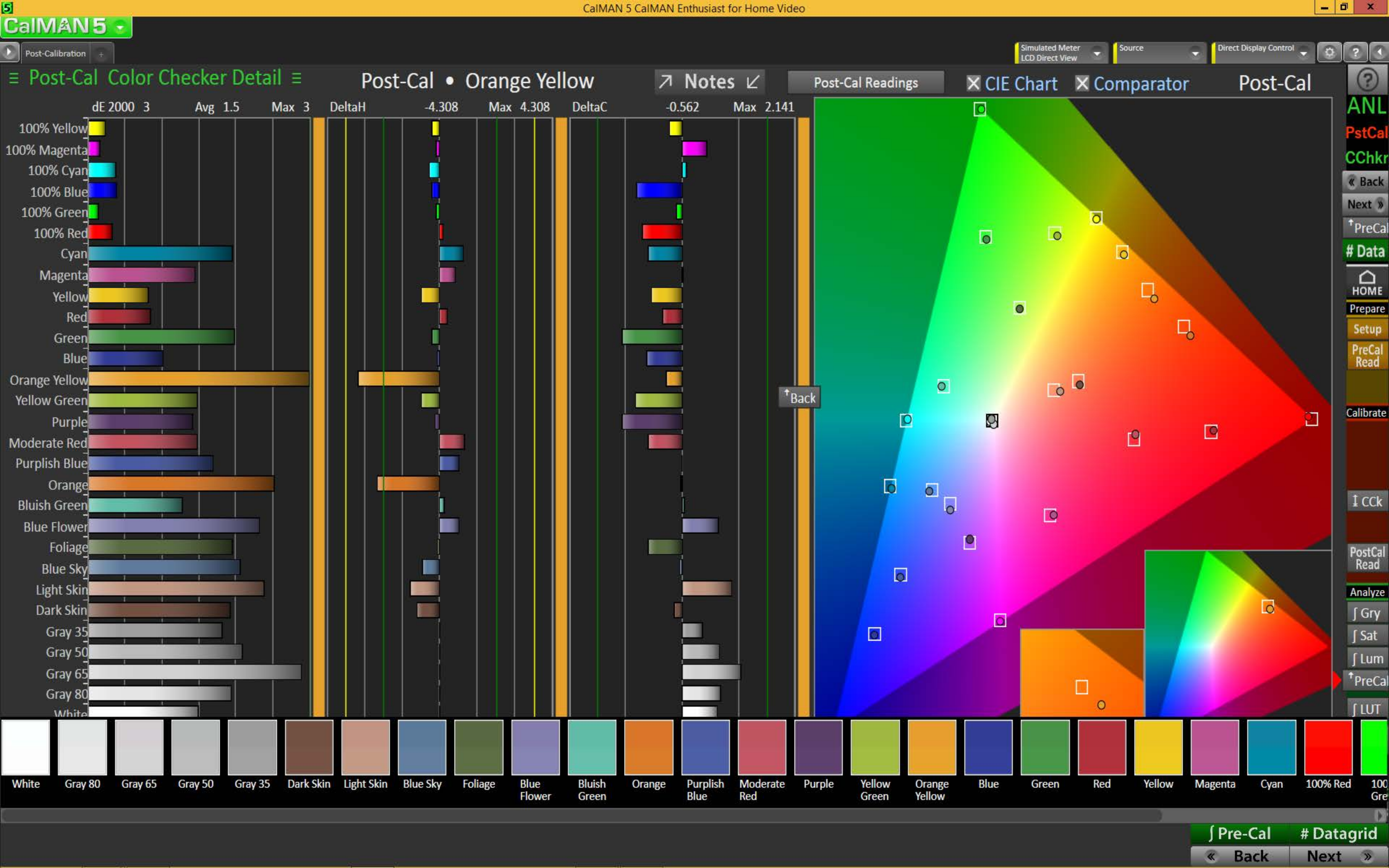
✖ Comparator

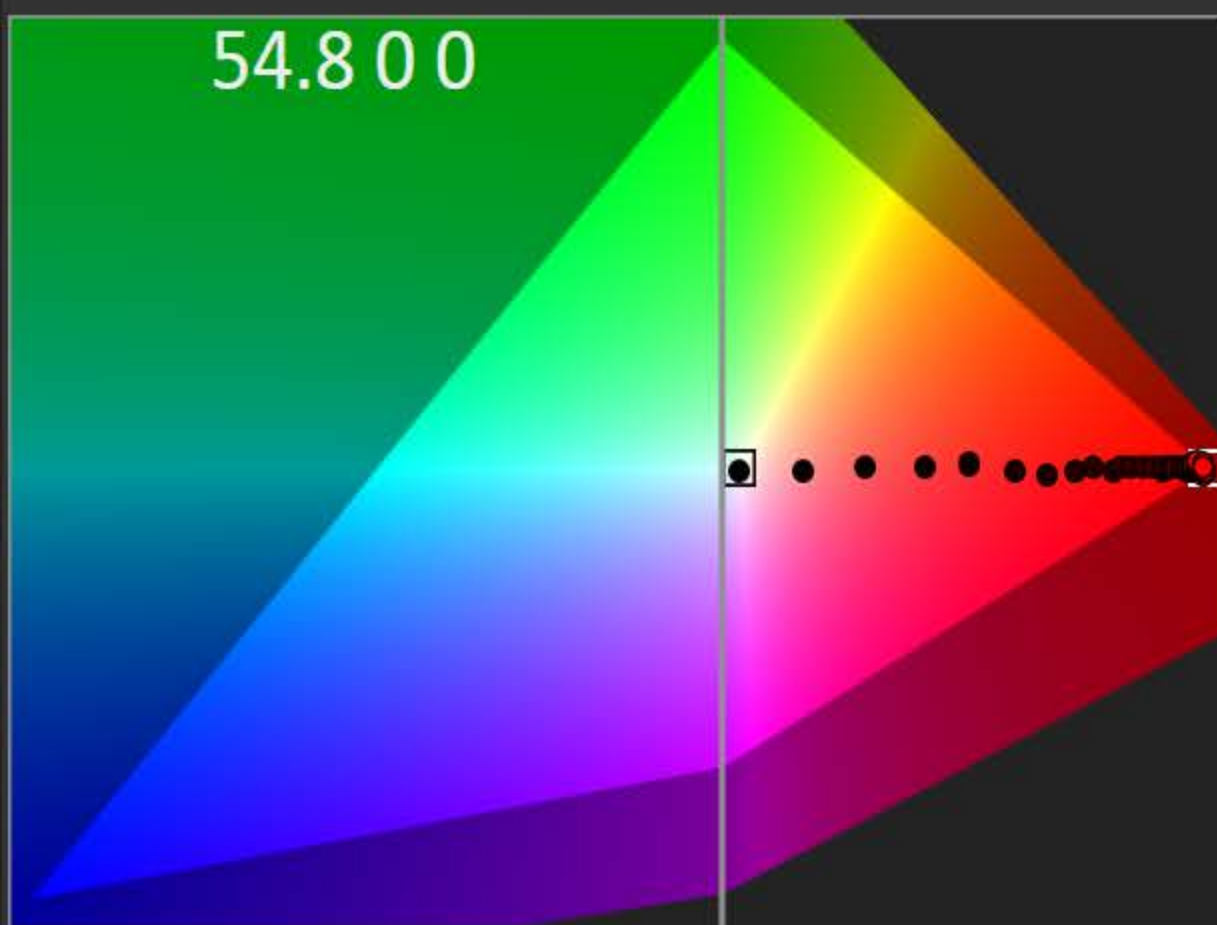


DeltaE 2000 0.29

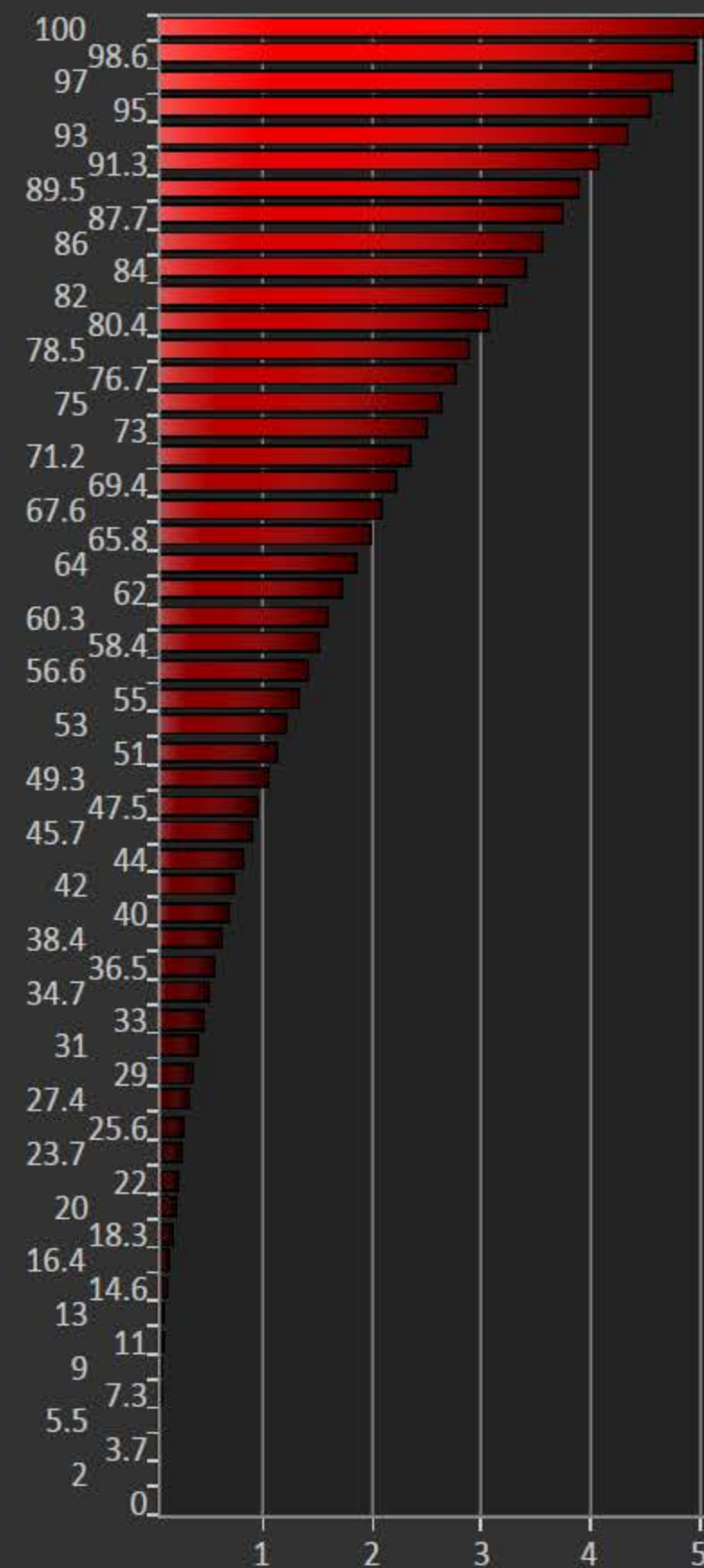
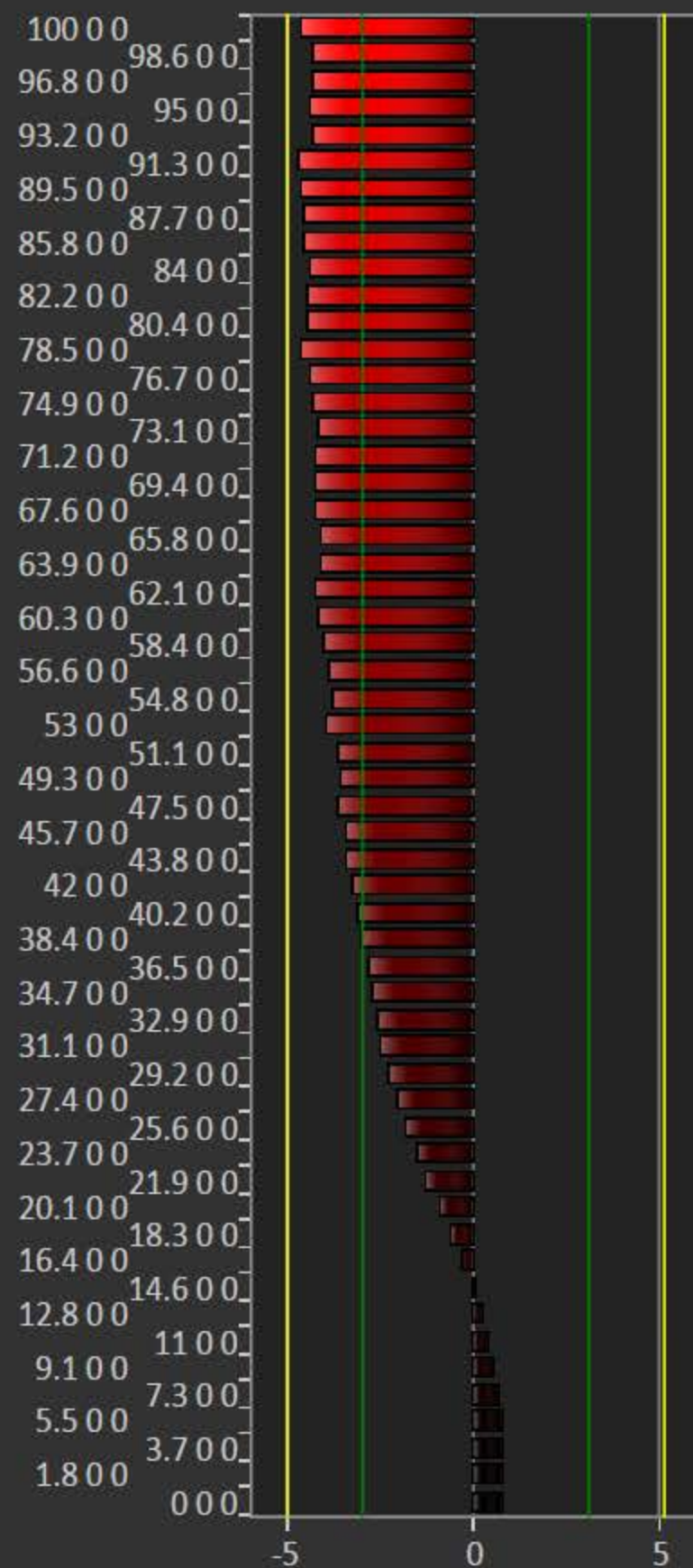
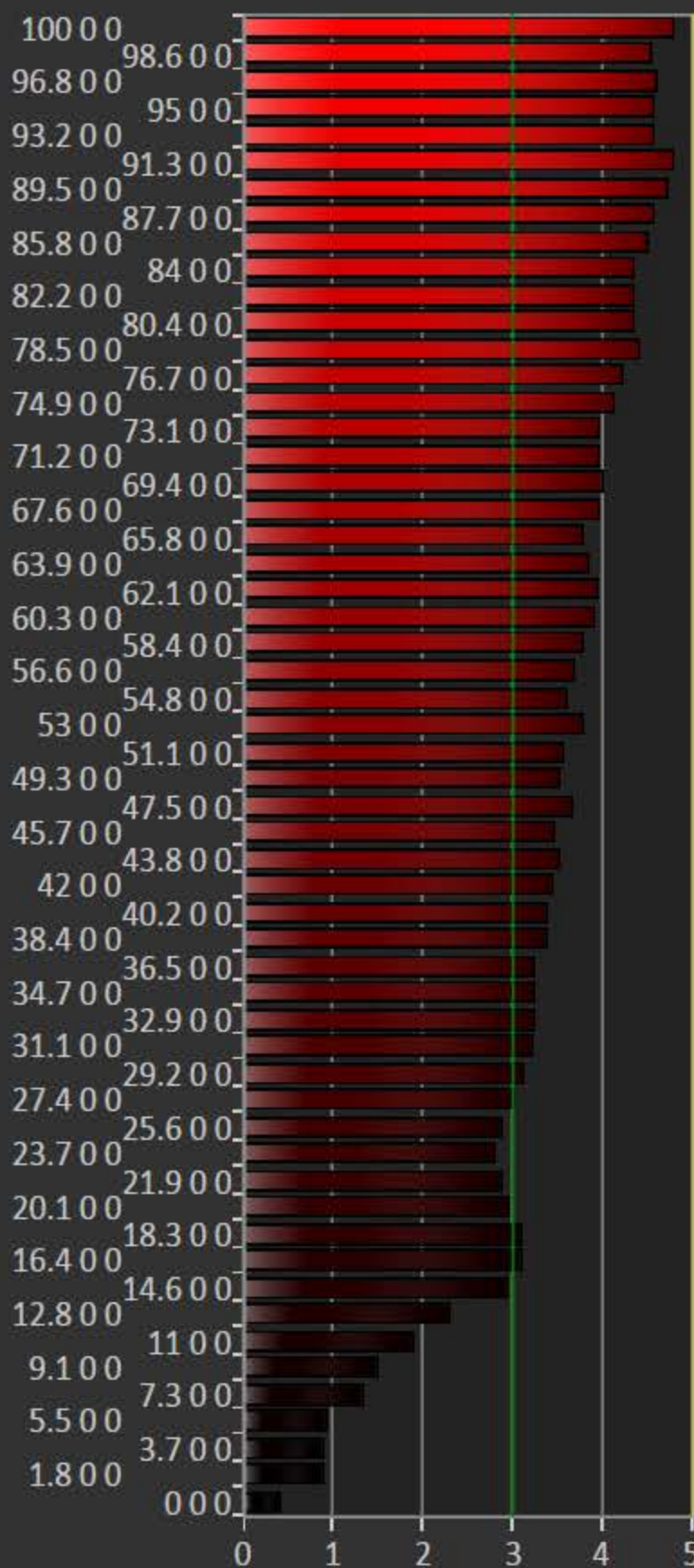








ΔE 2000	3.6	Avg	3.47	Max	4.79	Delta L	-3.74	Avg	-2.91	Max	4.67	Luminance	1.32268
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Red

Green

Blue

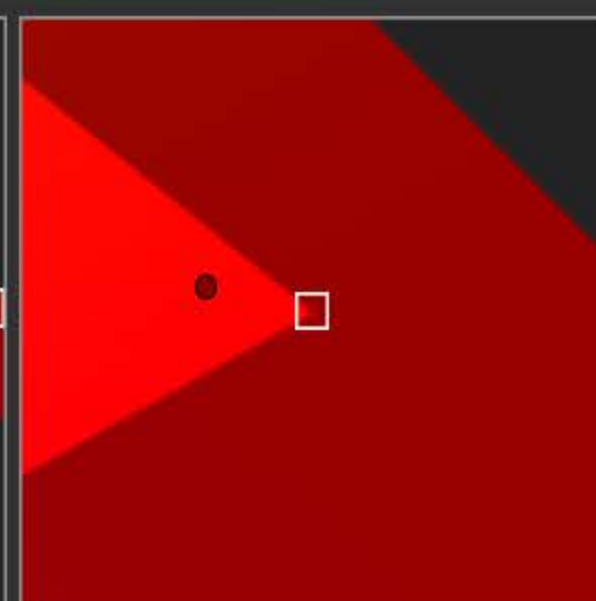
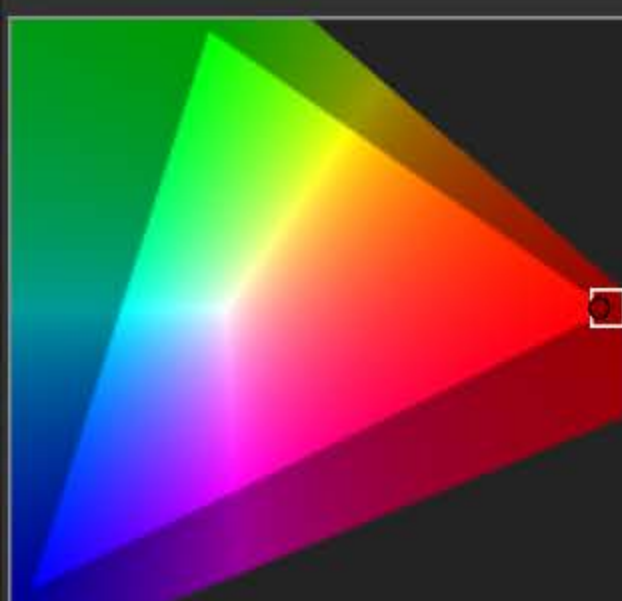
White

Cyan

Magenta

Yellow

Charts 2



Final Check

CAL

Calib

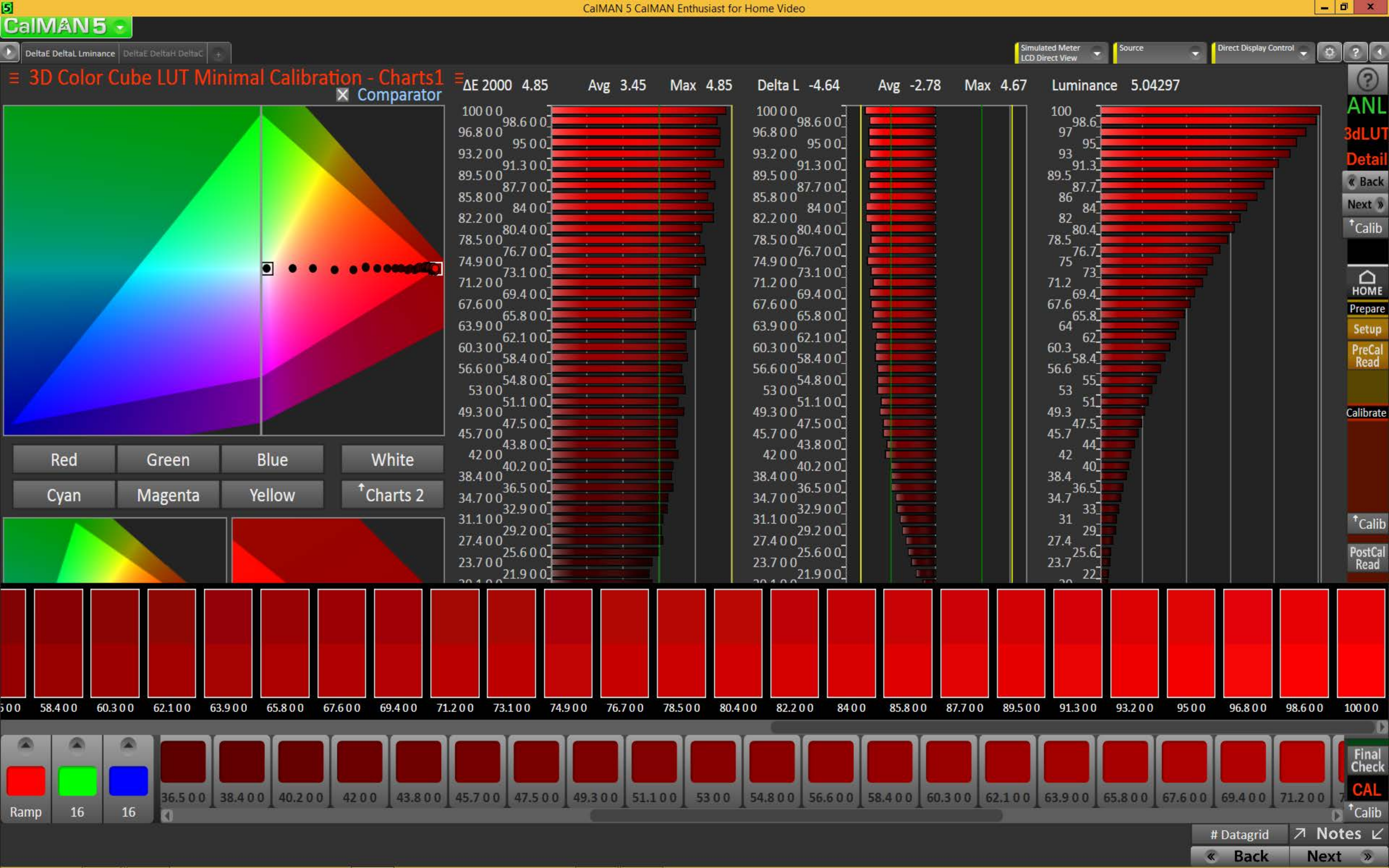
Block	Value
1	36.500
2	38.400
3	40.200
4	42.000
5	43.800
6	45.700
7	47.500
8	49.300
9	51.100
10	53.000
11	54.800
12	56.600
13	58.400
14	60.300
15	62.100
16	63.900
17	65.800
18	67.600
19	69.400
20	71.200

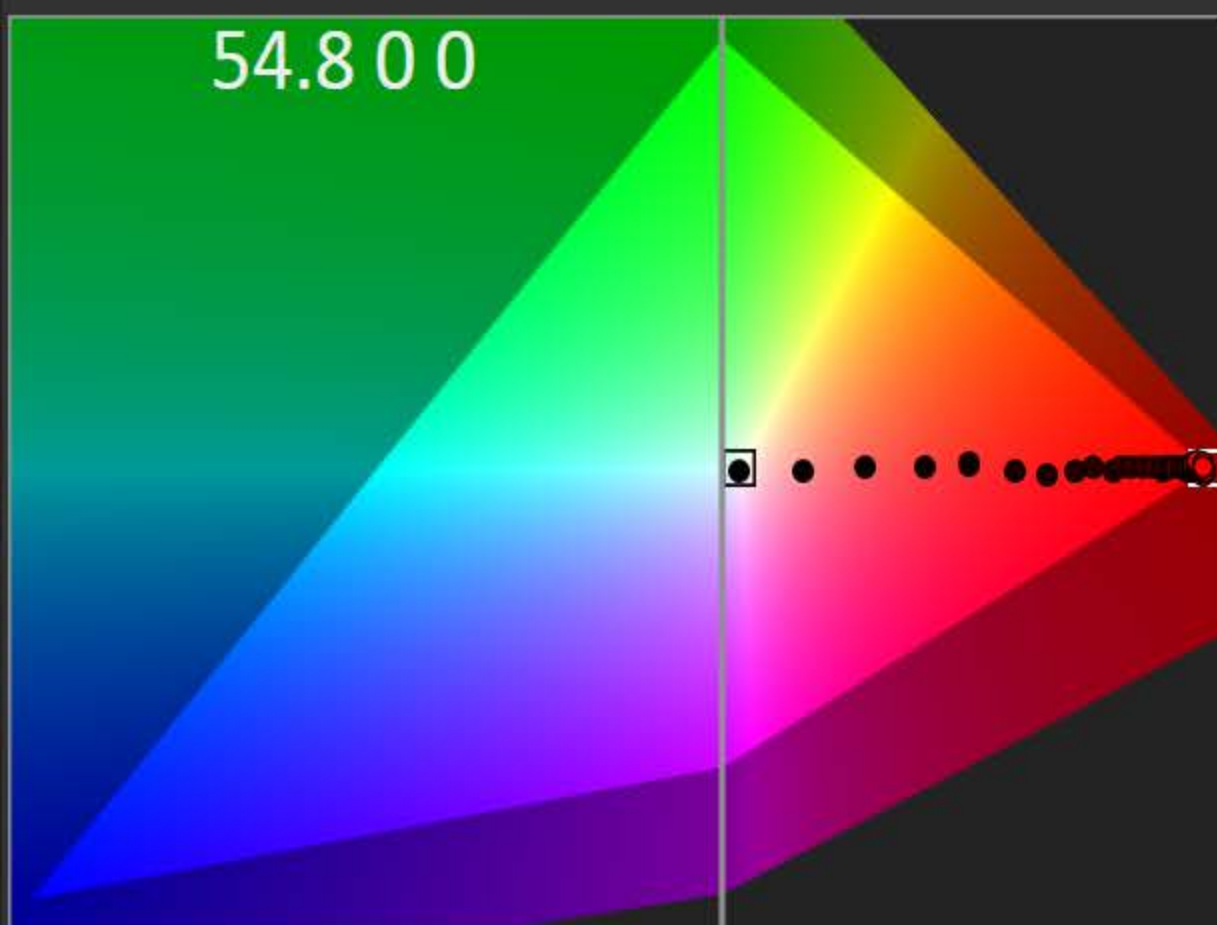
Datagrid

↗ Notes ↘

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Next 





Red

Green

Blue

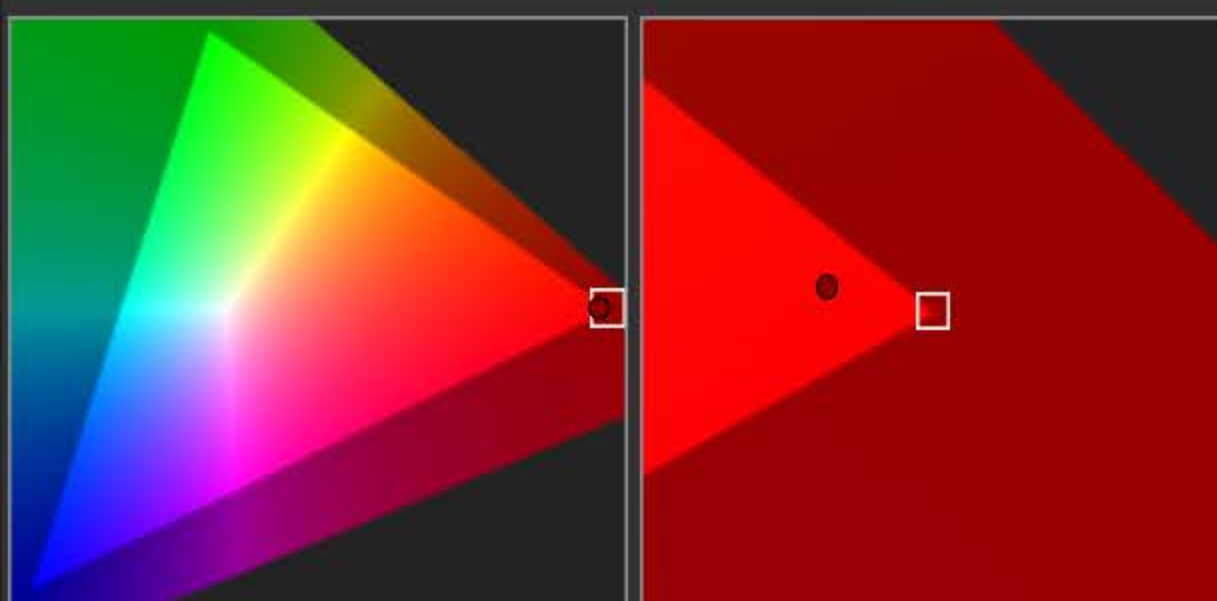
White

Cyan

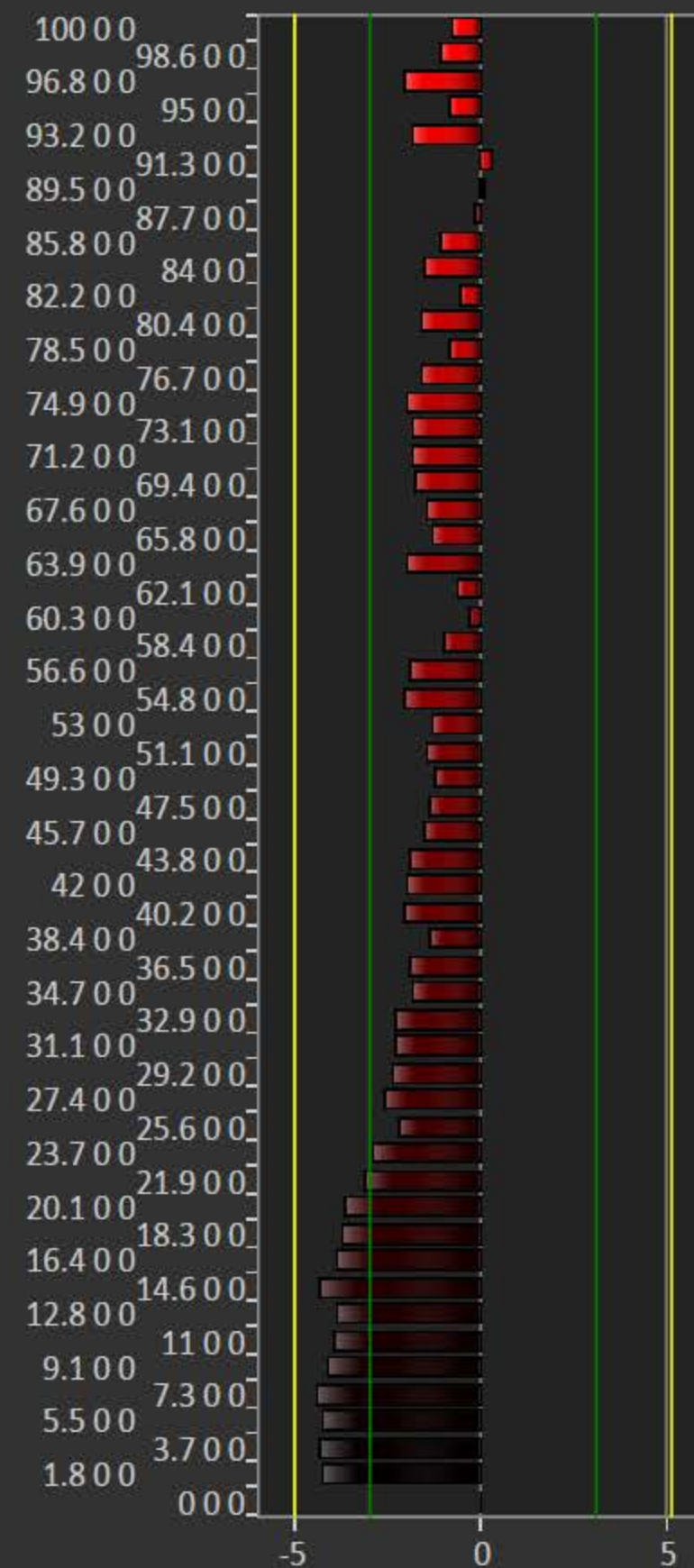
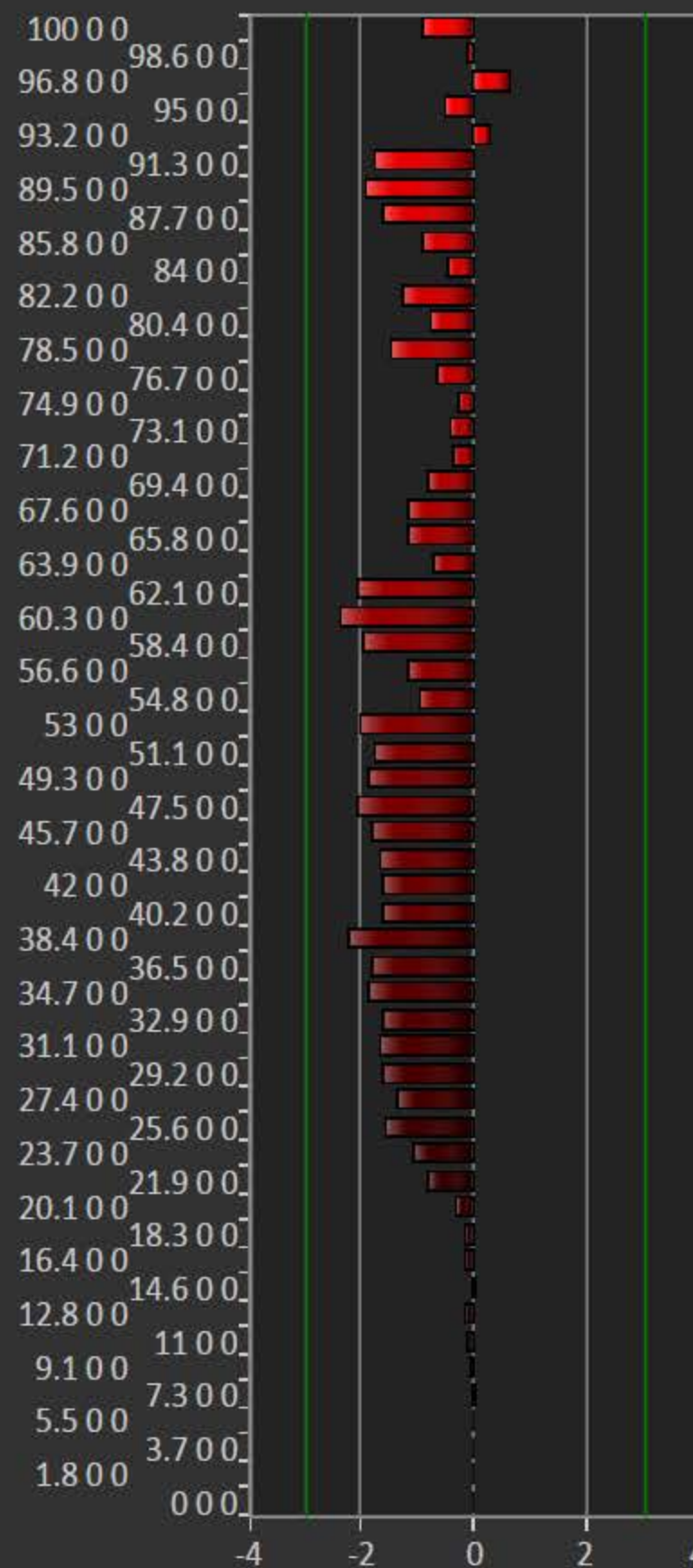
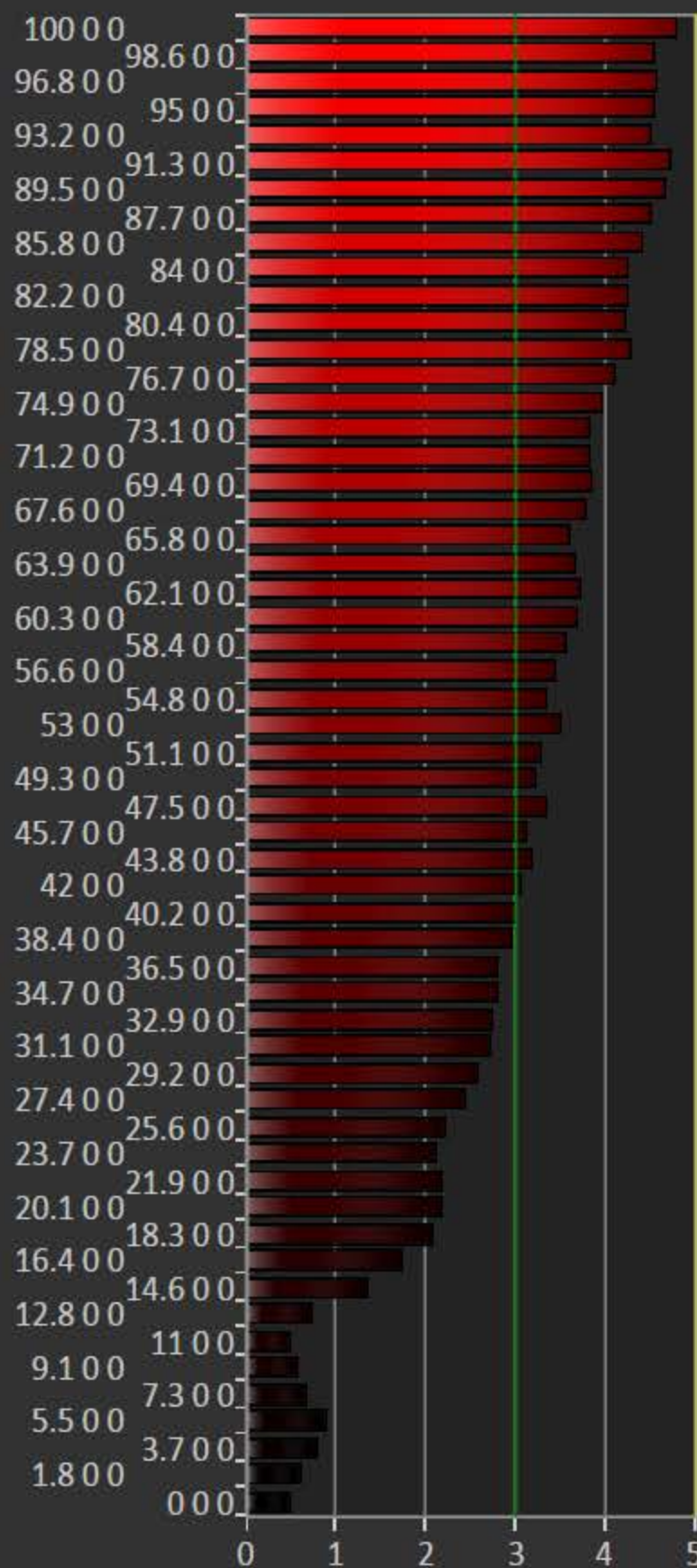
Magenta

Yellow

↑ Charts 1



ΔE 2000	3.34	Avg	3.09	Max	4.77	Delta H	-0.1	Avg	-0.5	Max	1.82	Delta C	-2.01	Avg	-5.82	Max	4.38
---------	------	-----	------	-----	------	---------	------	-----	------	-----	------	---------	-------	-----	-------	-----	------



Datagrid

↗ Notes ↘

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CalMAN 5

Final Check

3/12/2015 Calibration

AV Mode - ISF Day

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.

1

Luminance



109

Gamma 2.3

29.31646 fL

2

Gamma Point



Post-Calibration Notes

Notes

Save

Contrast

Brightness

Backlight

TV Gamma

Color

Tint

Gain

Cut

Red

Green

Blue

90

100

105

107

108

109

Back

Save

Post-Calibration Summary

Grayscale dE Avg 1.85 Max 3.97

Saturation dE Avg 1.34 Max 2.34

Luminance dE Avg 1.21 Max 2.73

Color Checker dE Avg 1.5 Max 3

Color Cube LUT dE Avg 3.47 Full Max 4.79

Gamma Target 2.2 Total 2.28

CCT Target 6503 Avg 6505

White 23.6 fL Black 0.02895 Cntr Ratio 815

Use Minimal layout data

LUT values come from calibration Full layout, or Minimal layout if checked

ANL

Final Check

Back

HOME

Prepare

Setup

PreCal Read

DyRnge

Calibrate

Grayscale

Saturation

Luminance

Color Checker

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Analyze

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Color Checker

LUT

Final Check

Final

Notes

CalMAN 5

Grayscale Datagrids

Simulated Meter
LCD Direct View

Source

Direct Display Control

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?

?

Pre-Cal Multi-Point Grayscale Data

Pre-Cal

	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
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, 191	202, 202, 202	213, 213, 213
Red index	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000	213.0000
Green index	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000	213.0000
Blue index	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000	213.0000
X	0.3457	0.8070	1.5507	2.5551	3.8882	5.5614	7.6875	10.1106	13.0989	16.4167	19.6888	24.0357	28.6626	33.7536	40.0904	46.2302	53.1705	60.2165
Y cd/m²	0.3672	0.8538	1.6252	2.6827	4.1168	5.8679	8.0410	10.7017	13.6667	17.2630	20.6052	25.3291	30.3193	36.0375	41.9705	48.5675	56.1095	63.7856
Z	0.3983	0.9275	1.7721	2.9522	4.4960	6.3555	8.7072	11.4870	14.9198	18.7649	22.6866	27.4822	33.0907	38.8989	45.7891	53.1651	60.2279	70.0652
Xn 0-1	0.0042	0.0099	0.0189	0.0312	0.0475	0.0679	0.0939	0.1235	0.1600	0.2005	0.2405	0.2936	0.3501	0.4123	0.4897	0.5647	0.6494	0.7355
Yn 0-1	0.0045	0.0104	0.0199	0.0328	0.0503	0.0717	0.0982	0.1307	0.1669	0.2109	0.2517	0.3094	0.3703	0.4402	0.5126	0.5932	0.6853	0.7791
Zn 0-1	0.0049	0.0113	0.0216	0.0361	0.0549	0.0776	0.1064	0.1403	0.1822	0.2292	0.2771	0.3357	0.4042	0.4751	0.5593	0.6494	0.7356	0.8558
Stimulus Percent	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493	0.8995
RED Stim%:0-1	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493	0.8995
GRN Stim%:0-1	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493	0.8995
BLU Stim%:0-1	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493	0.8995

Post-Cal Multi-Point Grayscale Data

Post-Cal

	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
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
Red index	16.0000	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000
Green index	16.0000	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000
Blue index	16.0000	27.0000	38.0000	49.0000	60.0000	71.0000	82.0000	93.0000	104.0000	115.0000	126.0000	136.0000	147.0000	158.0000	169.0000	180.0000	191.0000	202.0000
X	0.0932	0.3439	0.8091	1.5285	2.5729	3.8696	5.5551	7.7070	10.1604	12.9866	16.4463	19.6673	23.8281	28.4409	33.9237	39.7269	46.6086	52.6251
Y cd/m²	0.0992	0.3650	0.8600	1.6208	2.6897	4.0895	5.8567	7.9584	10.7172	13.5343	17.0033	20.9475	25.1634	30.0318	35.7226	42.1582	48.2138	55.6852
Z	0.1077	0.4000	0.9413	1.7635	2.8958	4.4518	6.3268	8.7499	11.5077	14.8099	18.5170	22.6696	27.2951	33.0183	39.0367	45.3711	52.7280	60.7761
Xn 0-1	0.0012	0.0043	0.0100	0.0189	0.0318	0.0478	0.0687	0.0953	0.1256	0.1606	0.2034	0.2432	0.2946	0.3517	0.4195	0.4912	0.5763	0.6507
Yn 0-1	0.0012	0.0045	0.0106	0.0200	0.0333	0.0506	0.0724	0.0984	0.1325	0.1674	0.2103	0.2590	0.3112	0.3714	0.4417	0.5213	0.5962	0.6886
Zn 0-1	0.0013	0.0049	0.0116	0.0218	0.0358	0.0550	0.0782	0.1082	0.1423	0.1831	0.2290	0.2803	0.3375	0.4083	0.4827	0.5610	0.6520	0.7515
Stimulus Percent	0.0000	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493
RED Stim%:0-1	0.0000	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493
GRN Stim%:0-1	0.0000	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493
BLU Stim%:0-1	0.0000	0.0502	0.1005	0.1507	0.2009	0.2511	0.3014	0.3516	0.4018	0.4521	0.5023	0.5479	0.5982	0.6484	0.6986	0.7489	0.7991	0.8493

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

Change Selection

Pre-Cal

Post-Cal

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CalMAN 5

Saturation Datagrids

Simulated Meter
LCD Direct View

Source

Direct Display Control

?

?

?

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 either datagrid chart (ESCAPE the context menu) to show possible selections

Post-Cal

25%

50%

75%

100%

Change Selection

25%

50%

75%

100%

Pre-Cal

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↓ Sat

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Datagrid

Gry

Sat

Lum

CCK

Final Check

DTA

Notes

CalMAN 5

Color Check Datagrids

Simulated Meter
LCD Direct View

Source

Direct Display Control

Pre-Cal Color Checker Data

Pre-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 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

Post-Cal Color Checker Data

Post-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 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

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